NIBLACK EXPLORATION PROJECT

2012 Annual Report

Prepared for

State of Alaska
Department of Environmental Conservation
Division of Water
410 Willoughby Ave., Suite 303
Juneau, AK 99801

Prepared by

NIBLACK PROJECT LLC
P.O. Box 8295
Ketchikan, AK 99901

integral consulting inc.
285 Century Place, Suite 190
Louisville, CO 80027

TECS-AK
P.O. Box 6193
Ketchikan, AK 99901

pHase Geochemistry Inc.
1280 21st Street West
North Vancouver, BC V7P2C9

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CONTENTS

LIST OF FIGURES ..... **vi**
LIST OF TABLES ..... **x**
ACRONYMS AND ABBREVIATIONS ..... **xii**

1 INTRODUCTION **1-1**

2 SUMMARY OF ACTIVITIES **2-1**
2.1 SURFACE DISTURBANCE 2-1
2.2 UNDERGROUND DEVELOPMENT 2-2
2.2.1 Water Discharge 2-3
2.2.2 Site Temperature and Precipitation 2-4
2.3 EXPLORATION DRILLING 2-5
2.3.1 Underground Exploration Drilling 2-5
2.3.2 Surface Drilling 2-6
2.4 RECLAMATION 2-6
2.4.1 Construction Reclamation 2-7
2.4.2 Interim Reclamation 2-7
2.4.3 Surface Drilling Reclamation 2-7
2.5 TEMPORARY CLOSURE 2-7
2.6 WORK PLANNED FOR 2013 2-8

3 WATER QUALITY REPORTING **3-1**
3.1 CHANGES TO THE WATER QUALITY MONITORING PROGRAM 3-1
3.2 SURFACE WATER AND GROUNDWATER MONITORING LOCATIONS 3-1
3.2.1 Surface Water Monitoring Stations 3-2
3.2.2 Groundwater Monitoring Stations 3-3
3.2.3 Groundwater and Surface Water Sampling and Analysis 3-3
3.3 DATA QUALITY EVALUATION 3-4
3.3.1 Data Validation and Detectability 3-5
3.3.2 Representativeness 3-9
3.3.3 Completeness 3-9
3.3.4 Comparability 3-9
3.3.5 Analytical Correctness 3-9

4 SAMPLING RESULTS SUMMARY **4-1**
4.1 WATER QUALITY COMPLIANCE EVALUATION 4-1
4.1.1 Changes to the Water Quality Compliance Evaluation 4-2

4.1.2 Screening against Alaska Department of Environmental Conservation Criteria 4-3
4.2 TIME SERIES ANALYSIS AND TREND DETECTION 4-5
4.2.1 Conventionals 4-6
4.2.2 Cations and Anions 4-7
4.2.3 Trace Elements 4-8
4.2.4 Summary of Time Series Analysis and Trends 4-9
4.3 STATISTICAL COMPARISONS 4-10
4.3.1 ADEC Natural Conditions Approach 4-10
4.3.2 Upper Prediction Limit Analysis 4-14
4.3.3 Overall Weight-of-Evidence Compliance Assessment 4-17
4.3.4 Monitoring Work Planned for 2013 4-18
5 MINE WATER QUALITY MONITORING PROGRAM 5-1
5.1 MINE WATER QUALITY MONITORING LOCATION DESCRIPTIONS 5-1
5.1.1 PAG Pond 5-1
5.1.2 Portal Water (PORTAL) 5-3
5.1.3 Effluent (EFF1) 5-3
5.1.4 Field Barrels 5-3
5.2 RESULTS 5-3
5.2.1 Conventional Parameters 5-4
5.2.2 Cations and Anions 5-5
5.2.3 Trace Elements 5-6
5.2.4 Summary 5-10
5.3 MONITORING WORK PLANNED FOR 2013 5-10
6 STORMWATER POLLUTION PREVENTION PLAN REPORTING 6-1
6.1 VISUAL INSPECTIONS 6-1
6.2 SIGNIFICANT SPILL REPORTS SUMMARY 6-1
6.3 CHANGES MADE TO THE STORMWATER POLLUTION PREVENTION PLAN BEST MANAGEMENT PRACTICES 6-1
7 DISCHARGE EVENTS 7-1
7.1 LAD SYSTEM 7-1
7.2 SURFACE DRILLING 7-1
7.3 PAG POND 7-3
8 ADEQUACY OF FINANCIAL RESPONSIBILITY 8-1
9 REFERENCES 9-1

Appendix A. Photographs of Site Facilities and Water Quality Monitoring Locations

Appendix B. Water Quality Monitoring Results for Surface Water and Groundwater *(provided on CD)*

Appendix C. Field Barrel Information

Appendix D. Visual Site Inspection Forms

LIST OF FIGURES

Figure 1-1. Niblack Project Location Map
Figure 2-1. General Site Plan
Figure 2-2. Site Plan Detail
Figure 2-3. Niblack Project Exploration Drift Plan and Section Views
Figure 2-4. LAD System Flows
Figure 2-5. Ketchikan Long-Term Average Temperature and Precipitation Data
Figure 2-6. Niblack Project Site Temperature and Precipitation Data
Figure 2-7. Niblack Project Underground Drilling, 2007 – 2011
Figure 2-8. Niblack Project Surface Drilling, 2011
Figure 2-9. 2012 Proposed Surface Drilling Locations
Figure 3-1. Water Quality Monitoring Stations
Figure 3-2. Water Quality Monitoring Stations – Outlying Stations
Figure 4-1a. Time Series Plots: Temperature, Permit Stations – Surface Water
Figure 4-1b. Time Series Plots: Temperature, Permit Stations – Groundwater
Figure 4-1c. Time Series Plots: Temperature, Offsite Stations – Surface Water
Figure 4-2a. Time Series Plots: Conductivity, Permit Stations – Surface Water
Figure 4-2b. Time Series Plots: Conductivity, Permit Stations – Groundwater
Figure 4-2c. Time Series Plots: Conductivity, Offsite Stations – Surface Water
Figure 4-3a. Time Series Plots: Dissolved Oxygen, Permit Stations – Surface Water
Figure 4-3b. Time Series Plots: Dissolved Oxygen, Permit Stations – Groundwater
Figure 4-3c. Time Series Plots: Dissolved Oxygen, Offsite Stations – Surface Water
Figure 4-4a. Time Series Plots: Hardness, Permit Stations – Surface Water
Figure 4-4b. Time Series Plots: Hardness, Permit Stations – Groundwater
Figure 4-4c. Time Series Plots: Hardness, Offsite Stations – Surface Water
Figure 4-5a. Time Series Plots: pH, Permit Stations – Surface Water
Figure 4-5b. Time Series Plots: pH, Permit Stations – Groundwater
Figure 4-5c. Time Series Plots: pH, Offsite Stations – Surface Water
Figure 4-6a. Time Series Plots: Total Dissolved Solids, Permit Stations – Surface Water
Figure 4-6b. Time Series Plots: Total Dissolved Solids, Permit Stations – Groundwater

Figure 4-6c. Time Series Plots: Total Dissolved Solids, Offsite Stations – Surface Water
Figure 4-7a. Time Series Plots: Total Suspended Solids, Permit Stations – Surface Water
Figure 4-7b. Time Series Plots: Total Suspended Solids, Permit Stations – Groundwater
Figure 4-7c. Time Series Plots: Total Suspended Solids, Offsite Stations – Surface Water
Figure 4-8a. Time Series Plots: Turbidity, Permit Stations – Surface Water
Figure 4-8b. Time Series Plots: Turbidity, Permit Stations – Groundwater
Figure 4-8c. Time Series Plots: Turbidity, Offsite Stations – Surface Water
Figure 4-9a. Time Series Plots: Alkalinity, Permit Stations – Surface Water
Figure 4-9b. Time Series Plots: Alkalinity, Permit Stations – Groundwater
Figure 4-9c. Time Series Plots: Alkalinity, Offsite Stations – Surface Water
Figure 4-10a. Time Series Plots: Ammonia, Permit Stations – Surface Water
Figure 4-10b. Time Series Plots: Ammonia, Permit Stations – Groundwater
Figure 4-10c. Time Series Plots: Ammonia, Offsite Stations – Surface Water
Figure 4-11a. Time Series Plots: Chloride, Permit Stations – Surface Water
Figure 4-11b. Time Series Plots: Chloride, Permit Stations – Groundwater
Figure 4-11c. Time Series Plots: Chloride, Offsite Stations – Surface Water
Figure 4-12a. Time Series Plots: Nitrate & Nitrite, Permit Stations – Surface Water
Figure 4-12b. Time Series Plots: Nitrate & Nitrite, Permit Stations – Groundwater
Figure 4-12c. Time Series Plots: Nitrate & Nitrite, Offsite Stations – Surface Water
Figure 4-13a. Time Series Plots: Sulfate, Permit Stations – Surface Water
Figure 4-13b. Time Series Plots: Sulfate, Permit Stations – Groundwater
Figure 4-13c. Time Series Plots: Sulfate, Offsite Stations – Surface Water
Figure 4-14a. Time Series Plots: Dissolved Aluminum, Permit Stations – Surface Water
Figure 4-14b. Time Series Plots: Dissolved Aluminum, Permit Stations – Groundwater
Figure 4-14c. Time Series Plots: Dissolved Aluminum, Offsite Stations – Surface Water
Figure 4-15a. Time Series Plots: Total Aluminum, Permit Stations – Surface Water
Figure 4-15b. Time Series Plots: Total Aluminum, Permit Stations – Groundwater
Figure 4-15c. Time Series Plots: Total Aluminum, Offsite Stations – Surface Water
Figure 4-16a. Time Series Plots: Dissolved Arsenic, Permit Stations – Surface Water
Figure 4-16b. Time Series Plots: Dissolved Arsenic, Permit Stations – Groundwater

Figure 4-16c. Time Series Plots: Dissolved Arsenic, Offsite Stations – Surface Water
Figure 4-17a. Time Series Plots: Dissolved Cadmium, Permit Stations – Surface Water
Figure 4-17b. Time Series Plots: Dissolved Cadmium, Permit Stations – Groundwater
Figure 4-17c. Time Series Plots: Dissolved Cadmium, Offsite Stations – Surface Water
Figure 4-18a. Time Series Plots: Dissolved Copper, Permit Stations – Surface Water
Figure 4-18b. Time Series Plots: Dissolved Copper, Permit Stations – Groundwater
Figure 4-18c. Time Series Plots: Dissolved Copper, Offsite Stations – Surface Water
Figure 4-19a. Time Series Plots: Dissolved Lead, Permit Stations – Surface Water
Figure 4-19b. Time Series Plots: Dissolved Lead, Permit Stations – Groundwater
Figure 4-19c. Time Series Plots: Dissolved Lead, Offsite Stations – Surface Water
Figure 4-20a. Time Series Plots: Dissolved Mercury, Permit Stations – Surface Water
Figure 4-20b. Time Series Plots: Dissolved Mercury, Permit Stations – Groundwater
Figure 4-20c. Time Series Plots: Dissolved Mercury, Offsite Stations – Surface Water
Figure 4-21a. Time Series Plots: Dissolved Nickel, Permit Stations – Surface Water
Figure 4-21b. Time Series Plots: Dissolved Nickel, Permit Stations – Groundwater
Figure 4-21c. Time Series Plots: Dissolved Nickel, Offsite Stations – Surface Water
Figure 4-22a. Time Series Plots: Dissolved Selenium, Permit Stations – Surface Water
Figure 4-22b. Time Series Plots: Dissolved Selenium, Permit Stations – Groundwater
Figure 4-22c. Time Series Plots: Dissolved Selenium, Offsite Stations – Surface Water
Figure 4-23a. Time Series Plots: Dissolved Silver, Permit Stations – Surface Water
Figure 4-23b. Time Series Plots: Dissolved Silver, Permit Stations – Groundwater
Figure 4-23c. Time Series Plots: Dissolved Silver, Offsite Stations – Surface Water
Figure 4-24a. Time Series Plots: Dissolved Zinc, Permit Stations – Surface Water
Figure 4-24b. Time Series Plots: Dissolved Zinc, Permit Stations – Groundwater
Figure 4-24c. Time Series Plots: Dissolved Zinc, Offsite Stations – Surface Water
Figure 5-1. Niblack Project PAG Site Area
Figure 5-2. Niblack Project PAG Site Temporary Cover (Proposed)
Figure 5-3. Time Series Plots: Temperature – Effluent, PAG Pond, and Barrels
Figure 5-4. Time Series Plots: Conductivity – Effluent, PAG Pond, and Barrels
Figure 5-5. Time Series Plots: Dissolved Oxygen – Effluent, PAG Pond, and Barrels
Figure 5-6. Time Series Plots: Hardness – Effluent, PAG Pond, and Barrels
Figure 5-7 Time Series Plots: pH – Effluent, PAG Pond, and Barrels
Figure 5-8. Time Series Plots: Total Dissolved Solids – Effluent, PAG Pond, and Barrels

Figure 5-9. Time Series Plots: Total Suspended Solids – Effluent, PAG Pond, and Barrels
Figure 5-10. Time Series Plots: Turbidity – Effluent, PAG Pond, and Barrels
Figure 5-11. Time Series Plots: Alkalinity – Effluent, PAG Pond, and Barrels
Figure 5-12. Time Series Plots: Ammonia – Effluent, PAG Pond, and Barrels
Figure 5-13. Time Series Plots: Chloride – Effluent, PAG Pond, and Barrels
Figure 5-14. Time Series Plots: Nitrate & Nitrite – Effluent, PAG Pond, and Barrels
Figure 5-15. Time Series Plots: Sulfate – Effluent, PAG Pond, and Barrels
Figure 5-16. Time Series Plots: Dissolved Aluminum – Effluent, PAG Pond, and Barrels
Figure 5-17. Time Series Plots: Total Aluminum – Effluent, PAG Pond, and Barrels
Figure 5-18. Time Series Plots: Dissolved Arsenic – Effluent, PAG Pond, and Barrels
Figure 5-19. Time Series Plots: Dissolved Cadmium – Effluent, PAG Pond, and Barrels
Figure 5-20. Time Series Plots: Dissolved Copper – Effluent, PAG Pond, and Barrels
Figure 5-21. Time Series Plots: Dissolved Lead – Effluent, PAG Pond, and Barrels
Figure 5-22. Time Series Plots: Dissolved Mercury – Effluent, PAG Pond, and Barrels
Figure 5-23. Time Series Plots: Dissolved Nickel – Effluent, PAG Pond, and Barrels
Figure 5-24. Time Series Plots: Dissolved Selenium – Effluent, PAG Pond, and Barrels
Figure 5-25. Time Series Plots: Dissolved Silver – Effluent, PAG Pond, and Barrels
Figure 5-26. Time Series Plots: Dissolved Zinc – Effluent, PAG Pond, and Barrels
Figure 5-27. Time Series Plots: Dissolved Iron – Effluent, PAG Pond, and Barrels
Figure 5-28. Time Series Plots: Total Iron – Effluent, PAG Pond, and Barrels

LIST OF TABLES

Table 2-1. Water Balance Monthly Summary, 2012
Table 3-1. Water Quality Monitoring Stations
Table 3-2. Sampling Event Summary, 2012
Table 3-3. Water Quality Parameters Monitored in Surface Water, Groundwater, and Effluent
Table 3-4. Laboratory Methods for Water Quality Samples
Table 3-5. Water Quality Monitoring Station Analyte List Summary, 2007–2012
Table 3-6. Zinc Concentrations in Field Blanks, 2008–2012
Table 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012
Table 3-7b. Groundwater Matrix Spike/Matrix Spike Replicate Sample Results, 2009–2012
Table 3-8a. Percent Completeness for Surface Water
Table 3-8b. Percent Completeness for Groundwater
Table 4-1a. ADEC Criteria Screening Summary (2006–2012) – Permit Stations – Surface Water and Groundwater
Table 4-1b. ADEC Criteria Screening Summary – Offsite Surface Water, Effluent, PAG Pond, and Barrels
Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water
Table 4-2b. ADEC Chronic Aquatic Life Criteria Screening Results – Offsite Surface Water
Table 4-2c. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations, GroundwaterTable 4-2d. ADEC Chronic Aquatic Life Criteria Screening Results – Effluent, PAG Pond, and Barrels
Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations
Table 4-3b. Summary of Statistical Tests Performed for Groundwater Permit Compliance Stations
Table 4-4a. Results of Natural Condition Criteria Comparisons for Surface Water
Table 4-4b. Results of Natural Condition Criteria Comparisons for Groundwater
Table 4-5a. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Surface Water

Table 4-5b. Summary of Exceedances of Natural Conditions as Compared to Upper Prediction Limits for Groundwater

ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
BMP	best management practice
CBR	Committee Bay Resources Ltd.
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
LAD	land application/dispersion
MDL	method detection limit
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
NPLLC	Niblack Project LLC
NTU	nephelometric turbidity units
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

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). The property is located at Section 34, T. 78 and 79 S., R. 88 E., Copper River Meridian; Latitude 55º 03′ 53″, Longitude -132º 08′ 48″. The property is composed of 17 patented claims, 298 staked federal lode claims, and 7 Alaska State tideland claims. All claims are owned 100 percent by Niblack Project LLC (NPLLC).

The Niblack area has been explored for minerals since the initial copper discovery at Niblack Anchorage in 1899. A detailed history of site ownership and project activities, including tons of ore produced and dates of operation, is presented in the *Niblack Underground Exploration Plan of Operations 2012 Post-Construction Update* (Niblack 2012b). NPLLC acquired 100 percent ownership interest in the Niblack Exploration Project in early 2012. Modern day underground development on the Niblack Exploration Project was initiated by previous owners, Niblack Mining Corporation, on September 21, 2007, and was completed on July 12, 2008. The initial phase of underground drilling was completed on October 7, 2008 and the second phase of underground drilling was initiated on September 26, 2009.

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

- Alaska Department of Natural Resources Reclamation Plan Approval #J072711 (ADNR 2007)
- 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).

In May 2012, NPLLC applied for renewal of Permit 2006-DB0037, which was set to expire on June 28, 2012. ADEC issued an extension of Permit 2006-DB0037 on June 18, 2012 (Strickland 2012, pers. comm.). The terms and conditions of this permit remain fully effective until a renewed Permit is issued for the Project. Renewal Permit 2013-DB0001, which replaces

Permit 2006-DB0037, was issued on March 13, 2013. This annual report follows the requirements of Permit 2006-DB0037 and the permits, plans, and approvals listed above and referred to herein. All future quarterly and annual reports will fulfill the requirements of Renewal Permit 2013-DB0001.

2 SUMMARY OF ACTIVITIES

2.1 SURFACE DISTURBANCE

This section summarizes construction activities conducted since the Niblack project was initiated on September 21, 2007. The current phase of underground construction and excavation commenced on September 21, 2007 and was completed on July 12, 2008. Placement of non-acid-generating (NAG) material at construction sites was completed shortly thereafter, as was the loading of the temporary potentially acid-generating (PAG) waste rock storage facility, completed in spring 2008. No additional expansion of the underground workings, or associated production of waste rock, is anticipated at this time. However, if future expansion does occur, the site design plans presented in the Niblack Industrial Waste Monofill Solid Waste Permit Application under the Waste Management Permit (Niblack 2012a) and the Underground Exploration Plan of Operations (Niblack 2012b) will be followed.

Construction of the sediment ponds, and piping from the adit portal to the ponds, was complete prior to commencement of excavation activity in 2007. The water treatment plant and components of the land application/dispersion (LAD) water discharge system were completed in early 2008. Land application of effluent water from the settling ponds began in October 2007.

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:

- Access roads
- Ditches, culverts, and settling basins/sediment traps for stormwater management
- Construction of laydown areas for equipment/supply storage, including a fuel storage facility, magazine sites (currently decommissioned), portal area, shop area (old camp)
- Settling ponds and LAD water discharge system
- Barge landing and dock facilities
- Surface drilling landing
- Temporary PAG waste rock storage facility
- Temporary mineralized ore stockpile
- NAG waste disposal area

- Topsoil and growth media stockpiles

The majority of the NAG material removed from the underground development was utilized in the construction of site facilities; the NAG waste dumps contained material that was used 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 (Figure 2-2) 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 was altered slightly from the original specifications within Niblack's 2007 waste management permit application (NMC 2007), which specified that liner bedding would be placed in two horizontal layers of 12-in. maximum uncompacted depth. During construction, 6-in. layers of sand were used instead of the maximum of 12-in. layers originally specified. Modifications to the PAG liner design were approved by ADEC (Emswiler 2008, pers. comm.). 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 2-2). The water treatment plant and several of 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 2012 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 2-3). 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 2012 is included in Table 2-1. A total of 45 million gallons of water was discharged to the LAD system in 2012. Daily discharge rates averaged less than 86 gallons per minute (gpm) and never exceeded the 300 gpm wastewater discharge limit. Figure 2-4 shows the monthly total flow volumes entering the LAD system, as measured at the outlet from the settling ponds. Since site activity began, land application of wastewater has occurred upgradient of surface water monitoring stations WQ4, WQ6, and WQ10, and groundwater monitoring wells MW2, MW3, and MW4. No land application of wastewater has occurred upgradient of Unnamed Creek #2 and the WQ13 monitoring station or upgradient of the MW1 area.

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. CBR Gold Corporation 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 2-5 presents long-term (1949 – 2012) average temperature and precipitation data for Ketchikan, Alaska, from the Western Regional Climate Center (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ak4590). Typical temperatures for the region average 45.5°F and range from 39.4°F to 51.6°F. Total precipitation averages 154 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 2012 at the Land Camp Weather Station located at the Niblack Project site[1] is presented on Figure 2-6 (upper plot). Precipitation in 2012 totaled 158 in. at the Niblack site and mean daily temperatures in 2012 ranged from 9°F to 65°F (average 44.9°F).

Wintertime minimum temperatures provide information about the potential for freeze-up of the LAD system. Figure 2-6 (lower plot) compares observed daily on-site minimum temperatures to the 20-yr (1992 – 2012) 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 2012, the daily minimum temperature fell below freezing on 69 days between the months of November and April. During the 2011/2012 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), the 2009/2010 winter season (38.6°F), and the 2010/2011 winter season (35.8°F).

2.3 EXPLORATION DRILLING

Overall, a total of 246 surface core boreholes and 164 underground core boreholes have been drilled on the Niblack property between 1975 and late 2012. NPLLC has drilled approximately 199,362 ft in 157 holes (136 underground and 21 surface) from 2009 to 2012.

2.3.1 Underground Exploration Drilling

Figure 2-7 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.

[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.

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. NPLLC drilled approximately 107,679 ft in 94 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. NPLLC completed 42 holes totaling approximately 68,343 ft from January through October 2011. No underground drilling was conducted in 2012.

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, Lookout Zone, and Trio Zone. The four areas of surface drilling are shown as black circles and lines in Figure 2-8. Seven surface holes totaling approximately 6,700 ft were drilled. Surface disturbance in 2011 was approximately 0.1 acre, including all drill sites and helicopter landing zones.

Proposed surface drilling sites for the 2012 season are shown on Figure 2-9. In August and September 2012, 10 surface holes totaling approximately 15,563 ft were drilled. Surface disturbance in 2012 was approximately 0.15 acre, including all drill pads, helicopter landing zones, and walking paths. Of the three locations used for surface drilling in 2012, one drill pad was left intact for future use. This pad was already in place from previous operators and was stabilized and used in 2012. One additional location had a drill pad (and landing zone) prepared and constructed for drilling activities, but was not used. This site was left intact for use in potential future drill programs. All other areas disturbed during the course of the exploration program were restored as described in Section 2.4.3.

2.4 RECLAMATION

Reclamation in 2012 included both construction reclamation and interim reclamation (as described in 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

In 2011, the majority of surface drilling activity took place on patented claims. Surface drilling in 2012 was conducted on Bureau of Land Management and U.S. Forest Service land. All surface drill sites were reclaimed according to the standards for state or federal land. 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 TEMPORARY CLOSURE

Temporary closure describes the cessation of project activities for a period of between 90 days and 3 years. The Niblack Exploration Project underwent a period of temporary closure between October 26, 2011 and June 30, 2012. This closure was necessary to provide NPLLC an

opportunity to compile and examine the data and findings generated during the previous two years of underground drilling. The Project began a second period of temporary closure on October 28, 2012, following completion of the 2012 surface drilling program. Similar to the previous period of temporary closure, the site will be maintained in accordance with all operating permits, and environmental monitoring and facility maintenance continued on a regular basis. Water will continue to be routinely pumped from the underground sumps and all environmental monitoring will continue as if there were fulltime underground activity. As water flow is significantly reduced and will not accumulate in the drift, a major dewatering program is not anticipated upon reopening of the drift.

Previous temporary closure at the site occurred from January 13, 2009 to August 26, 2009. This closure was requested in order to provide Committee Bay Resources (CBR; the project owners at that time) an opportunity to compile and examine the data and findings generated during Phase I of the underground drill program (Kleespies 2009a). The site was maintained in accordance with all operating permits, and environmental monitoring continued on a regular basis. During the temporary closure period, the water was allowed to accumulate in the underground exploration drift. CBR requested, and received, approval from ADEC (Kleespies 2009b, 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 indicated that drift dewatering did not negatively impact surface or groundwater quality; the results are included in the Third Quarter 2009 Water Quality Monitoring Report (Integral 2009b).

2.6 WORK PLANNED FOR 2013

Plans for 2013 include advancement of a prefeasibility study. Currently, there are no plans for continuation of underground drilling in 2013. Surface drilling activities may continue in 2013.

3 WATER QUALITY REPORTING

This section summarizes the water quality monitoring conducted in 2012 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 2012, 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).

3.1 CHANGES TO THE WATER QUALITY MONITORING PROGRAM

Sampling and analysis of groundwater and surface water in 2012 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).

3.2 SURFACE WATER AND GROUNDWATER MONITORING LOCATIONS

Onsite surface water and groundwater quality monitoring locations are shown on Figure 3-1, with currently active monitoring stations shown in blue. Stations shown in green and orange are not monitored on a regular basis at this time, as discussed in more detail below. Figure 3-2 shows offsite reference surface stream monitoring locations. Table 3-1 presents station coordinates, descriptions, and activity status, and purpose. Generally, the points for evaluating compliance with site-specific natural condition criteria are downstream surface water sites and downgradient wetland groundwater sites.

As described in Section 3.1, in 2008 ADEC approved changes to the Permit requirements for sampling and analysis of groundwater and surface water (George 2008, pers. comm.). These changes included reduction in the location and frequency of surface water and groundwater monitoring. In particular, regular water quality monitoring was discontinued at upstream (i.e., concurrent monitoring) surface water locations on Waterfall Creek (WQ8), Camp Creek (WQ7), and Unnamed Creek 1 (WQ12), and at upgradient/offsite groundwater sites MW7, MW8, and MW9. These changes were implemented beginning in Q3 2008 and are incorporated into these guidelines for future monitoring. Since Q3 2008, surface water stations WQ4, WQ6, WQ10, and

WQ13, and groundwater wells MW1, MW2, MW3, and MW4 have been monitored on a regular basis.

3.2.1 Surface Water Monitoring Stations

Within Waterfall Creek, two water quality sites were established, WQ4 and WQ8. WQ4 is located near the creek outlet, just upstream from the high tide water line. This station was monitored for pre-activity baseline conditions and serves as a compliance monitoring station now that the site is in a phase of active operation. WQ8 is located on the northern headwaters tributary, upstream of the access road. WQ8 is considered to be the upstream control site for the Waterfall Creek stream system. This station is no longer monitored per agreement with ADEC (George 2008, pers. comm.).

Three sites were established within the Camp Creek stream system: WQ6, WQ5, and WQ7. WQ6 is located near the creek outlet. Pre-activity baseline was collected at WQ6; this station now serves as a compliance monitoring station.[2] WQ5 is located upstream, and approximately 50 to 100 ft below the access road; this station was monitored during historical baseline sampling from 1996 to 2006 and is no longer sampled. WQ7 is located further upstream, just above the road. WQ7 is considered to be the upstream control site for the Camp Creek stream system and is no longer monitored per agreement with ADEC (George 2008, pers. comm.). Future sampling within Camp Creek will occur at only site WQ6.

There are three water quality sample sites within the Unnamed Creek 1 drainage system: WQ10, WQ12, and the "Seep." WQ10 is situated just upstream of the old camp site (outside the influence of any historic mining) and downstream of the access road and PAG temporary waste disposal area. Pre-activity baseline was collected at WQ10; this station now serves as a compliance monitoring station. WQ12 is located upstream of the road in the southernmost headwater tributary to this stream, which is routed via a ditch to Unnamed Creek 1. The "Seep" site was unearthed during the construction of the road and is a well-defined groundwater channel, originally several meters below the natural ground surface. This seep has a strong flow that is directly related to precipitation events, and water from this site now enters into the ditch that flows into Unnamed Creek 1 upstream of WQ10. Water from the "Seep" and WQ12 are considered to be upstream control sites within Unnamed Creek 1. WQ12 is no longer monitored per agreement with ADEC (George 2008, pers. comm.), and monitoring at the "Seep" station is not required by the Permit. Future sampling within Unnamed Creek 1 will occur at only site WQ10.

[2] The WQ6 sampling location was changed on October 17, 2009, because the creek path naturally modified and the creek bed was dry at the original monitoring location. The current WQ6 station is located approximately 100 ft upstream of the original station.

Four other water quality sites were established further from the central core of the study area in creeks referred to as Dear Pasture Creek, Lookout Creek, Myrtle Creek, and Boulder Bay (Figure 3-2). WQ1 is a reference site located at the base of Dear Pasture Creek, just above the high tide line. This site is located near the mouth of the inlet, approximately 1.4 miles (2.2 km) to the southeast of the main property. WQ2 is situated at the base of Lookout Creek, just above the high tide line. This site is located on the southern side of the inlet approximately 0.8 mile (1.3 km) to the southeast of the main property. WQ3 is located at the base of Myrtle Creek, just above the high tide line. Myrtle Creek is the main drainage point to the isolated small lake to the north of the main property. WQ14 is located near the outlet of a stream that drains the south side of Lookout Mountain. Monitoring at the four offsite stations is conducted in order to develop additional baseline data and is not required by the Permit. The frequency of monitoring and target parameter list will be determined by NPLLC.

3.2.2 Groundwater Monitoring Stations

Four permanent monitoring wells (MW1, MW2, MW3, and MW4) were established in February 2007 to monitor the shallow groundwater in wetlands downgradient of the site facilities and water discharge LAD system. The wells are located in wetlands at depths of 24 to 36 in. The wells consist of a stainless steel mesh, silica sand pre-packed, 2.5-ft PVC screen with 2.5-ft riser. The well inner diameter is 1.5 in. and the outer diameter is 2.4 in. Locking caps and bentonite mounded at the base of the riser prevent downward infiltration of rain and surface waters. Monitoring well MW1 is located downgradient of the NAG waste disposal area. Wells MW2, MW3, and MW4 are located immediately downgradient of LAD water discharge system zones. These wells were sited within 50 ft or less of the interface between upland LAD zones and wetland. Wells MW2 and MW3 are also downgradient of the PAG temporary storage facility and the settling/treatment ponds.

Well MW7 is located outside the area impacted by human activities to provide reference data. Two bedrock monitoring wells (MW8 and MW9, Figure 3-1) were installed for baseline groundwater monitoring in June 2007. MW8 is upgradient of the settling ponds and access road; MW9 is north of the PAG storage facility.

3.2.3 Groundwater and Surface Water Sampling and Analysis

Four analytical chemistry sampling events were conducted during 2012 at the water quality monitoring sites indicated on Figures 3-1 and 3-2. Sample station location information is tabulated in Table 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 October (Q4) at surface water stations WQ4, WQ6, WQ10, and WQ13 and groundwater stations MW1, MW2, MW3, and MW4. The PAG pond was also sampled in February and March 2012 (Table 3-1) and submitted for analysis. Field parameters were monitored weekly at the PAG pond, EFF1, and field kinetic test barrels (HW-1,

LO-1, and LO-2). Table 3-2 summarizes the analytical chemistry and field parameter sampling events.

During the quarterly analytical chemistry 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. Table 3-1 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 2012. Results of surface and groundwater quality monitoring from 2006 through 2012 are presented in Appendix B. Results of surface and groundwater quality monitoring for 2012 are discussed in Section 4.

Field quality assurance and quality control (QA/QC) samples were collected during the regular quarterly sampling events in 2012, 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 2012 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 collected in 2012 is presented in Section 3.3.1.2. Field replicate results from 2006 through 2012 are presented in Appendix B, Tables B-2a through B-2d.

3.3 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 evaluate and control the data collection process to ensure that measurement uncertainty is within an acceptable range to meet DQOs. Measurement quality objectives 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 2012. 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.

3.3.1 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 2012. 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 Sections 4 and 5, 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 quantitation 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 Appendix B 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.

3.3.1.1 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 2 times the 95th percentile values were qualified as undetected (assigned a *U* qualifier) and results greater than 2 times the 95th percentile but less than 5 times the 95th percentile distribution were qualified as estimated (assigned a *J* qualifier). Results greater than 5 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.

3.3.1.2 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.

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 Appendix B, Tables B-4a-d. 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 in Tables B-4a-c, the surface water, groundwater, and offsite surface water normal/replicate pairs collected in 2012 had RPDs below the control limit (RPD = ±50), unless stated otherwise below. Surface water normal/replicate pair WQ4/WQ20 exceeded the control limit for dissolved nickel (RPD = 62%) in Q2 2012. Offsite surface water normal/replicate pair WQ2/WQ20 exceeded the control limit for total dissolved solids (TDS; RPD = 78%) and dissolved nickel (RPD = 75%) in Q3 2012.

As shown in Appendix Table B-2a, since surface water monitoring began in 2006 the control limit (RPD = ±50) was exceeded for TDS in five sampling events (November 2007, May 2008,

August 2010, December 2010, and July 2012), hardness in one sampling event (April 2011), alkalinity in one sampling event (May 2009), nitrate and nitrite in one sampling event (December 2007), dissolved aluminum in one sampling event (January 2011), dissolved copper in one sampling event (August 2007), and dissolved nickel in two sampling events (April 2012 and July 2012). 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 and 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 Appendix Table B-2b. 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, and January 2011), and total suspended solids (TSS) (July 2007, March 2008, August 2008, and March 2009). 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 August 2008 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.

3.3.1.3 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 ALS Environmental (Kelso, WA; formerly Columbia Analytical Services) since July 24, 2007 have been monitored and reviewed. MS/MSD data for the most recent three years (2009 – 2012) are presented in Table 3-7a for surface water and Table 3-7b for groundwater. 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. 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.

3.3.2 Representativeness

Representativeness is the degree to which data represent a characteristic of an environmental condition. All samples collected in 2012 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 74 hours for sample WQ4 (April 2012); the sample result was flagged by the laboratory and qualified as estimated (*UJ*) during data validation.

3.3.3 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 3-8a and 3-8b summarize data counts and completeness, by quarter, for surface water and groundwater. No data for 2012 were rejected during data validation and review; completeness for both surface water and groundwater data was 100 percent.

3.3.4 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 2012 samples. No discrepancies were noted between methods used by the laboratory and those listed in the QAPP (Integral 2007). Sample results from 2012 are comparable to results from previous sampling events.

3.3.5 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]

[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)

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

For comparison, the calculated and measured TDS values are presented in Appendix B in Table B-1a for surface water and Table B-1b 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:

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

In 2012, the majority of the calculated ratios (17 out of 19 [89 percent] for surface water, 17 out of 19 [89 percent] for groundwater samples, 5 out of 5 [100 percent] for offsite surface water samples, and 7 out of 18 [39 percent] for effluent, PAG Pond, and field barrel samples) fell outside this range. This finding is consistent with previous years and is attributed to the generally low measured TDS of surface water and groundwater at the Niblack Exploration Project; furthermore, there is the possibility that additional ions may be present in the water that are not accounted for in the calculation.

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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.

4 SAMPLING RESULTS SUMMARY

This section summarizes the results of water quality monitoring conducted in 2012 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 (ADEC 2007)
- 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 evaluation of surface water and groundwater results
- A discussion of any concentrations measured above applicable water quality criteria.

These objectives provide multiple lines of evidence for evaluating water quality at the Niblack Exploration Project.

Tabulated surface water quality monitoring results for all data collected through 2012 are provided in Appendix B. Tables B-1a-d include results for all surface water and groundwater stations identified in the Permit for all field and laboratory parameters included on the reduced analyte list (Table 2-4). Tables B-1a-d also include results for offsite surface water, effluent, PAG pond, and test barrel samples. Data are presented in individual table sections for physical parameters, anions, nutrients, and trace elements in Tables B-1a-d. *In-situ* field results are presented in Tables B-2a-d. MDLs for surface water, groundwater, offsite surface water, and mine water samples are provided in Tables B-3a-d. Surface water and groundwater replicate results and relative percent differences are presented in Tables B-4a through B-4d and are 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 evaluations using the following two approaches:
   a. ADEC Natural Conditions method
   b. 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 parts per million 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 (NC Tool) in June 2010. Version 2 is used here and in the 2010 and 2011 Annual Reports (Integral 2011b, 2012a); Version 1 was used in the 2007, 2008, and 2009 Annual Reports (Integral 2008a, 2009a, 2010). 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.

- Alternate population testing methods described in the Niblack QAPP will no longer be included in the annual reports. This was a voluntary analysis conducted to supplement the Natural Conditions criteria screening and the discontinuation of this test was agreed upon in a phone conversation on May 21, 2012 between A. Conovitz and K. George (Conovitz 2012a, pers. comm.).

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 2012 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 4-1a presents a summary of the screening results for all surface water and groundwater data collected at Permit stations from 2006 to 2012. For comparison, offsite surface water stations were also compared to the chronic aquatic life criteria, as shown in Table 4-1b.

This screening of water quality data is for the purpose of identifying potential water quality changes and is not a measure of compliance/non-compliance for groundwater or surface water samples. Surface and groundwater compliance station water quality limits are based on site-specific criteria, as detailed in the annual reports (Integral 2008a, 2009, 2010, 2011, 2012a).

4.1.2.1 Surface Water

In 2012, 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 Q2 2012, concentrations at WQ10 were above the criteria for total aluminum. In addition, during Q2 2012, concentrations at WQ6 and WQ10 were above the criteria for dissolved copper. These results are similar to comparisons against screening criteria since compliance monitoring began in September 2007. As shown in Table 4-2a, surface water sample concentrations at compliance stations WQ4, WQ6, WQ10, and WQ13 were occasionally higher than the ADEC chronic criteria for total aluminum (87–750 µg/L, total recoverable[6]) and

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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 parts per million as $CaCO_3$, 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.

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 Permit 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 4-2a). Historical surface water quality samples collected prior to 2006 are shown on Table 4-2a 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-exploration samples, which exceeded the chronic aquatic life screening criteria. Finally, offsite surface water stations are presented in Table 4-2b. These offsite stations also exhibited occasional copper concentrations higher than the ADEC screening level in both 2012 and previous monitoring years.

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, 27 percent of all compliance samples collected from the start of site activity in September 2007 through December 2011, and 6 percent of compliance samples collected in 2012 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 2011 compliance samples, and 13 percent of 2012 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

To provide a context for evaluation of groundwater results, groundwater samples were also compared to ADEC screening levels. Note that the ADEC chronic aquatic life criteria used in this analysis were developed for fresh surface water and do not directly apply to groundwater; this evaluation is not a measure of compliance/non-compliance for groundwater samples. In 2012, 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, for which all four compliance wells exceeded the criteria in all sampling events.

One sample (MW3 in Q2 2012) was also above the screening level for dissolved mercury.[7,] These results are similar to comparisons against screening criteria since compliance monitoring began in September 2007. As shown in Table 4-2c, 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 and samples collected at offsite reference stations. 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, 99 percent of compliance samples collected from the start of site activity in September 2007 through December 2011, and 100 percent of 2012 compliance samples. For dissolved lead, higher concentrations were measured in 25 percent of reference samples, and 15 percent of September 2007 through December 2011 compliance samples. No dissolved lead, copper, or zinc concentrations were higher than screening levels in 2012. Six percent of copper reference samples and 15 percent of all copper compliance samples collected from September 2007 through December 2012 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 two mercury exceedances were observed. These results show that trace element concentrations higher than ADEC screening criteria in groundwater were prevalent prior to activity at the site, and are not the result of exploration activities.

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 and groundwater samples collected from February 2006 to December 2012, with surface water Permit stations shown in Figures 4-1a through 4-24a, groundwater permit stations shown in Figure 4-1b through 4-24b, and offsite surface water stations shown in Figures 4-1c through 4-24c. On each plot, values below detection limits are shown as hollow symbols and a vertical gray line indicates the initiation of project activities on September 21, 2007. Visual analysis of

[7] 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).

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.

4.2.1 Conventionals

Figures 4-1a-c through 4-8a-c 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 4-1a-c). Beginning in summer 2009, a general increasing trend is evident for conductivity at downstream surface water stations WQ4, WQ6, WQ10, and WQ13 (Figure 4-2a); this increase may be associated with an increase in sulfate (Figure 4-13a), as discussed in Section 4.2.2 below. In groundwater, conductivity levels increased beginning in Q2 2010, followed by a subsequent decrease through Q3 2011 at monitoring wells MW1, MW2, MW3; a moderate increase was observed in 2012 at monitoring well MW1. Conductivity has remained higher than pre-activity levels at well MW4. A possible relationship between conductivity and sulfate is not apparent for groundwater. For both surface water and groundwater, increases in conductivity were observed at monitoring points which have not received LAD discharge water (WQ13, MW1), as well as stations that are downgradient of LAD discharge zones (WE4, WQ6, WQ10, MW2, MW3, MW4). Offsite stations WQ1, WQ2, and WQ3 (Figure 4-2c) may also show a slight conductivity increase since 2010.

Like temperature, dissolved oxygen (Figures 4-3a-c) 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 showed a gradual increase beginning in 2009 and continuing through 2012 at stations MW2, MW3, and MW4. Dissolved oxygen levels in MW1 decreased in 2012.

Surface water and groundwater hardness (Figures 4-4a-c) levels generally fall within the range of pre-mining levels at all stations and show no clear or consistent trends. Surface and groundwater pH values are circumneutral at all stations both before and after the initiation of mining activity (Figures 4-5a-c).

TDS, turbidity, and TSS are different measures of impurities in water. No strong patterns are evident in the TDS (Figures 4-6a-c) or turbidity (Figures 4-8a-c) data, with surface water and groundwater results covering a similar range of magnitude and variability before and after initiation of mining activities. Turbidity measured at offsite surface water station WQ2 exhibited sharp, isolated increases in March 2011 and October 2012. TSS (Figures 4-7a-c) decreased at monitoring wells MW2 and MW3 in spring 2008 and has remained low since that time.

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 related to initiation of mining activity in September 2007. Furthermore, the conventional parameter results measured in 2012 are consistent in magnitude with previous monitoring data.

4.2.2 Cations and Anions

Figures 4-9a-c through 4-13a-c present time series concentration plots for alkalinity, ammonia, chloride, nitrate and nitrite as nitrogen, and sulfate. With the exception of isolated cases described below, none of these parameters have changed in magnitude, trend, or pattern following initiation of mining activity in September 2007.

As shown in Figure 4-9b, alkalinity levels at MW4 began a generally increasing trend starting in Q3 2009; this trend has continued through 2012. As shown in Figure 4-10b, a sharp increase in the ammonia concentration to the highest level measured in groundwater wells to date (2.3 mg/L as N) was measured at MW2 in Q4 2011; during 2012, ammonia at this station dropped back within the range of concentrations prior to initiation of mining activity. Chloride (Figures 4-11a-c) 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 (Figures 4-13a-b). This increase has been most pronounced at surface water station WQ13 and groundwater station MW1. An increase in sulfate to 11.9 mg/L, the highest value measured in surface water to date, was measured at station WQ13 in Q4 2012; concentrations have remained higher than pre-activity levels since the previous peak in Q2 2011. In groundwater well MW1, sulfate concentrations have been generally increasing since 2010 and reached the highest level to date during Q4 2012 (19 mg/L).

4.2.3 Trace Elements

Figures 4-14a-c through 4-25a-c 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 4-15a), 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 4-14a) 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. 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 4-14a and 4-15a, other than the few exceptions discussed above, dissolved and total 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, dissolved and total aluminum concentrations measured at compliance wells MW1, MW2, MW3, and MW4 (Figures 4-14b and 4-15b) generally show relatively higher concentrations from 2007 through 2008, followed by lower concentrations in 2009 through 2012. 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 4-18a) closely track their respective upstream reference station measurements and generally fall well within pre-activity concentration ranges for the entire monitoring period. 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 2012 sampling events. At groundwater stations, dissolved copper concentrations (Figure 4-18b) were relatively high prior to project initiation, but fell to concentrations within or below pre-activity concentration ranges in sampling events from 2008 through 2012. 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 at all four groundwater compliance stations.

Dissolved lead was rarely detected in surface water compliance stations (Figure 4-19a). 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 4-19b) 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 (Figures 4-20a,b), and has been detected only once in surface water (in 2007) and twice in groundwater (in 2007 and in Q2 2012). 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 in surface water samples (Figure 4-24a). 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 4-24b) concentrations were below detection limits in all samples collected from 2008 through 2012 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 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 (Figures 4-16a-c), cadmium (Figures 4-17a-c), nickel (Figures 4-21a-c), selenium (Figures 4-22a-c), and silver (Figures 4-23a-c). 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. An increase in dissolved silver concentrations to somewhat above detection limits was observed at all four surface water stations and at three of the groundwater stations in Q3 2012. NPLLC will continue to monitor silver concentrations in the future to determine if this is an isolated observation or an ongoing pattern.

4.2.4 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 2012.

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 (discussed in Section 5).

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 4-3a provides an overview of the specific statistical tests to be performed on each relevant surface water data set, and Table 4-3b 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 NC Tool. The ADEC NC Tool Microsoft Excel spreadsheet (Alaska_NC_Tool_Base.xlsm) was used in the analyses presented here.

ADEC released Version 2 of the NC Tool in June 2010. Version 2 is used here and in the 2010 and 2011 Annual Reports; 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 Tool 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, data points with 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 4-4a. Groundwater screening results using the natural conditions approach for total aluminum, dissolved aluminum, dissolved copper, dissolved lead, and dissolved zinc are presented in Table 4-4b. 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. In Q3 2012, dissolved copper concentrations were higher than the NC criterion at stations WQ4, WQ6, WQ10, and WQ13. No other copper or aluminum concentrations were higher than the UPL for surface water in 2012.

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. In 2012, total and dissolved aluminum concentrations measured higher than the NC screening criteria at stations MW2 and MW3 in the third and fourth quarters. A single dissolved lead concentration, measured at well MW1 in Q3 2012, was also higher than the NC screening criterion. No other measurements higher than the NC screening criteria were observed at groundwater monitoring wells in 2012.

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 4-4a and 4-4b), 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 Upper Prediction Limit Analysis

As an alternative to the comparisons of central tendency embodied in the NC Tool described in the previous section, EPA 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. 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.

4.3.2.1 Upper Prediction Limit Screen Application

UPLs were calculated using the processed (log-transformed, outliers removed, and/or regression on order statistics (ROS) substitution applied to nondetects, where applicable) surface water and groundwater reference data sets generated as described in the following paragraphs). Compliance samples were screened individually against the calculated UPL thresholds.

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, 2012. 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 Upper Prediction Limit Screen Results

Tables 4-5a and 4-5b 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. In Q3 2012, dissolved copper concentrations were higher than the UPL at stations WQ10 and WQ13. No other copper or aluminum concentrations were higher than the UPL for surface water.

In groundwater, four exceedances of the total aluminum UPL were observed at MW3 prior to initiation of site activity. Since the initiation of site activity, one total aluminum measurement, from MW2 in Q4 2007, was higher than the UPL. For dissolved aluminum, pre-activity dissolved aluminum exceedances were observed at wells MW2, MW3, and MW4. Three consecutive exceedances of the UPL (1,236 µg/L) were observed at MW3 during site activity from July to September 2008. 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. No groundwater concentrations have been measured higher than the UPL for aluminum, copper, lead, or zinc since January 2010.

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 screen applied by the NC Tool. 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, 7.5 percent (55 of 734 samples) of surface water samples and 4.2 percent (37 of 875 samples) of groundwater samples were found to exceed the UPL screen. In contrast, screening against the criteria generated using the NC Tool resulted in an exceedance frequency of 39 percent of surface water samples and 36 percent of groundwater samples.

In summary, screening using an UPL testing method avoids the frequent failures yielded from the ADEC natural conditions method 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.

4.3.3 Overall Weight-of-Evidence Compliance Assessment

Initial screening of surface water and groundwater compliance data collected since initiation of mine exploration activities against 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 4-3a) and total aluminum, dissolved copper, dissolved lead, dissolved mercury, and dissolved zinc in groundwater (Table 4-3b). Evaluation of time series data plots indicates that, for each of these constituents, compliance samples collected after the initiation of exploration 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 2012, 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.

4.3.4 Monitoring Work Planned for 2013

The surface water and groundwater monitoring program will continue to be implemented through 2013 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 MINE WATER QUALITY MONITORING PROGRAM

The mine water quality discussed in this section includes the water quality associated with the PAG pond, settling ponds (station EFF1), mine portal (station PORTAL), and onsite waste rock kinetic field barrels tests (stations LO-1, LO-2, and HW-1). These monitoring stations are shown on Figure 3-1 and discussed in more detail below, followed by a discussion of the water quality monitoring results. The mine water monitoring program is designed to inform site water and waste rock management decisions; these waters are not subject to aquatic life standards.

Prior to Q2 2012, results of kinetic field barrels and PAG pond monitoring were reported to ADEC monthly (e.g., pHase 2011) and summarized in the annual reports. Based on approval from ADEC (George 2012, pers. comm.), PAG pond chemistry monitoring is now conducted on a quarterly basis concurrent with quarterly monitoring at surface water and groundwater stations. This is the first annual report that reflects this change.

5.1 MINE WATER QUALITY MONITORING LOCATION DESCRIPTIONS

Locations sampled in 2012 include PAG pond, PORTAL, and EFF1, as well as the field barrel kinetic tests (HW1, LO1, and LO2), as indicated in Table 3-2. Each of the locations, as well as their historical and current sampling schedules, is described in the following subsections. The monitoring record and analyte list is summarized in Table 3-5.

5.1.1 PAG Pond

The PAG temporary waste rock storage facility was constructed in spring 2008 for the temporary storage of the blast rock determined to be potentially acid generating during drift excavation. Runoff and leachate from the PAG waste rock pile is monitored at the PAG pond (Figure 3-1) on a weekly basis for field parameters and quarterly for analytical chemistry parameters. Prior to April 2012, chemistry monitoring was conducted monthly. The monitoring record for the PAG facility summarized here includes data from August 19, 2008 through December 31, 2012.

5.1.1.1 PAG Facility Background

The excavation of a 2,800-ft exploration drift (completed June 2008), along with construction of a variety of supporting infrastructure (Figure 2-2), has provided materials for geochemical characterization to determine the potential for acid rock drainage on the Niblack site. Each drift excavation blast round was subjected to analysis to determine if the rock was PAG, following the specifications outlined in the Plan of Operations (Niblack 2007). A storage facility was constructed onsite (Figures 5-1 and 5-2) for the temporary storage of PAG blast rock. Current

mine plans involve the return of the PAG material to the underground drift for final reclamation and site closure.

Of the approximately 286 blast rounds completed, 43 were determined to comprise mainly PAG rock. Of the 43 "PAG rounds," 4 rounds were considered to be "well mineralized" and were placed in a small stockpile located just east of the PAG storage facility, on a layer of geomembrane, and subsequently covered by geomembrane to prevent weathering (Figure 2-2). The remaining 39 rounds (approximately 9,000 tons), primarily sulfide-bearing Lookout rhyolite, were placed in the PAG storage facility, which is also referred to as the PAG pile (Figures 5-1 and 5-2).

Based on QA/QC verification test work conducted as a part of the operational characterization plan, the material in the PAG pile is anticipated to average ~1% total sulfur, predominantly as sulfide-sulfur, with low neutralization potentials, <~20 kg $CaCO_3$/t equivalent, and corresponding neutralization potential ratios of <0.5 (MESH 2009).

Following the completion of underground drilling in October 2008, NPLLC (then CBR) initiated the process of placing the project on temporary closure, as defined within several of its operating permits. Originally, ADEC requested that the PAG rock pile be covered during the period of temporary closure. However, NPLLC (then CBR) requested approval to leave the PAG rock pile uncovered. A waiver of the intermediate cover requirement (18 AAC 60.243) under the Permit was granted by ADEC on January 26, 2009 (Buteyn 2009, pers. comm.). In January 2009, former site owner CBR requested approval to leave the pile uncovered for large-scale kinetic testing (Kleespies 2009, pers. comm.). The uncovered pile provides an opportunity to evaluate the weathering behavior of the PAG rock and provides quantitative information for waste management practices for possible future site development.

The leachate and runoff water captured in the PAG pond is monitored on a weekly basis for field parameters including pH, sulfate, conductivity, dissolved oxygen, and total dissolved solids. Additional chemistry parameters, including conventional parameters, major cations and anions, and trace elements, were collected on a monthly basis from August 2008 to April 2012. Monthly PAG monitoring reports were submitted to ADEC during this time period. Since Q2 2012, PAG pond chemistry has been monitored and reported on a quarterly schedule (George 2012, pers. comm.). Field parameter monitoring continues on a weekly schedule and will serve as an early indicator for any potential changes in PAG pond water quality. If a significant reduction in pH, or increase in sulfate or other field parameter, is observed, the chemistry monitoring frequency may be increased, as determined by NPLLC and ADEC. A cover will be placed on the PAG pile if required due to a change in the chemistry of the PAG pond or at the request of ADEC or the Alaska Department of Natural Resources.

Water from the PAG rock pile accumulates in the PAG pond before flowing to two settling ponds (Figure 4-28) where it comingles with water from the exploration drift portal and direct

rainfall to the ponds. The settling ponds are monitored at station EFF1, discussed below (Section 5.1.3).

5.1.2 Portal Water (PORTAL)

The mine effluent has been monitored in two general areas: at the point of inflow to the settling ponds, and near the portal entrance. Mine effluent samples are referred to as PORTAL locations, or sometimes drift samples. Three PORTAL samples were collected at the settling pond entrance in 2011 and 2012. Portal water quality monitoring at the inflow to the settling ponds is not required under the Niblack Permit. This voluntary monitoring provides information about the quality of water entering the settling ponds that may be useful for site operations and management decisions.

From 2007 through 2010, 27 samples were collected at the portal entrance and within the drift at distances from 150 ft to 2,775 ft from the portal entrance. These samples were collected to fulfill Section 1.6.10.1 of the Niblack Permit (ADEC 2007), which requires that samples be collected at seeps or drill holes near the portal entrance to determine natural groundwater quality to support post-closure monitoring of drainage water from the closed adit (if drainage occurs).

5.1.3 Effluent (EFF1)

Station EFF1 is located in the site settling ponds (Figure 3-1). Sample water is collected from within the ponds at the outlet pipe which flows to the LAD system. Water sampled at station EFF1 is representative of the water which is discharged from the LAD system emitters. Monitoring at EFF1 includes weekly field parameter measurements and full water chemistry on a quarterly basis. Prior to April 2012, chemistry monitoring was conducted monthly.

5.1.4 Field Barrels

Three field barrels (HW-1, LO-1, and LO-2) were established to further characterize the weathering of Niblack waste rock. Details on the material loaded into each field barrel are provided in Appendix C. Field barrels have been monitored since July 2008 on a weekly basis for field parameters and quarterly for complete chemistry analysis. Field barrels were not sampled in Q4 2012 due to lack of water.

5.2 RESULTS

Tabulated surface water quality monitoring results for all data collected through 2012 are provided in Appendix B. Tables B-1a-d include results for all surface water and groundwater stations identified in the Permit for all field and laboratory parameters included on the reduced analyte list (Table 2-4). Tables B-1a-d also include results for offsite surface water, effluent, PAG

pond, and test barrel samples. Mine water data are presented in individual table sections for physical parameters, anions, nutrients, and trace elements in Table B-1d. *In-situ* field results are presented in Table B-2d. MDLs for mine water samples are provided in Table B-3d, and field duplicate sample results and relative percent differences are presented in Table B-4d and are discussed in Section 3.

Figures 5-3 through 5-26 present time series concentration plots for select conventional parameters (Figures 5-3 through 5-10), cations and anions (Figures 5-11 through 5-15), and trace elements (Figures 5-16 through 5-26). These plots present water quality results for the PAG pond, EFF1, and field barrels samples collected from November 2007to December 2012. On each plot, values below detection limits are shown as hollow symbols and a vertical gray line 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.

5.2.1 Conventional Parameters

Field parameters, including pH, temperature, conductivity, dissolved oxygen, turbidity and sulfate, are measured weekly, whereas full laboratory analyses are completed quarterly.

Figures 5-3 through 5-10 present time series concentration plots for eight conventional parameters—temperature, conductivity, dissolved oxygen, hardness, pH, TDS, TSS, and turbidity. Temperature (Figure 5-3) shows strong seasonal fluctuation in the PAG pond, the settling ponds (EFF1), and the field barrels (LO-1, LO-2, and HW-1), which continued through 2012. Conductivity in the PAG pond is more variable than at EFF1 (Figure 5-4). Conductivity typically increases in the summer for the PAG pond and field barrels; clear seasonal patterns were not evident for EFF1.

No clear seasonal or temporal pattern exists for dissolved oxygen (Figure 5-5) at the PAG pond, settling pond, or field barrel monitoring stations. Variability in the measurements over ranges from 0 to 20 mg/L may have reduced somewhat in the 2012 measurements at all stations.

Hardness (Figure 5-6) in the PAG pond fluctuates seasonally with maximum yearly values consistently occurring in summer months. Like the PAG pond, field barrel hardness tends to be higher in the warmer months, although the trend is less pronounced. Field barrel hardness measurements fall within the ranges observed since monitoring began in 2008. EFF1 hardness consistently ranges between 70 and 103 mg/L as $CaCO_3$, somewhat lower than PAG pond hardness.

Field pH values (Figure 5-7) from the PAG pond 2012 weekly sampling events continued to be circumneutral, ranging from 5.7 to 7.8. Overall, PAG pond pH values continue to follow the

seasonal trend of lower pH values through the winter months (values ~6) compared to summer months (values ~7). EFF1 weekly pH ranged from 6.1 to 8.3 in 2012. Weekly field pH results for the PAG Site and EFF1 are generally comparable throughout the monitoring record with individual exceptions. Relatively low pH (4.3) was measured in the PAG pond in March 2011, when the PAG pond was frozen (the sample was influenced by ice melt and may not have been indicative of actual PAG pond conditions). Higher pH measurements (up to 11.2) at the settling ponds are likely related to drift operations including grouting, such as during drift development activities from 2007 through 2008. During 2012, weekly field barrel LO-1 pH ranged from 6.0 to 7.5, LO-2 ranged from 6.0 to 7.5, and HW-1 ranged from 6.0 to 7.7. In general, field barrel pH measurements have been circumneutral throughout the monitoring record. A slight downward shift in average pH concentrations may be evident in barrel LO-2; however, values measured in 2012 remained above pH 6.0.

TDS (Figure 5-8) in the PAG pond and field barrels generally shows overall higher values in the summer months than during winter, corresponding with seasonal changes in both temperature and conductivity. The PAG pond 2012 results are relatively consistent with the previous years. TDS concentrations at EFF1 do not show consistent seasonal variation. Summertime TDS concentrations at EFF1 are generally lower than the concentrations observed in the PAG pond.

TSS (Figure 5-9) was below the instrument detection threshold (3 – 5 mg/L) for all field barrel measurements and most of the PAG pond measurements recorded since monitoring began. Two isolated cases of relatively high (up to 244 mg/L) TSS were observed in the PAG pond in 2011. In the settling ponds, relatively high (>100 mg/L) TSS was measured in 2008 and 2010 through early 2011, but returned to previous low levels in Q2 2011 through 2012.

Turbidity (Figure 5-10) is generally low (<10 nephelometric turbidity units [NTU]) in the PAG pond and field barrels, with greater fluctuation at EFF1. Since Q3 2011, turbidity measurements at EFF1 show lower average values and less variability. During 2012, a malfunctioning turbidity meter resulted in data not being available in late July and August.

Conventional and weekly field parameters continue to fluctuate with yearly seasonal norms, indicating little change in the system dynamics in the PAG pond, EFF1, or field barrels. None of the conventional parameters measured in mine water stations shows evidence of a substantial or ongoing change in magnitude, trend, or pattern over the monitoring record. Furthermore, the conventional parameter results measured in 2012 are generally consistent in magnitude with previous monitoring data.

5.2.2 Cations and Anions

Figures 5-11 through 5-15 present time series concentration plots for alkalinity, ammonia, chloride, nitrate and nitrite as nitrogen, and sulfate. With the exception of isolated cases

described below, none of these parameters have changed in magnitude, trend, or pattern during the mine water monitoring period.

PAG pond and EFF1 alkalinity (Figure 5-11) have remained relatively stable since 2009, with 2012 concentrations ranging between 43.2 and 56.0 mg/L as $CaCO_3$ and 60.4 and 74.6 mg/L as $CaCO_3$. Field barrel alkalinity decreased somewhat since relatively high concentrations measured during initial establishment and first flushing of the test barrels.

Ammonia (Figure 5-12) has been largely nondetect in the PAG pond, EFF1, and field barrels. EEF1 exhibited early detections of ammonia during drift development from 2007 to 2008; however, the concentrations decreased in fall 2008 and have remained low.

Chloride concentrations (Figure 5-13) have fluctuated throughout the testing period and are likely influenced by the near-shore environment, weather, and climatic conditions. No clear seasonal or temporal trends exist in chloride data.

Nitrate and nitrite concentrations (Figure 5-14) have decreased to near detection limits from early highs (up to 192 mg/L as N) measured in 2008. Nitrate and nitrite observed in the PAG pond and field barrels may be related to blasting residue intermixed in the rock material during drift construction. The sharp decrease in nitrate and nitrite concentrations indicates that the nitrogen from blasting has been flushed from the PAG waste rock and field barrels. EFF1 shows consistently low (<18 mg/L as N) concentrations since monitoring began in 2006.

Sulfate (Figure 5-15) in the PAG pond and field barrels shows overall higher values in the summer months than during winter, corresponding with seasonal changes in both temperature and conductivity. A slight decreasing trend may be apparent in the summertime sulfate measurements at the PAG pond and barrel LO-1. Sulfate concentrations measured at EFF1 are consistently lower and less variable than in the PAG pond water. Weekly field sulfate results (Table B-2d) are comparable to the analytical laboratory results (Figure 5-15 and Table B-1d) for all of the mine water stations; however, the field tests are not capable of reliable measurements above 200 mg/L or below 50 mg/L.

5.2.3 Trace Elements

Figures 5-16 through 5-26 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. Total and dissolved iron are also presented and discussed to provide additional understanding of mine water chemistry.

Acid rock drainage is commonly caused by the oxidation of iron sulfides, and as solutions become more acidic certain trace elements (e.g., copper, cadmium, nickel, zinc) become more soluble. Other metals (e.g., arsenic, selenium) can be soluble at near-neutral pH. The waters in

the mine water monitoring program exhibit circumneutral pH and trace element concentrations are typically low. While non-iron-bearing sulfides still oxidize under atmospheric conditions, they can be less acid generating than iron-bearing sulfides. The notable presence of zinc, cadmium, and copper in solution, particularly in LO-1, suggests that non-iron-bearing sulfides may play an important role in the geochemistry and acid generation potential of the Niblack PAG rock.

5.2.3.1 Aluminum (Total and Dissolved)

Total and dissolved aluminum concentrations (Figures 5-16 and 5-17) have generally been lower in the PAG pond and barrel tests than at EFF1. EFF1 aluminum concentrations have decreased from relatively higher values observed during drift construction from 2007 to 2008. The PAG pond and field barrels LO-1 and LO-2 exhibit relatively steady dissolved aluminum concentrations over the monitoring record, which are generally below 50 μg/L. Field barrel HW-1 shows a slight increasing trend for both total and dissolved aluminum.

5.2.3.2 Arsenic

Dissolved arsenic concentrations (Figure 5-18) in 2012 ranged from 0.14 to 0.73 μg/L in the PAG pond and field barrels. First flush field barrel arsenic concentrations were higher than the PAG pond; however, the field barrels and the PAG pond exhibit similar low levels (less than 1 μg/L) of arsenic since early 2010. EFF1 arsenic concentrations have fluctuated between 0.2 μg/L and a high of 3 μg/L in June 2008.

5.2.3.3 Cadmium

PAG pond and HW-1 dissolved cadmium (Figure 5-19) have historically been low, a trend that continued through 2012, with annual high concentrations of 0.096 and 0.02 μg/L, respectively. Field barrels LO-1 and LO-2 cadmium concentrations show an increasing trend, with the highest values (2.1 μg/L for LO-1 and 0.37 μg/L for LO-2) measured in 2011 and 2012 sampling events. EFF1 cadmium concentrations have remained below 0.5 μg/L throughout the monitoring record, with the exception of small increases during temporary closure in 2009 (Integral 2010) and an isolated spike in September 2011

5.2.3.4 Chromium

Dissolved chromium (Table B-1d) monitoring is required at station EFF1 only, as shown in Tables 3-3 and 3-4; chromium was not analyzed in 2012 PAG pond or field barrel samples. Chromium at EFF1 had a maximum 2012 annual value of 0.87 μg/L during Q1, consistent with low chromium concentrations measured since Q2 2008. Chromium concentrations measured at EFF1 during drift excavation from 2007 through early 2008 were somewhat higher, ranging from 6.8 to 33.4 μg/L.

5.2.3.5 Copper

Copper concentrations in the field barrels have decreased since first flush highs measured at the initiation of barrel testing in 2008 (Figure 5-20). A slight increasing trend in dissolved copper concentrations may be apparent for barrel LO1, with the 2012 maximum measurement of 2.81 μg/L in Q3 2012. PAG pond copper concentrations have remained low (less than 3.7 μg/L) and consistent throughout the monitoring record. Copper concentrations at EFF1 have been variable, but generally low, with the exception of increases up to 6.9 μg/L observed in 2009 during temporary closure of the exploration drift (Integral 2010) and an isolated spike of 20.1 μg/L observed in September 2011.

5.2.3.6 Lead

Dissolved lead measurements (Figure 5-21) have generally remained low (<0.33 μg/L) in the PAG pond, EFF1, and field barrels LO-2 and HW-1, which are each dominated by nondetects in 2012. The period of increased lead concentration (up to 0.79 μg/L) at EFF1 from March through July 2009 was associated with a period of temporary closure of the exploration drift and limited flows. Field barrel LO-1 shows an increasing trend in dissolved lead concentrations, with a maximum measured to date of 0.99 μg/L in Q3 2012. This increasing trend, which is not observed in the other field barrels, may be related to the oxidation and dissolution of lead-bearing sulfides.

5.2.3.7 Mercury

Dissolved mercury was not detected in 2012 (Figure 5-22) sampling of the PAG pond, EFF1, PORTAL, or field barrels. Mercury has never been detected in any of these stations since monitoring began in 2006. Mercury detection limits have remained at 0.02 μg/L since July 2009.

5.2.3.8 Nickel

Dissolved nickel (Figure 5-23) concentrations show variability at the PAG pond, field barrels, and EFF1. Concentrations at the PAG pond and field barrels vary from detection limits up to a maximum measurement of 4.8 μg/L (LO-2 in July 2008 during barrel test initiation and flushing). Average dissolved nickel concentrations at the PAG pond and field barrels appear to be decreasing slightly over time. Settling pond station EFF1 shows somewhat less variability and no temporal trends, with concentrations ranging from detection limits up to 2.0 μg/L.

5.2.3.9 Selenium

Dissolved selenium (Figure 5-24) concentrations at the PAG pond, field barrels, and EFF1 have remained fairly consistent over the monitoring record, with concentrations generally below 1.5 μg/L at all stations. Field barrels LO-1 and LO-2, and possibly the PAG pond, show initially high values (up to 3.6 μg/L) at the start of monitoring during first flushing of the waste rock.

5.2.3.10 Silver

Dissolved silver (Figure 5-25) concentrations have rarely been detected in the mine water monitoring program, with a maximum detection limit of 0.09 μg/L. Dissolved silver was detected in Q4 2012 sampling at the PAG pond and EFF1; however, the detected concentrations (0.45 μg/L at the PAG pond and 0.43 μg/L at EFF1) were within the range of previously measured nondetect values. Dissolved silver has never been detected in the field barrels.

5.2.3.11 Zinc

Dissolved zinc (Figure 5-26) concentrations have been generally stable in the PAG pond, LO-2, HW-1, and EFF1, generally remaining below 50 μg/L at these stations. At station EFF1, dissolved zinc follows the patterns observed for dissolved copper and lead, with increased (up to 145 μg/L) zinc concentrations at EFF1 from March through July 2009 during temporary closure of the exploration drift (Integral 2010) and a spike in September 2011. Field barrel LO-1 shows an increasing trend in dissolved zinc concentrations, with the maximum concentration measured to date of 231 μg/L observed in Q2 2012. The increase observed in the barrel leachate may be related to the weathering of sphalerite in the test rock.

5.2.3.12 Iron (Total and Dissolved)

Comparison of dissolved iron (Figure 5-27) and total iron (Figure 5-28) at mine water monitoring stations indicates that iron in the system is dominated by the total (particulate) form. At the PAG pond, EFF1, and field barrels, dissolved iron measurements frequently fall below detection limits; the maximum dissolved iron concentration measured in mine water was 234 μg/L at station EFF1 in September 2011. Based on the geochemical properties of iron and the circumneutral pH levels measured in mine water, it is expected that much of the iron will precipitate as a solid.

For total iron concentrations, PAG pond measurements have been decreasing from a maximum of 311 μg/L measured during early monitoring in October 2008. In 2012, the maximum total iron concentration measured at the PAG pond was 26 μg/L. Some seasonal fluctuations in total iron are apparent, with maximum concentrations observed in the fall and winter months. Total iron concentrations for 2012 were low, ranging from 22.4 to 68 μg/L, consistent with the monitoring record.

At settling pond station EFF1, total iron has fluctuated over the monitoring record, with maximum concentrations in excess of 6,000 μg/L observed in 2008 during construction of the exploration drift. Between October 2009 and October 2011, iron in the EFF1 samples was higher than the PAG pond and field barrel waters, possibly due to activity underground and higher concentrations of suspended iron-bearing particulates.

As observed for several other trace elements (e.g., arsenic, copper, selenium), field barrels exhibit higher total iron concentrations during initial measurements in 2008, suggesting an early flushing of the field barrel rock material. Since this time, total iron concentrations have generally remained low (<100 µg/L) and are frequently below detection limits.

The field barrels and the PAG pond iron concentrations do not follow the same annual trend as sulfate (Figure 5-15), nor does iron occur in the same order of magnitude as sulfate. This suggests that the iron concentrations are influenced by precipitation of iron oxyhydroxides as would be expected at these pH conditions.

5.2.4 Summary

PAG pond and EFF1 water pH levels have remained circumneutral since monitoring began in 2006, and conventional and trace elements have remained stable within annual seasonal fluctuations. Concentrations of some dissolved parameters (i.e., sulfate, copper, nickel, and zinc) have shown slight increases in the summer months (July/August), suggesting potential seasonal trends in sulfide oxidation. In general, the PAG pond and EFF1 have higher solute concentrations than the field barrels (with the exception of dissolved cadmium, lead, and zinc in barrel LO-1 and, more recently, cadmium and zinc in LO-2). Field barrels pH levels have also remained circumneutral. However, field barrel LO-1, and to a lesser extent LO-2, shows increasing trends in trace element concentrations for cadmium, zinc, lead, and copper. These increases may be caused by the oxidation of non-iron-bearing sulfides, such as sphalerite (ZnS).

5.3 MONITORING WORK PLANNED FOR 2013

The PAG pond and EFF1 monitoring program will continue to be implemented through 2013 in accordance with the modifications approved by ADEC (George 2012, pers. comm.; George 2008, pers. comm.), and with the requirements of the Waste Management Permit, Site Monitoring Plan, and QAPP. Voluntary kinetic test barrel monitoring at LO-1, LO-2, and HW-1 will be continued on a quarterly basis or at a frequency determined by NPLLC.

6 STORMWATER POLLUTION PREVENTION PLAN REPORTING

6.1 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 2012 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.

6.2 SIGNIFICANT SPILL REPORTS SUMMARY

There were no significant/reportable spills of hydrocarbons or other deleterious fluids during 2012. Two small (less than one gallon) hydrocarbon spills occurred on the site in September 2012. These were recorded in monthly logs and submitted to ADEC.

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

7 DISCHARGE EVENTS

Three discharge events occurred in 2012 that may constitute discharges that are out of compliance with the Permit. These events were reported to ADEC and described in detail in the Q2 2012 and Q3 2012 quarterly reports (Integral 2012b, c).

7.1 LAD SYSTEM

On April 6 and 7, 2012, an external consultant who was collecting routine water quality samples observed that multiple lines in Zones 2 and 3 of the LAD system were open and discharging water from the end of the line onto the ground surface, rather than dispersing the water over the forest floor through sprinklers, as the system is designed. Staff acted promptly to turn off the free-flowing LAD lines. NPLLC reported the incident to Kyle Moselle of Alaska Department of Natural Resources on April 10, 2012. A follow-up notification letter was sent to Kenwyn George of ADEC on April 23, 2012 (Smith 2012, pers. comm.).

Site staff determined that the cause of the incident was related to earlier LAD system management activities. During the winter of 2012, several LAD system lines froze. In order to relieve pressure and allow the ice to leave the system when the temperatures warmed, the valves at the bottom of the lines were left open. Site staff estimate that the lines were open from March 26 through April 7. The total volume discharged is unknown; however, based on an estimate that each open line was flowing at 2 gpm, approximately 37,440 gallons of water may have discharged from the LAD system through the open lines. Some pooling of water was observed at the time the open lines were discovered. No channelization or damage to vegetation was observed.

On August 7, 2012, ADEC issued a compliance letter to NPLLC (Weitz 2012, pers. comm.). The compliance letter emphasizes 24-hour reporting requirements for discharge events, as well as the Permit requirement for weekly inspections of the LAD system. NPLLC is in the process of complying with the requirements listed in the compliance letter, including providing non-compliance reporting training to all staff. NPLLC will also improve the monitoring plan to ensure that similar violations do not occur in the future. Monitoring plan changes will be submitted to ADEC for approval.

7.2 SURFACE DRILLING

On September 4, 2012, at authorized location SP12-O (Figure 2-9), the operators of the drill rig noticed drill water return to surface away from the drilling platform. It was discovered drill cuttings made their way to surface through subsurface fractures and cracks intersecting with the drill hole. While activity stopped immediately upon recognition of the problem, drill water

with cuttings did escape from three locations onto the forest floor surface. One location was approximately 15 ft west of the drill collar, and cuttings were controlled through silt fencing installed downslope from the rig. The second location was approximately 45 ft west of the drill collar; cuttings were controlled in a natural depression and with additional dam construction. The third location was approximately 80 ft east and 15 ft uphill from a natural seasonal drainage, and drill water with cuttings flowed downhill into the drainage. This drainage is composed of several deep catch basins, and cuttings flowed for 30 ft and were naturally controlled, as there had been little precipitation in the area and the drainage has little natural flow. Approximately 900 lb of material has been recovered from the areas, comprising about 80 percent drill cuttings, the remainder being made up of water.

Corrective action at this location has involved cementing the hole and attempting to drill from a location offset 5 ft from the original drill collar. The problem was again encountered approximately 120 ft into the new hole, which was also stopped and cemented. The drill rig was moved back to the original hole location and a polymer-based agent (Poly Swell) was used to seal off the connection of the fractures to the surface. This procedure has been successful and the rig has been able to continue drilling activities without further incident. Photographs of the discharge and corrective actions are presented in the Q3 2012 quarterly report (Integral 2012c).

On September 5, 2012 at authorized location SP12-N (Figure 2-9), it was observed that drill water with cuttings discharged to surface, due to improper use of the recirculation system, for two consecutive night shifts. Cuttings breached the silt fence installed downslope from the drill rig and flowed downhill for approximately 250 ft, where the path intersected with flowing water. These waters are authorized for water withdrawal under Alaska Department of Natural Resources permit TWUP2012-120; the intersection point of drill cuttings is approximately 500 ft downstream of the withdrawal point. It is unknown how much drill water entered the waters as there was a natural basin on the bank of the creek; drill cuttings were seeping underneath a log on the bank. Downstream inspection of the creek found no evidence of settling or buildup of drill cuttings and conditions appeared similar to those found upstream. Approximately 4,500 lb of material has been recovered along the path of discharge, composed of about 50 percent drill cuttings, the remainder being made up of soils and other organics (sticks, grass, etc.).

Corrective action at this location has involved a complete cleaning of the recirculation system as well as constant daily visual confirmation of the use of the recirculation system by onsite management until the end of the drilling program. Photographs of the discharge and corrective actions are presented in the Q3 2012 quarterly report (Integral 2012c).

NPLLC reported the incidents at drill rigs SP12-O and SP12-N to Sarah Samuelson of the U.S. Forest Service, Tongass Minerals Group, via telephone on September 7, 2012. A written notification was sent to Ms. Samuleson on September 12, 2012 (Neale 2012).

7.3 PAG POND

During a heavy rainfall event on September 12, 2012, water flowed from the PAG pond over the edge of the pond liner and into the surrounding boulders. The event began sometime between 11:55 a.m. and 12:30 p.m. and ended at 1:35 p.m. Site staff responded immediately upon observing the overflow at 12:30 p.m. by starting an extra pump to pump more water from the PAG pond to the settling ponds. Additionally, the hose from the PAG pond to the settling pond was changed to a larger size so that the pumping capacity could be increased. By 1:35 p.m., the pond water level was reduced so that the overflow ceased. During the overflow period, no water was observed resurfacing anywhere beyond the boulders surrounding the PAG pond. NPLLC reported the incident to Ed Emswiler of ADEC on September 14, 2012 (Ford 2012, pers. comm.). Site staff have updated operating procedures for the site as a corrective action to prevent similar future occurrences.

Field parameters were also measured in the PAG pond during the overflow. The following measurements were recorded: pH, 7.62; conductivity, 0.547 ms/cm; dissolved oxygen, 6.29 mg/L; temperature, 12.3°C; and turbidity, 3 NTU. These values fall within typical ranges for the PAG pond, as summarized in Section 5 and shown on Figures 5-3 through 5-10. Photographs taken during the overflow event are shown in the Q3 2012 quarterly report (Integral 2012c).

8 ADEQUACY OF FINANCIAL RESPONSIBILITY

The original project financial responsibility cost estimate of $1,221,408 was presented in the Niblack Project Reclamation and Closure Plan (RTR 2007). A draft update of the reclamation and closure plan, titled *Reclamation and Closure Plan for the Niblack Underground Exploration Project 2012 Post-Construction Update* (Integral 2012d), was submitted to ADEC in support of the Waste Management Permit renewal application submitted in May 2012. Renewal Permit 2013-DB0001, which replaces Permit 2006-DB0037, was issued on March 13, 2013, and includes an updated financial responsibility cost estimate of $1,409,959. Reclamation cost estimates were based on updated acreage disturbance estimates and current reclamation costs. Monitoring results to date provide no indication of revision required to the financial responsibility cost estimate.

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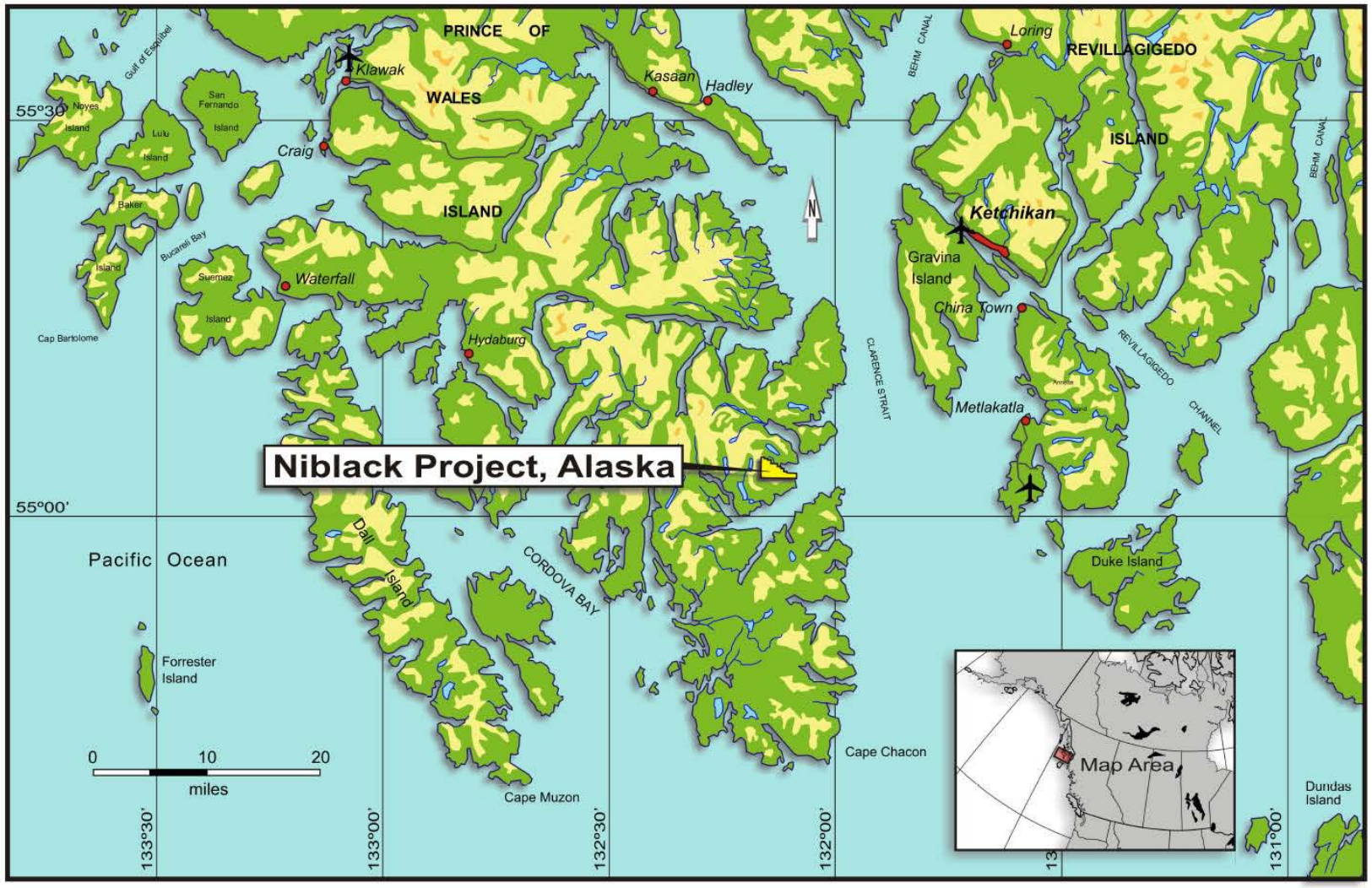
FIGURES



Niblack Project Location Map

May, 2006

NIBLACK PROJECT LLC

integral consulting inc.

Figure 1-1
Niblack Project Location Map
Niblack Exploration Project
2012 Annual Report

Niblack Anchorage

High Tide Waterline

Waterline

State of Alaska
Tidelands Claims

Tongass National Forest
(BLM Claims)

Barge Camp

20,000 gallon Fuel Tank
and Refueling Berm

Laydown Pad, Fuel Tank, and Soil Stockpile

Barge Landing

E1UBL

E2US1N

E2EM1P

PFO-SS4B

PFO4B

Old Camp Site

Land Application/
Dispersion System (typ)

Fines Stockpile

Diversion Channel

Topsoil
Stockpile

Sediment
Traps (typ)

NAG Waste Disposal Area

Haul
Road

Patented Claims

East Drill Station

Rear Sump

West Drill Station

Mammoth Drill Station

Niblack Exploration Drift

Main Sump

Portal Platform

Access Road to
Old Camp Site

Topsoil Stockpile

Mineralized Stockpile
(Covered)

Field Test Barrels

Diversion Channel

Settlement/
Treatment Ponds

Water Treatment
Facility

PAG Settling Pond

PAG Waste
Disposal Area

Topsoil
Stockpile

Access Road

Pipeline from
collection ditch to
settling ponds (typ)

Tongass National Forest
(BLM Claims)

Patented Claims

Tongass National Forest
(BLM Claims)

Camp Creek

Waterfall Creek

250
500
750
1000
1250
1500
1750
2000
2200

LEGEND

- E1UBL Estuarine - Subtidal
- E2US1N Estuarine - Unvegetated Intertidal
- E2EM1P Estuarine - Emergent Intertidal
- PFO-SS4B - Needleleaf Forest/Scrub - Shrub Wetland
- PFO4B - Needleleaf Forest Wetland
- Land Application Areas
- Tideland Lease Area
- Property/Patented Claim Boundary
- Waste Rock Storage Facilities
- Water Management Features
- Roads and Exploration Access Drift

NOTE

1. All dimensions and elevations are in feet unless otherwise noted

SOURCES

1. As-built drawings provided by Niblack Project LLC (2011)
2. Land application area boundaries from Turner (2009, personal communication)

NIBLACK PROJECT LLC

integral consulting inc.

0 200 400 Feet

N

Figure 2-1
General Site Plan
Niblack Exploration Project
2012 Annual Report

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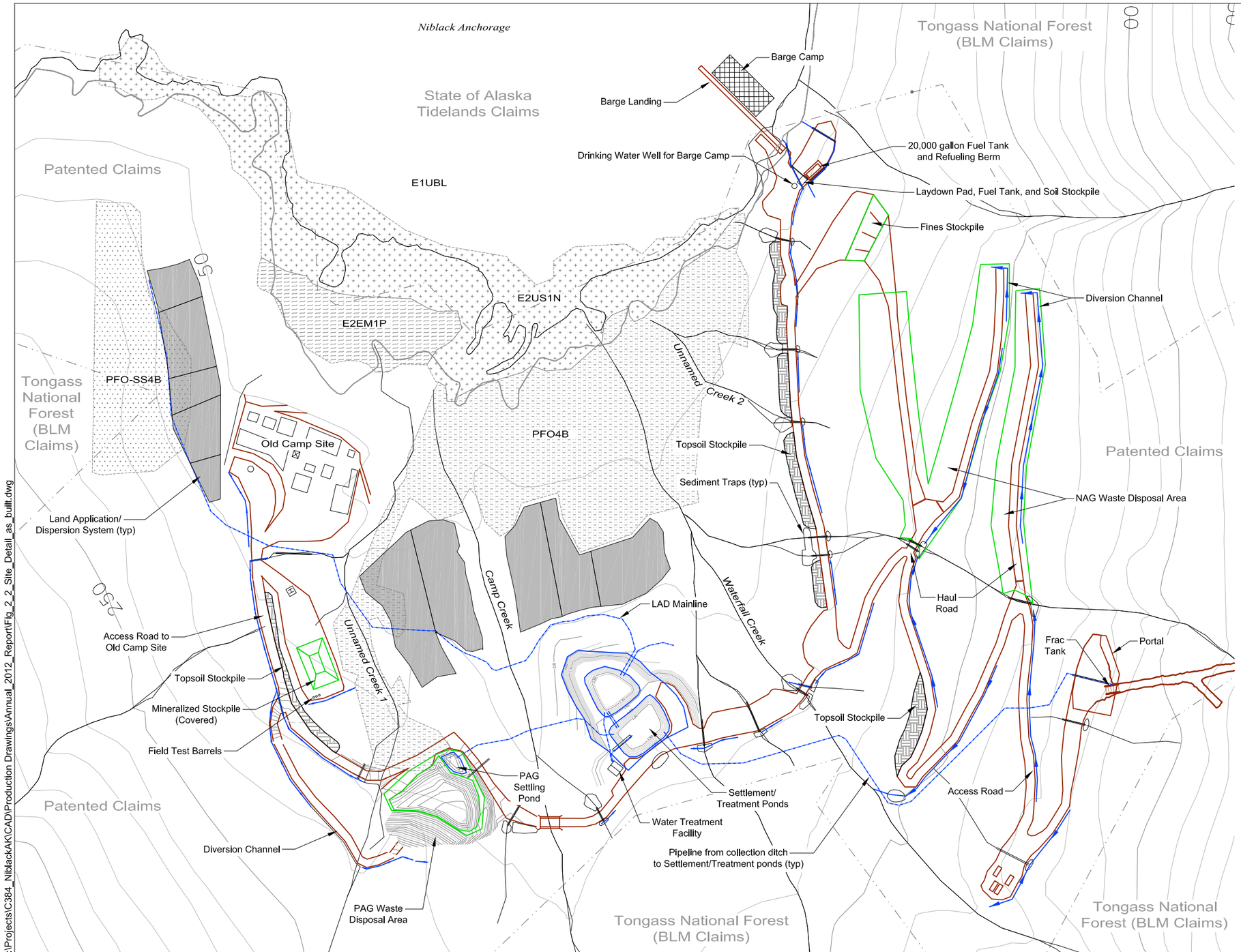

LEGEND

- E1UBL Estuarine - Subtidal
- E2US1N Estuarine - Unvegetated Intertidal
- E2EM1P Estuarine - Emergent Intertidal
- PFO-SS4B - Needleleaf Forest/Scrub - Shrub Wetland
- PFO4B - Needleleaf Forest Wetland
- Land Application Areas
- Property/Patented Claim Boundary
- Waste Rock Storage Facilities
- Water Management Features
- Roads and Exploration Access Drift

NOTE

1. All dimensions and elevations are in feet unless otherwise noted

SOURCES

1. As-built drawings provided by Niblack Project LLC (2011)
2. Land application area boundaries from Turner (2009, personal communication)

NIBLACK PROJECT LLC

integral consulting inc.

0 100 200 Feet

N

Figure 2-2
Site Plan Detail
Niblack Exploration Project
2012 Annual Report

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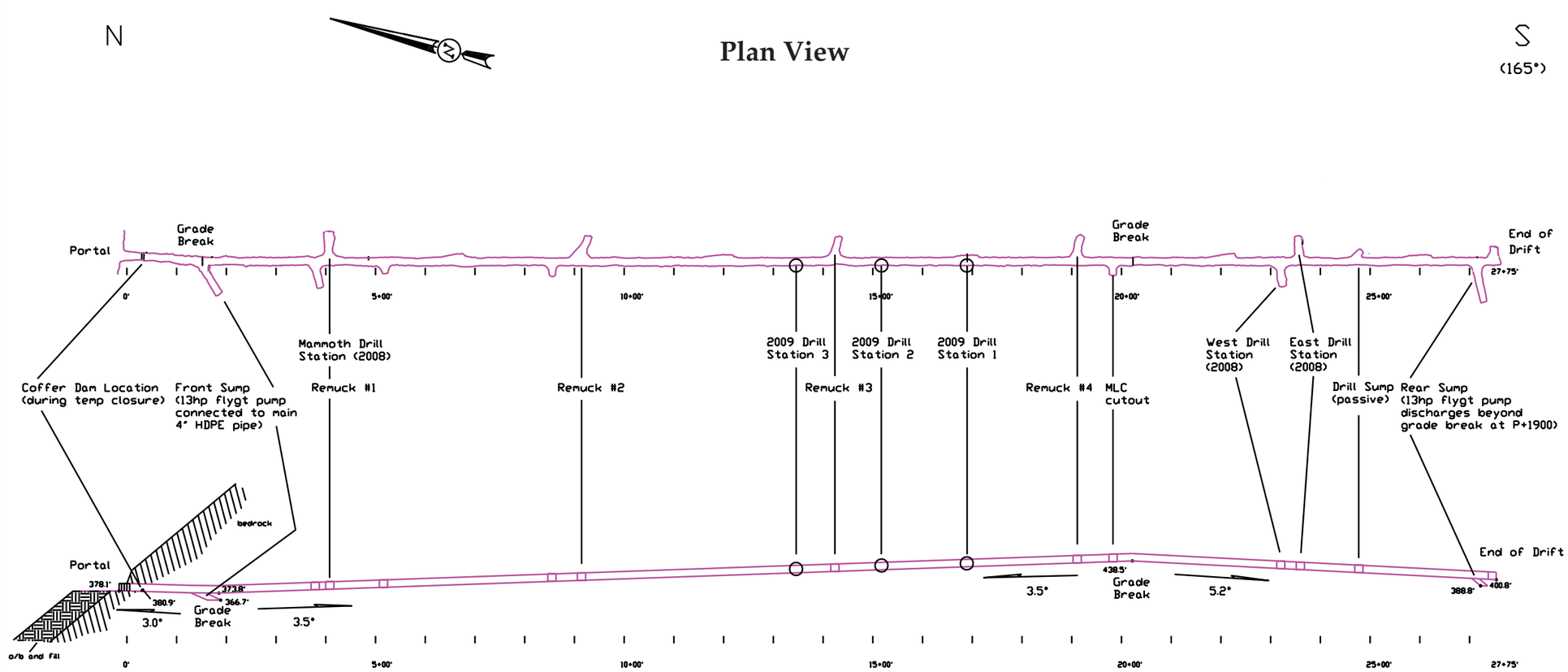


Section View

NIBLACK PROJECT LLC

Figure 2-3
Niblack Project Exploration Drift
Plan and Section Views

Scale in Feet
0 50 100 150 200 400
0 Scale in metres 125

DATE:	23 November 2009	MODIFIED BY:	A. Turner
DWG:	Portal_091123.dwg	SCALE:	1" : 300'

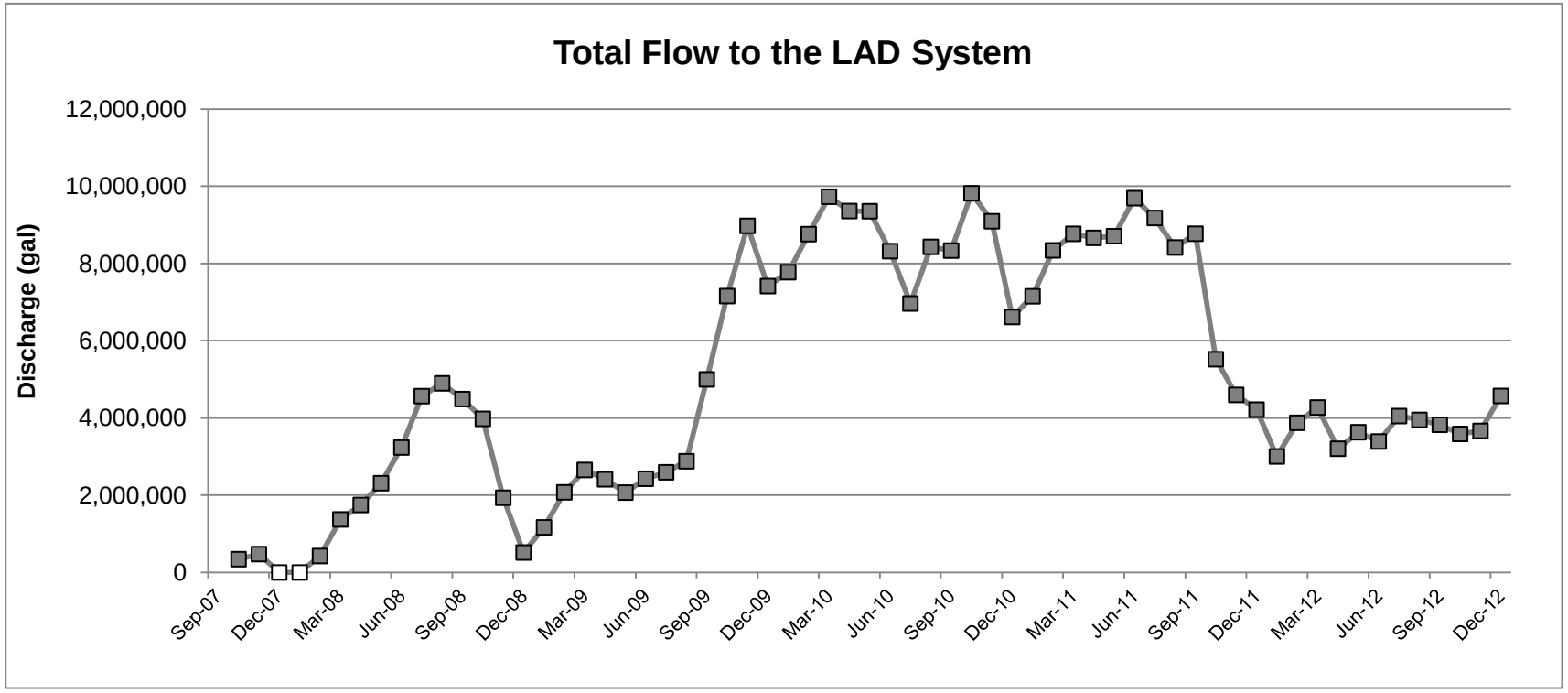


Figure 2-4
LAD System Flows
Niblack Exploration Project
2012 Annual Report

NIBLACK PROJECT LLC integral consulting inc.

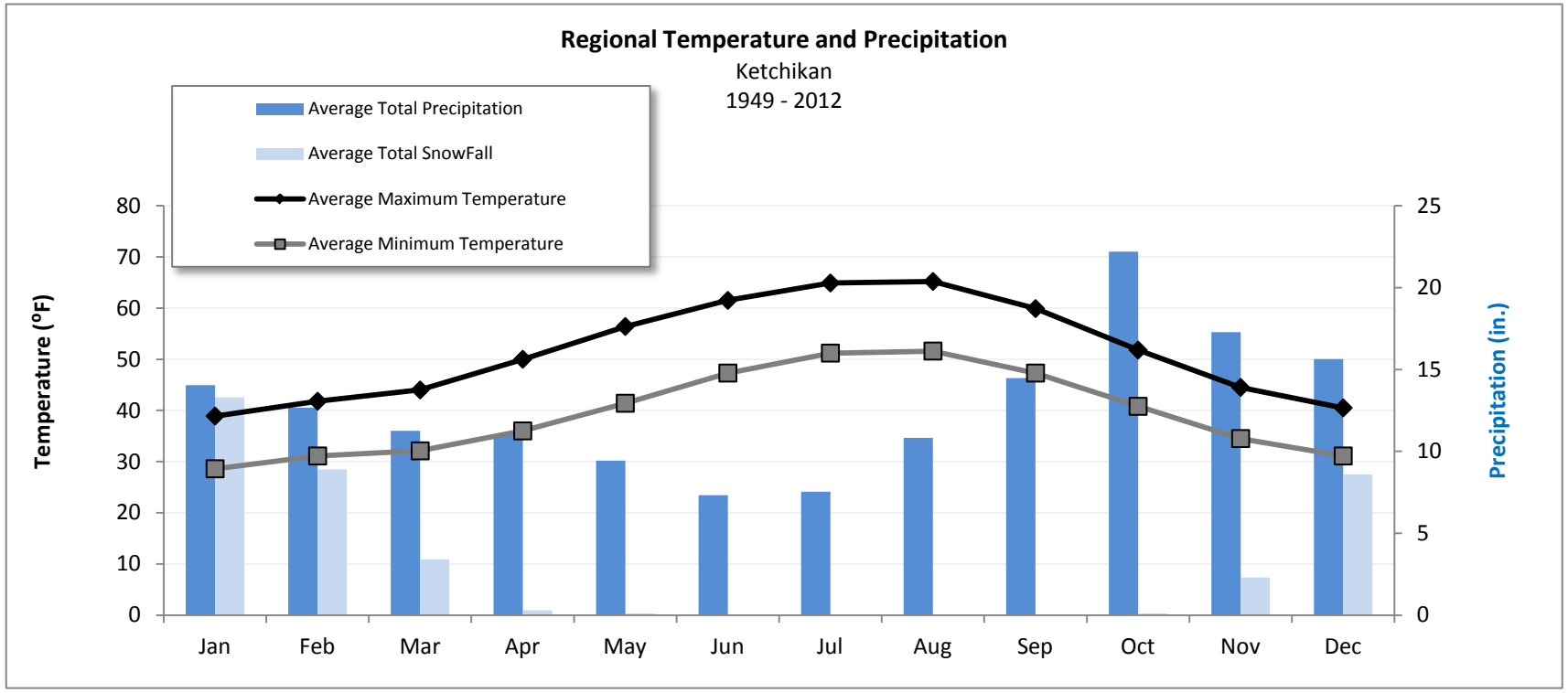
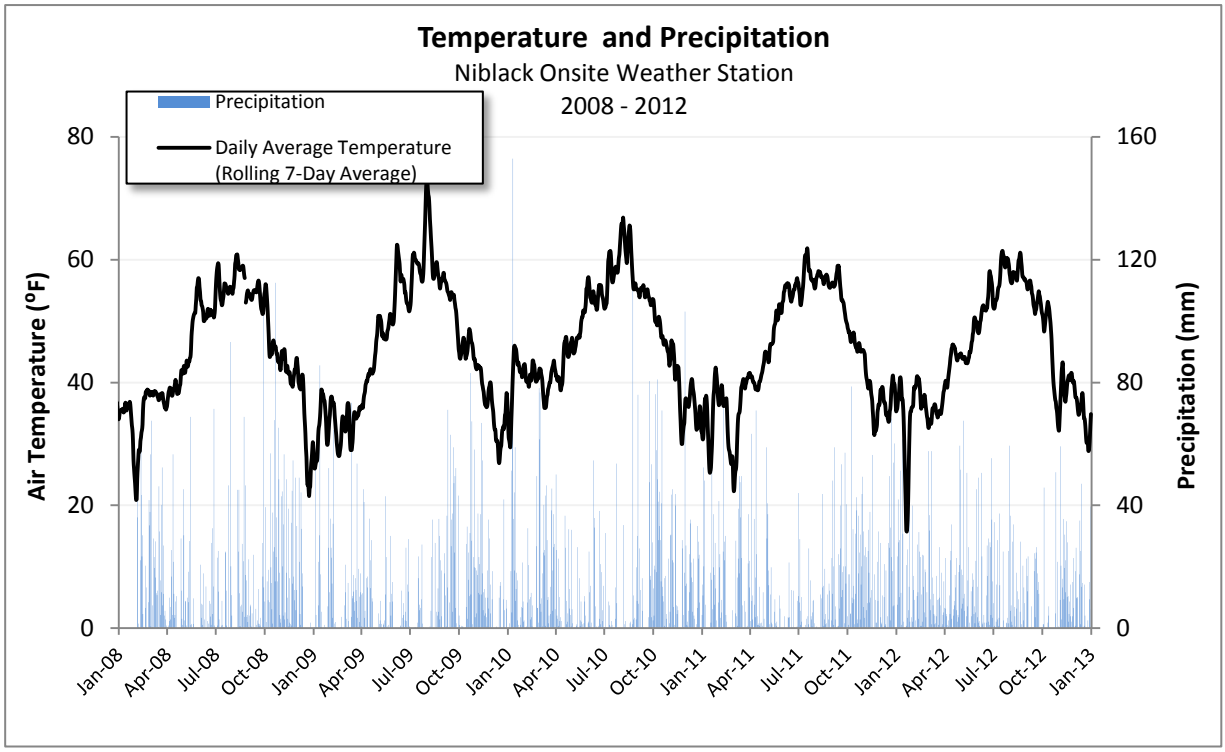
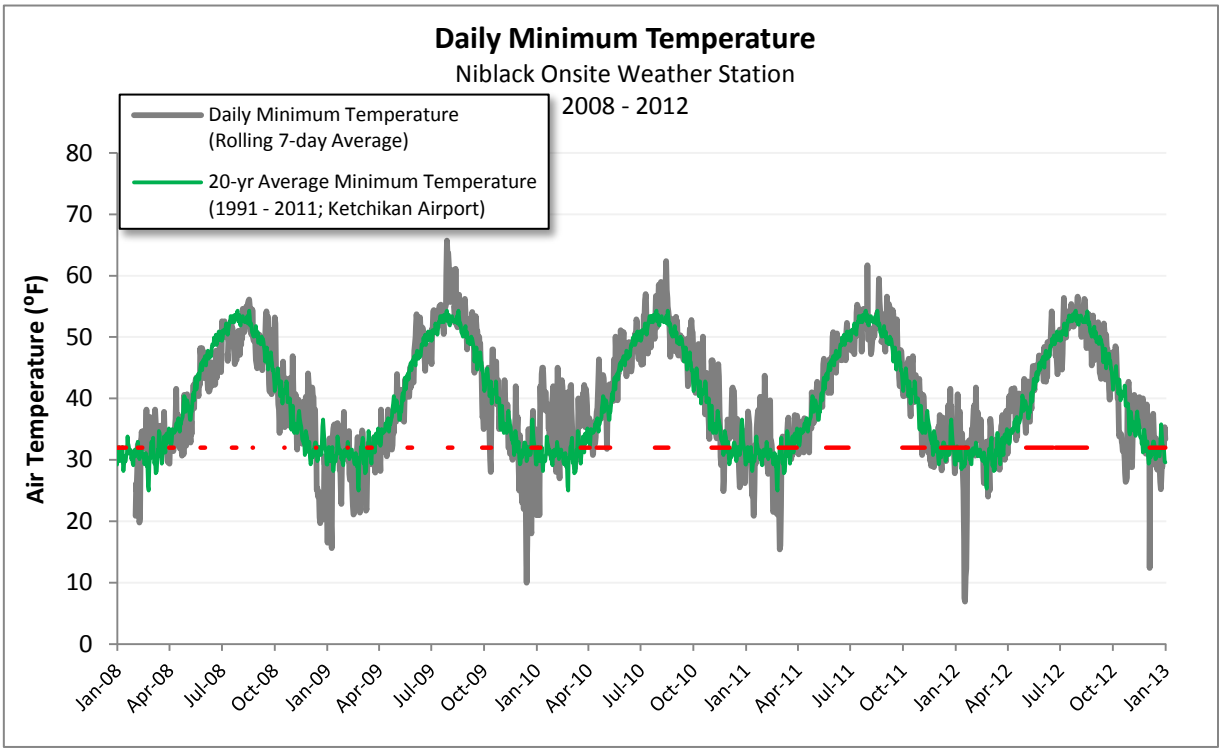


Figure 2-5
Ketchikan Long-Term Average
Temperature and Precipitation Data
Niblack Exploration Project
2012 Annual Report

NIBLACK PROJECT LLC integral consulting inc.

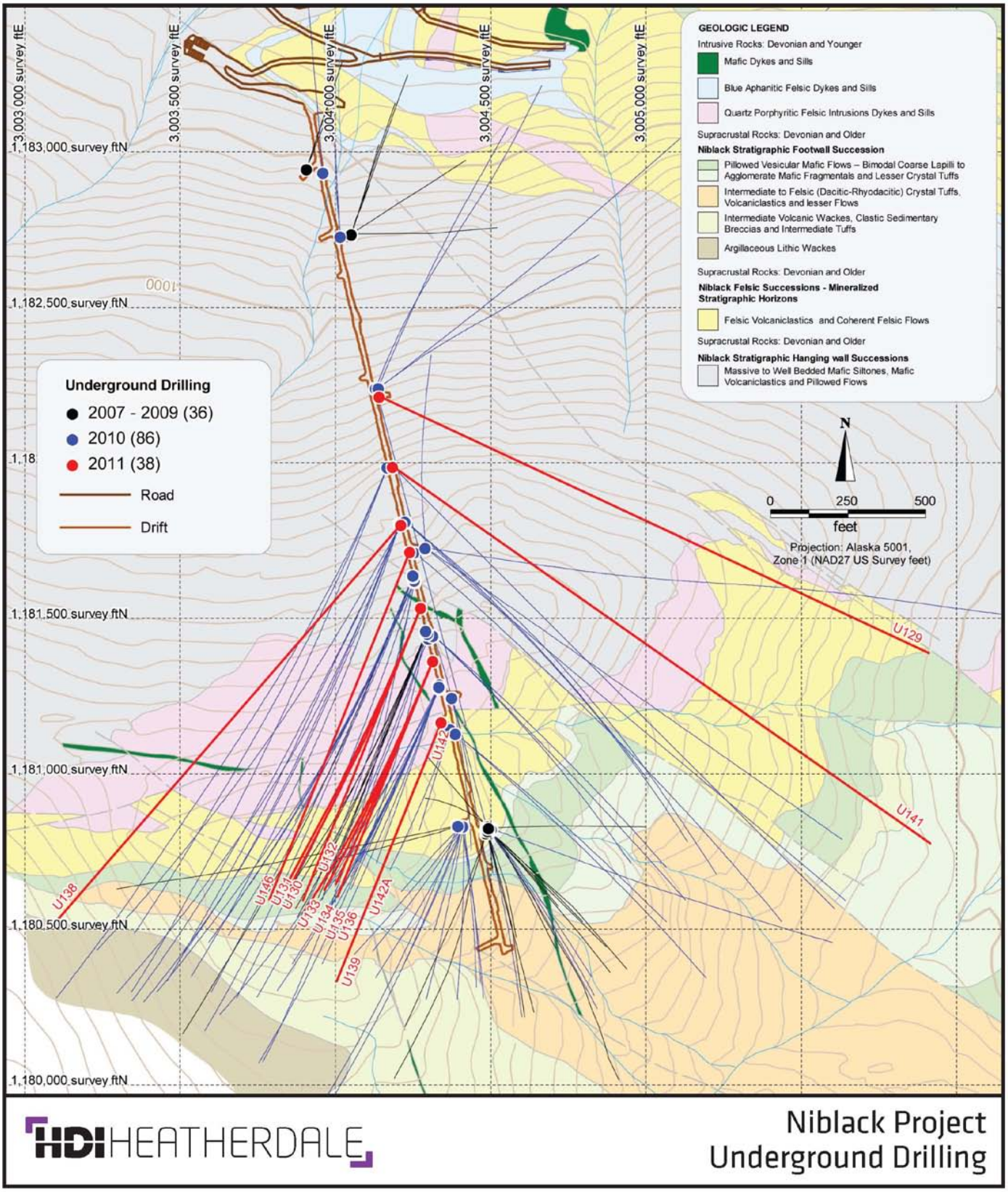




Note: Onsite weather station was not available from 9/18/2009 - 2/27/2009 or several week-long periods during 2012 due to instrument malfunction. Daily temperature and precipitation data for the Ketchikan Airport NOAA weather station are shown for this time period.

NIBLACK PROJECT LLC integral consulting inc.

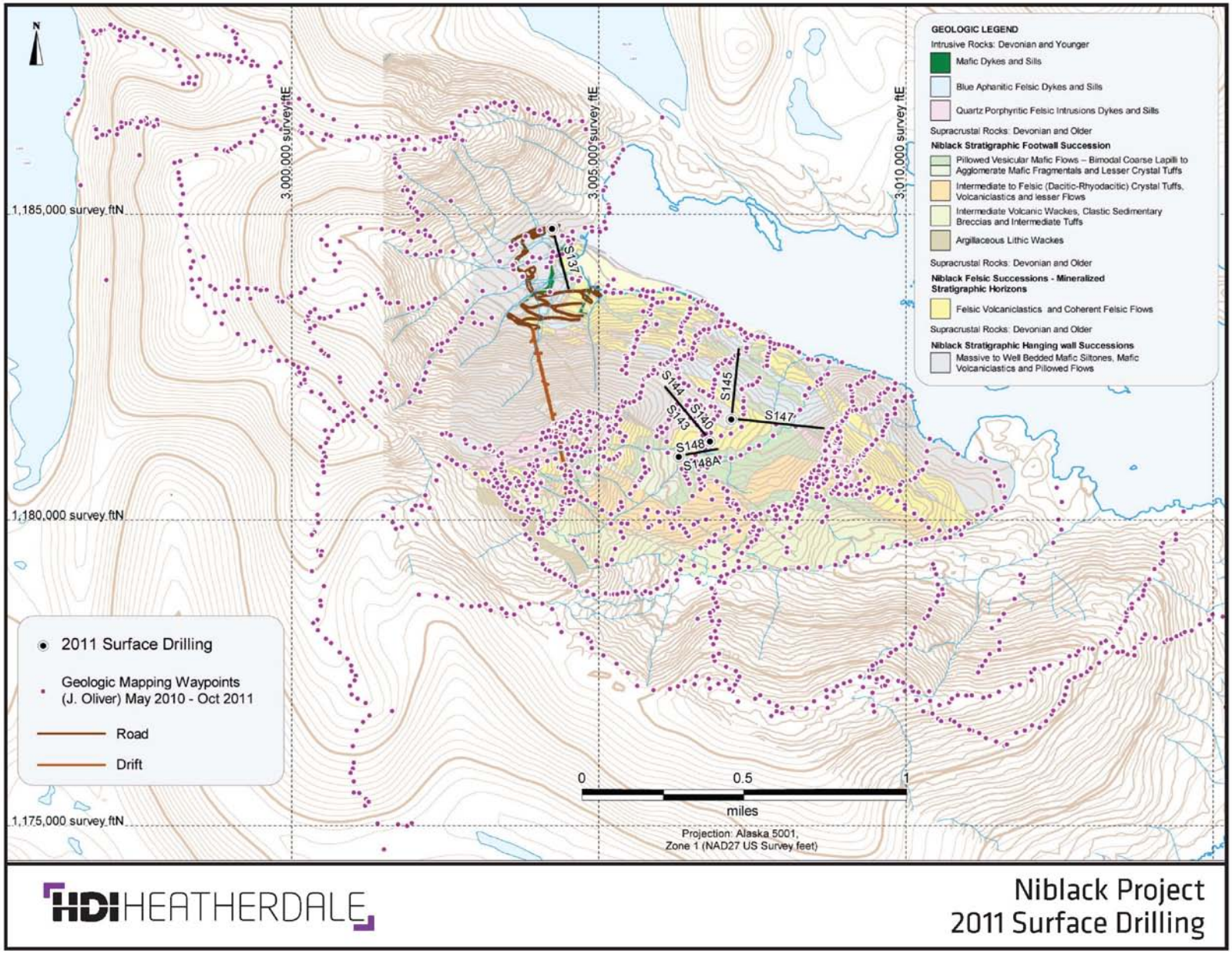
Figure 2-6
Niblack Project Site
Temperature and Precipitation Data
Niblack Exploration Project
2012 Annual Report



Source: Heatherdale (2011)

NIBLACK PROJECT LLC integral consulting inc.

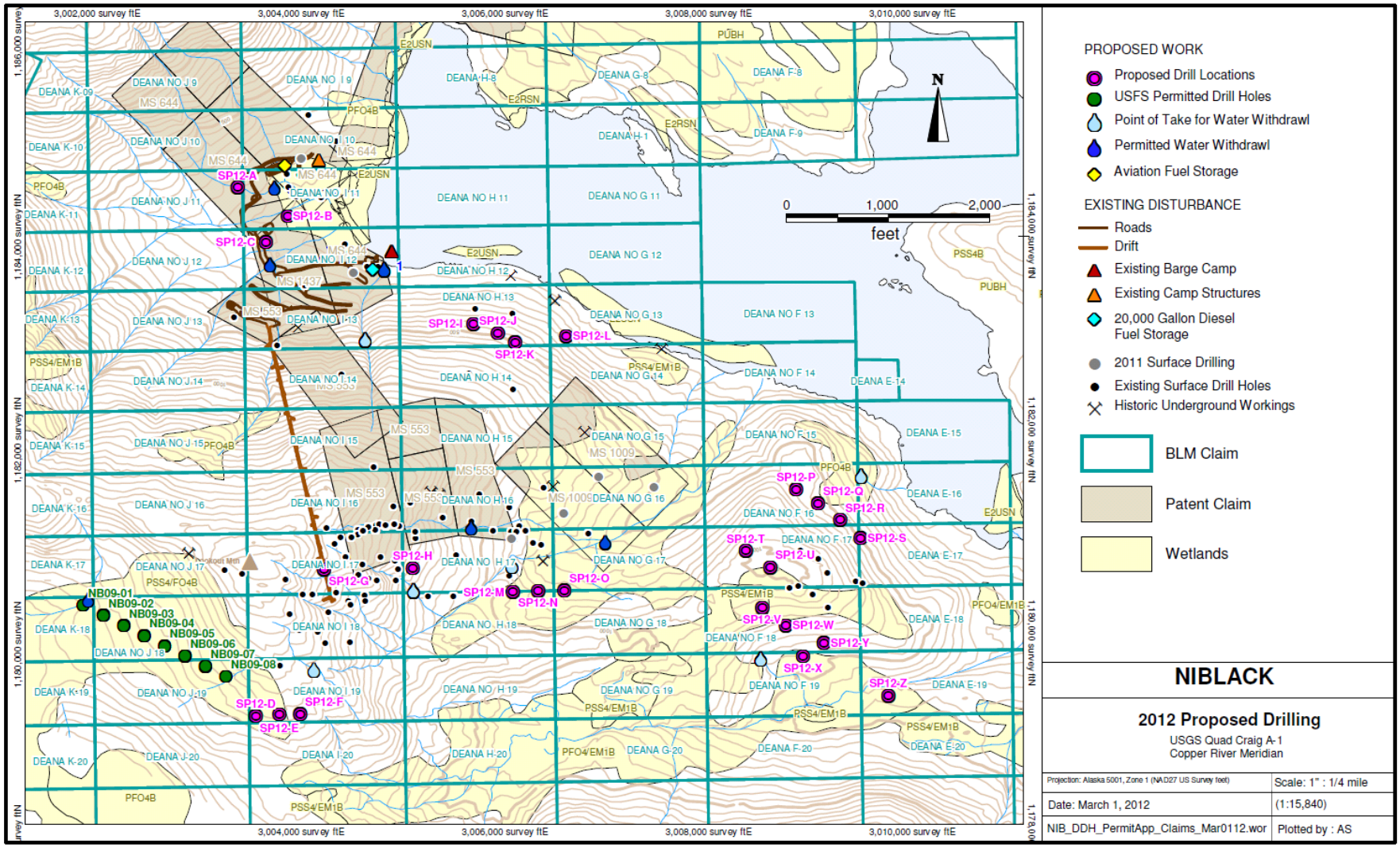
Figure 2-7
Niblack Project Underground Drilling, 2007–2011
Niblack Exploration Project
2012 Annual Report



Source: Heatherdale (2011)

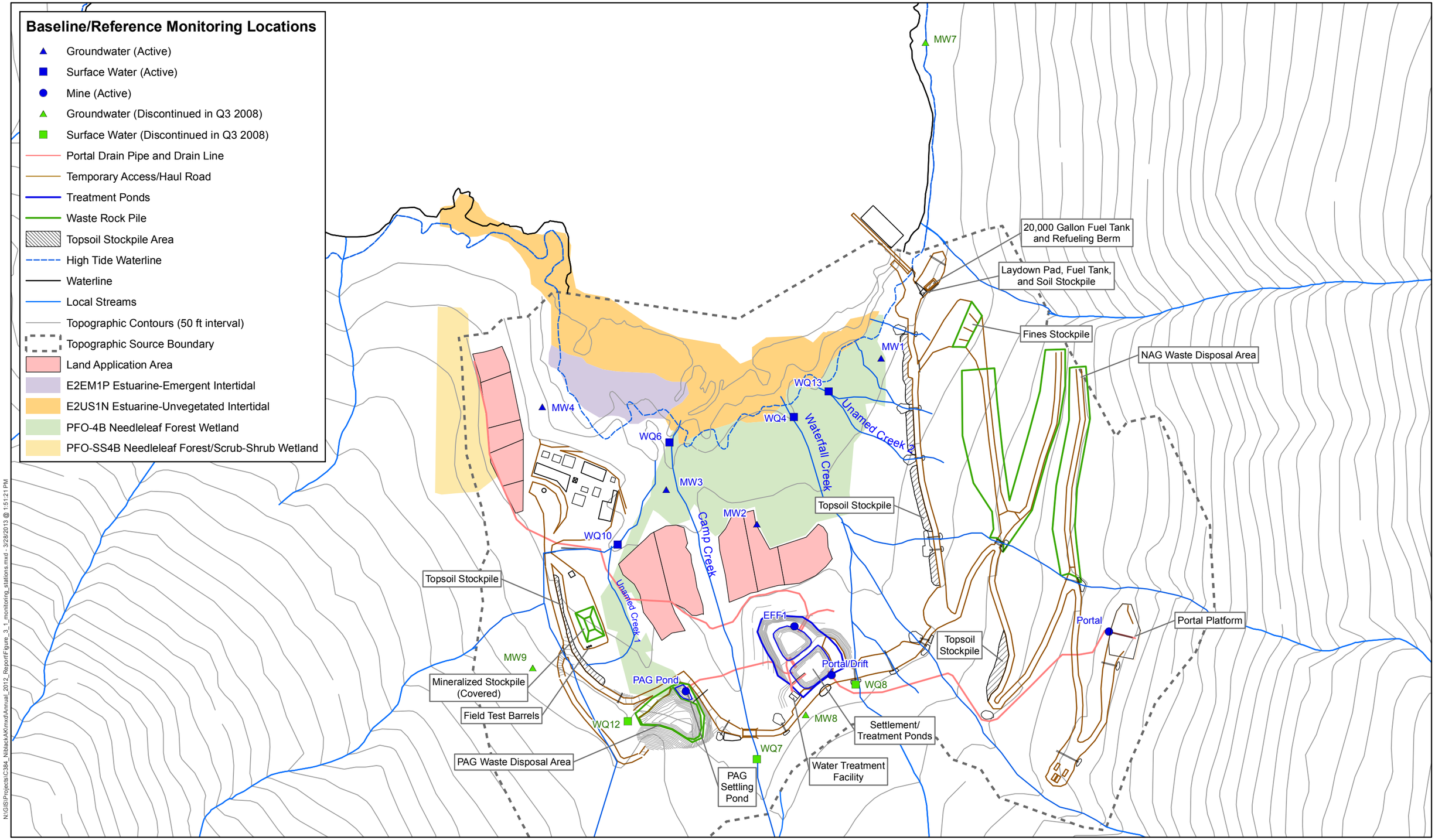
NIBLACK PROJECT LLC integral consulting inc.

Figure 2-8
Niblack Project Surface Drilling, 2011
Niblack Exploration Project
2012 Annual Report



NIBLACK PROJECT LLC integral consulting inc.

Figure 2-9
2012 Proposed Surface Drilling Locations
Niblack Exploration Project
2012 Annual Report



NIBLACK PROJECT LLC

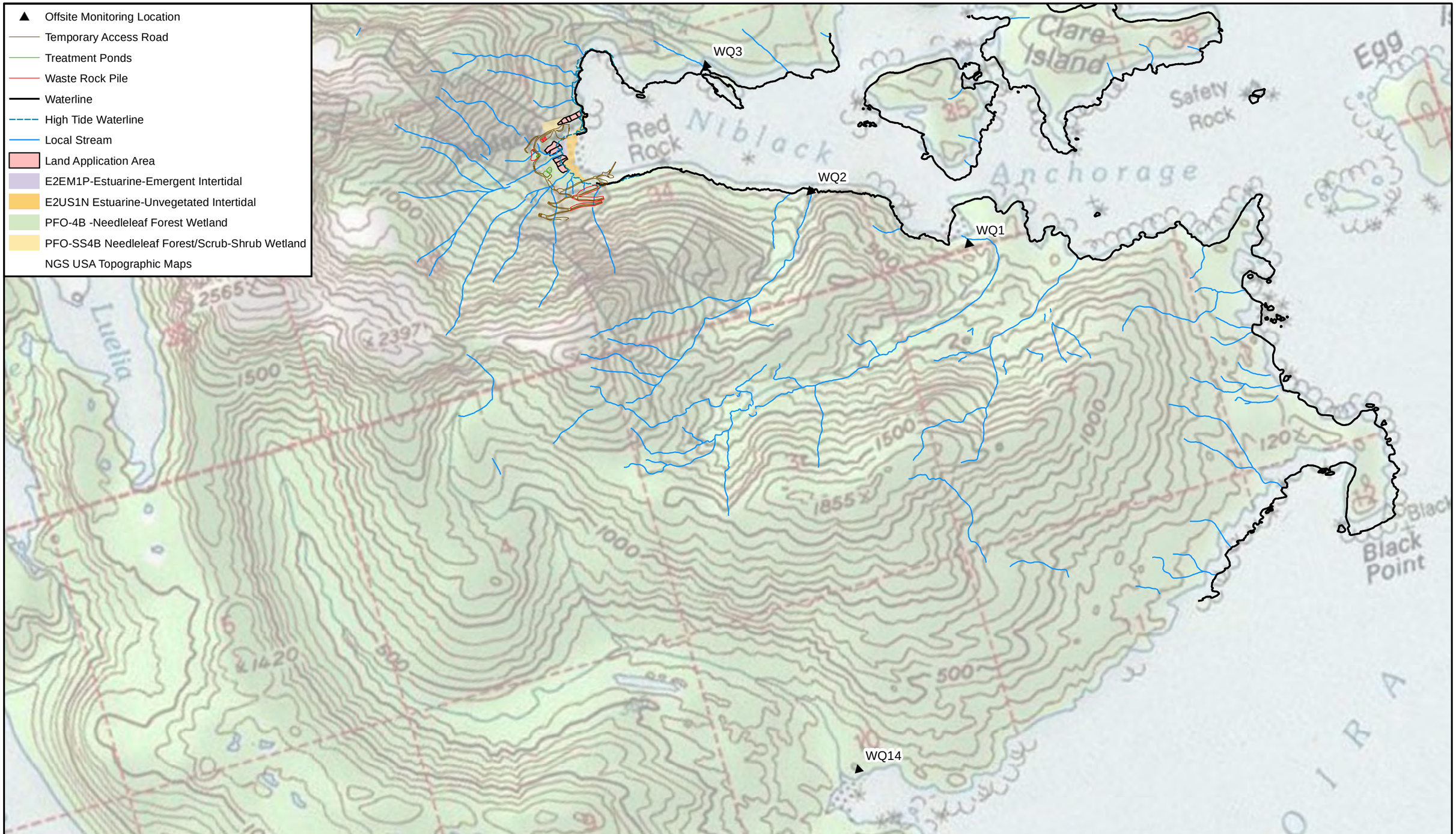
integral consulting inc.

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.

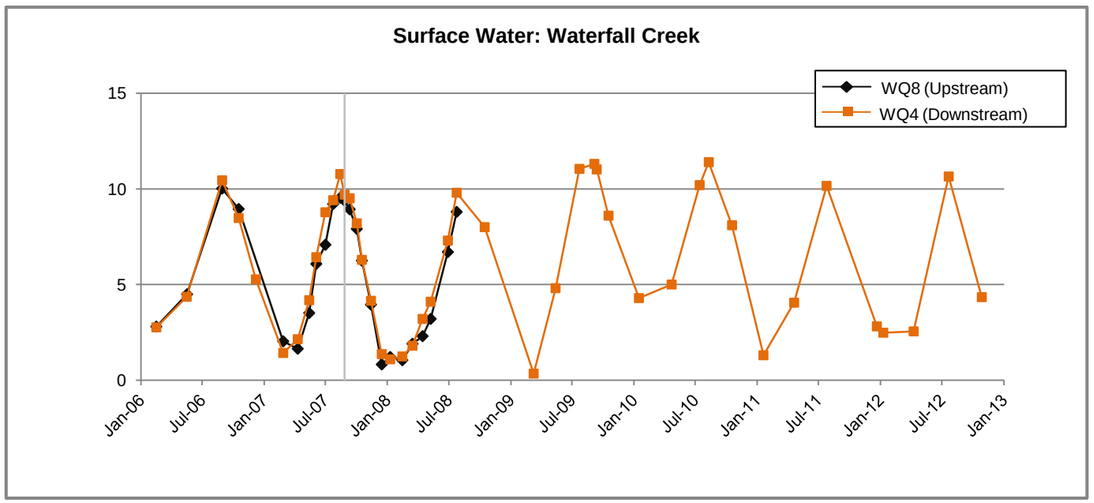
Figure 3-1
Water Quality Monitoring Stations
Niblack Exploration Project
2012 Annual Report

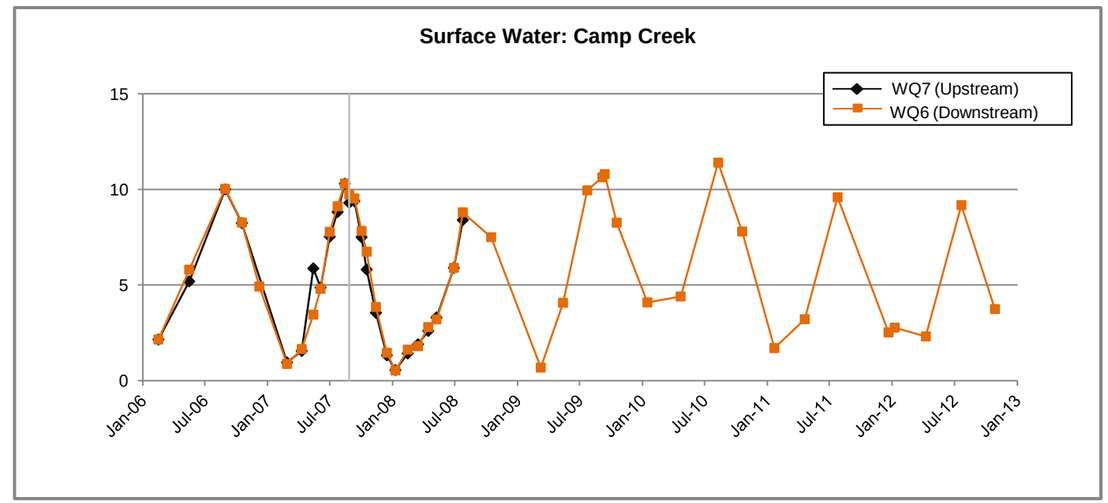


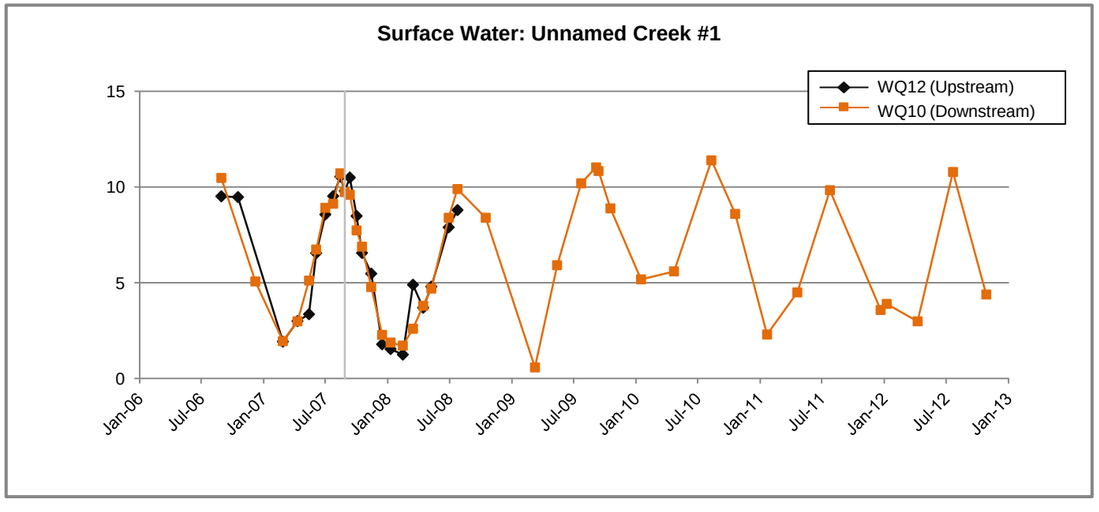
Feature Sources:
Base layers from Knight Piésold, 2007. Water Quality Baseline and Site Monitoring Plan.
Land Application Area from Turner, 2009. Personal communication.
Waste rock areas, portal drains, roads, and ground cover zones from Niblack Project LLC.

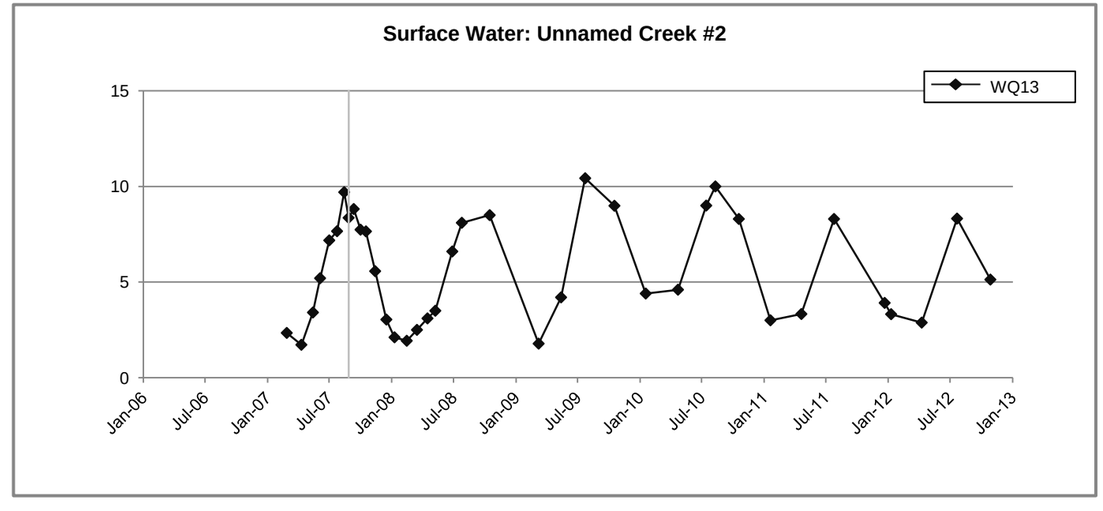
Figure 3-2
Water Quality Monitoring Stations – Outlying Stations
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water Temperature (°C)







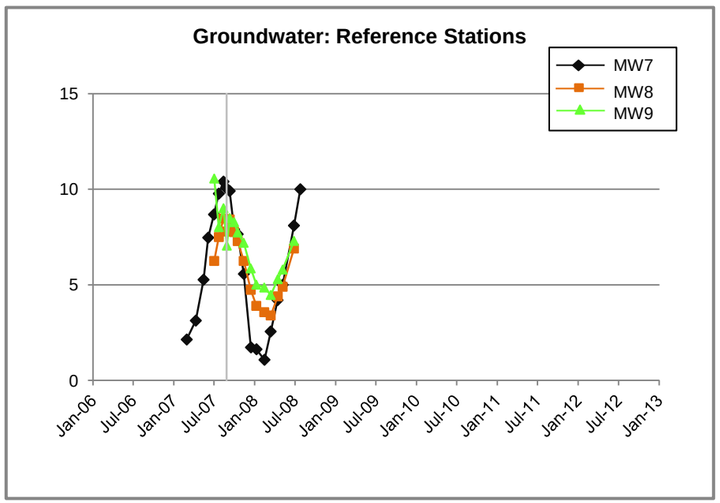


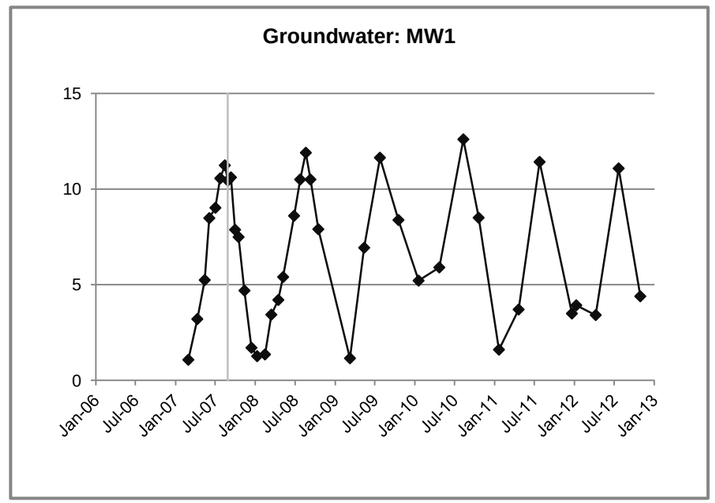
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

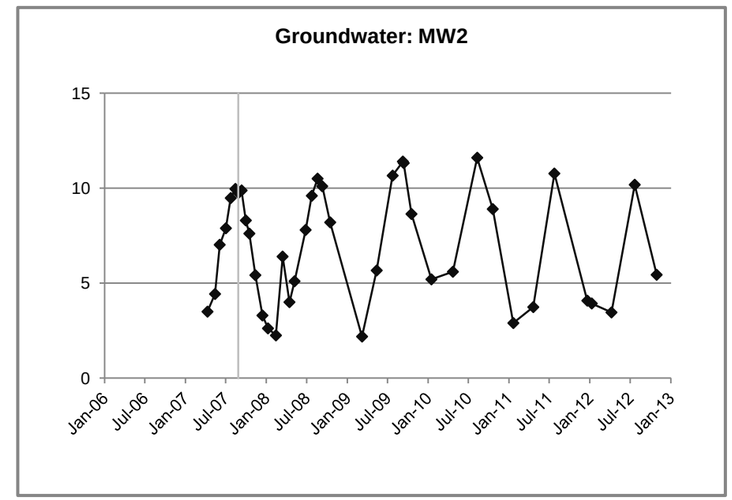
NIBLACK PROJECT LLC integral consulting inc.

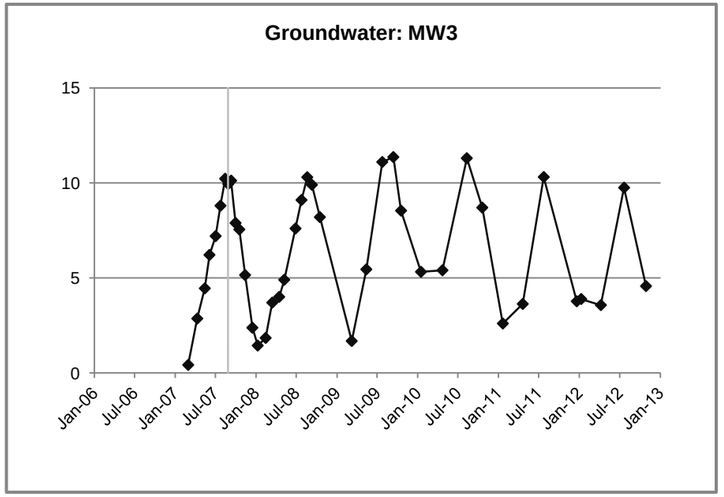
Figure 4-1a
Time Series Plots: Temperature
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

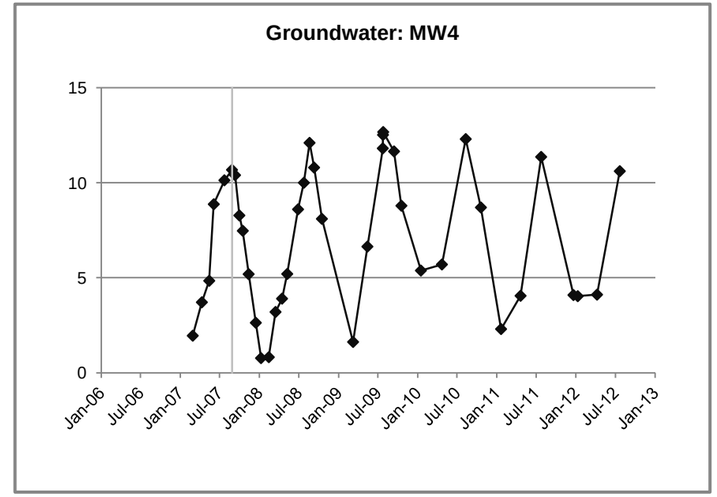
Permit Stations - Groundwater Temperature (°C)









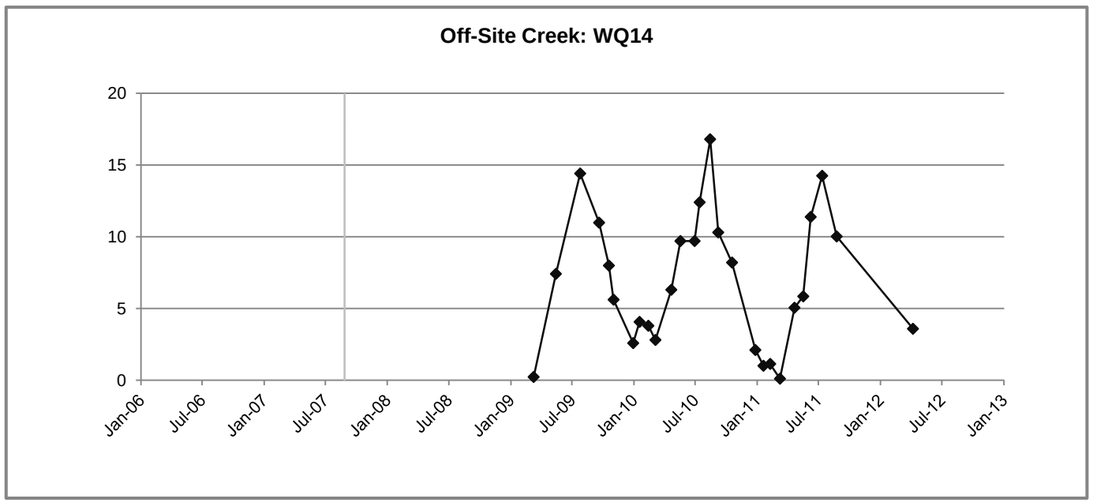


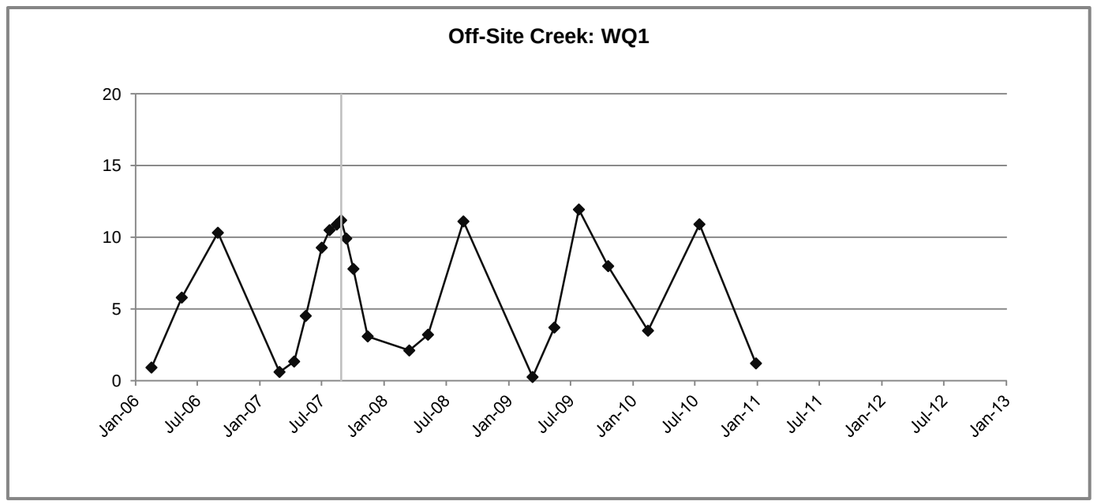
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

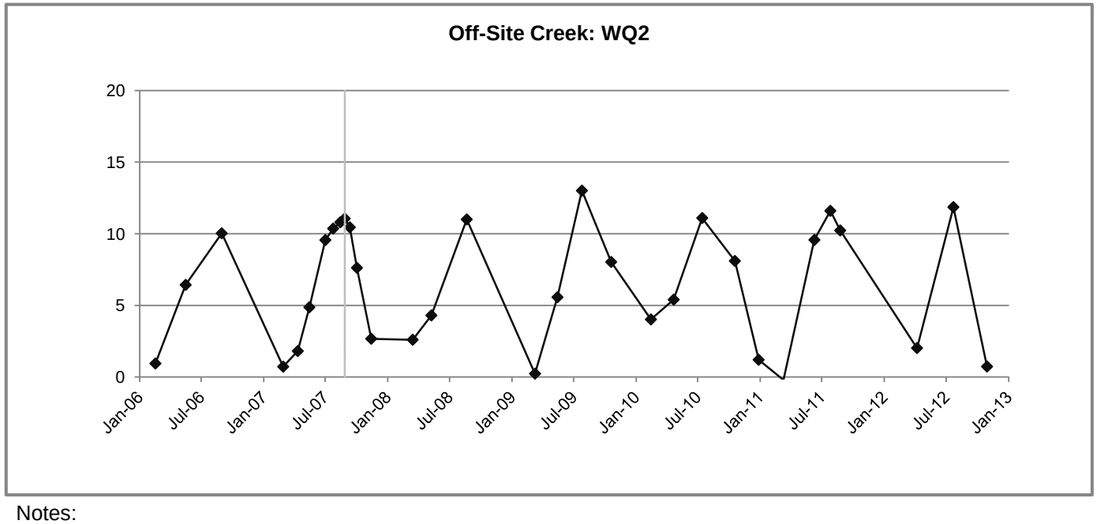
NIBLACK PROJECT LLC integral consulting inc.

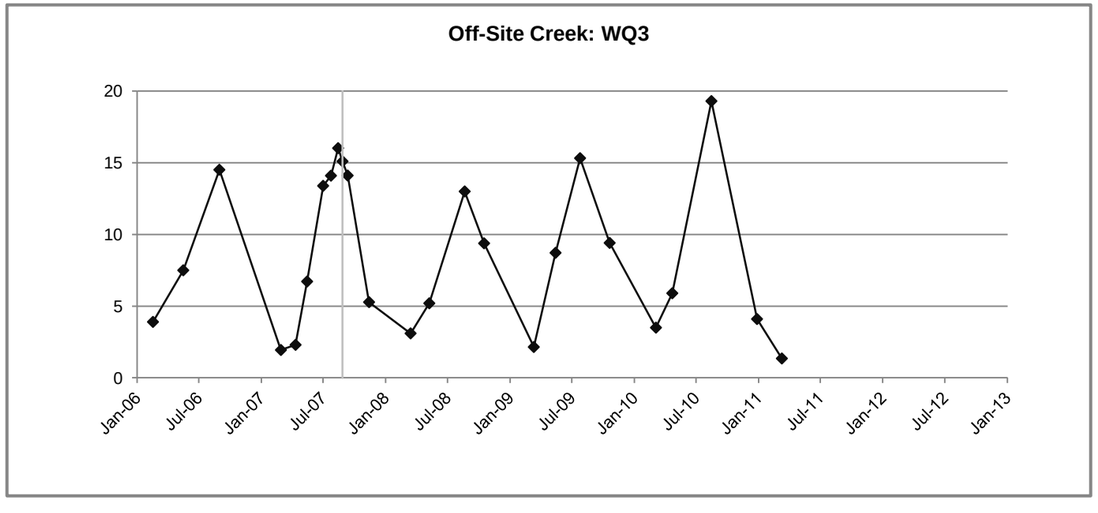
Figure 4-1b
Time Series Plots: Temperature
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water Temperature (°C)









Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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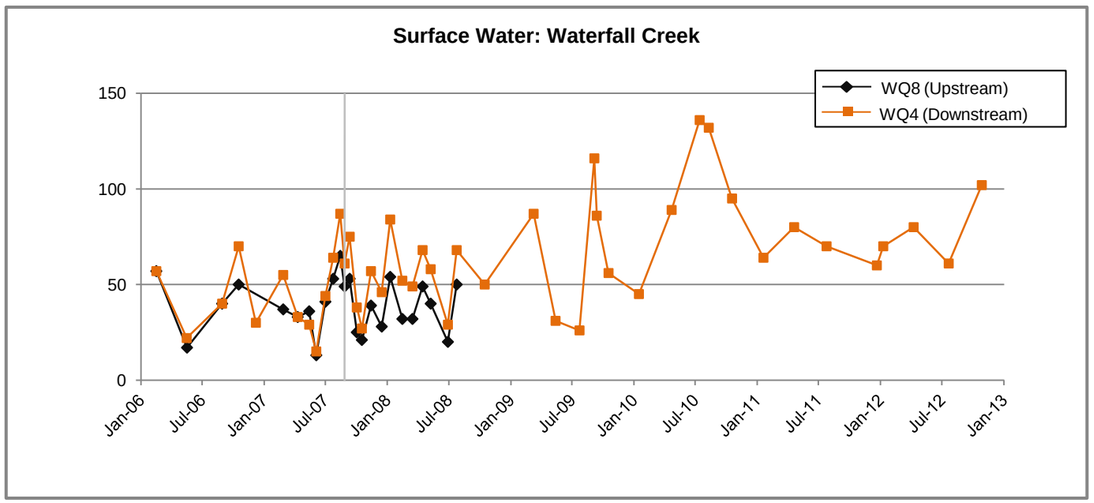
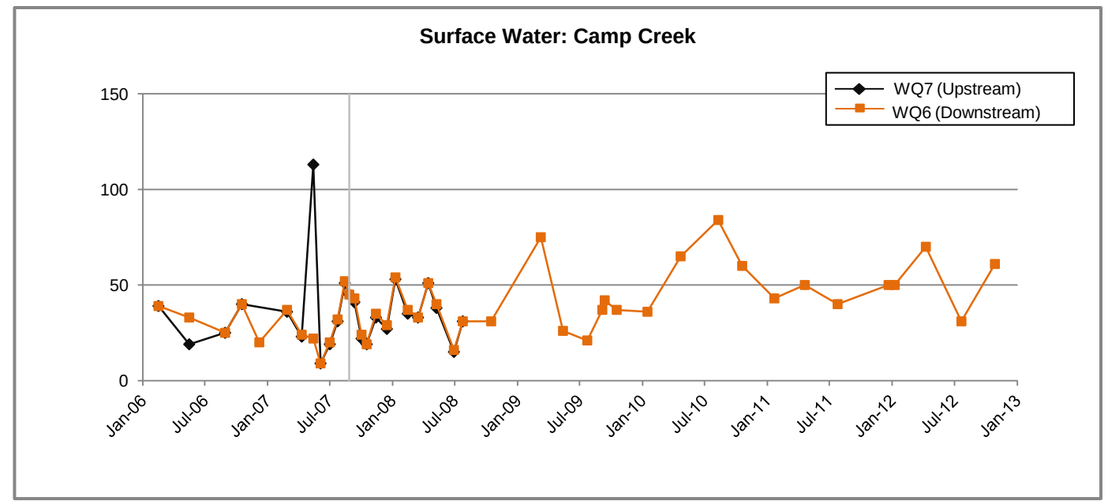
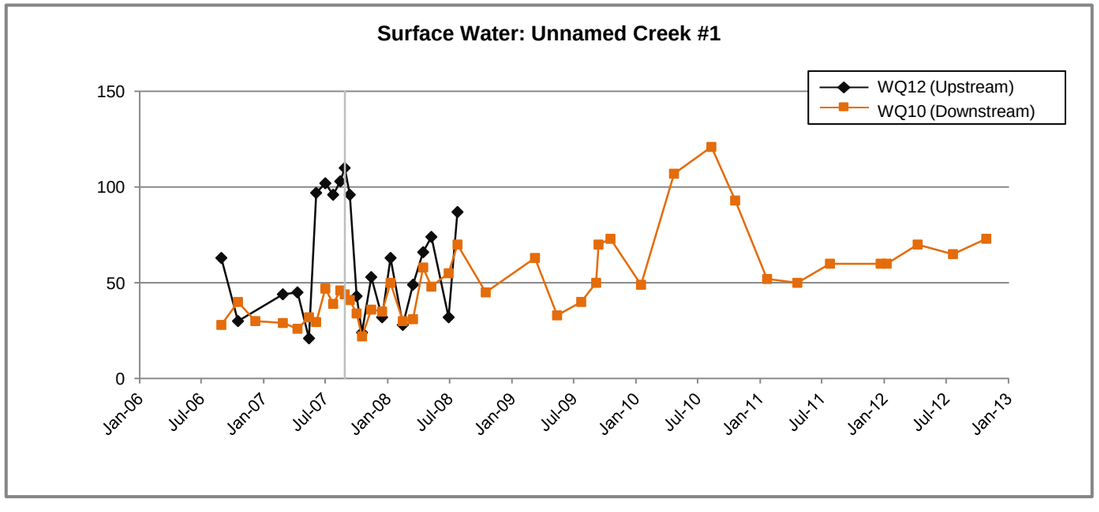
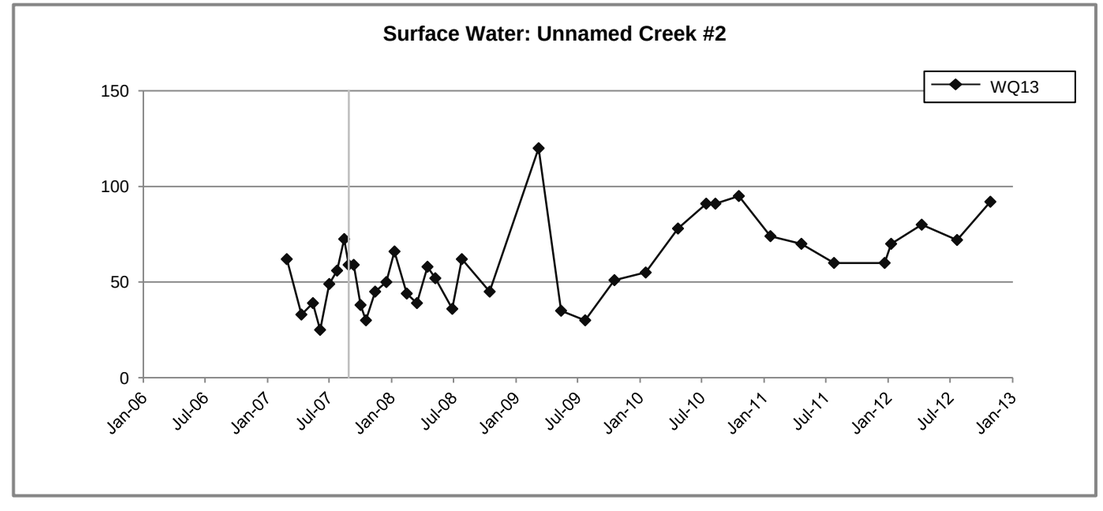
Figure 4-1c
Time Series Plots: Temperature
Off-Site Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Conductivity (µS/cm)







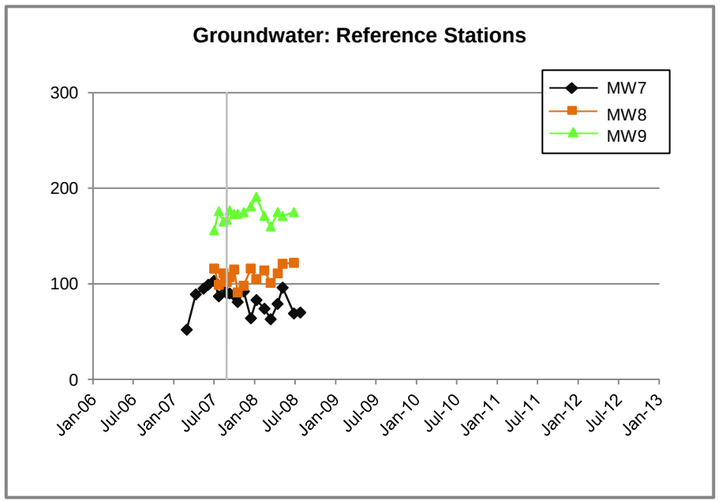


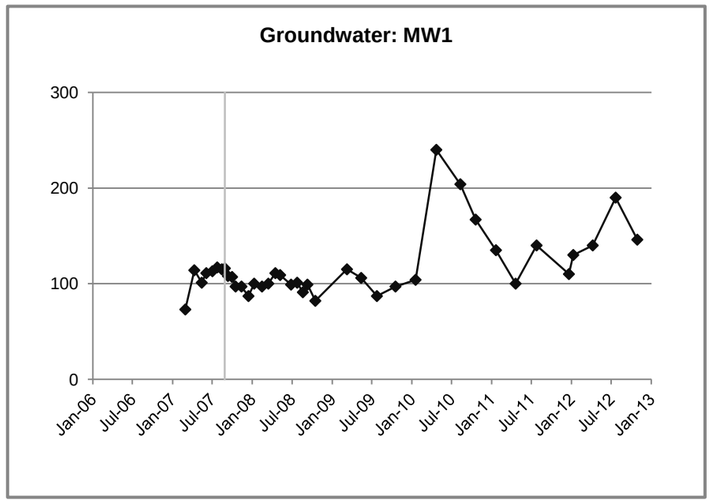
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

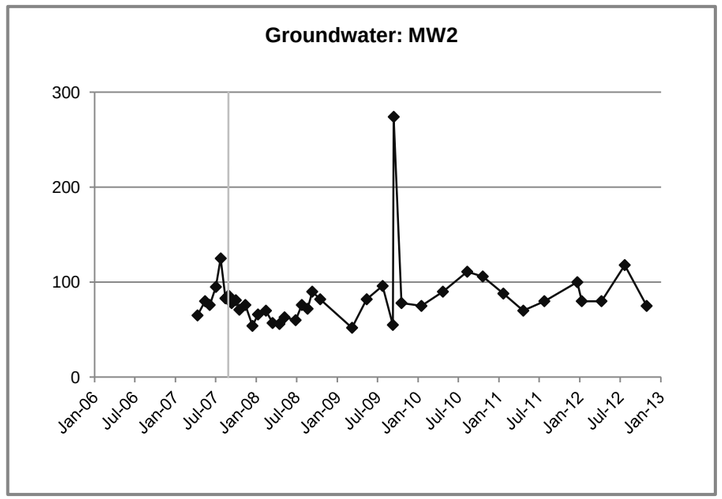
NIBLACK PROJECT LLC integral consulting inc.

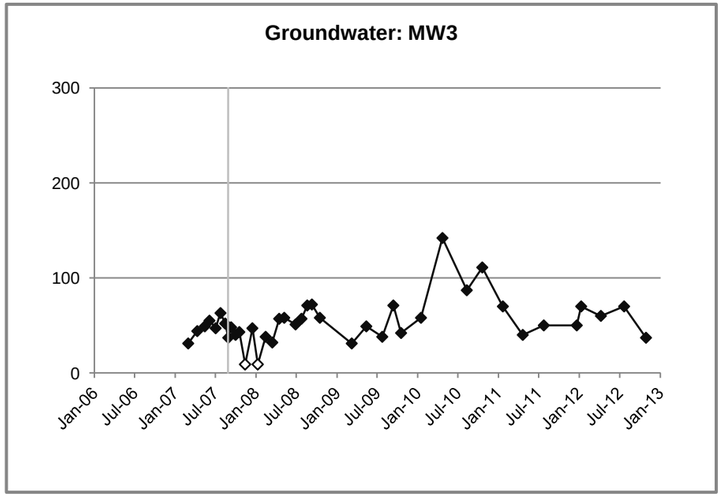
Figure 4-2a
Time Series Plots: Conductivity
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

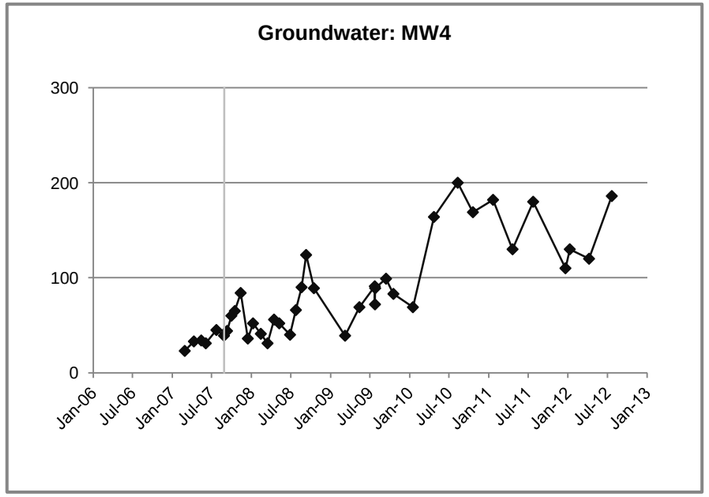
Permit Stations - Groundwater
Conductivity (µS/cm)









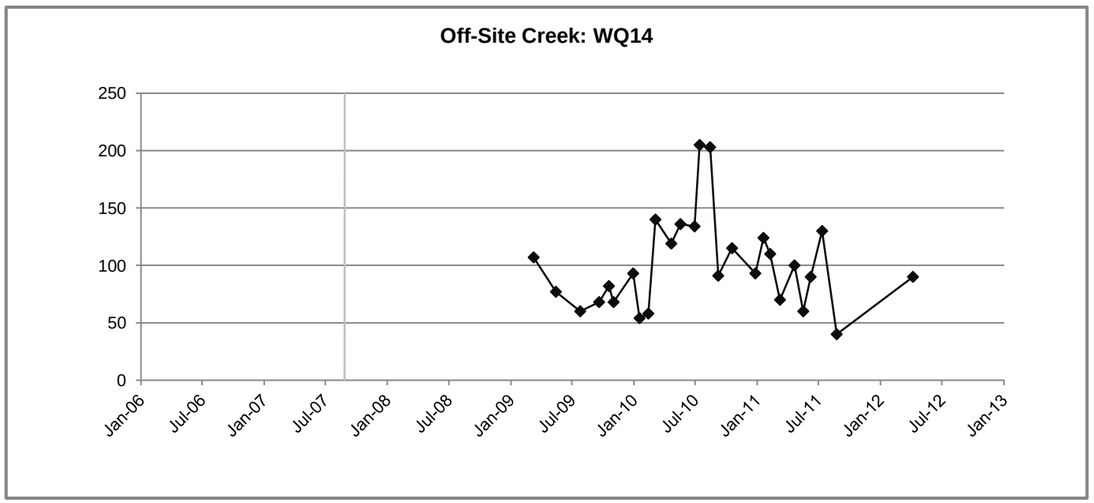


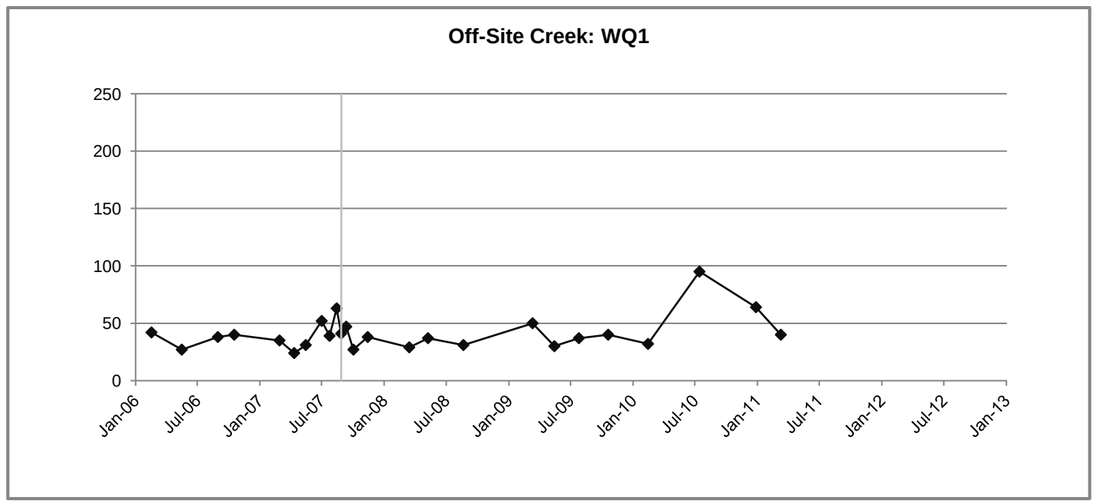
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

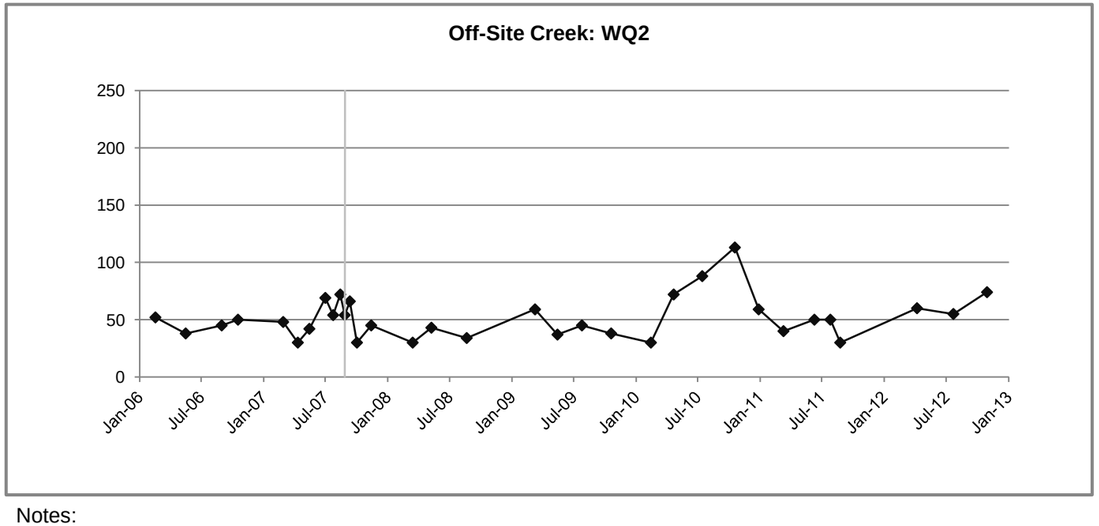
NIBLACK PROJECT LLC integral consulting inc.

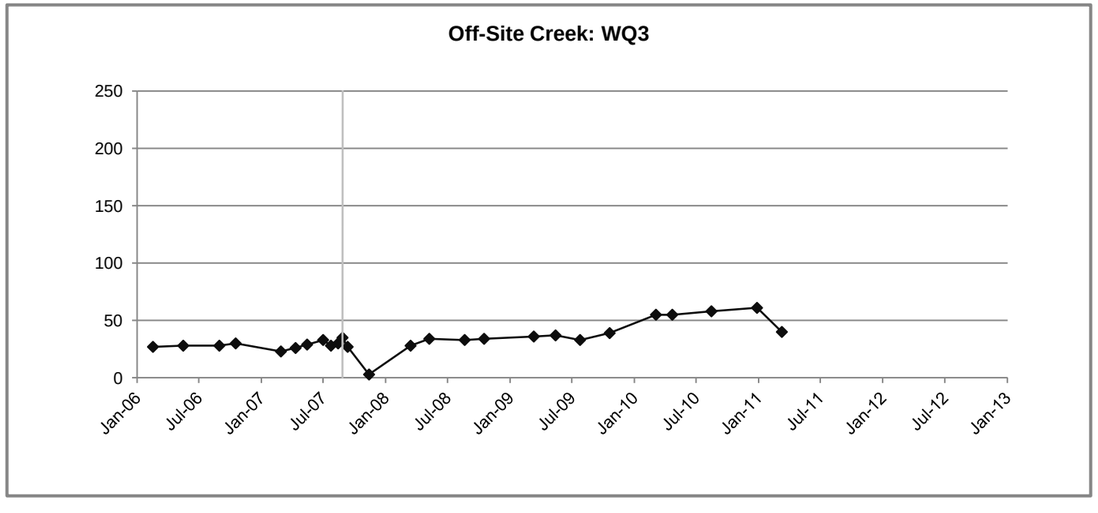
Figure 4-2b
Time Series Plots: Conductivity
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Conductivity (µS/cm)









Notes:
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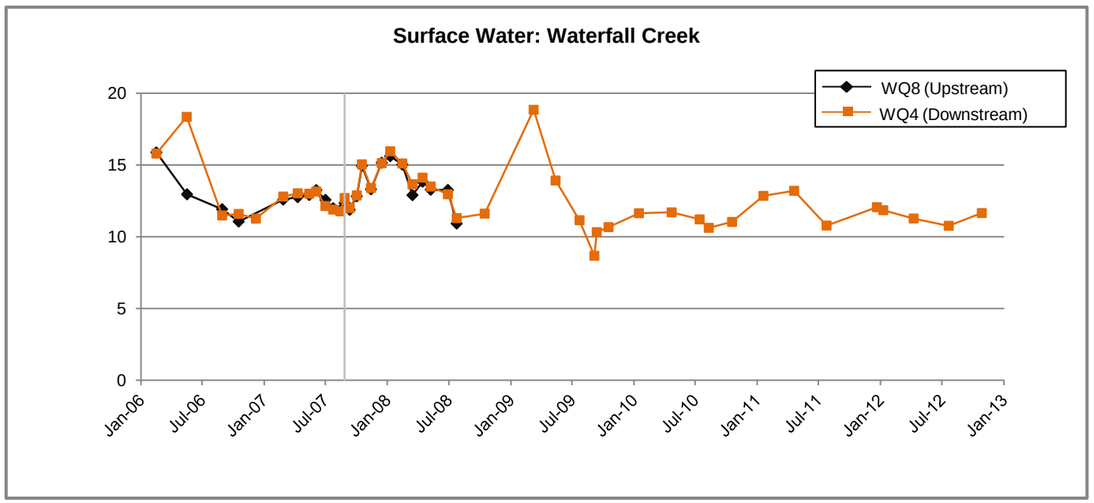
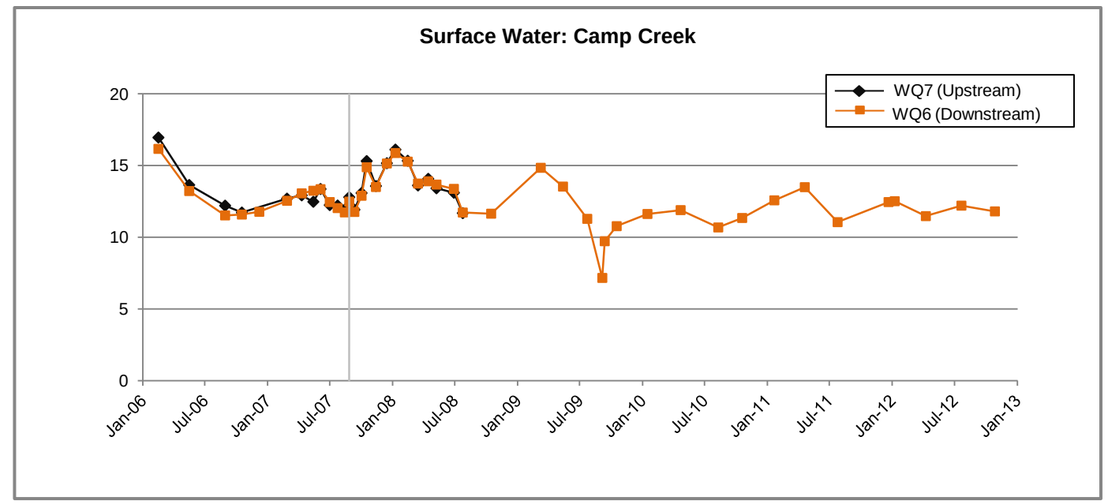
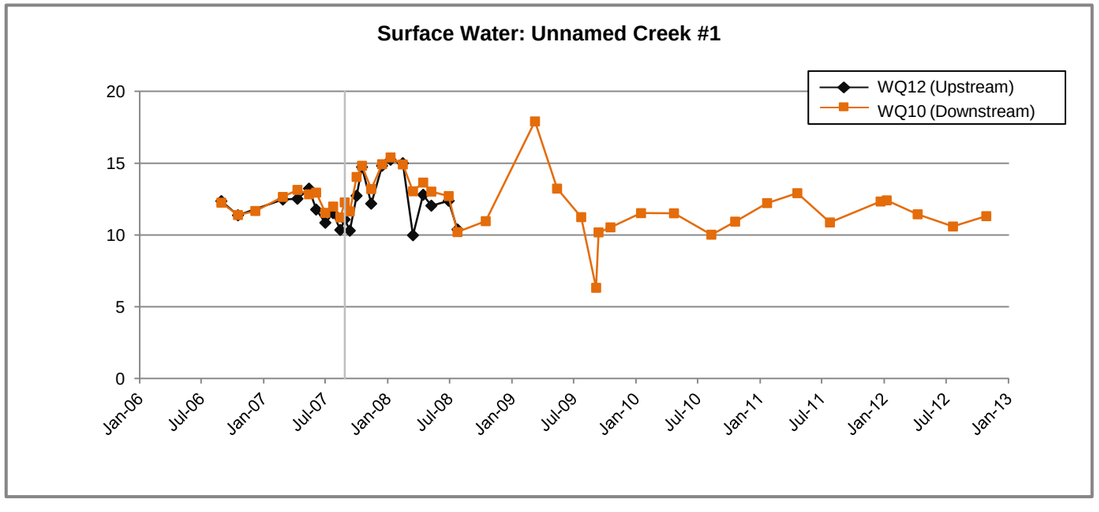
NIBLACK PROJECT LLC integral consulting inc.

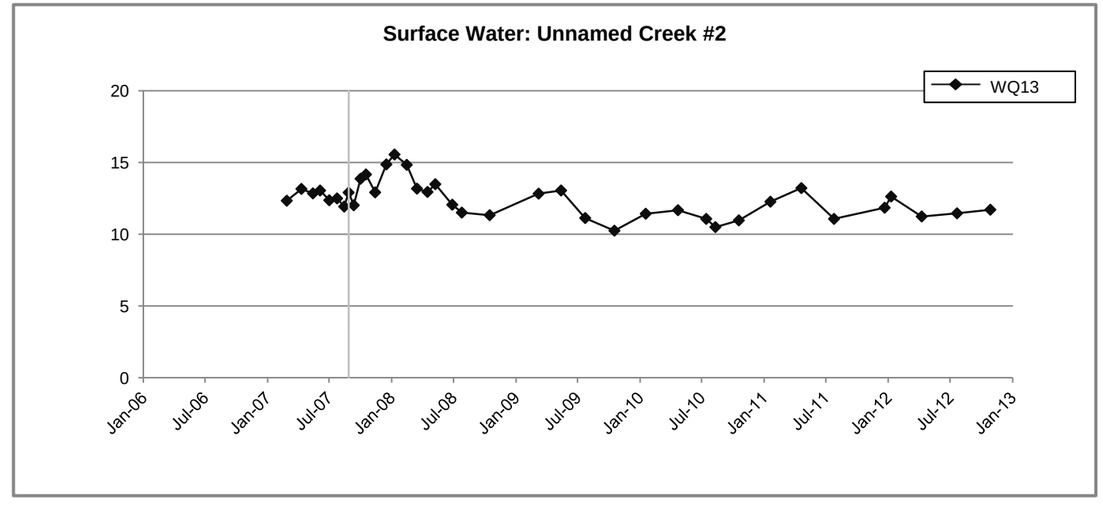
Figure 4-2c
Time Series Plots: Conductivity
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Oxygen (mg/L)







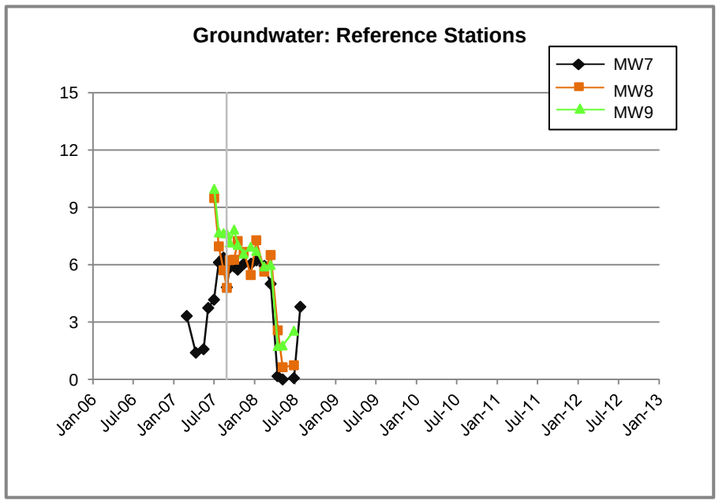


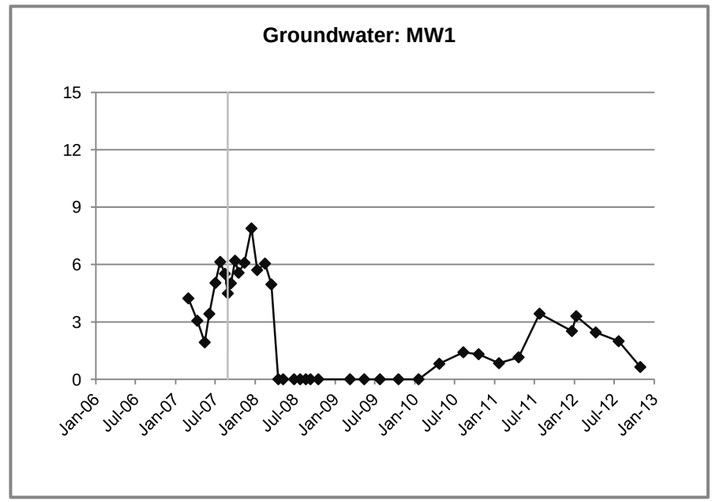
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

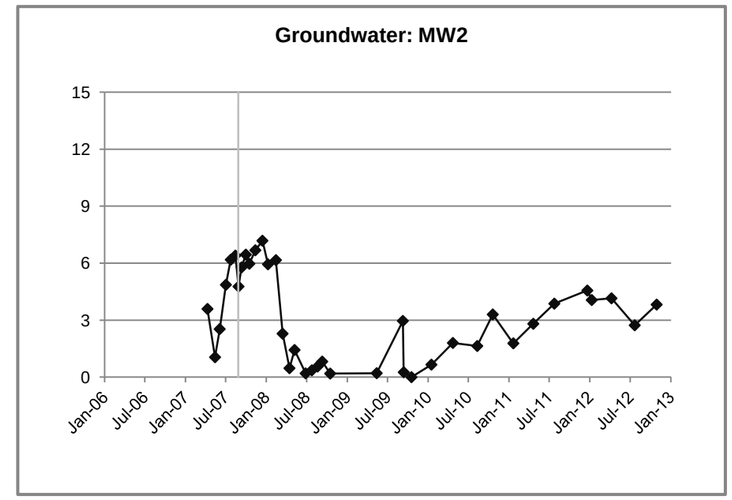
NIBLACK PROJECT LLC integral consulting inc.

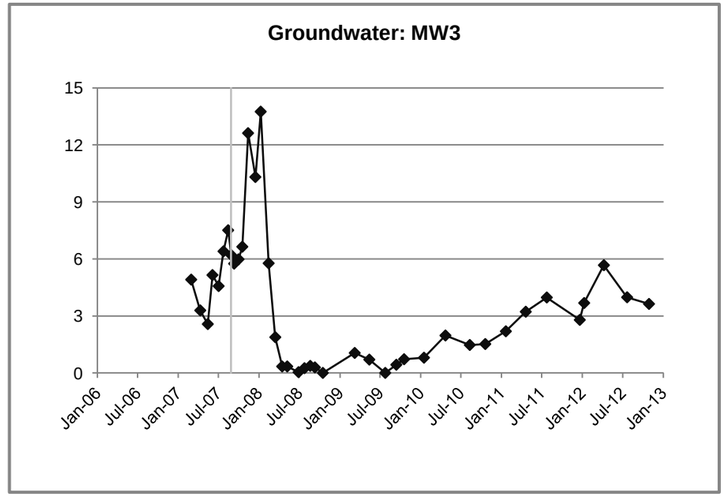
Figure 4-3a
Time Series Plots: Dissolved Oxygen
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

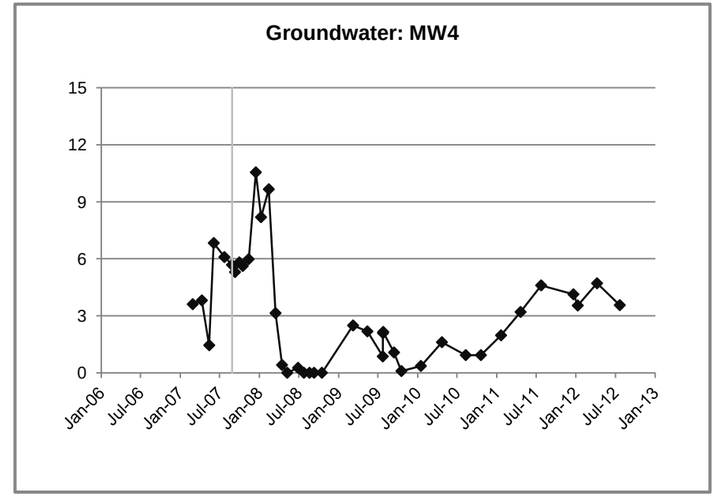
Permit Stations - Groundwater
Dissolved Oxygen (mg/L)









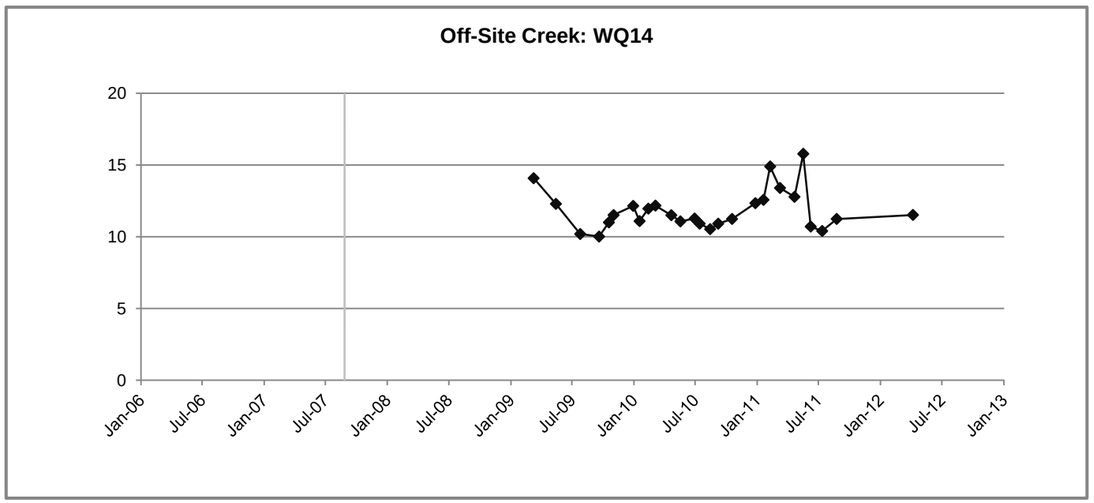


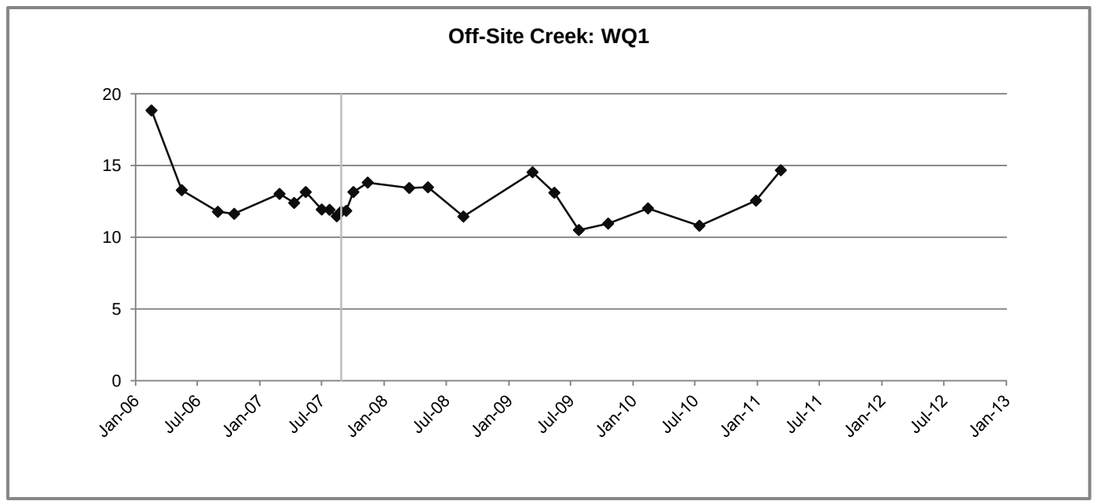
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

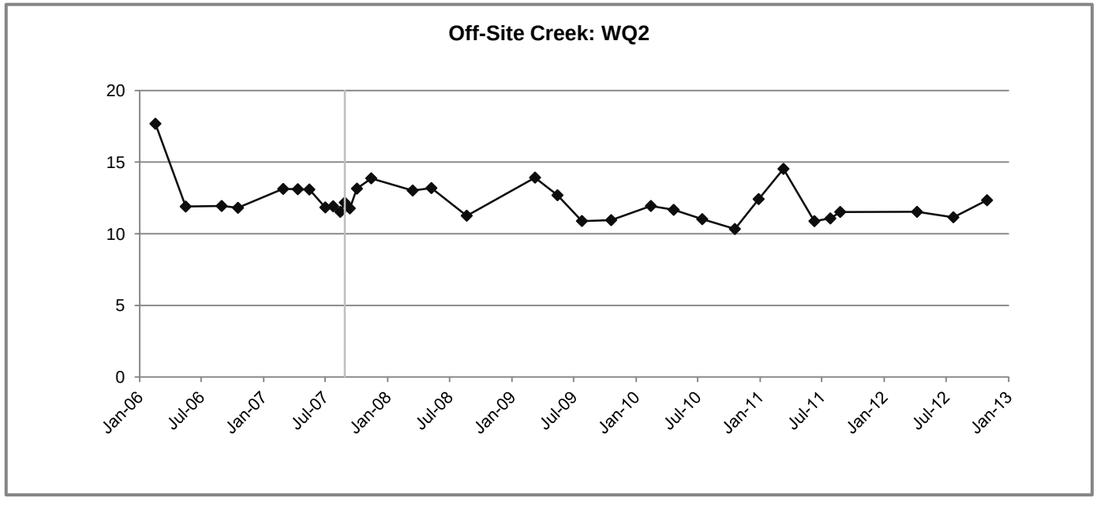
NIBLACK PROJECT LLC integral consulting inc.

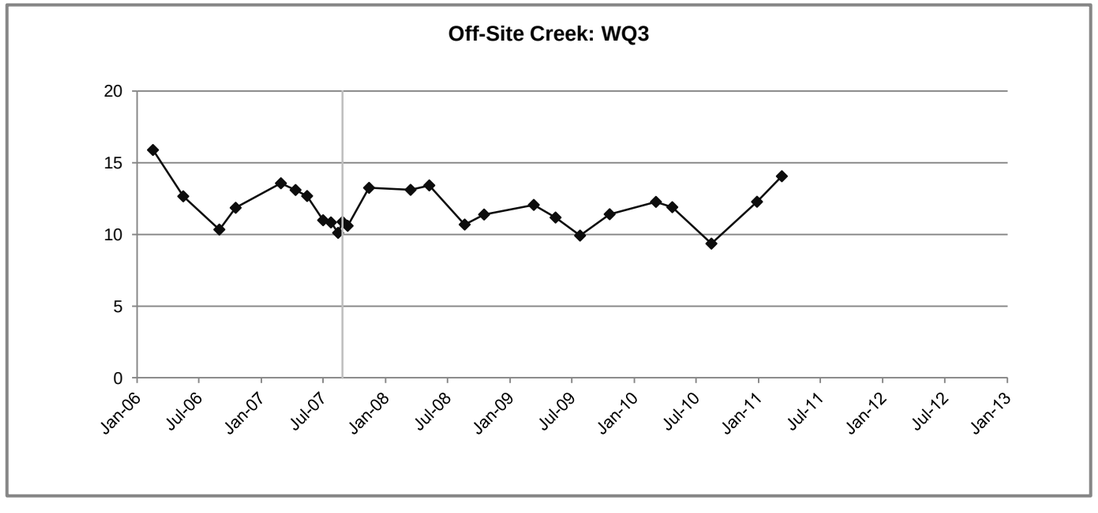
Figure 4-3b
Time Series Plots: Dissolved Oxygen
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Oxygen (mg/L)







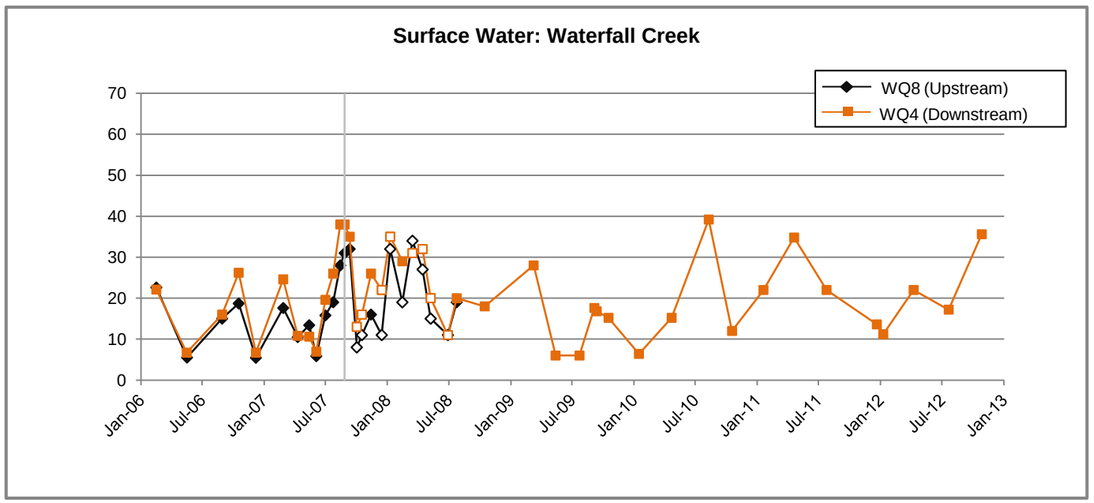


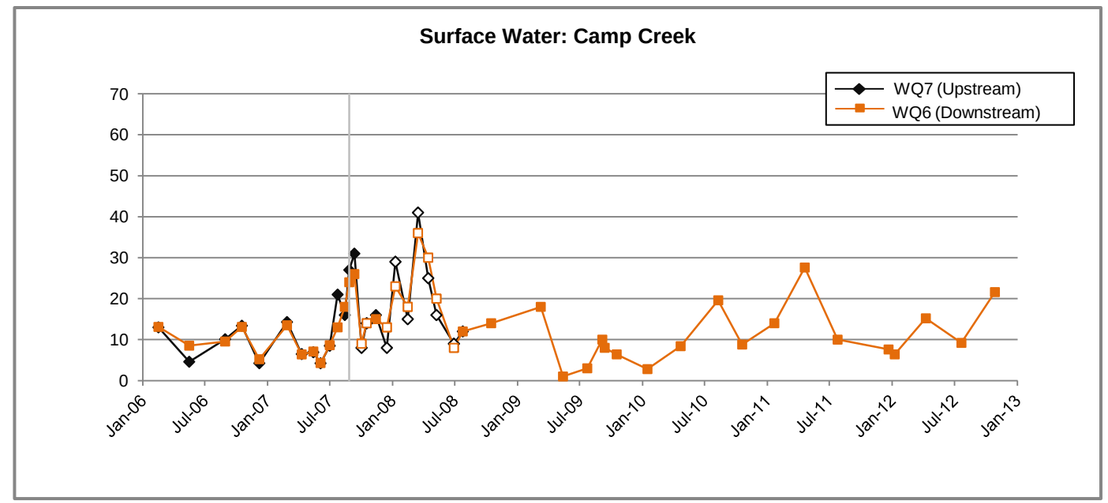
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

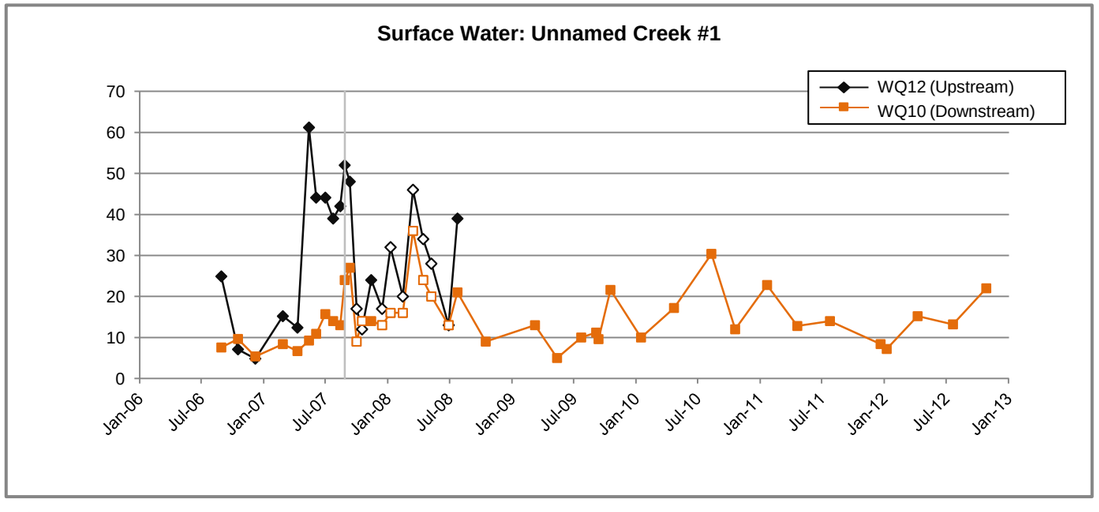
NIBLACK PROJECT LLC integral consulting inc.

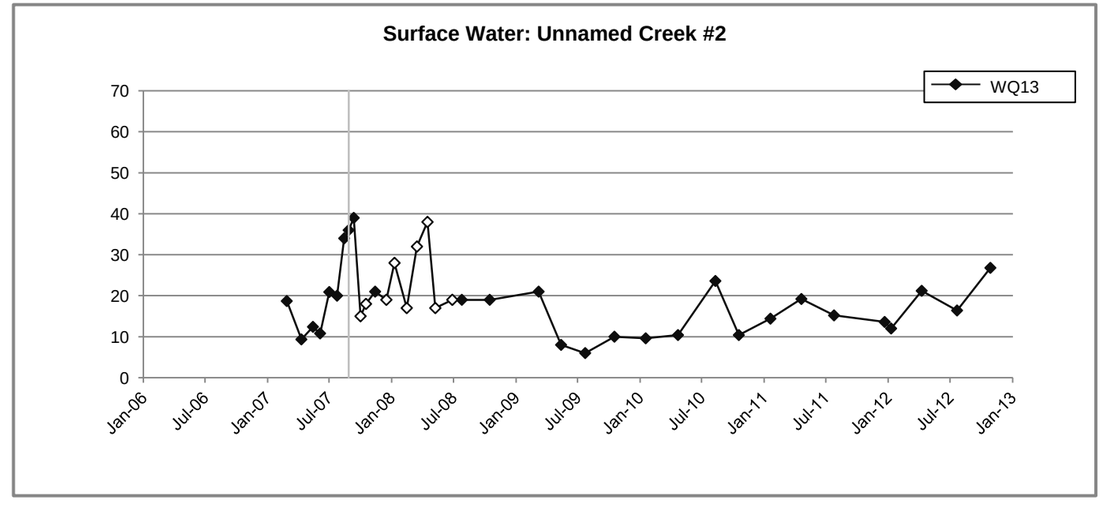
Figure 4-3c
Time Series Plots: Dissolved Oxygen
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Hardness (mg/L as $CaCO_3$)







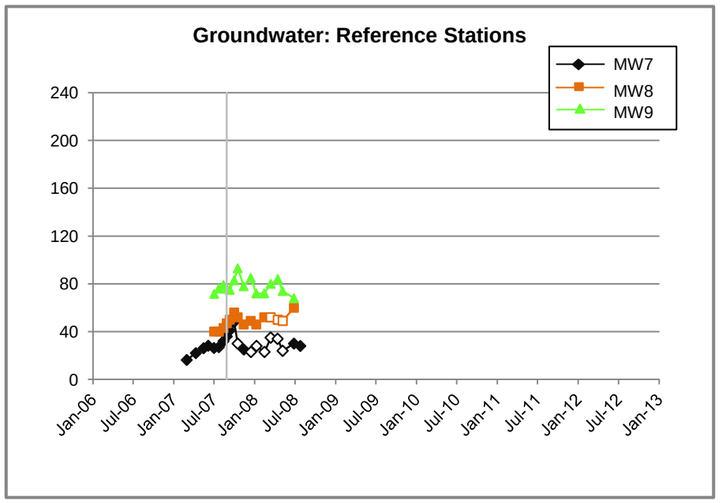


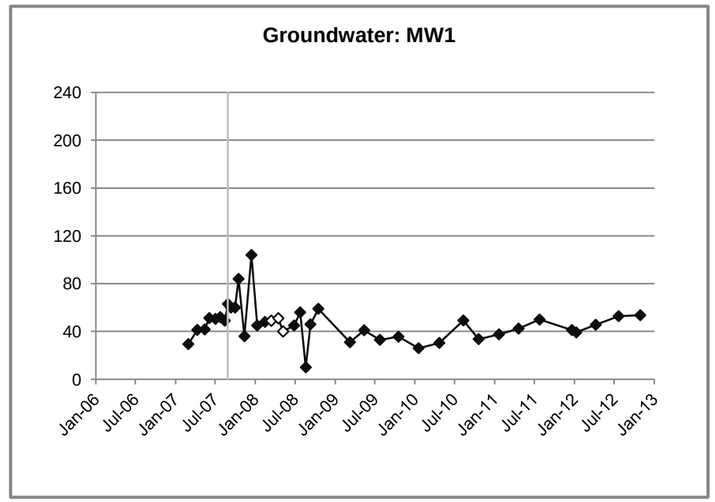
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

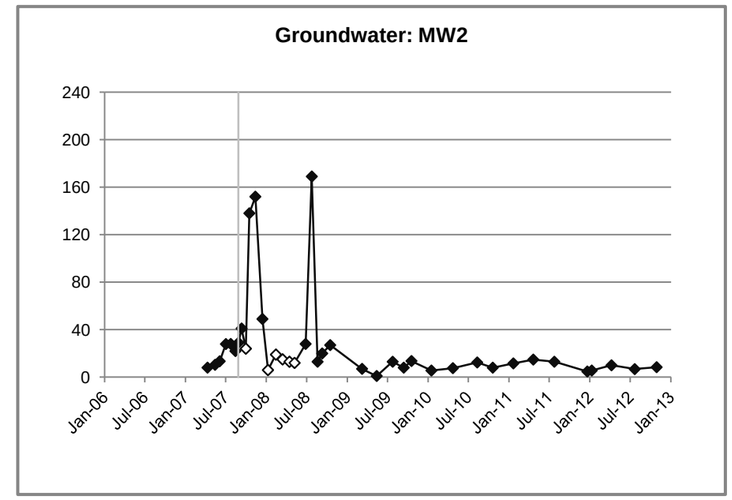
NIBLACK PROJECT LLC integral consulting inc.

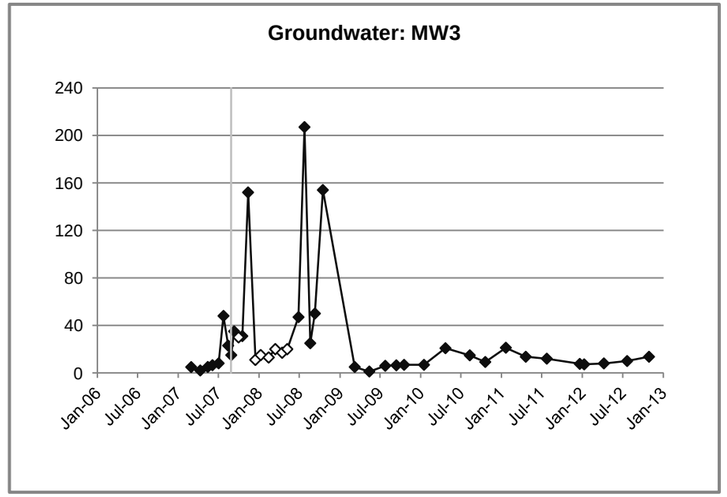
Figure 4-4a
Time Series Plots: Hardness
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

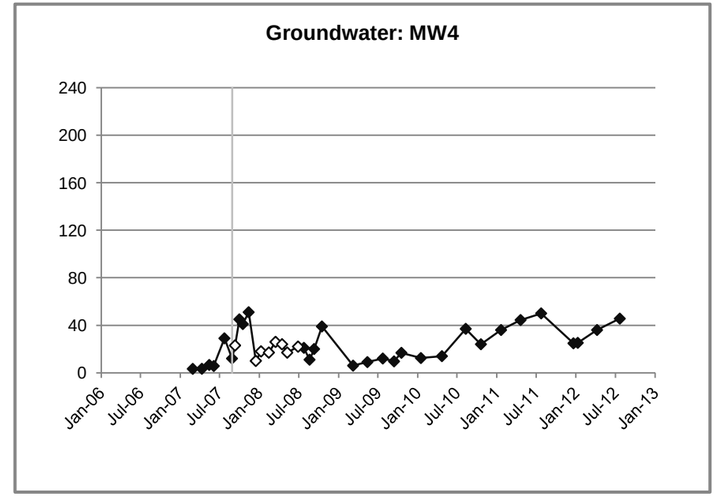
Permit Stations - Groundwater
Hardness (mg/L as $CaCO_3$)









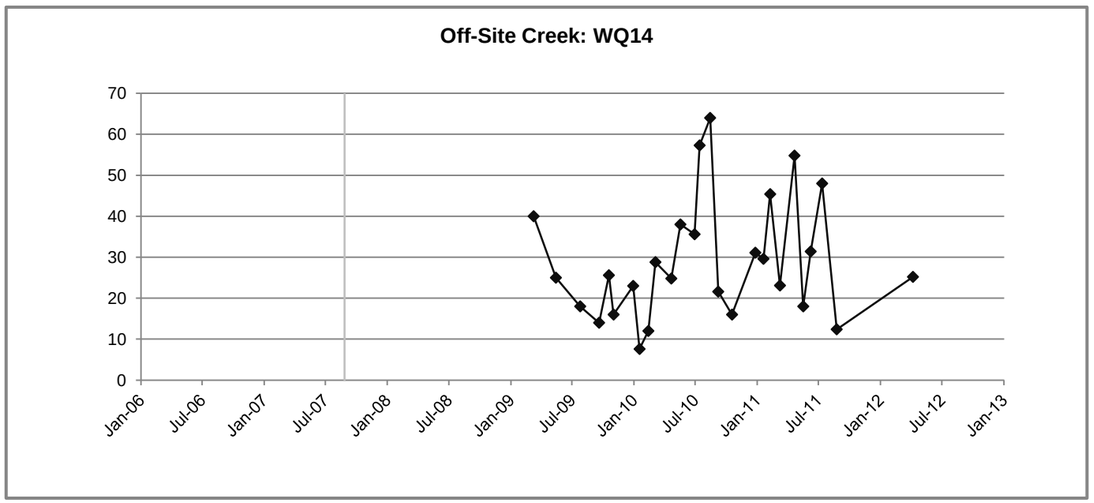


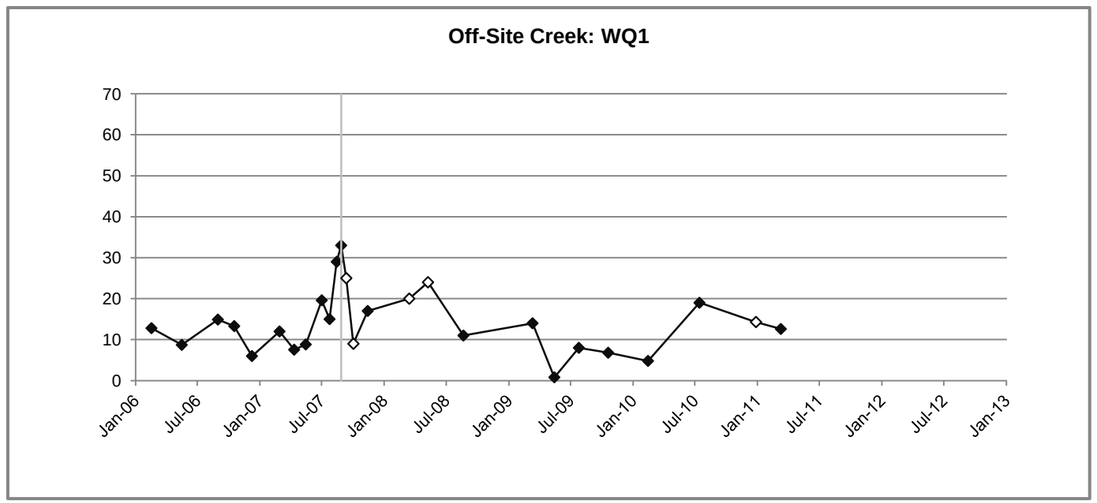
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

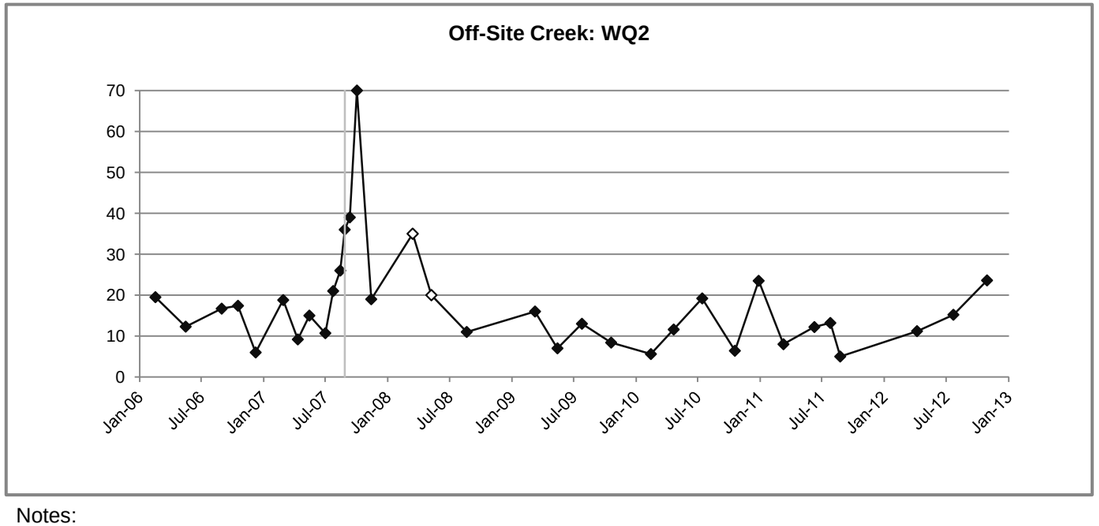
NIBLACK PROJECT LLC integral consulting inc.

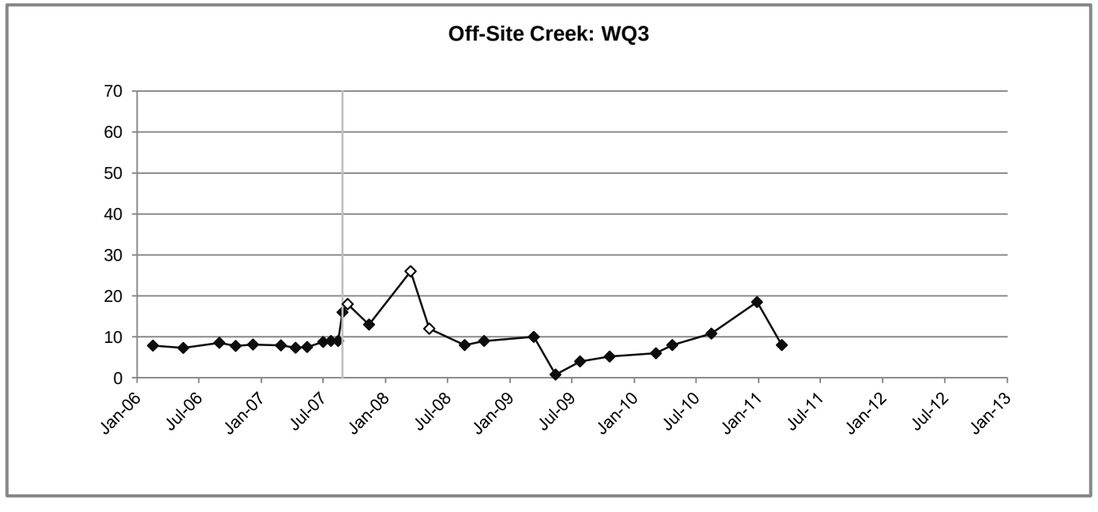
Figure 4-4b
Time Series Plots: Hardness
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Hardness (mg/L as $CaCO_3$)







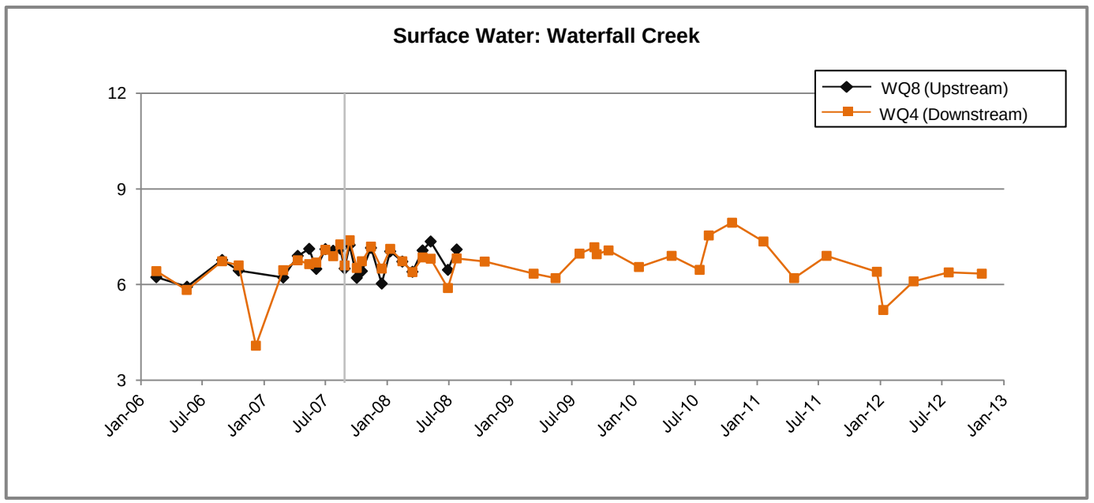


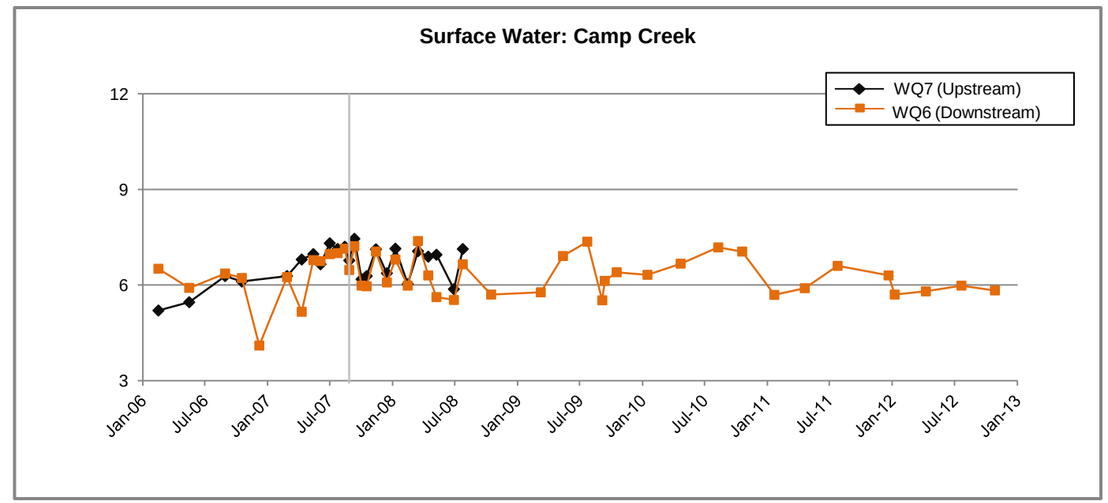
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

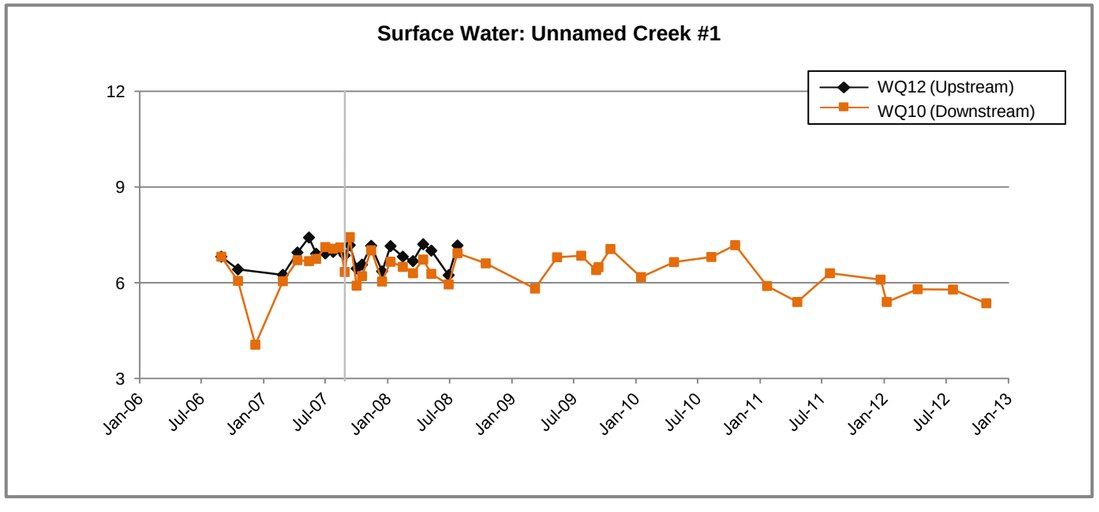
NIBLACK PROJECT LLC integral consulting inc.

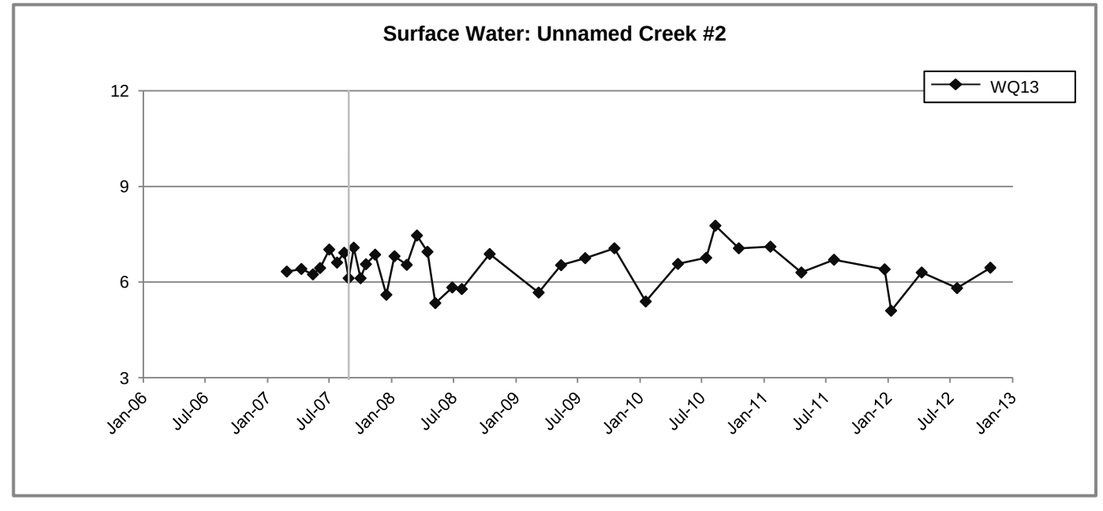
Figure 4-4c
Time Series Plots: Hardness
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
pH (standard pH units)







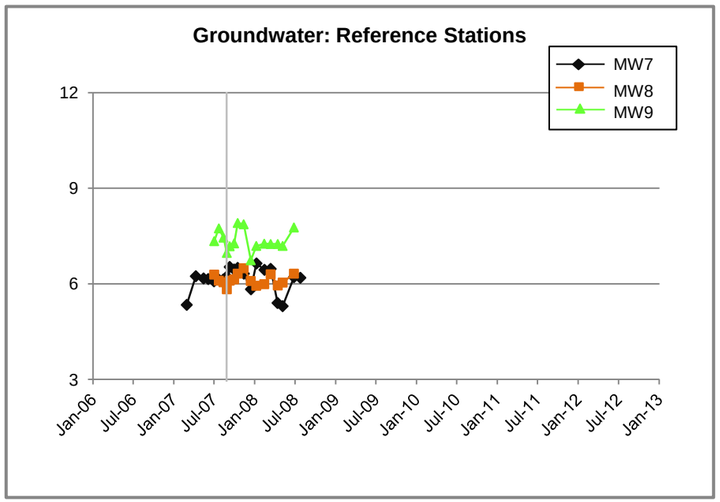


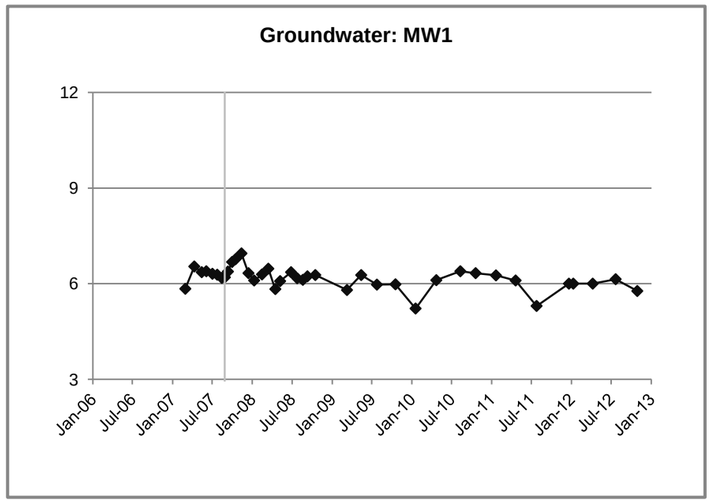
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

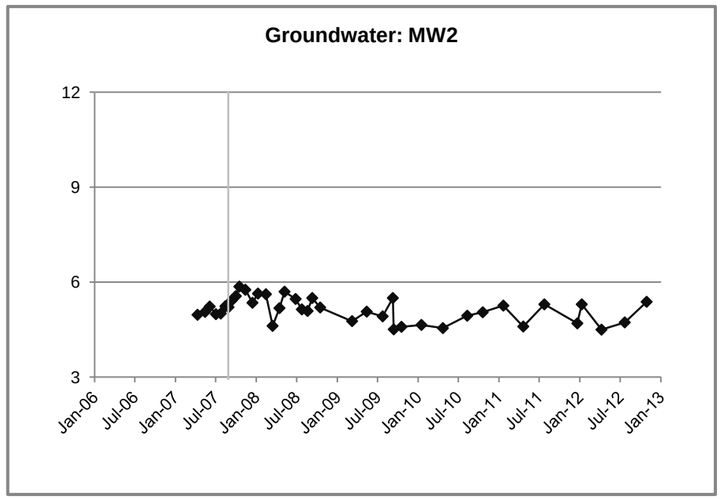
NIBLACK PROJECT LLC integral consulting inc.

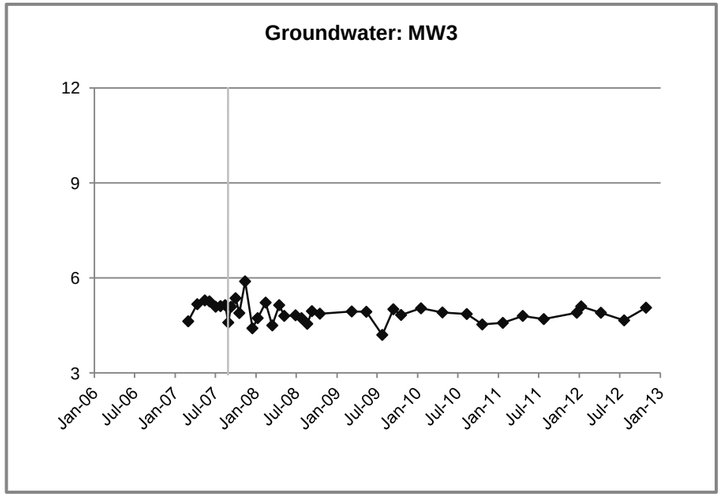
Figure 4-5a
Time Series Plots: pH
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

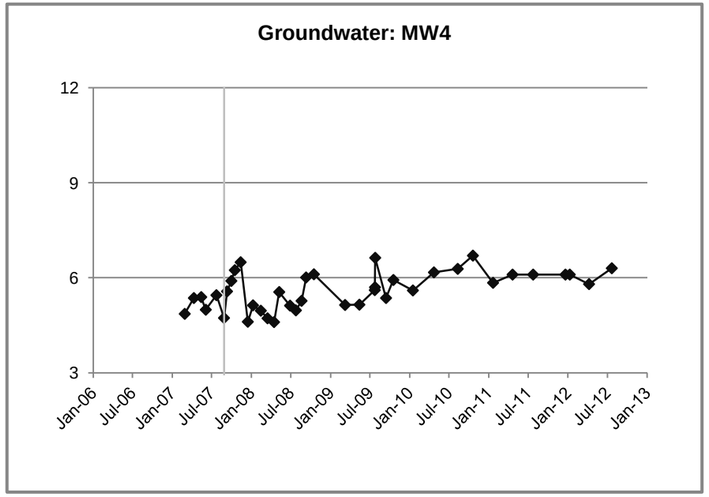
Permit Stations - Groundwater
pH (standard pH units)









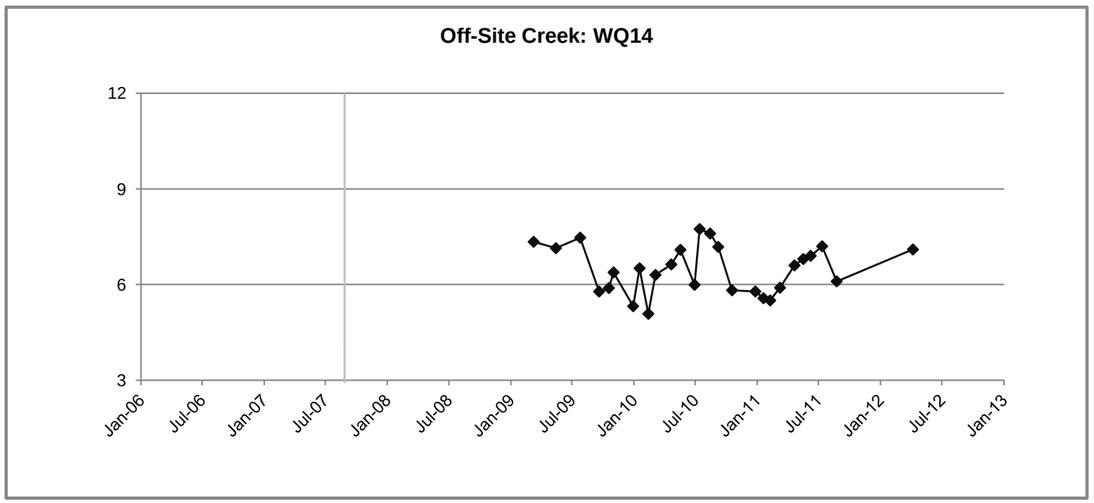


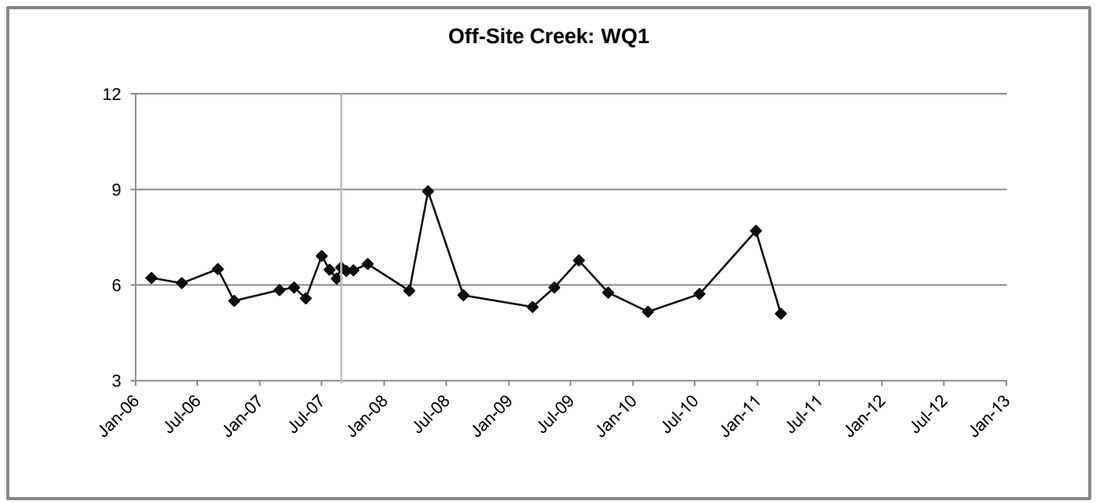
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

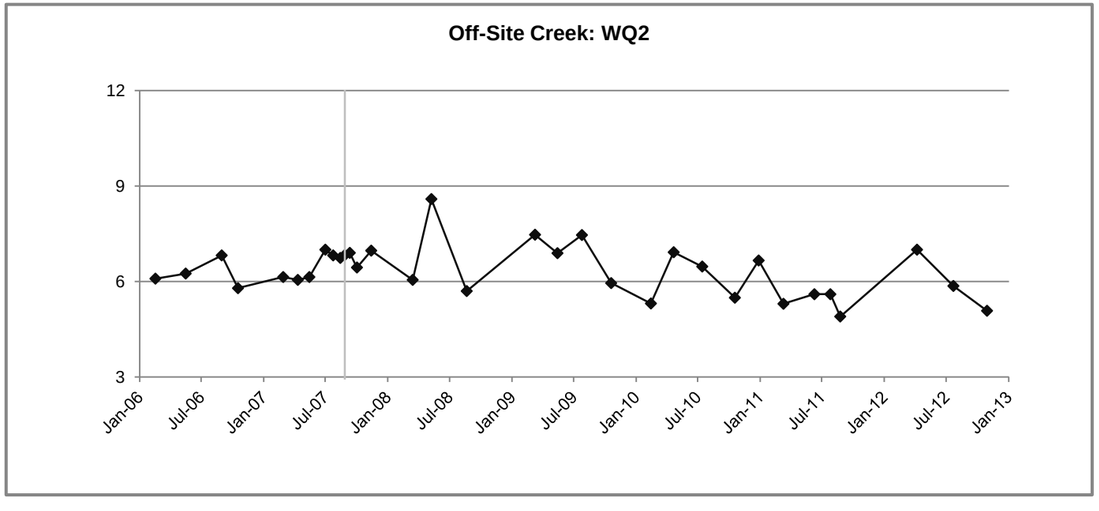
NIBLACK PROJECT LLC integral consulting inc.

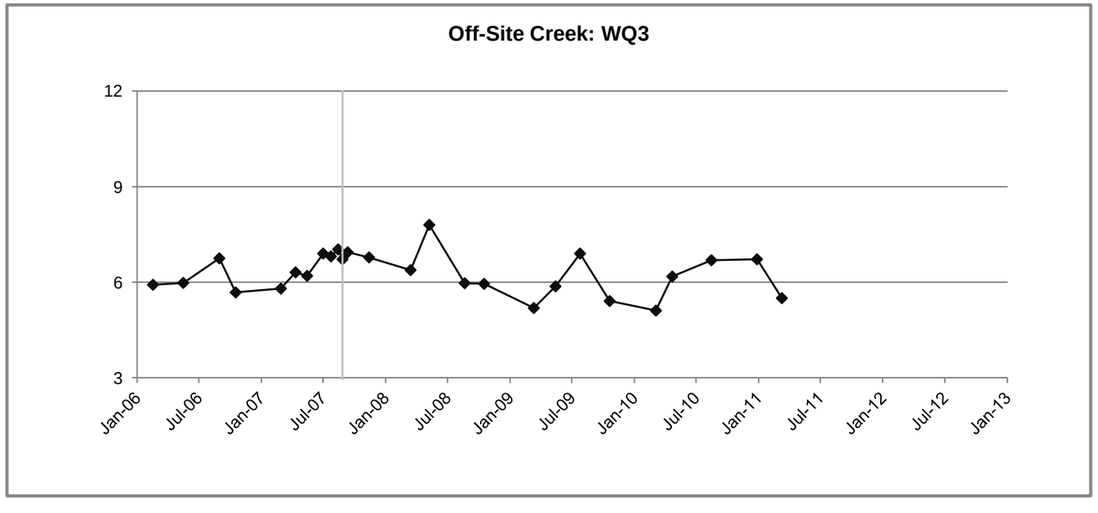
Figure 4-5b
Time Series Plots: pH
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
pH (standard pH units)







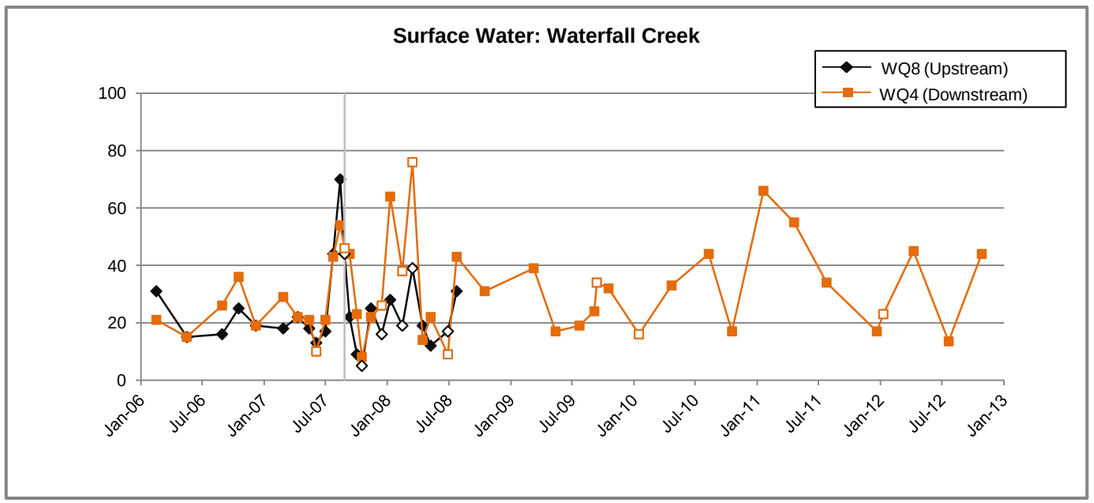


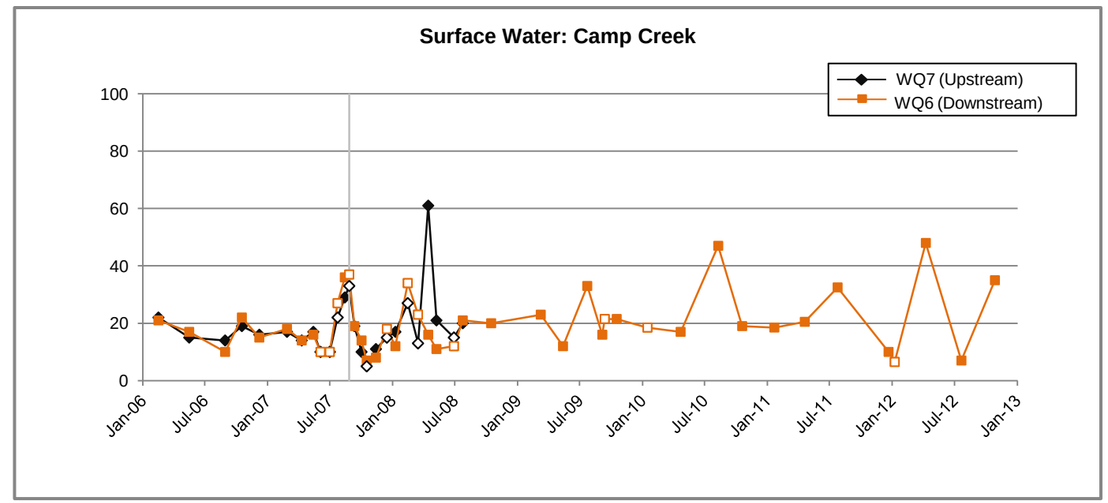
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

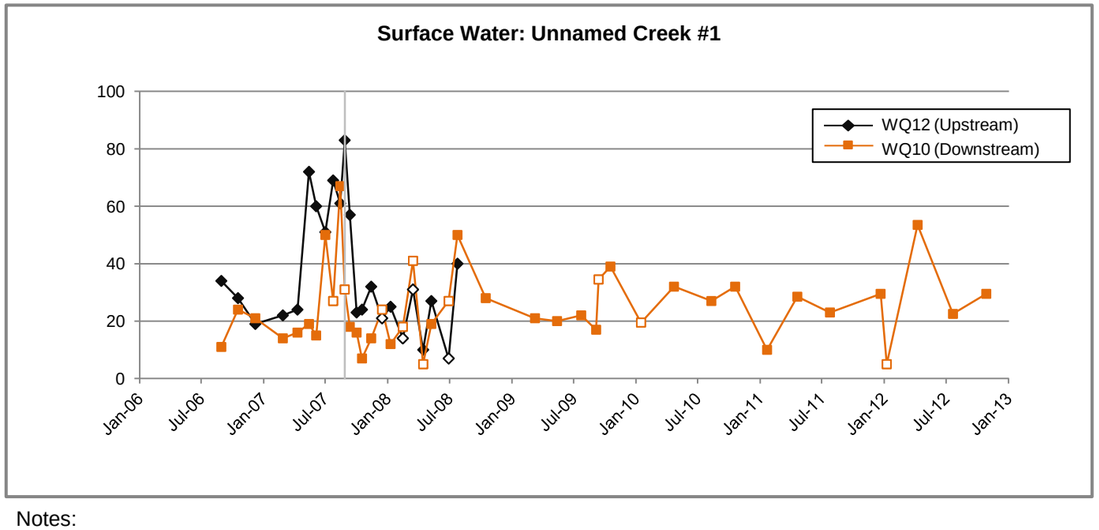
NIBLACK PROJECT LLC integral consulting inc.

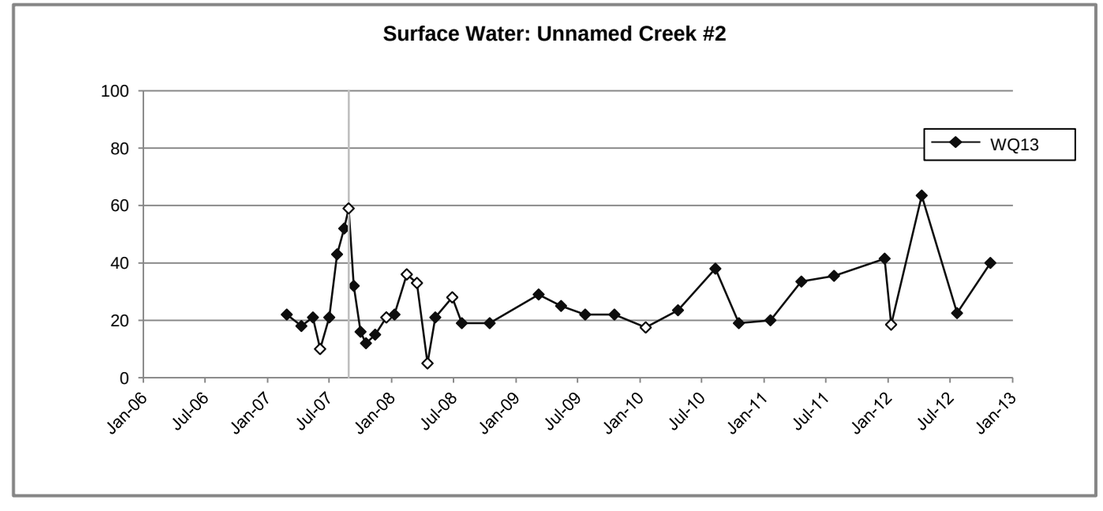
Figure 4-5c
Time Series Plots: pH
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Total Dissolved Solids (mg/L)







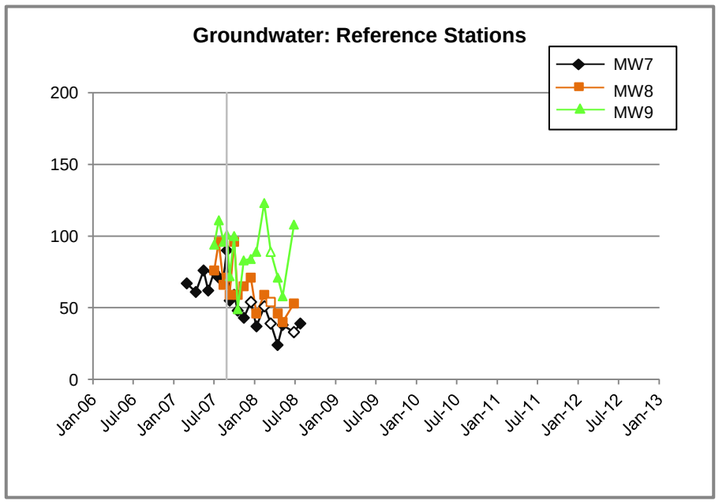


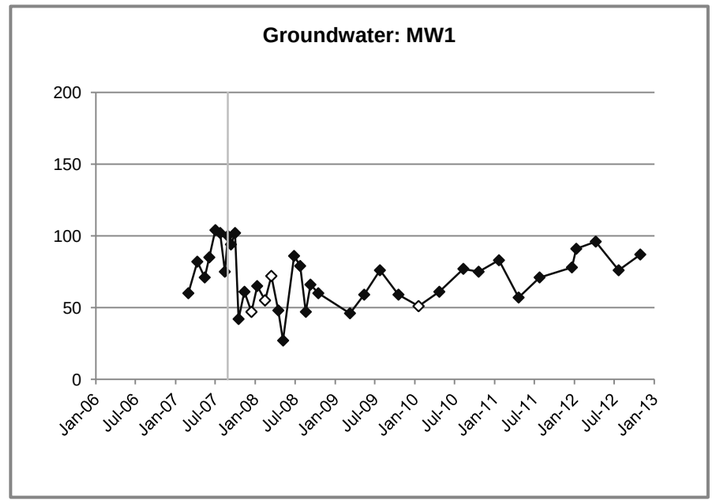
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

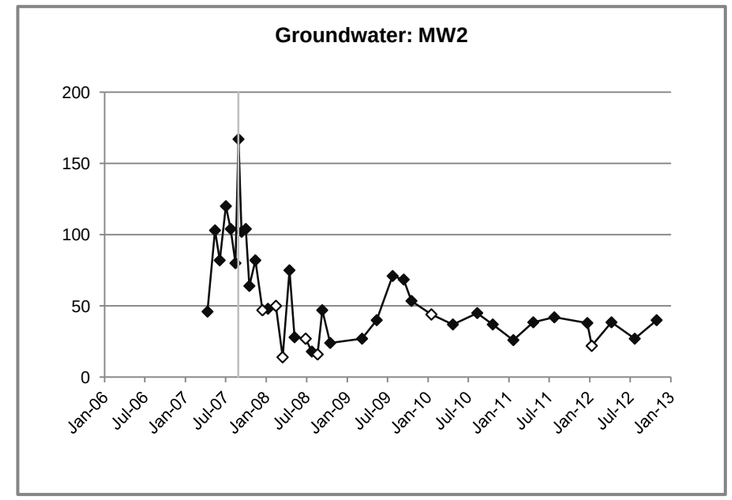
NIBLACK PROJECT LLC integral consulting inc.

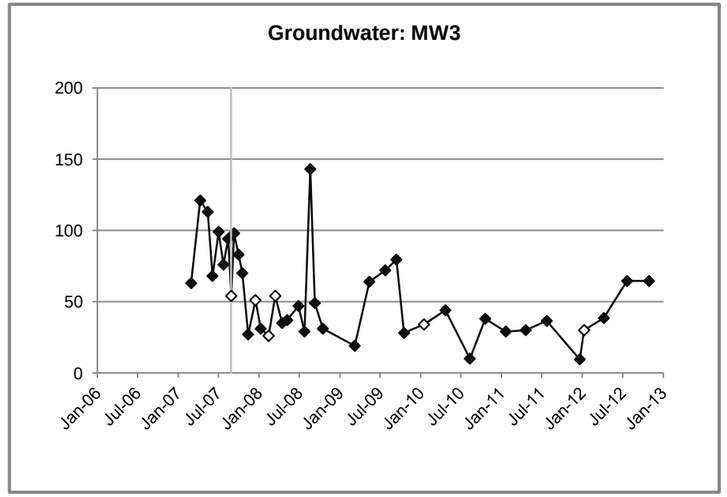
Figure 4-6a
Time Series Plots: Total Dissolved Solids
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

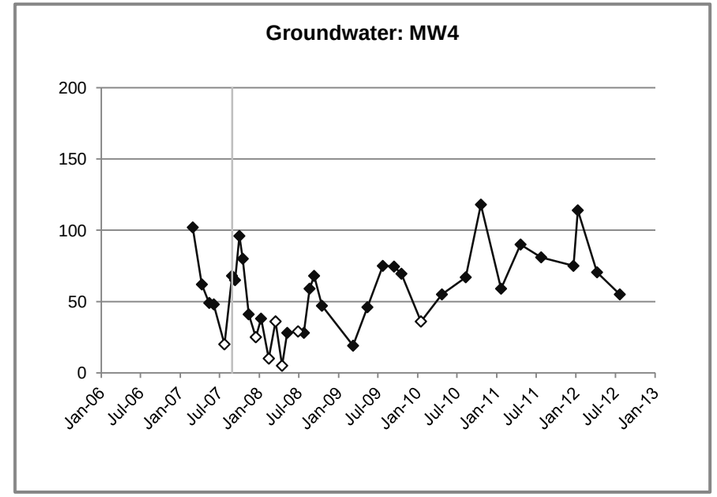
Permit Stations - Groundwater
Total Dissolved Solids (mg/L)









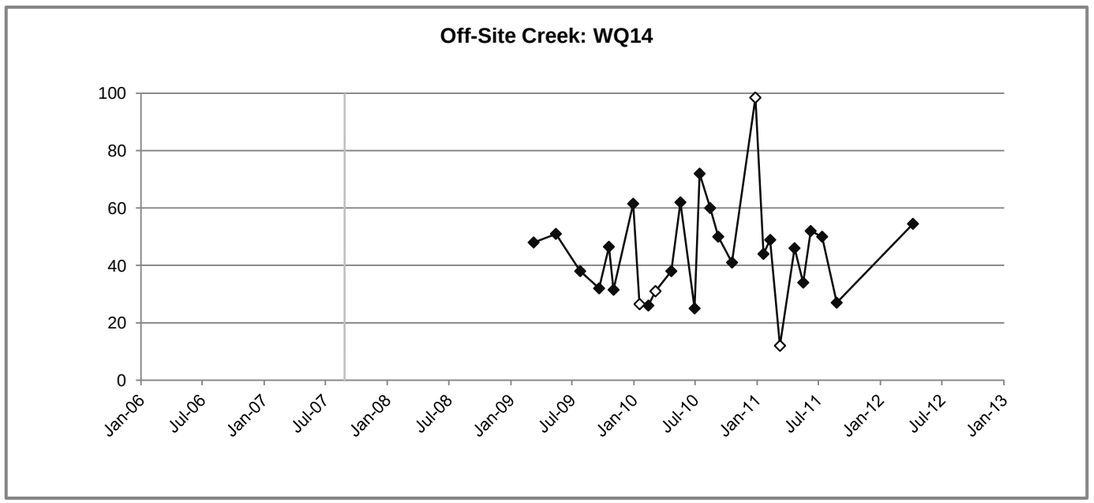


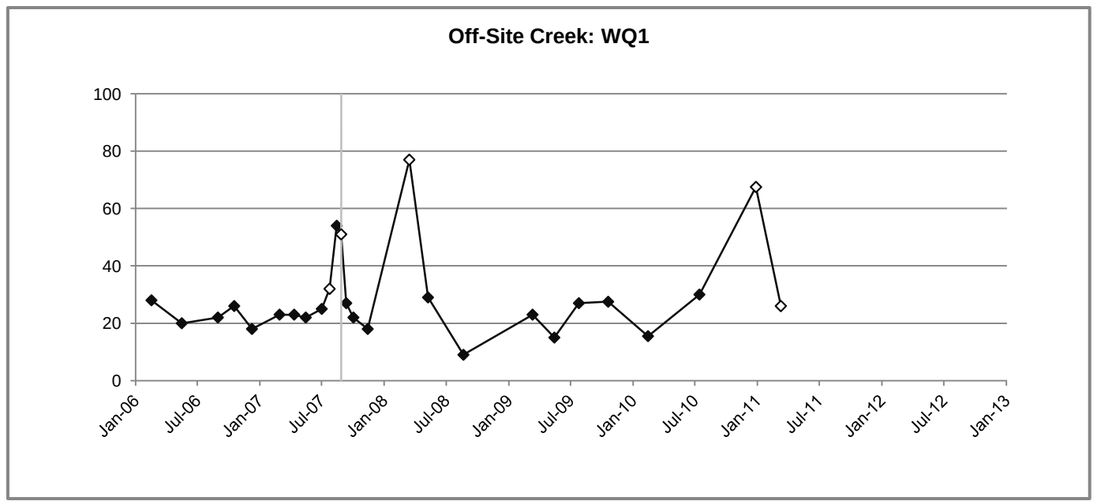
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

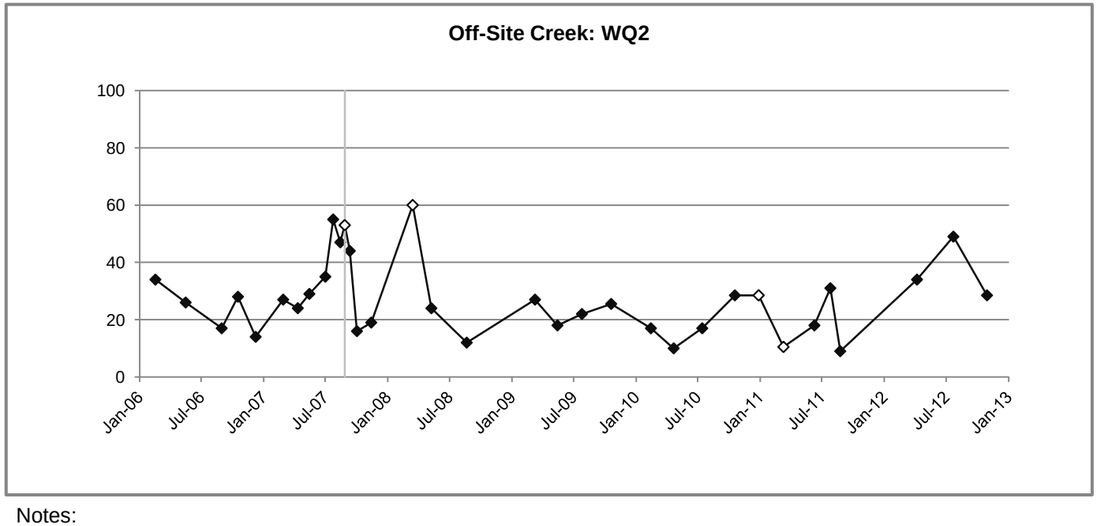
NIBLACK PROJECT LLC integral consulting inc.

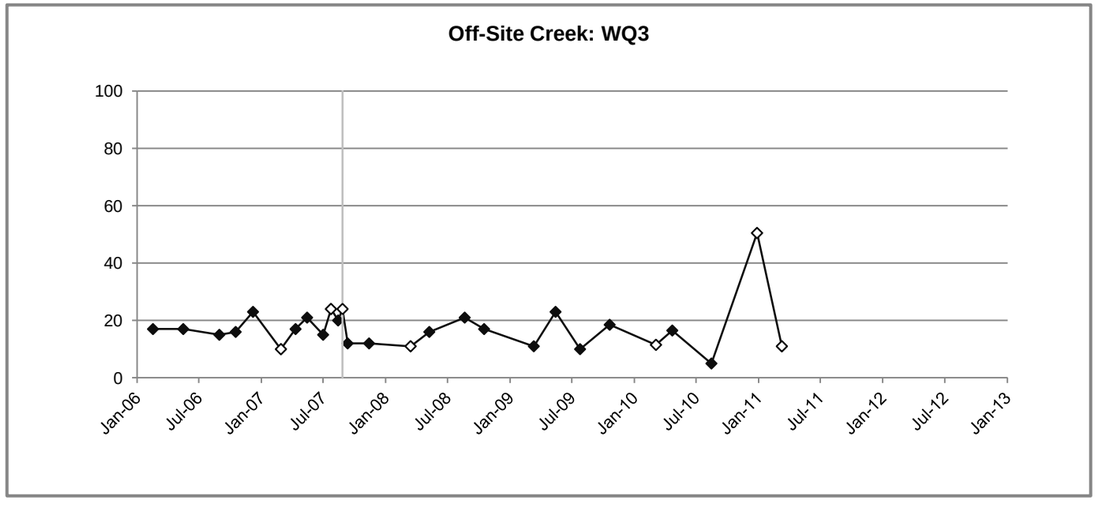
Figure 4-6b
Time Series Plots: Total Dissolved Solids
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Total Dissolved Solids (mg/L)







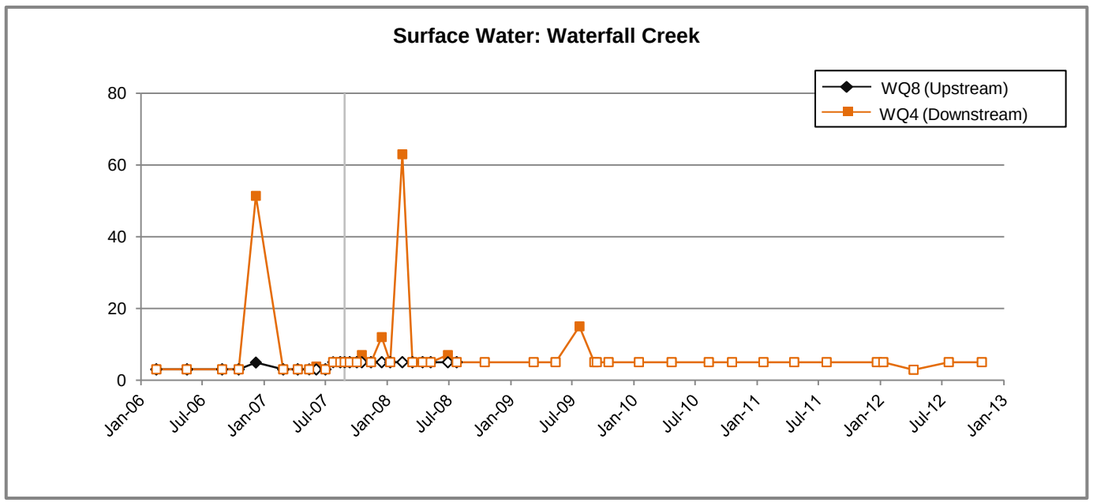


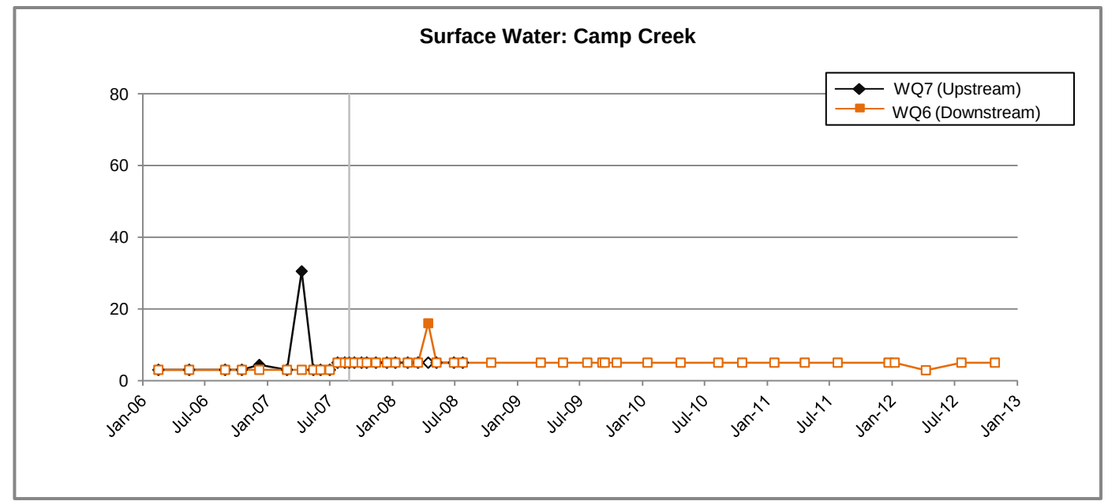
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

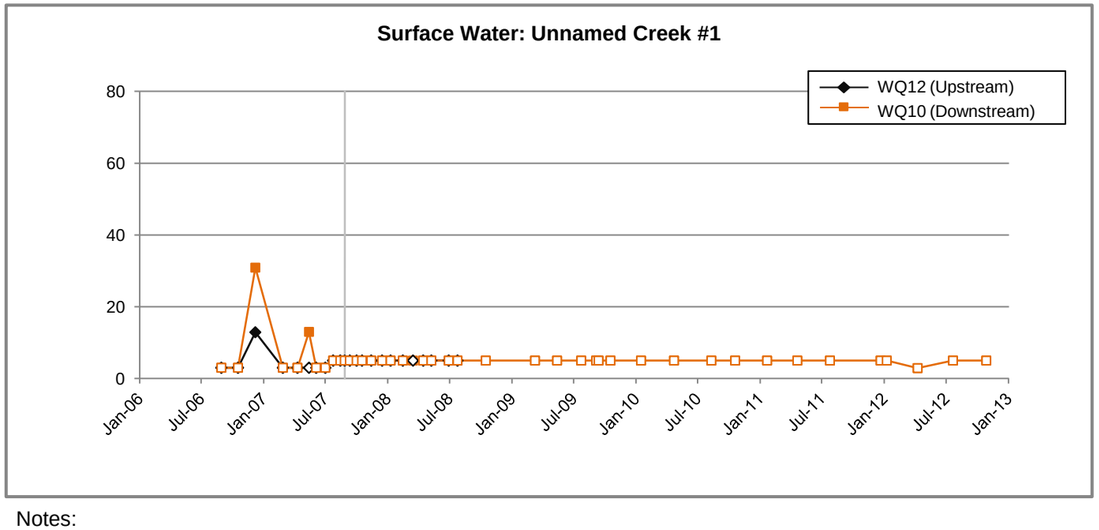
NIBLACK PROJECT LLC integral consulting inc.

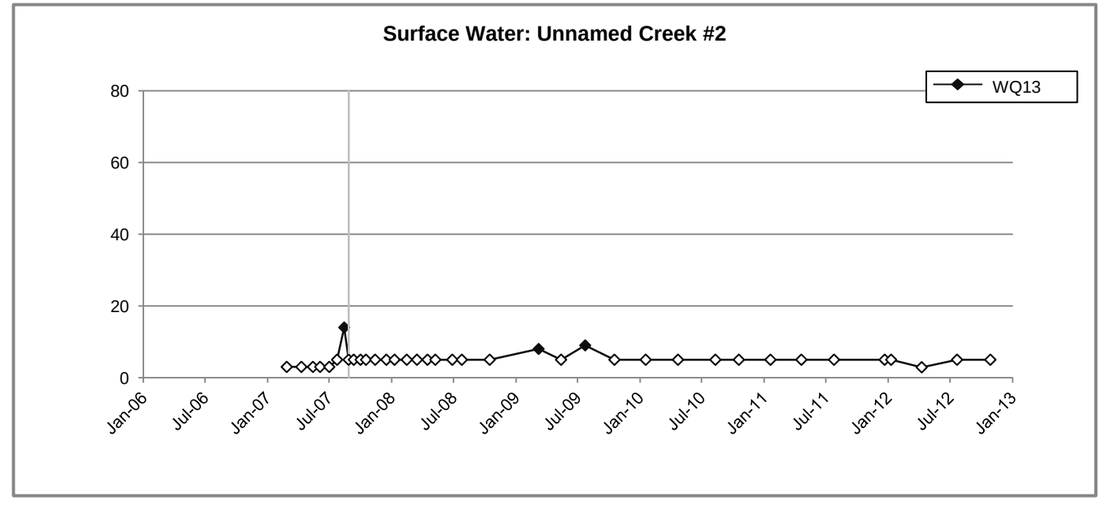
Figure 4-6c
Time Series Plots: Total Dissolved Solids
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Total Suspended Solids (mg/L)







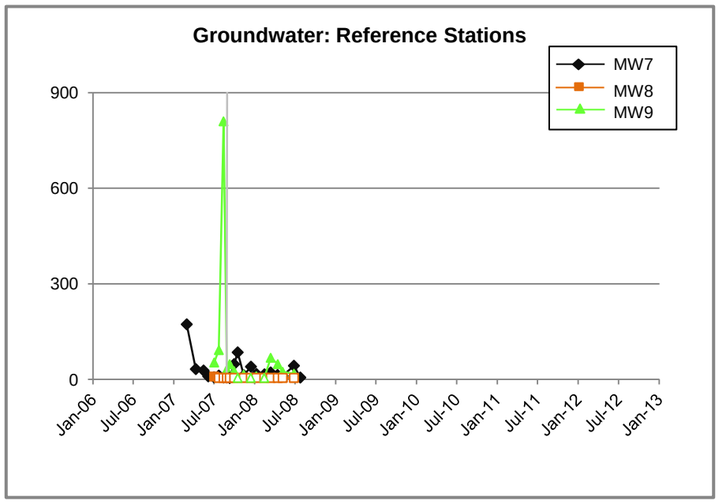


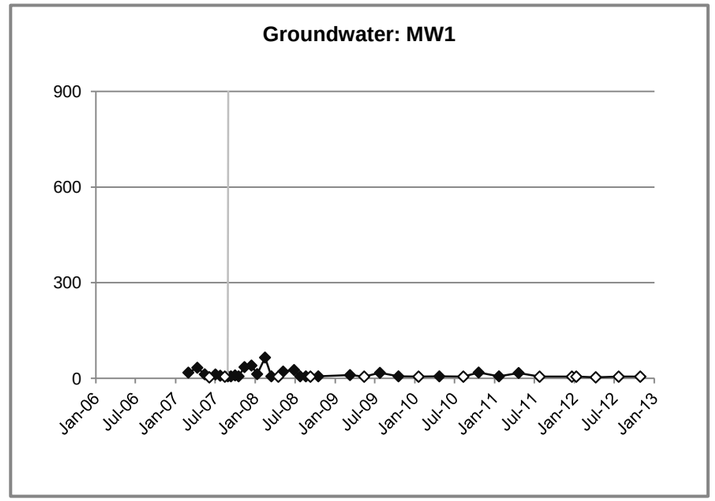
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

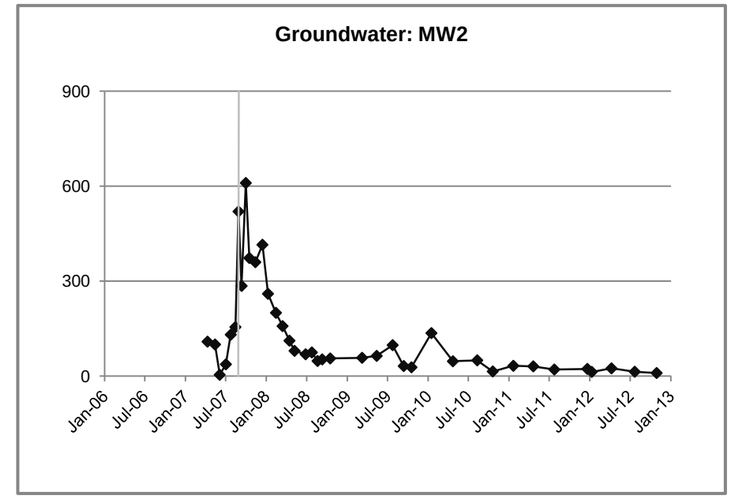
NIBLACK PROJECT LLC integral consulting inc.

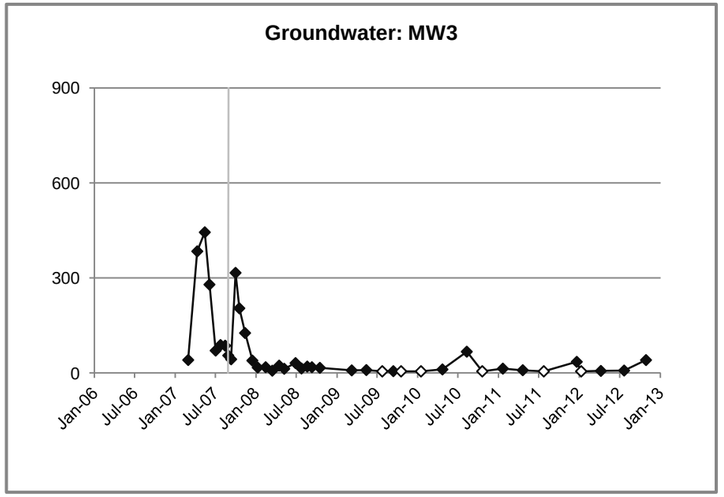
Figure 4-7a
Time Series Plots: Total Suspended Solids
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

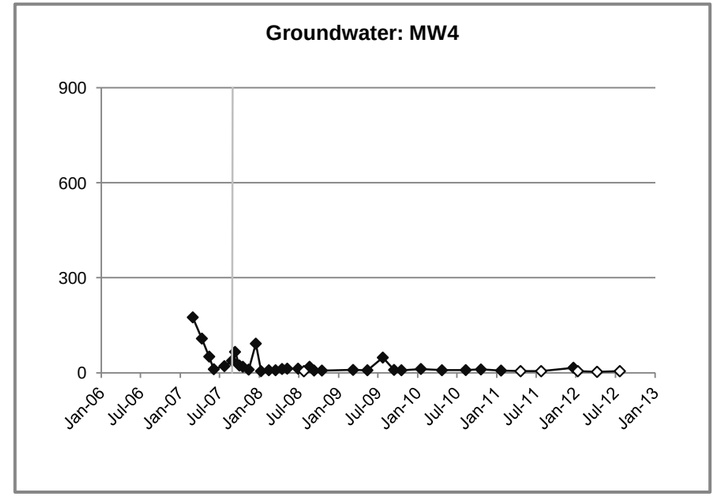
Permit Stations - Groundwater
Total Suspended Solids (mg/L)









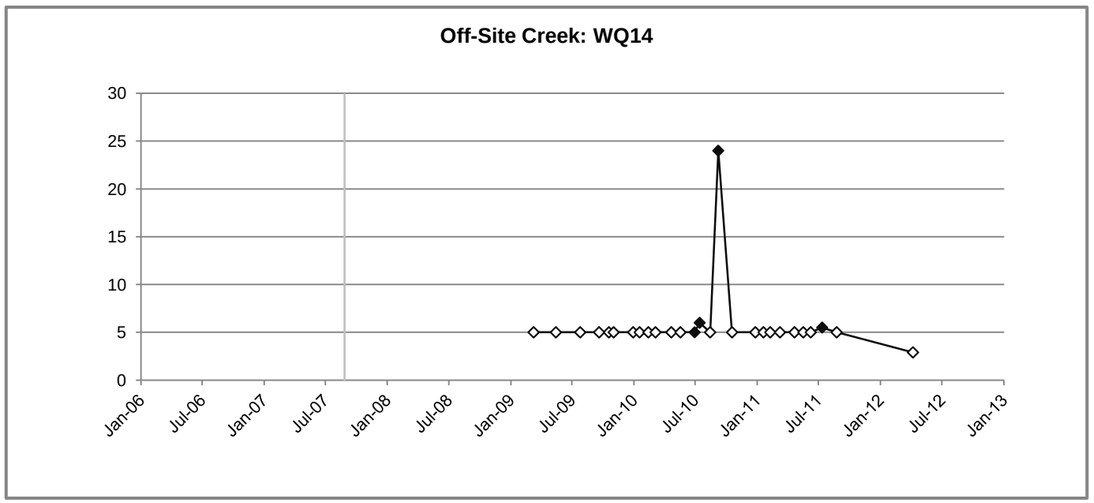


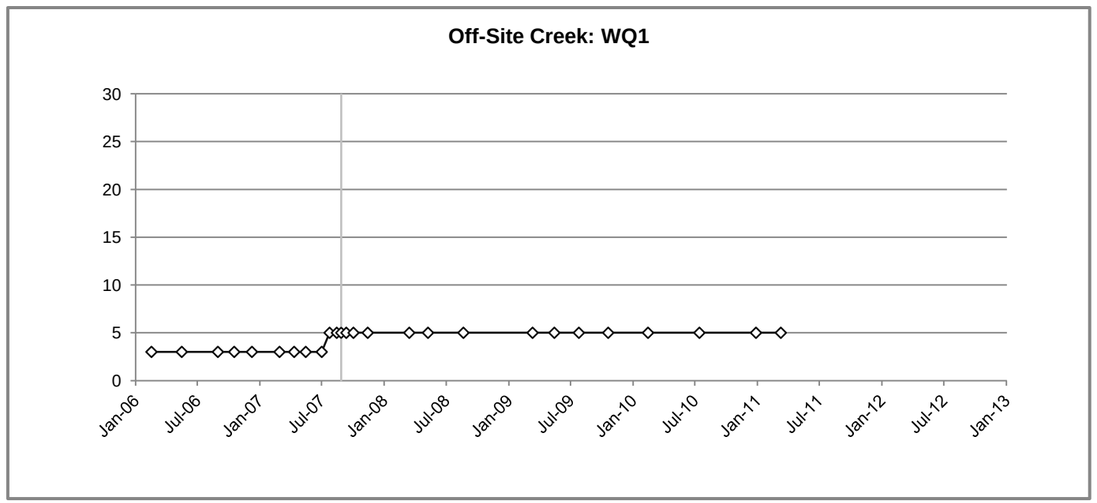
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

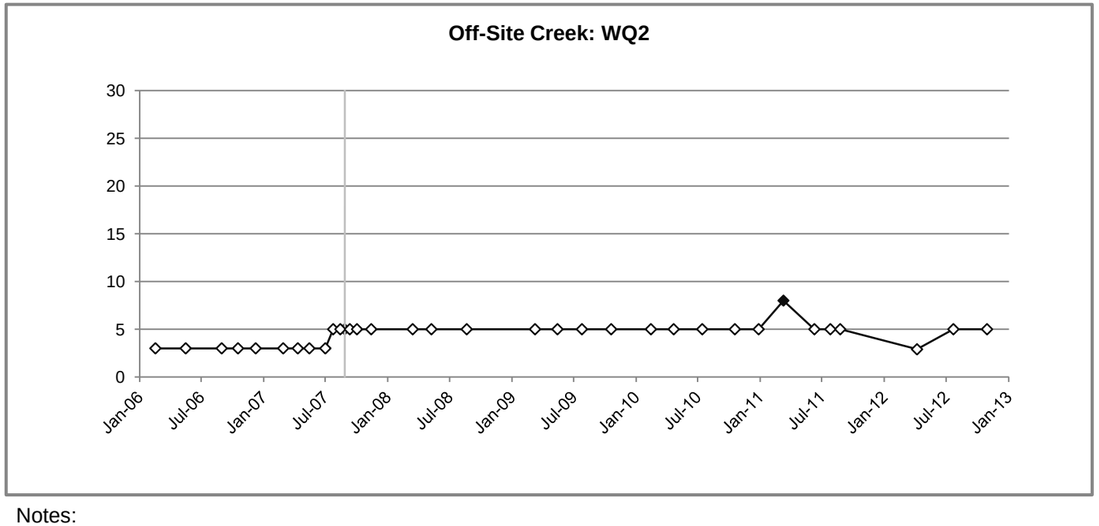
NIBLACK PROJECT LLC integral consulting inc.

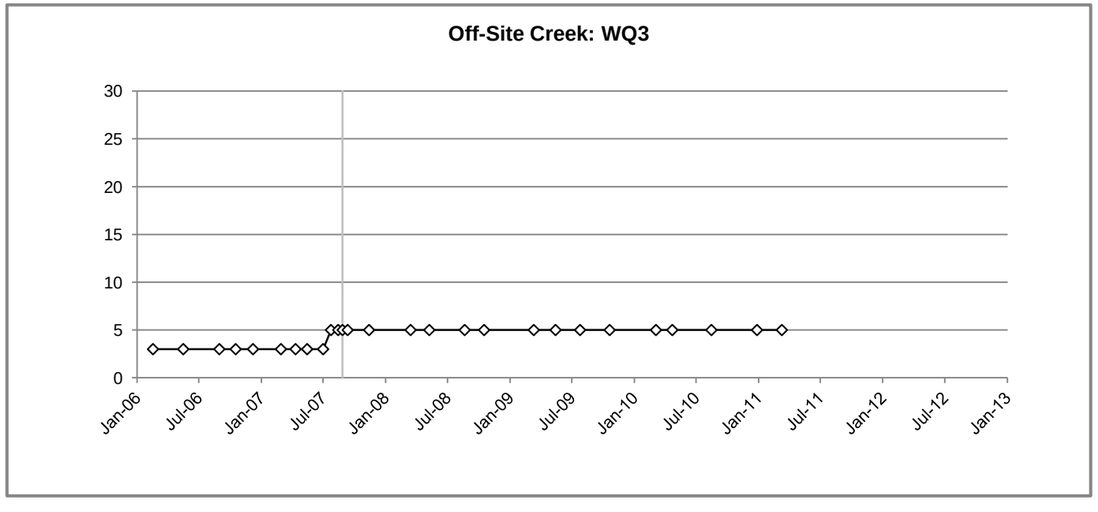
Figure 4-7b
Time Series Plots: Total Suspended Solids
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Total Suspended Solids (mg/L)







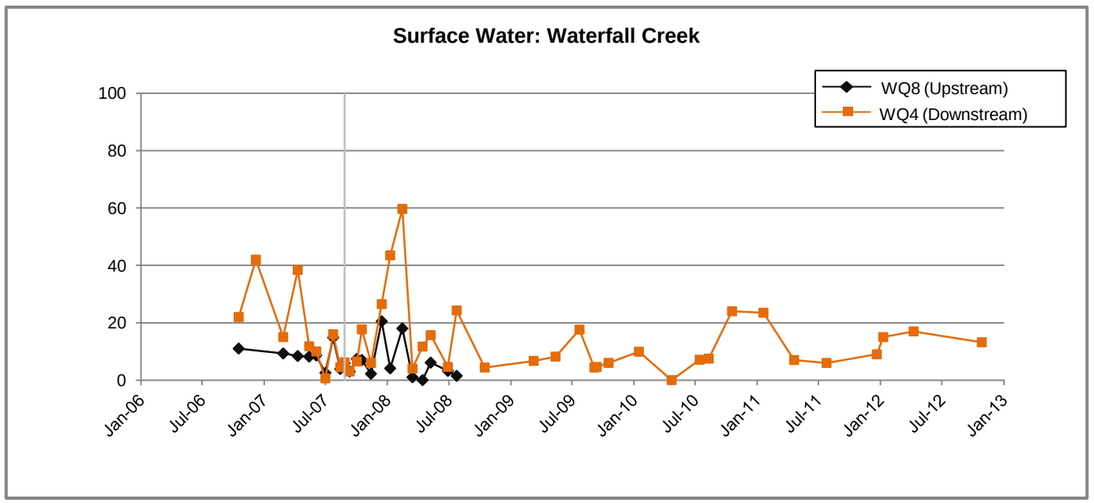


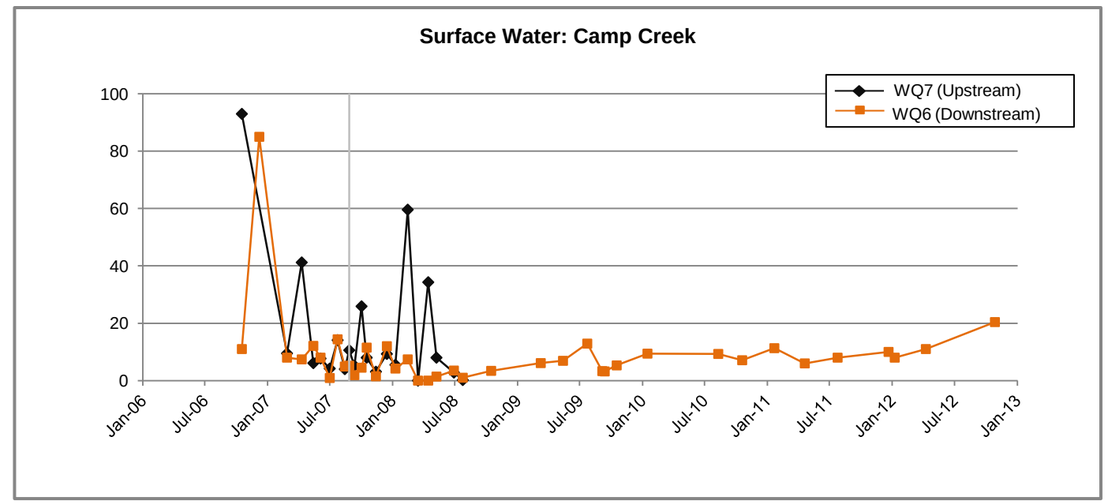
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

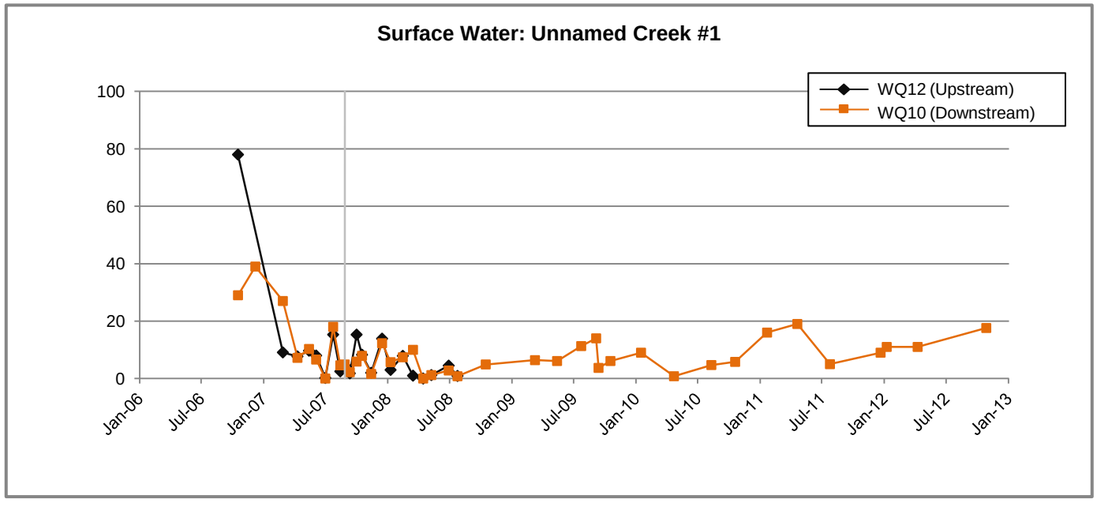
NIBLACK PROJECT LLC integral consulting inc.

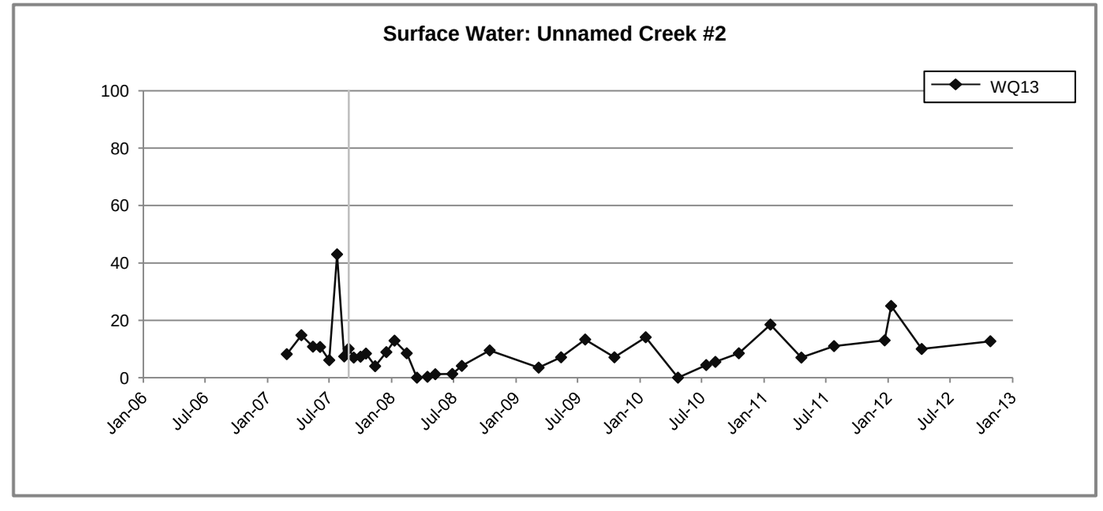
Figure 4-7c
Time Series Plots: Total Suspended Solids
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Turbidity (NTU)







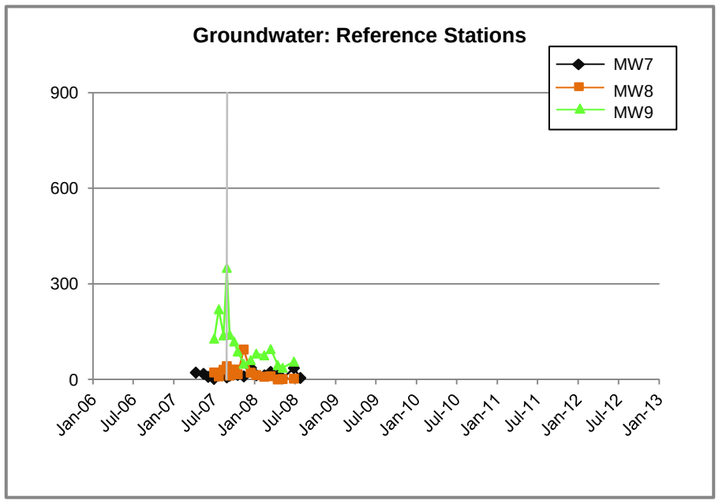


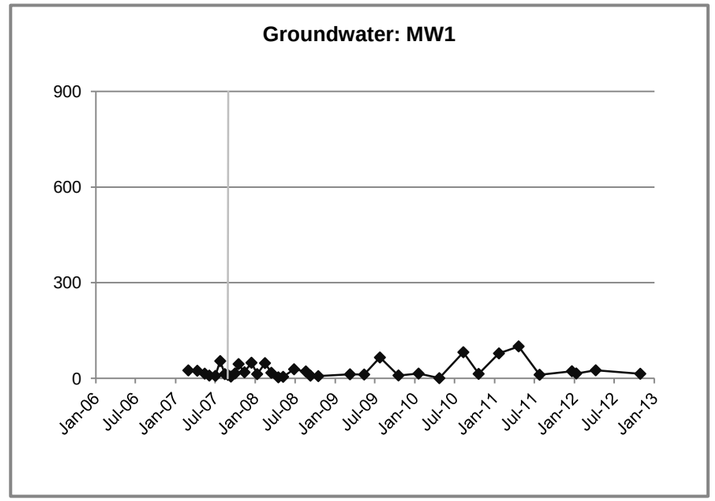
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

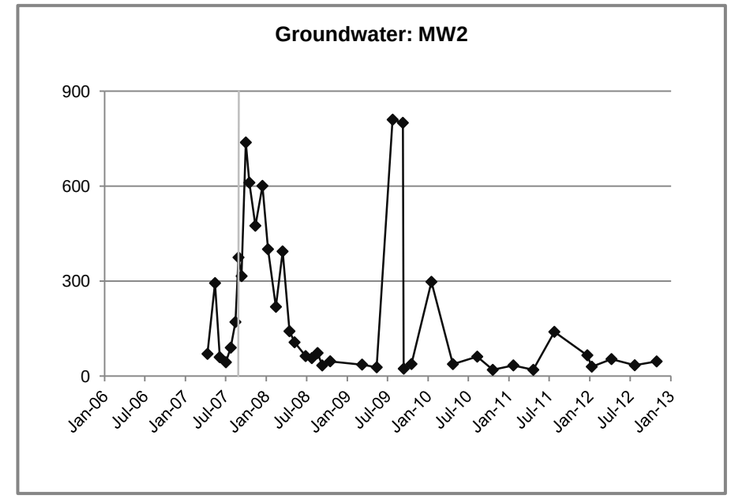
NIBLACK PROJECT LLC integral consulting inc.

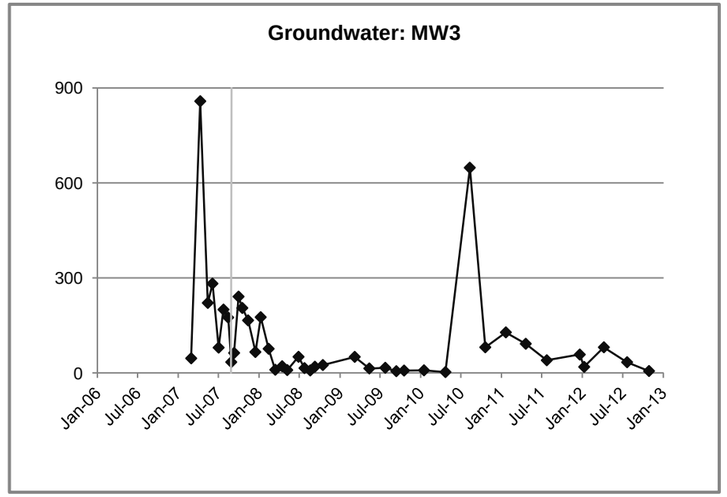
Figure 4-8a
Time Series Plots: Turbidity
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

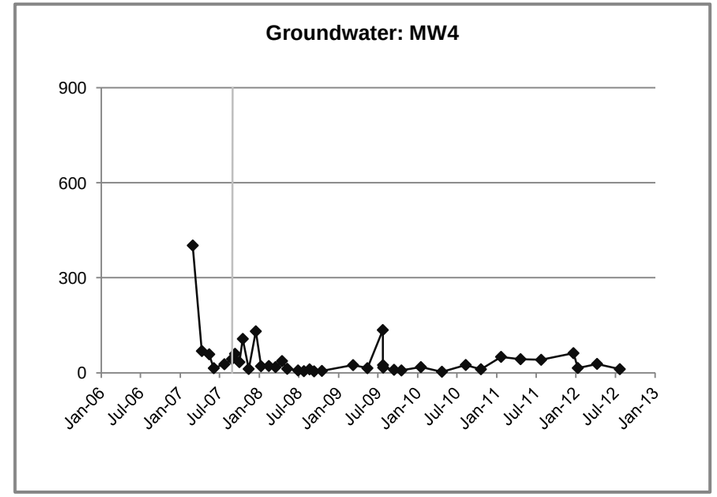
Permit Stations - Groundwater
Turbidity (NTU)









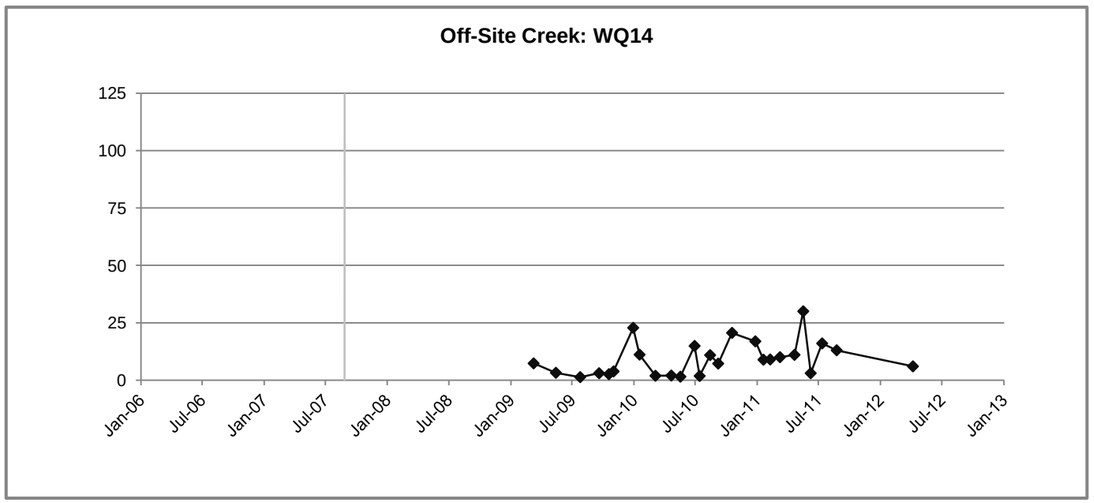


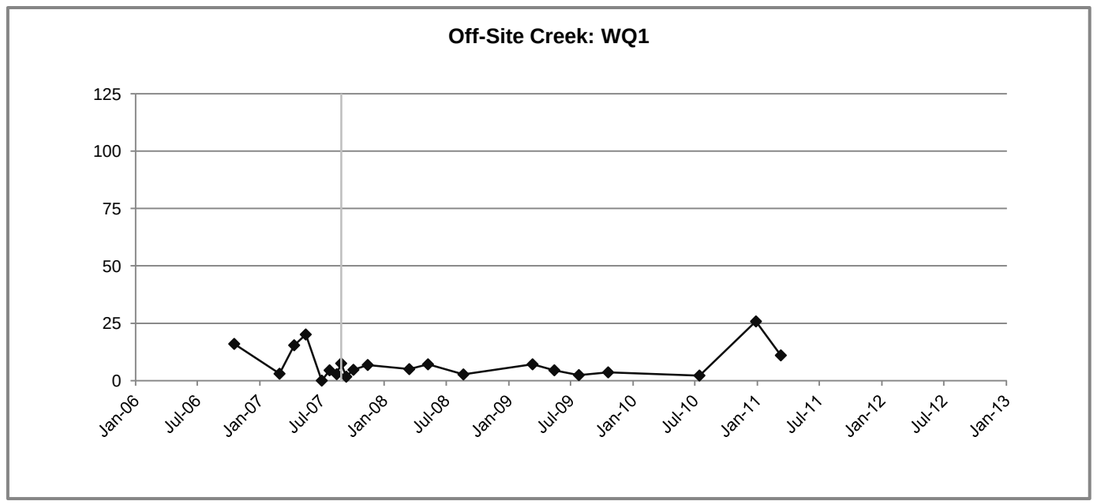
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

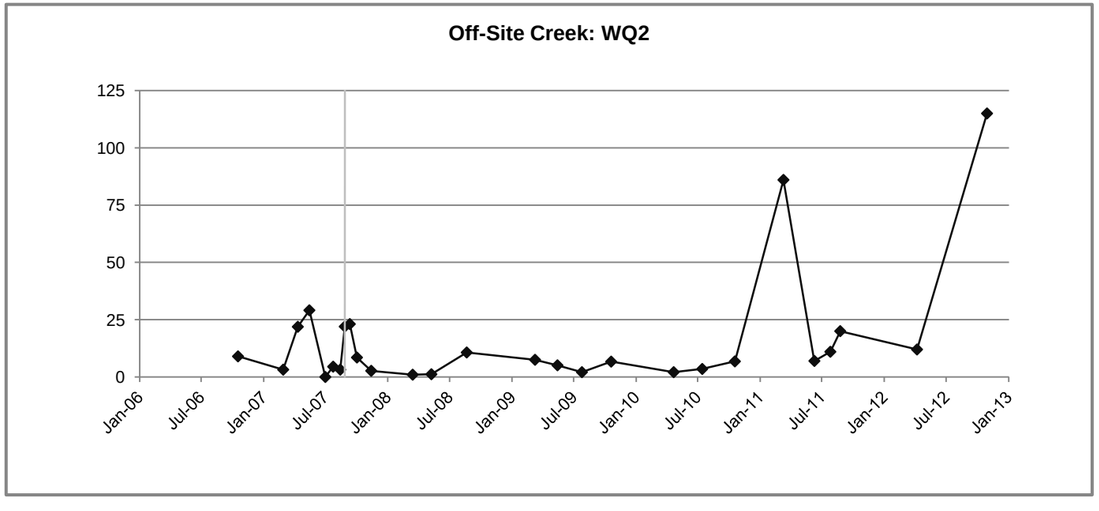
NIBLACK PROJECT LLC integral consulting inc.

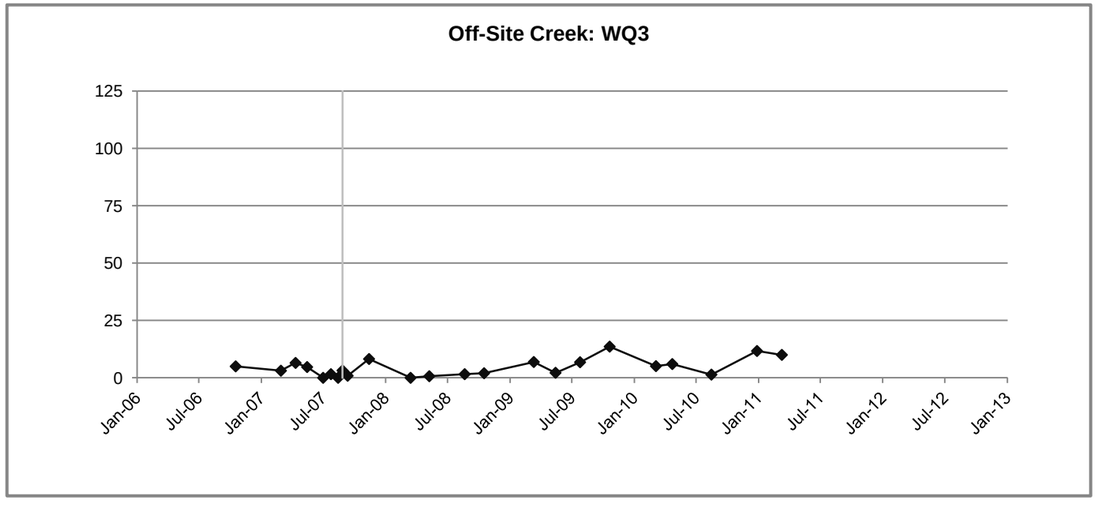
Figure 4-8b
Time Series Plots: Turbidity
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Turbidity (NTU)







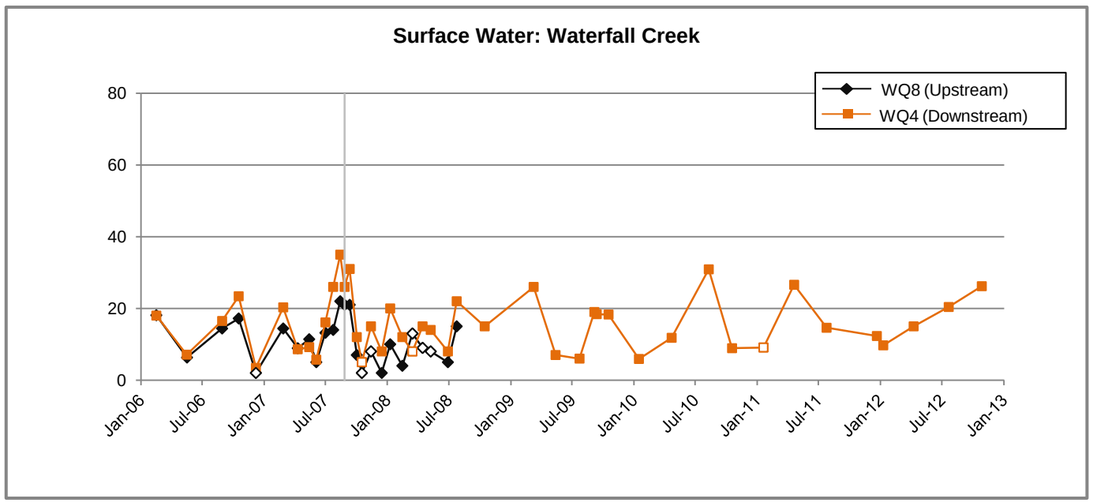


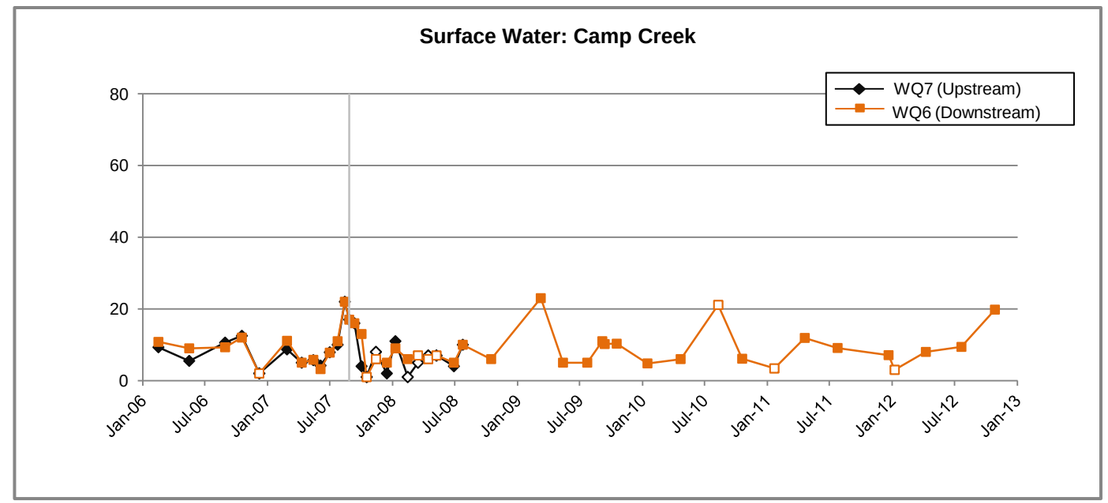
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

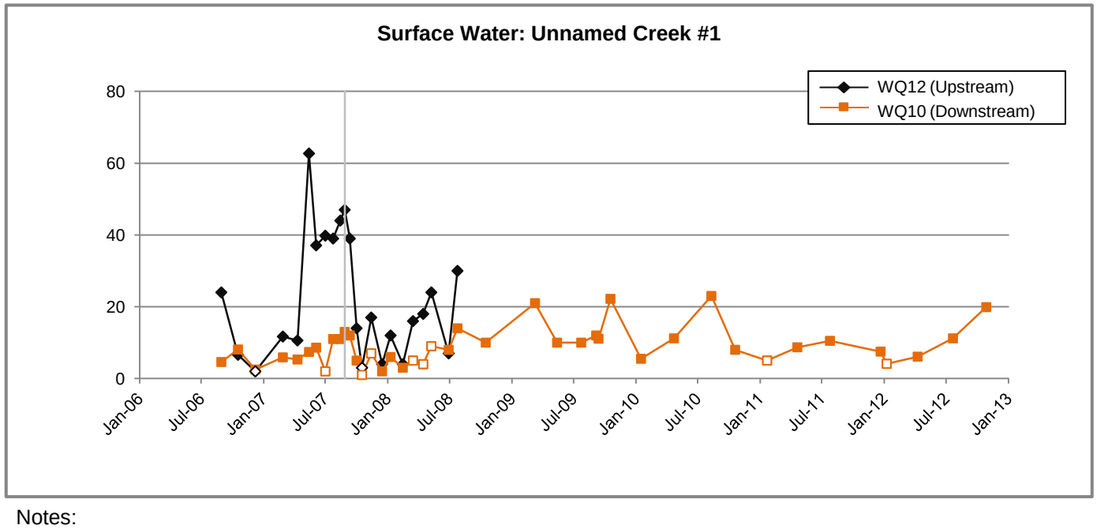
NIBLACK PROJECT LLC integral consulting inc.

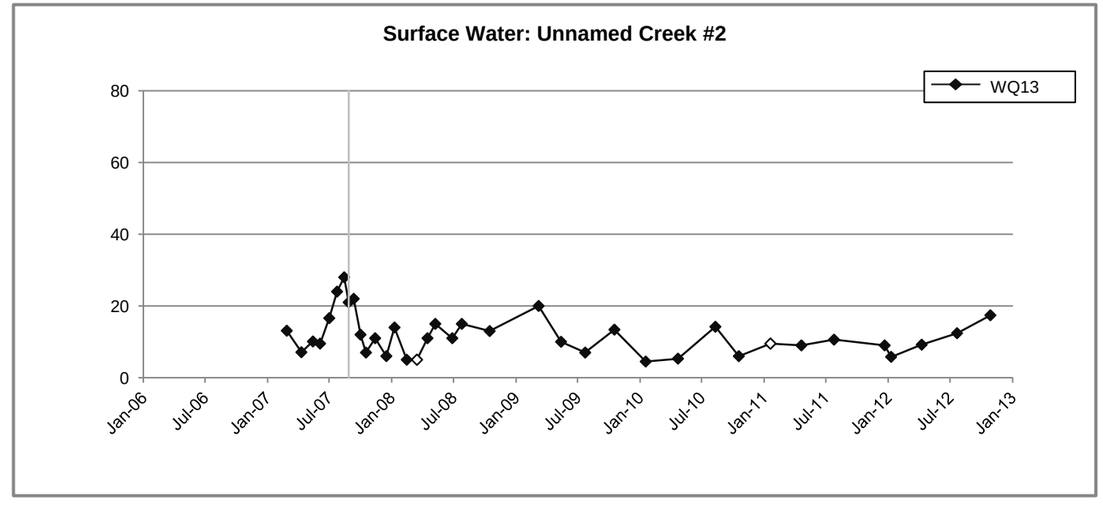
Figure 4-8c
Time Series Plots: Turbidity
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Alkalinity (mg/L)







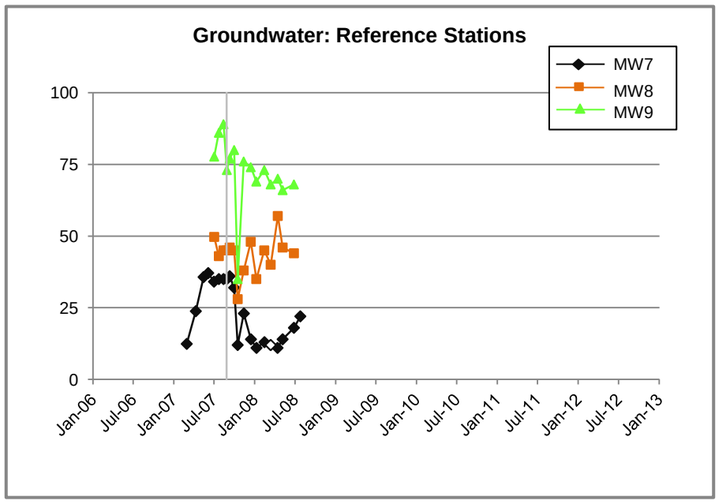


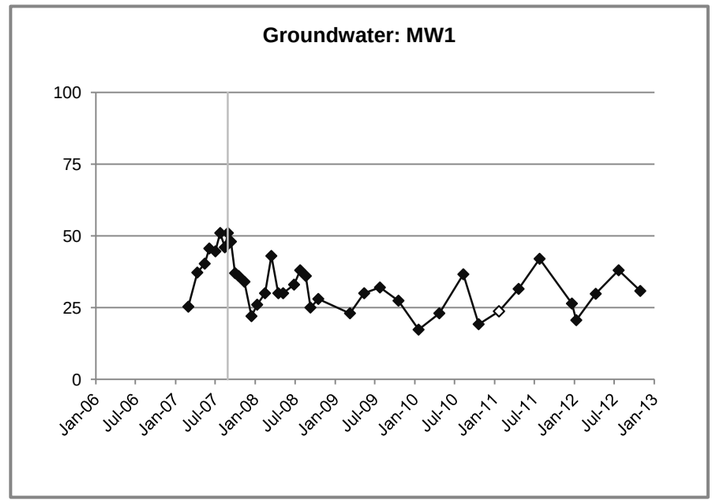
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

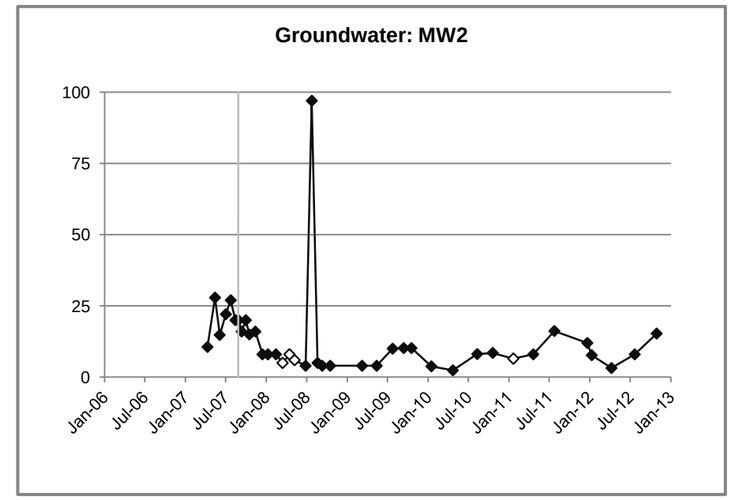
NIBLACK PROJECT LLC integral consulting inc.

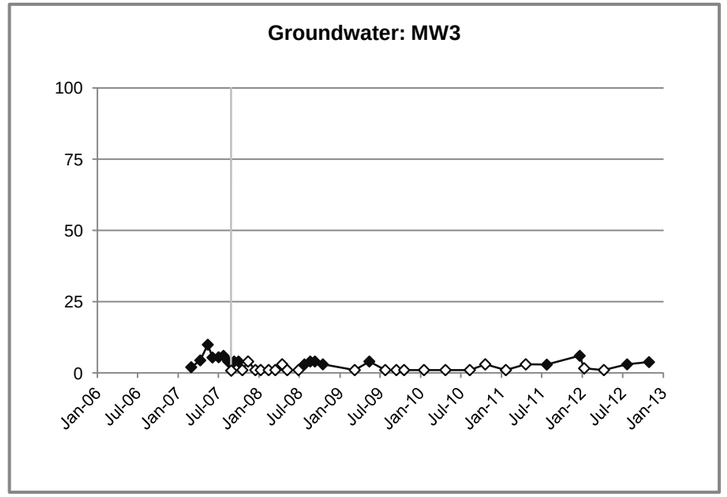
Figure 4-9a
Time Series Plots: Alkalinity
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

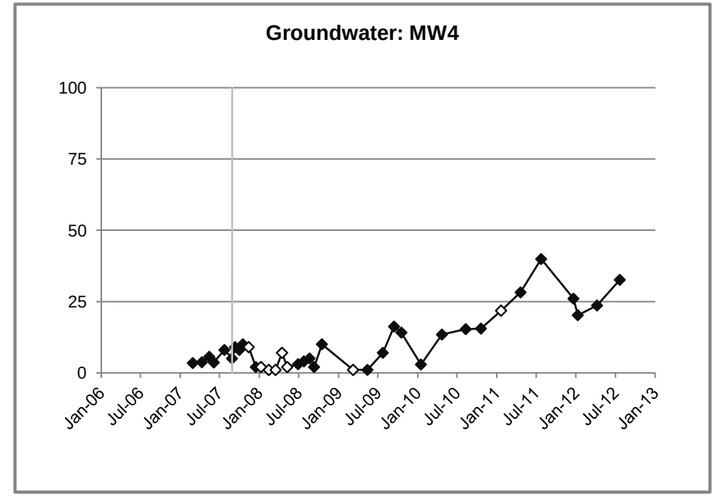
Permit Stations - Groundwater
Alkalinity (mg/L)









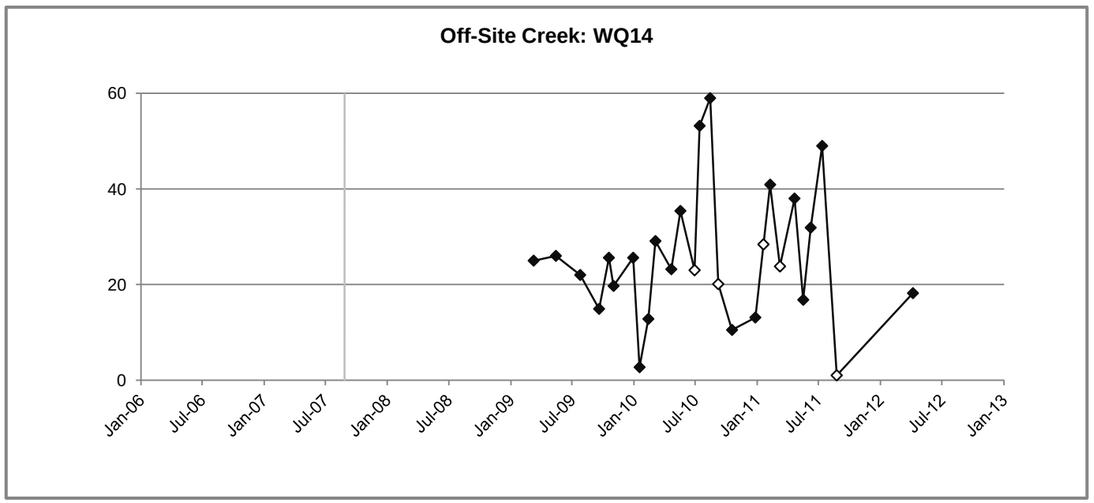


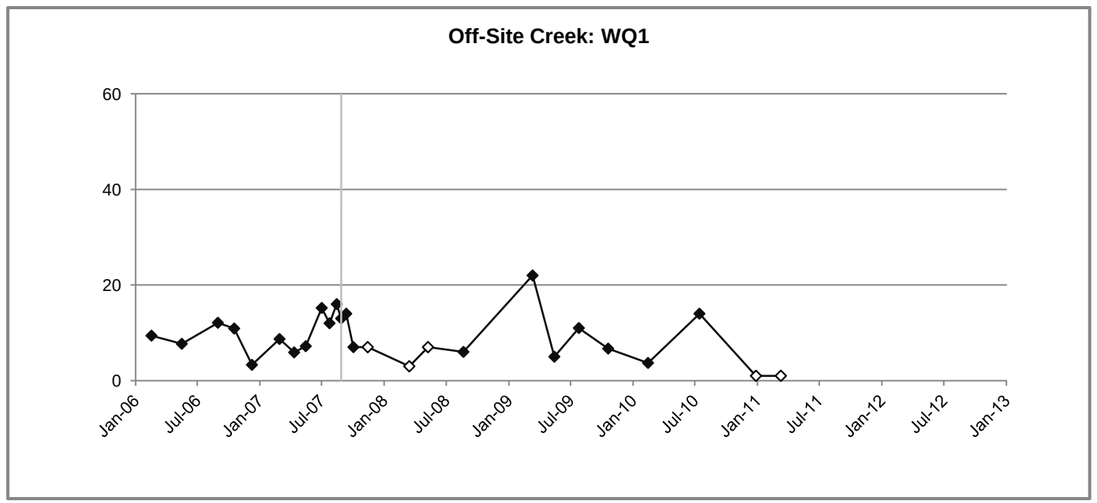
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

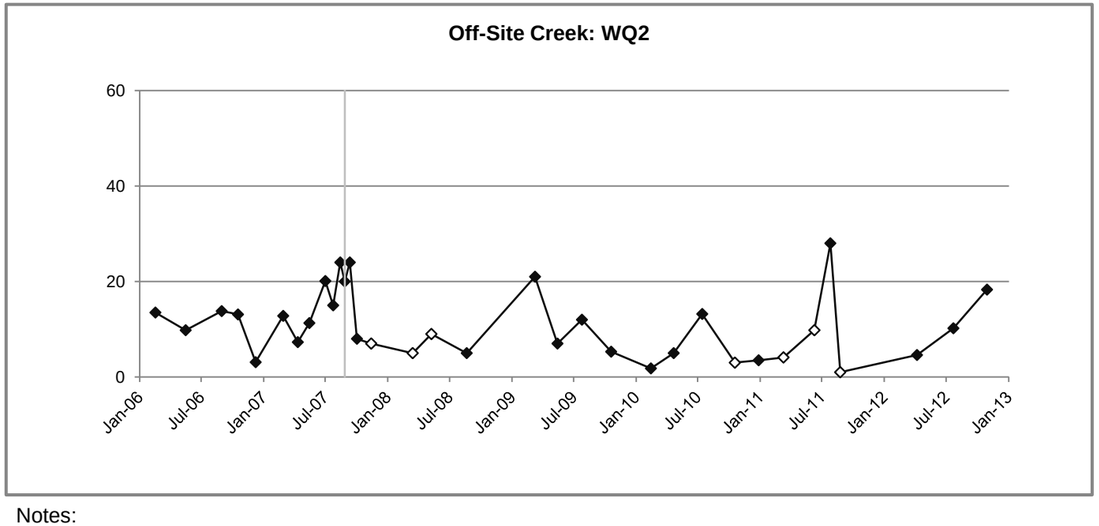
NIBLACK PROJECT LLC integral consulting inc.

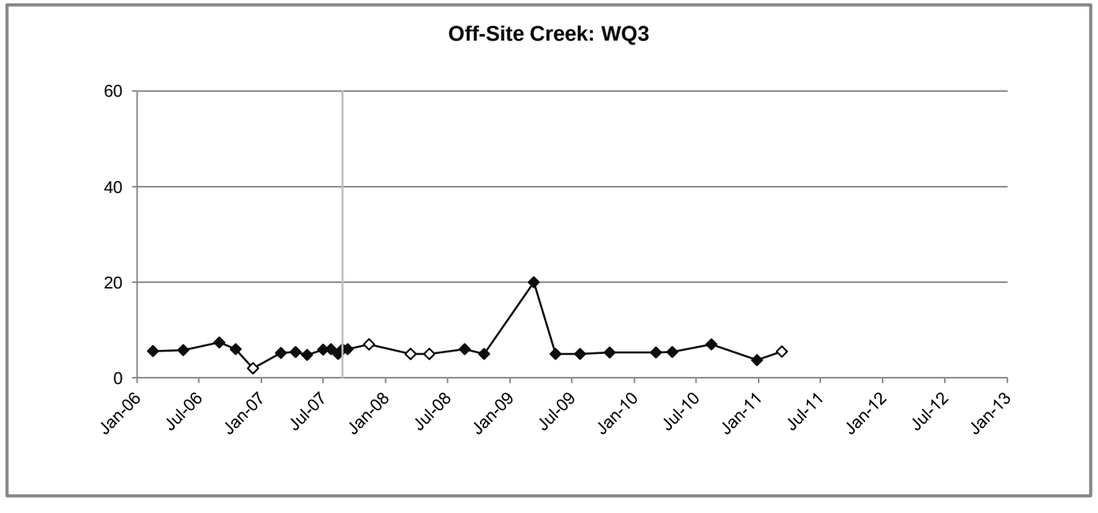
Figure 4-9b
Time Series Plots: Alkalinity
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Alkalinity (mg/L)







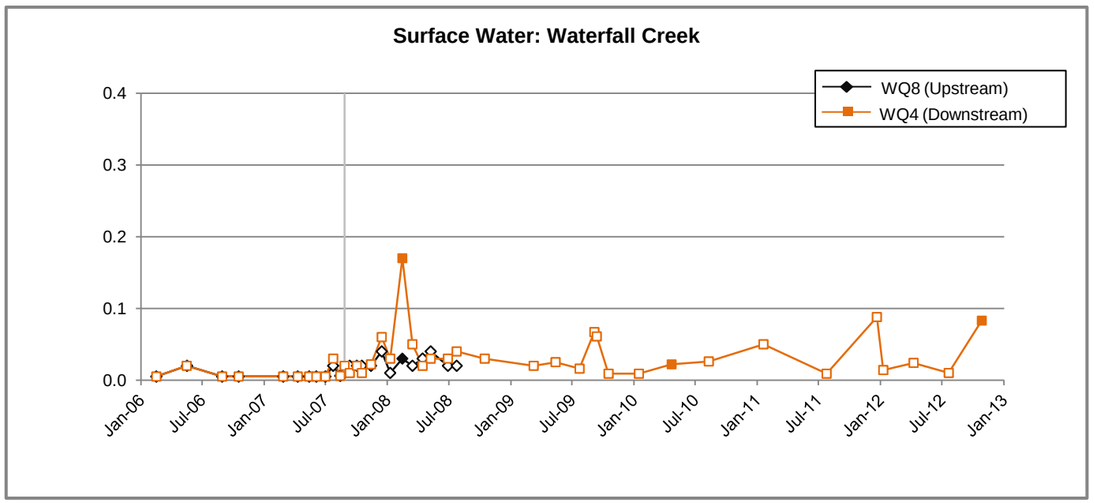


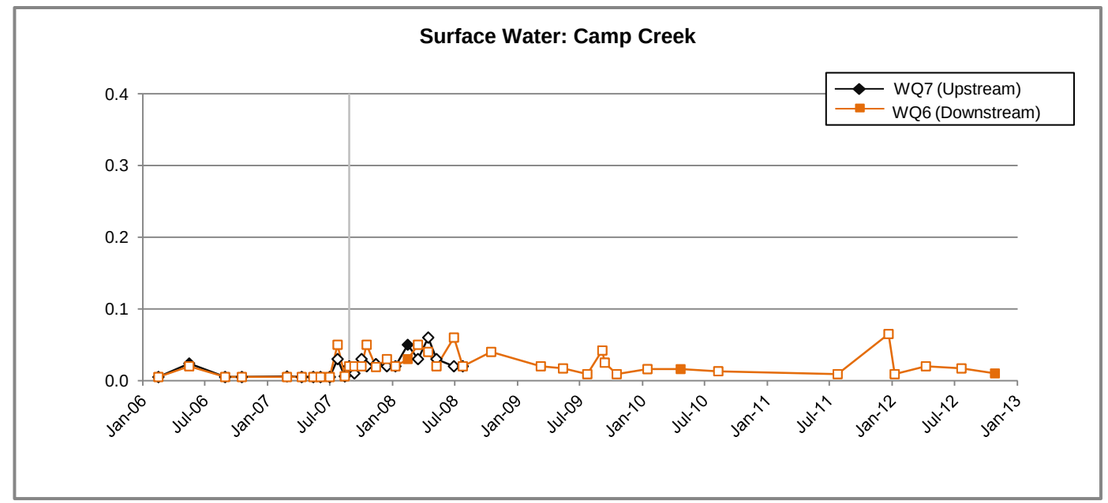
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

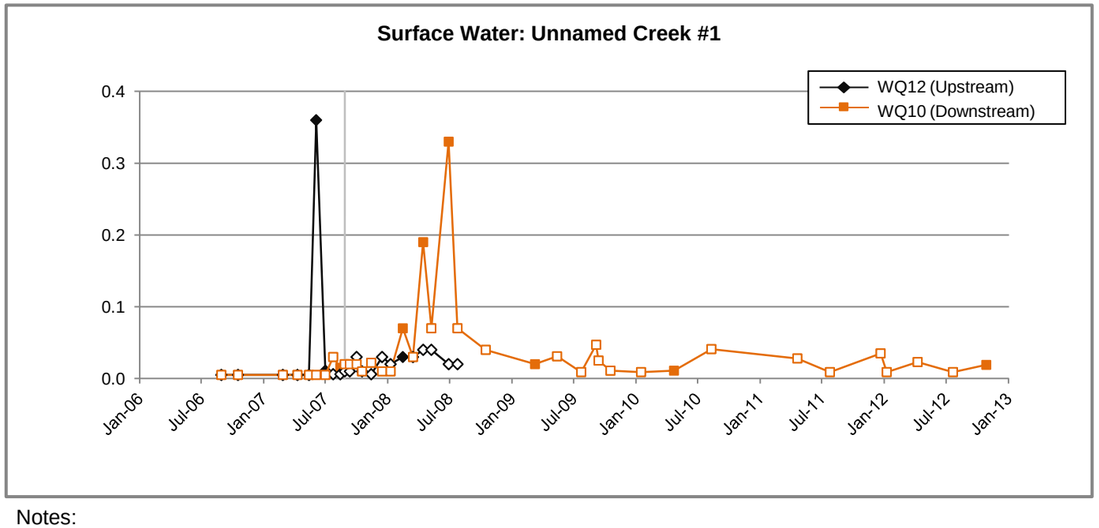
NIBLACK PROJECT LLC integral consulting inc.

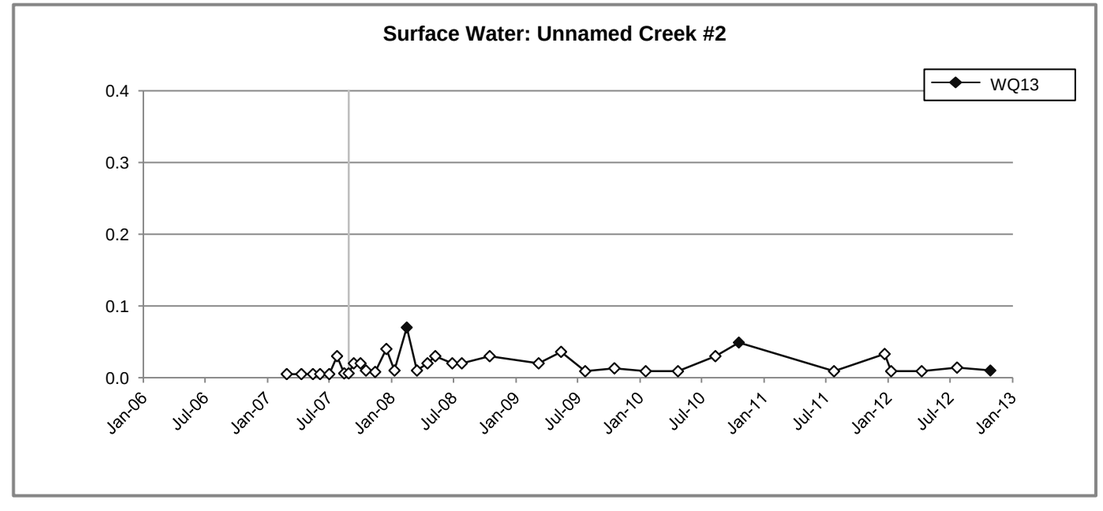
Figure 4-9c
Time Series Plots: Alkalinity
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Ammonia (mg/L as N)







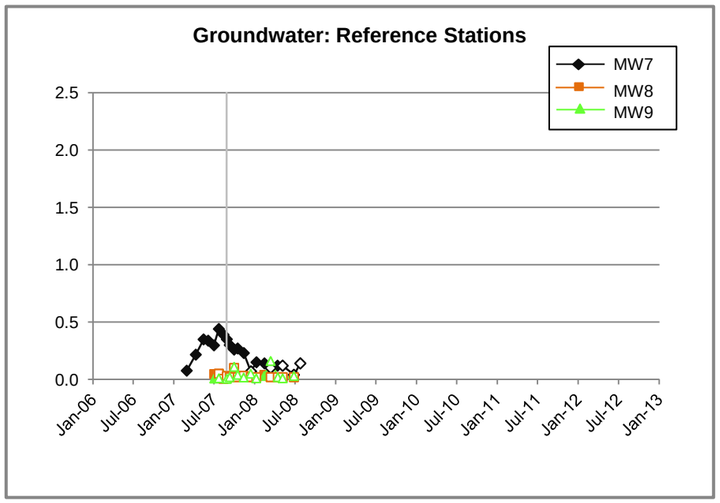


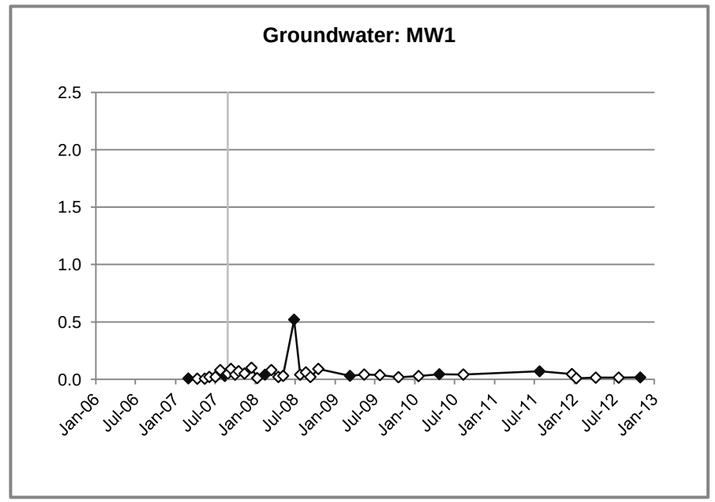
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

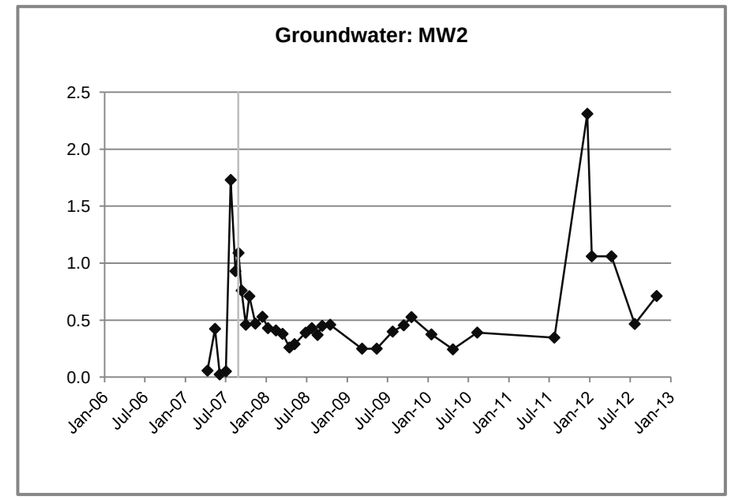
NIBLACK PROJECT LLC integral consulting inc.

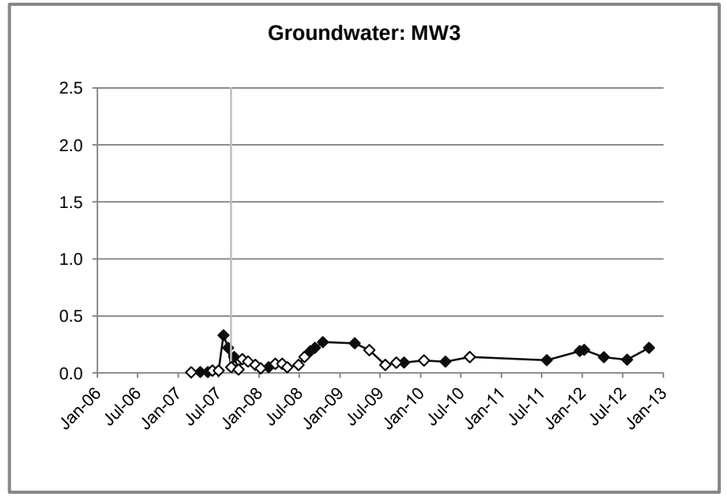
Figure 4-10a
Time Series Plots: Ammonia
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

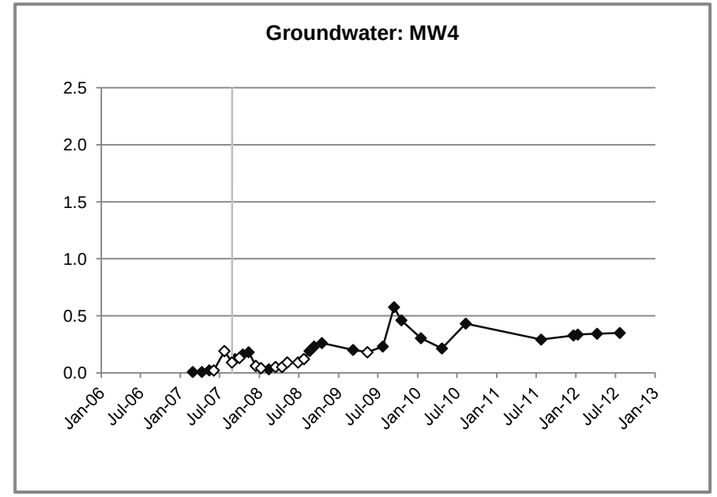
Permit Stations - Groundwater
Ammonia (mg/L as N)











Notes:
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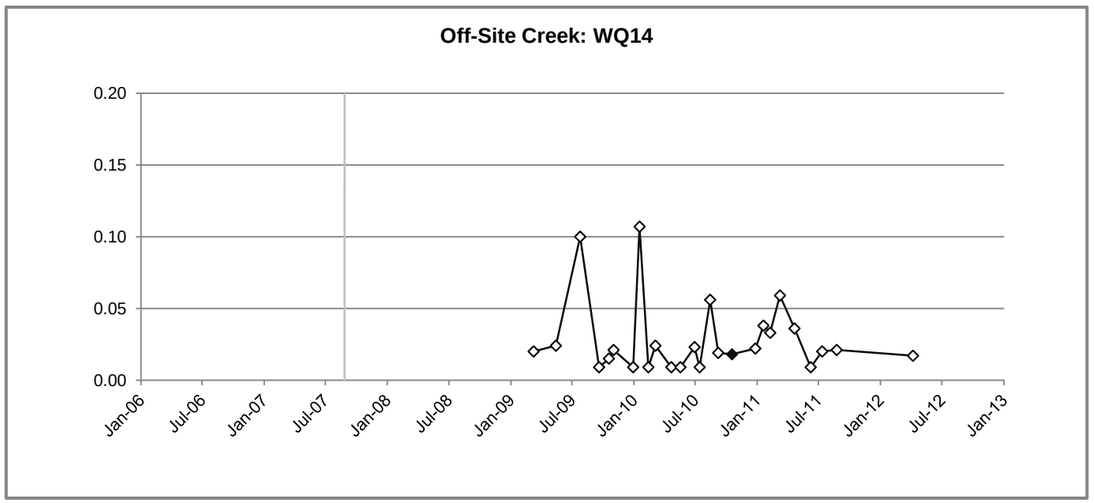
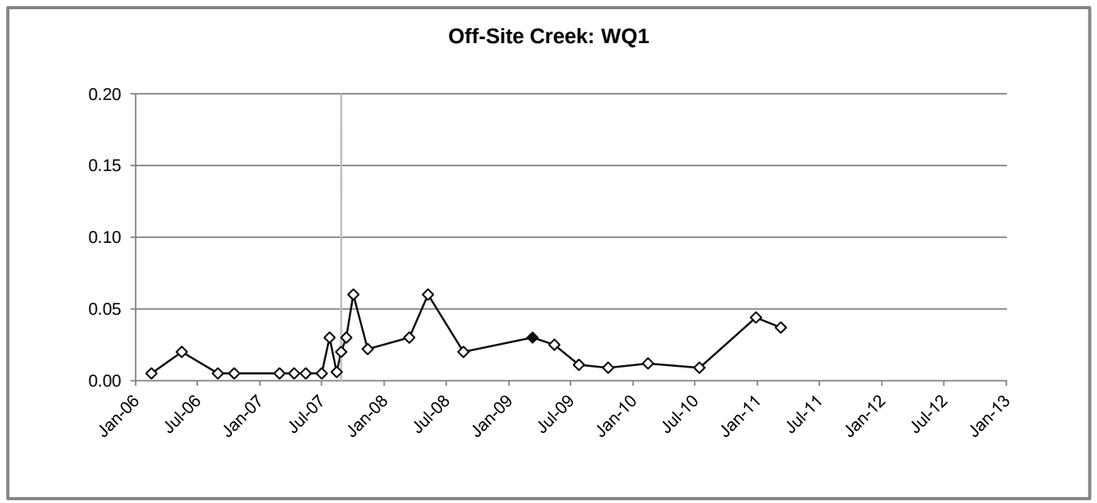
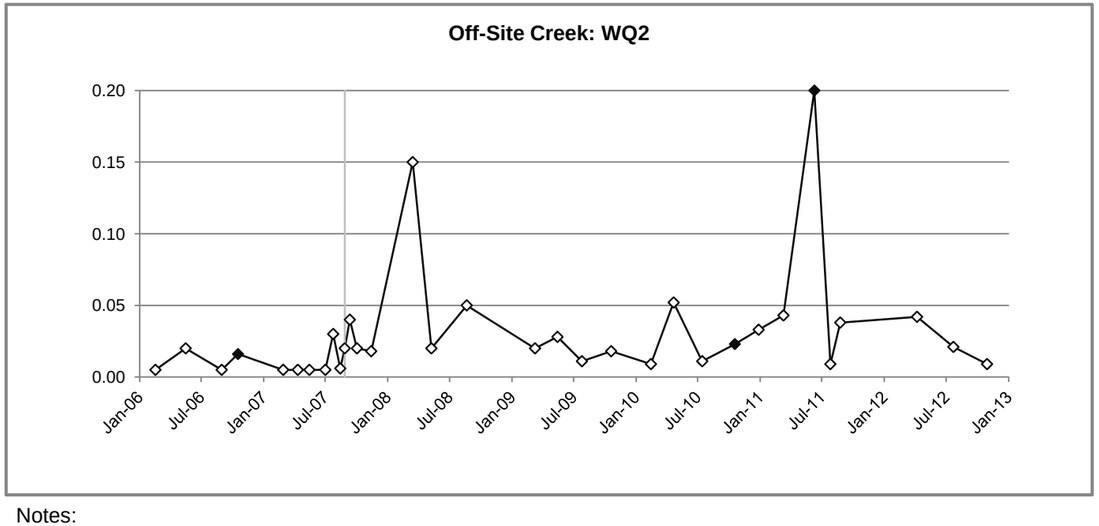
NIBLACK PROJECT LLC integral consulting inc.

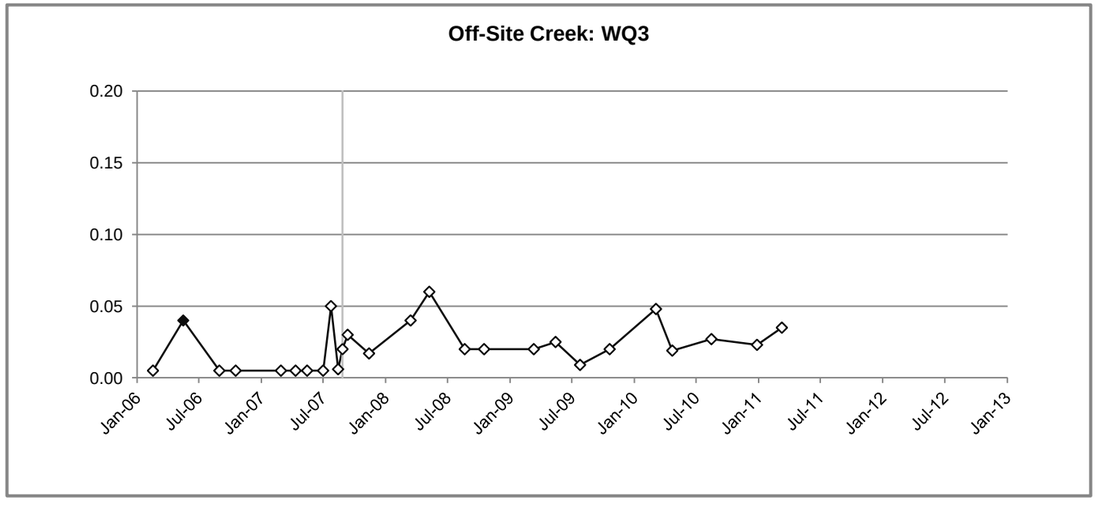
Figure 4-10b
Time Series Plots: Ammonia
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Ammonia (mg/L as N)







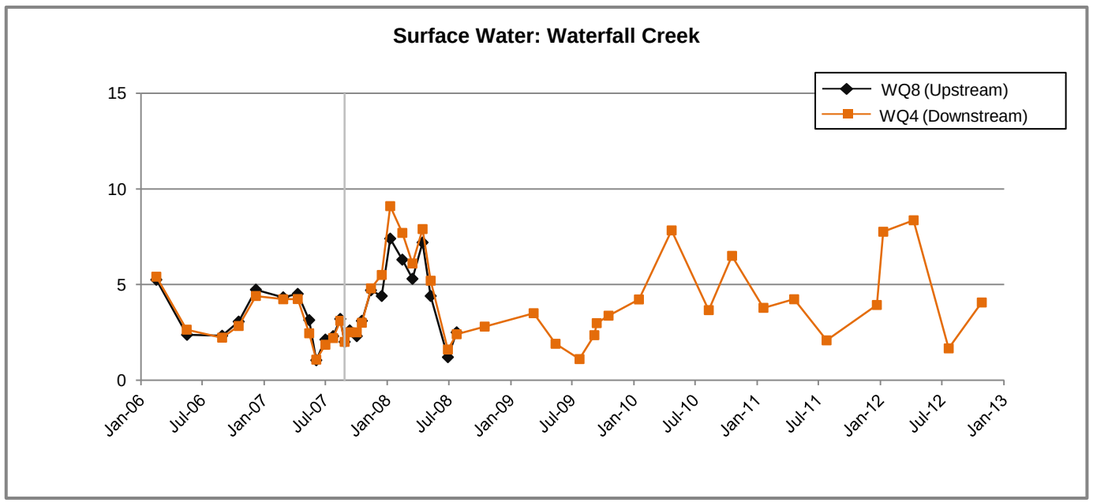


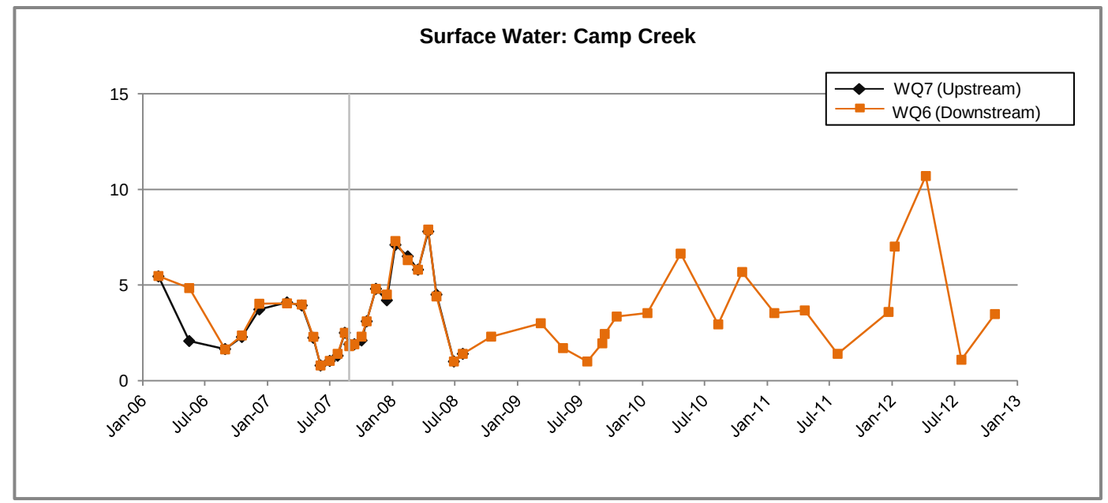
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

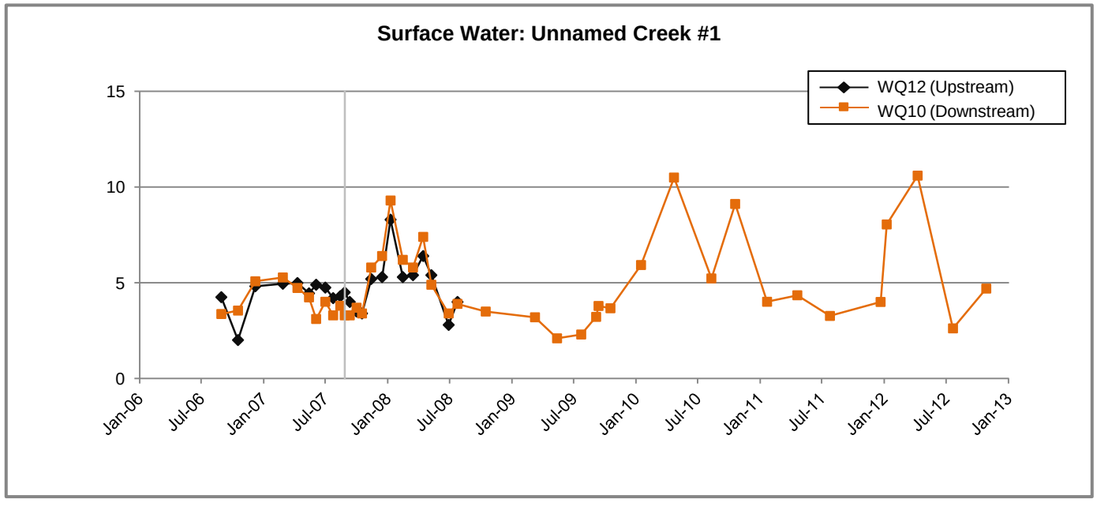
NIBLACK PROJECT LLC integral consulting inc.

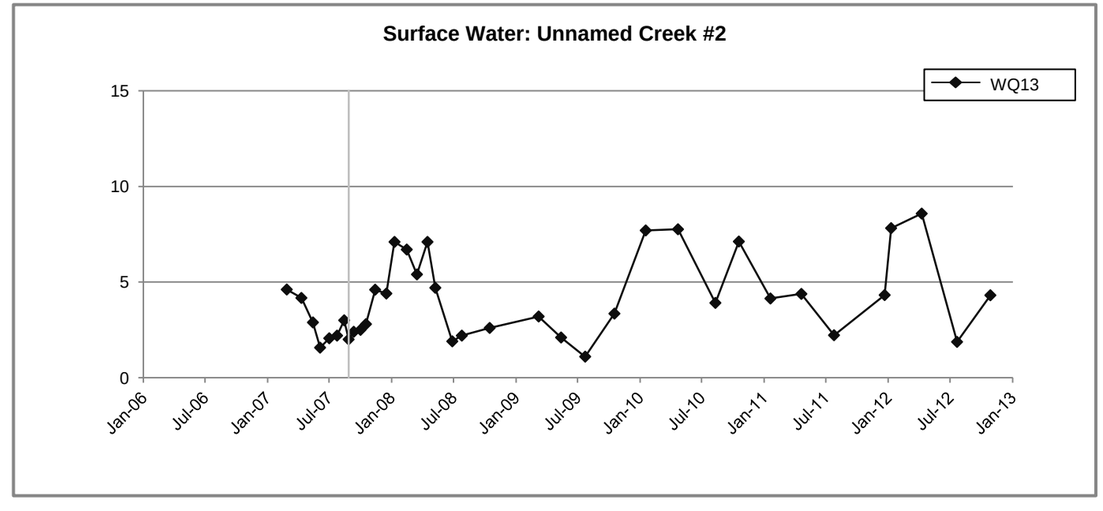
Figure 4-10c
Time Series Plots: Ammonia
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Chloride (mg/L)









Notes:
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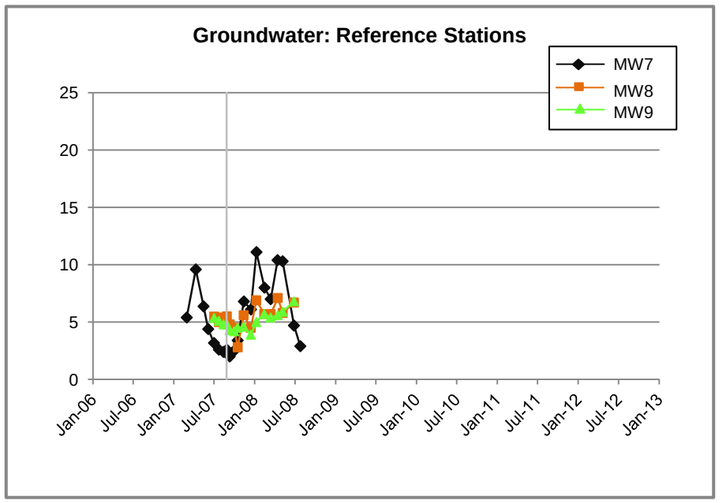
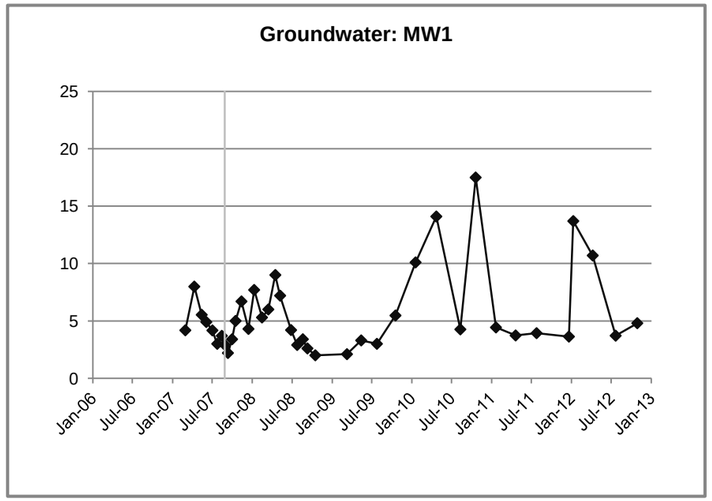
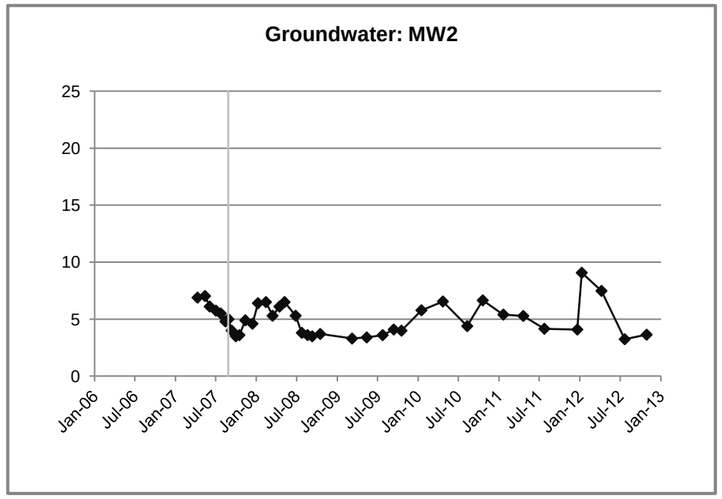
NIBLACK PROJECT LLC integral consulting inc.

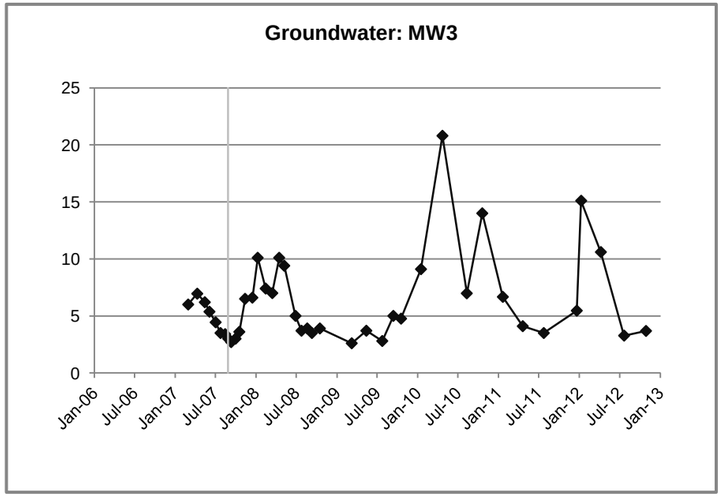
Figure 4-11a
Time Series Plots: Chloride
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

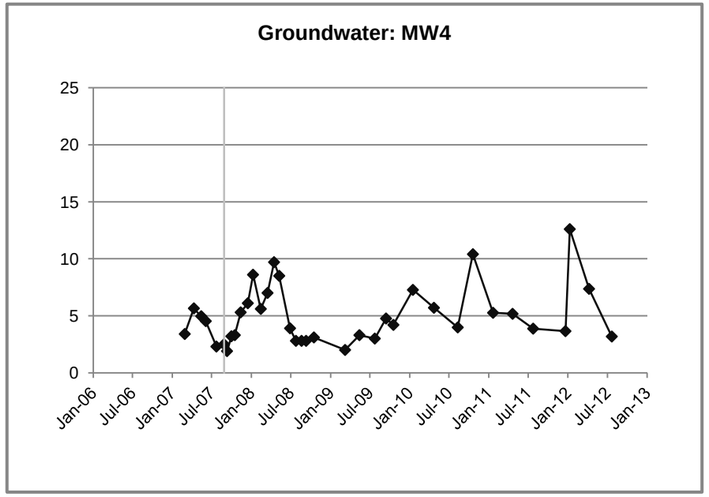
Permit Stations - Groundwater
Chloride (mg/L)











Notes:
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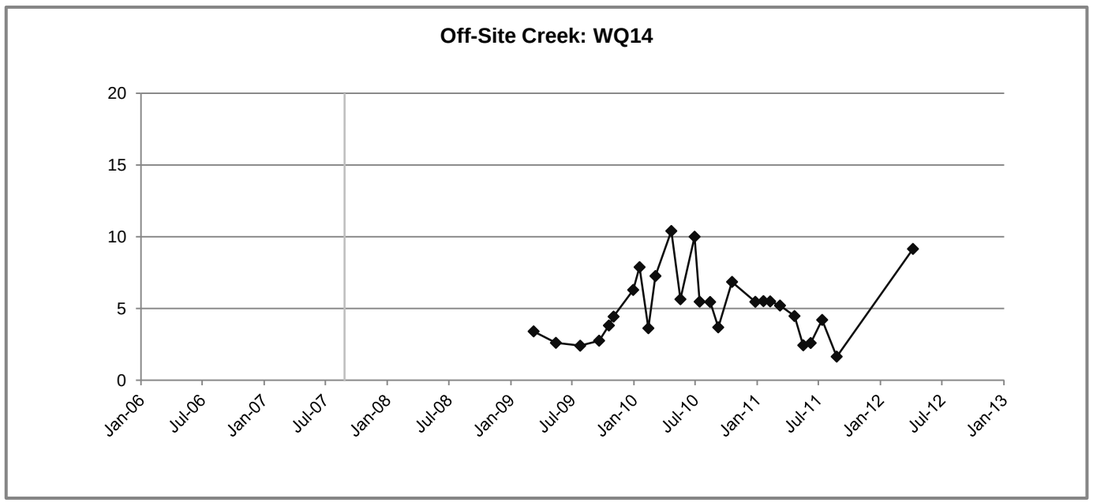
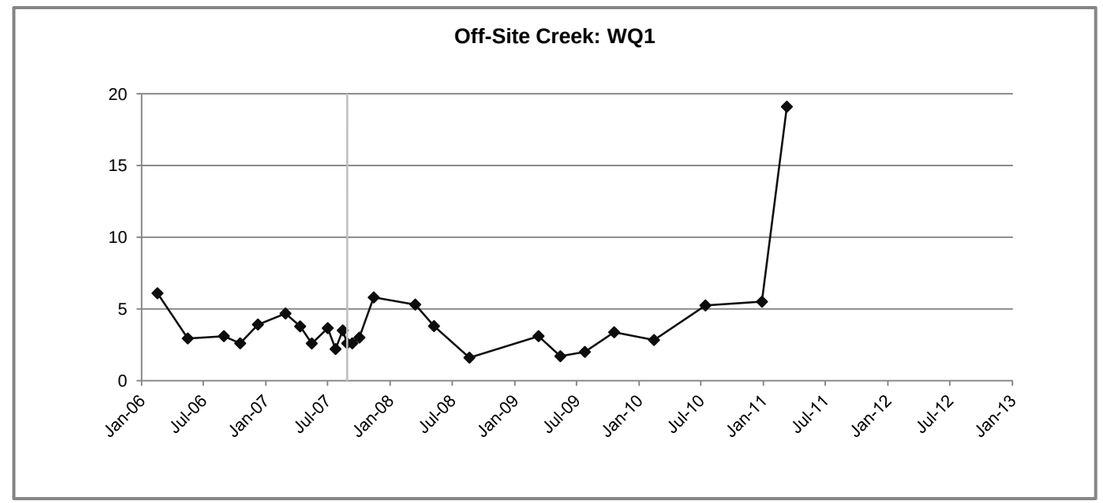
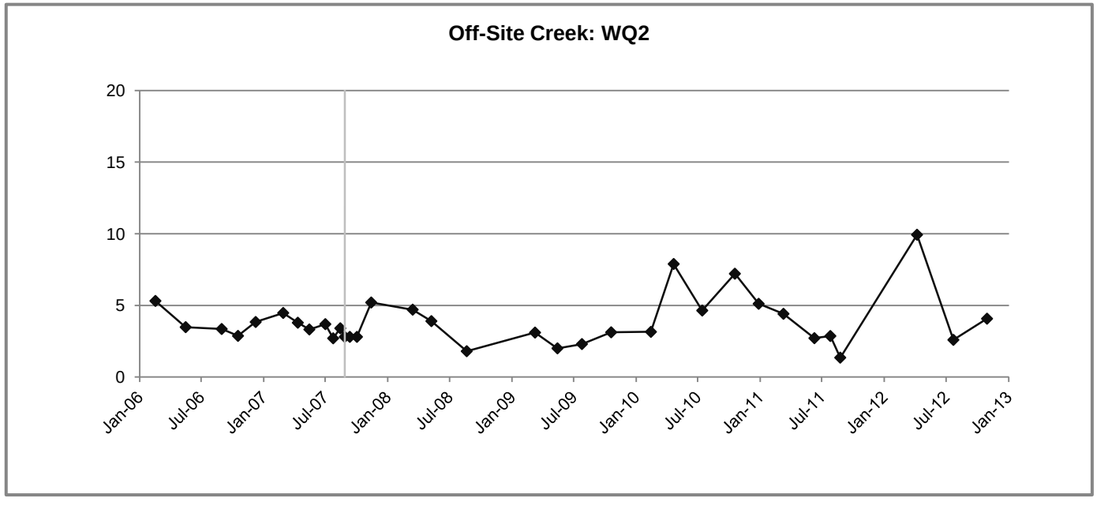
NIBLACK PROJECT LLC integral consulting inc.

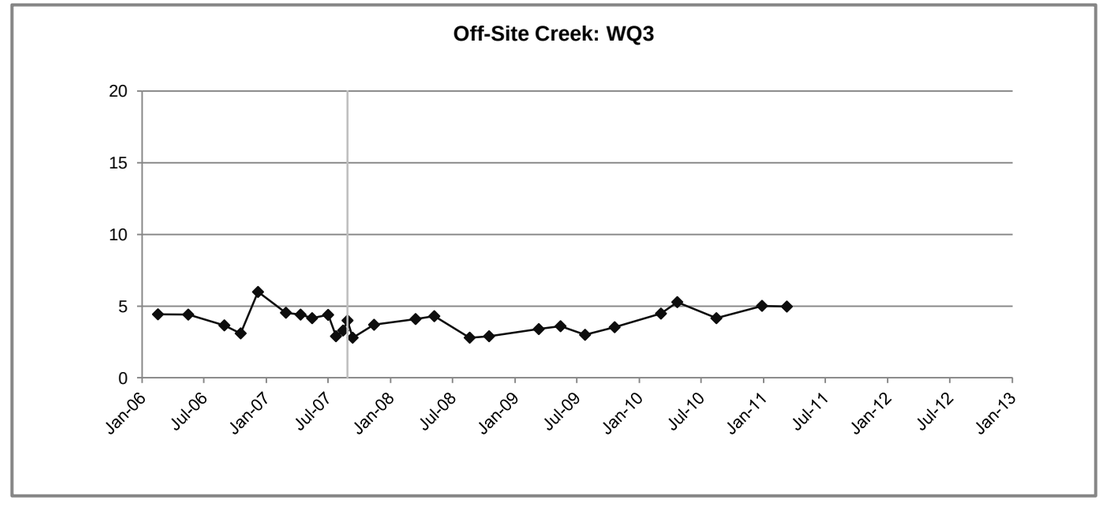
Figure 4-11b
Time Series Plots: Chloride
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Chloride (mg/L)







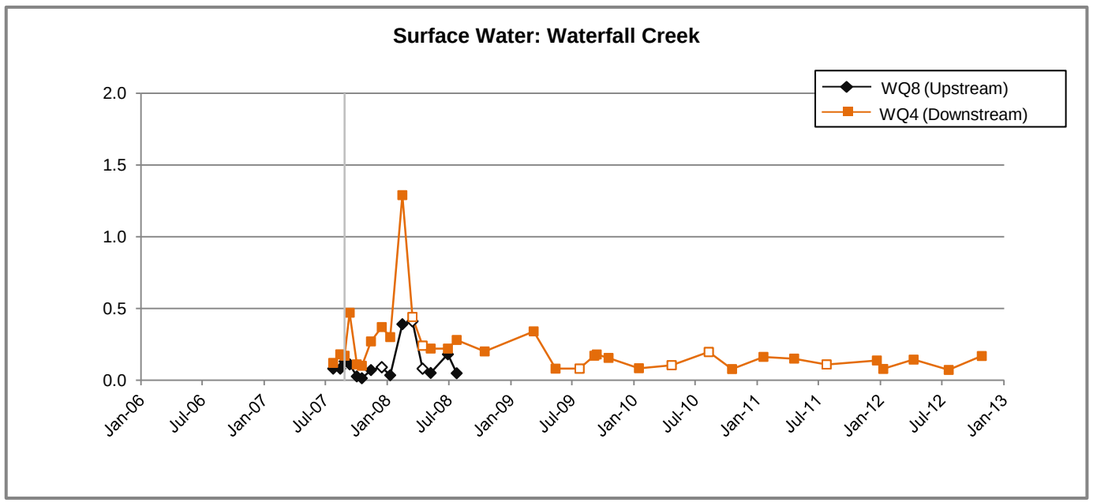


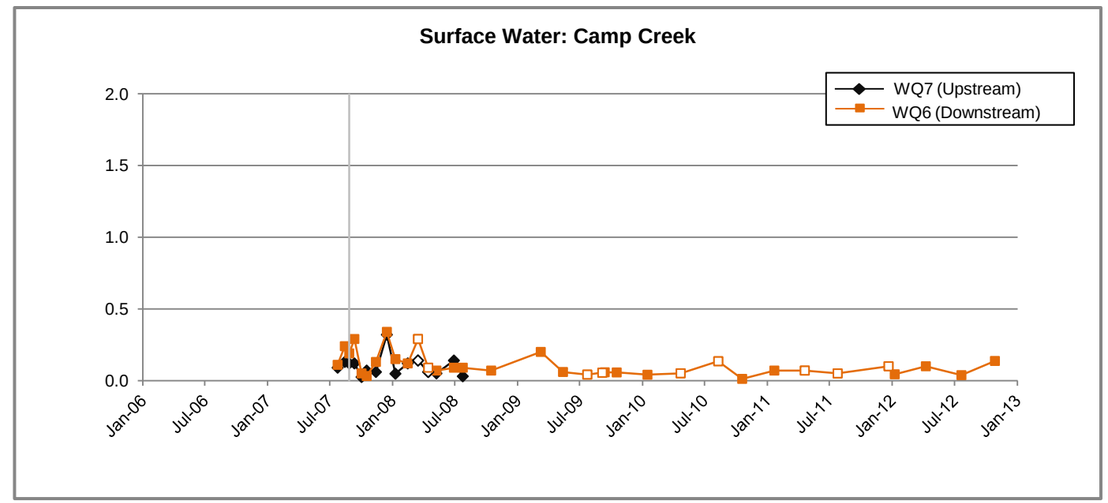
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

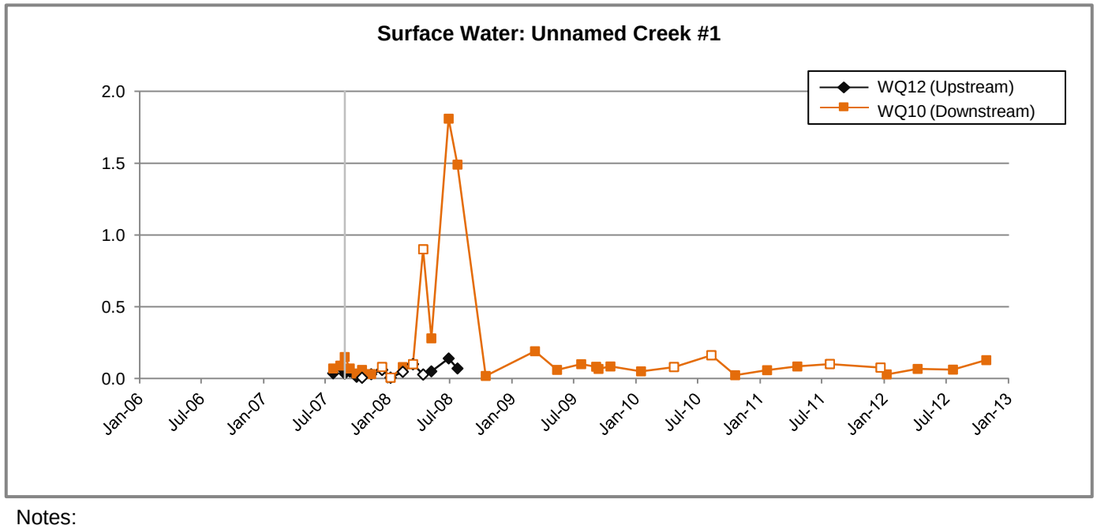
NIBLACK PROJECT LLC integral consulting inc.

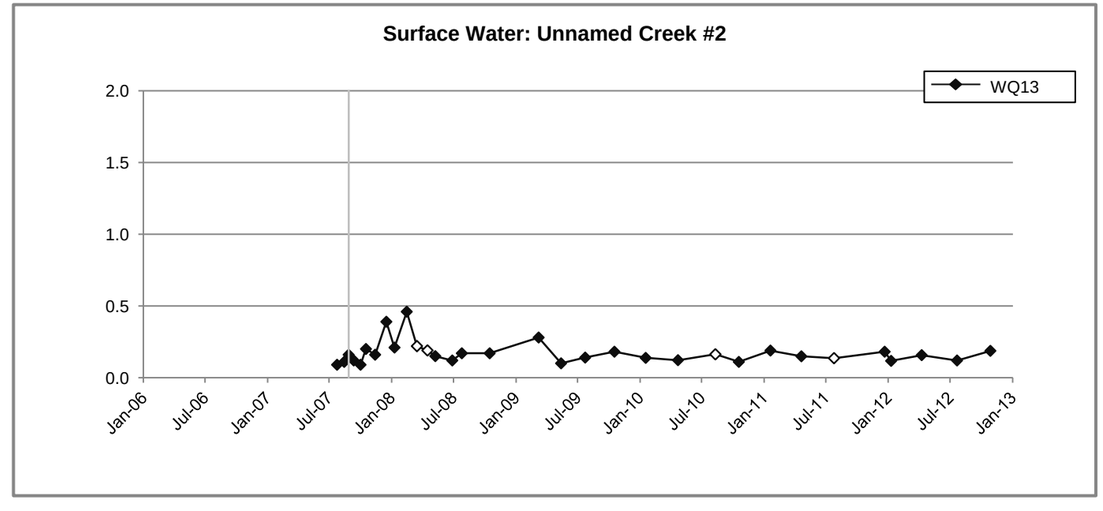
Figure 4-11c
Time Series Plots: Chloride
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Nitrate & Nitrite (mg/L as N)







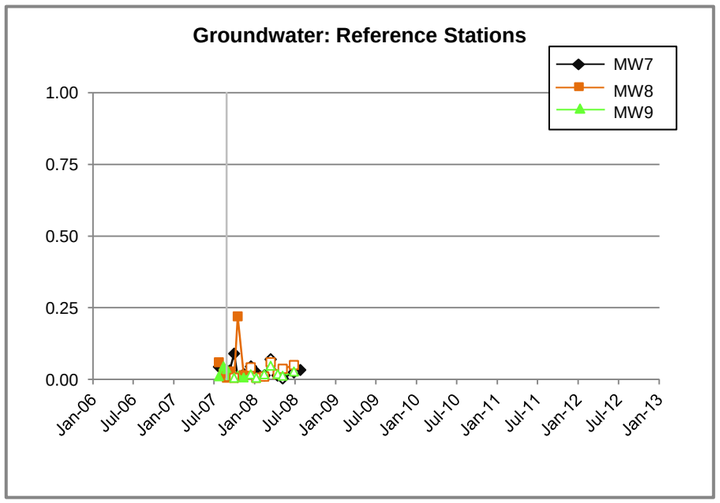


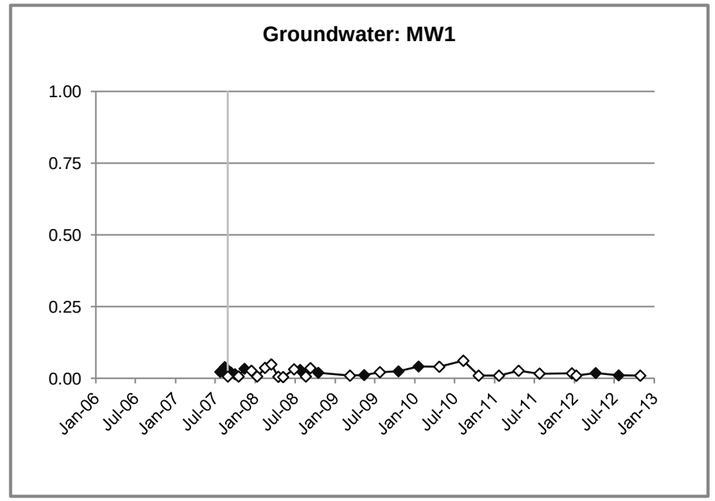
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

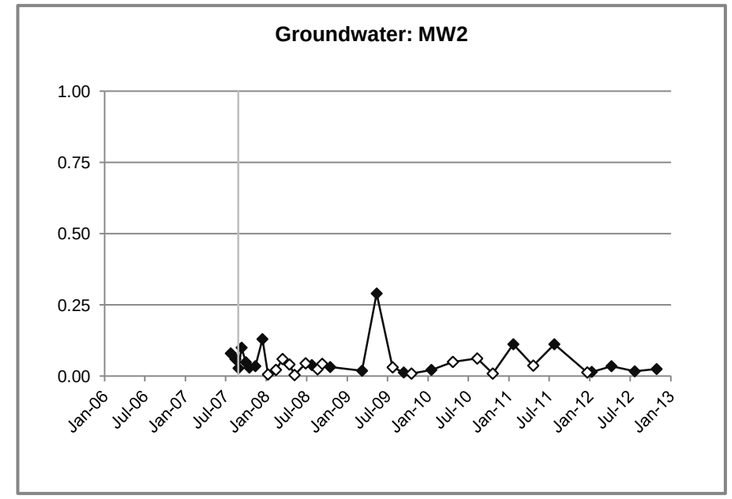
NIBLACK PROJECT LLC integral consulting inc.

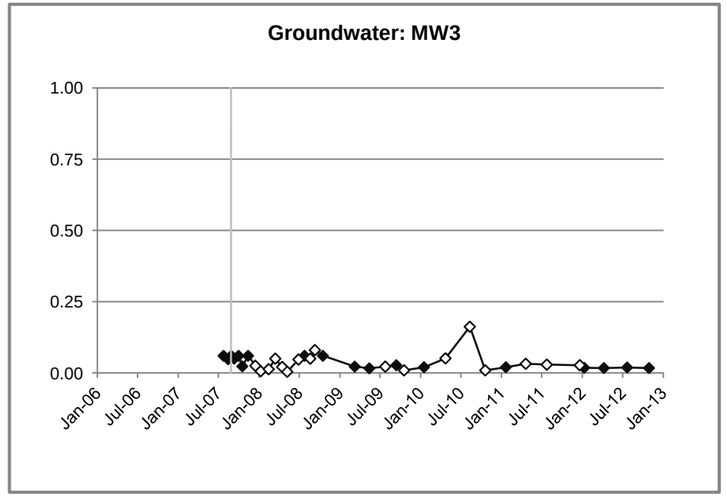
Figure 4-12a
Time Series Plots: Nitrate & Nitrite
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

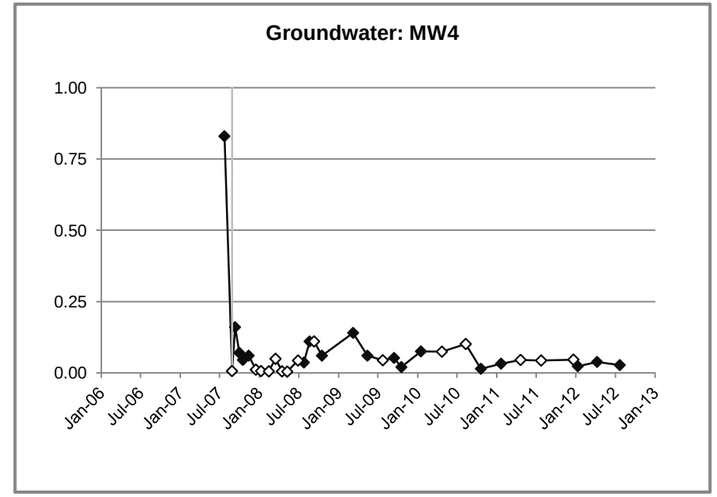
Permit Stations - Groundwater
Nitrate + Nitrite (mg/L as N)









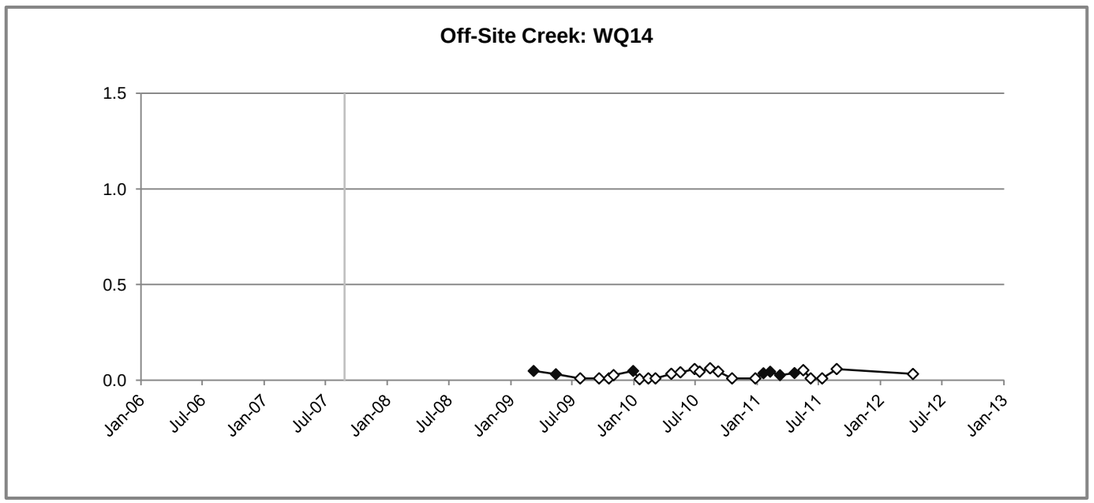


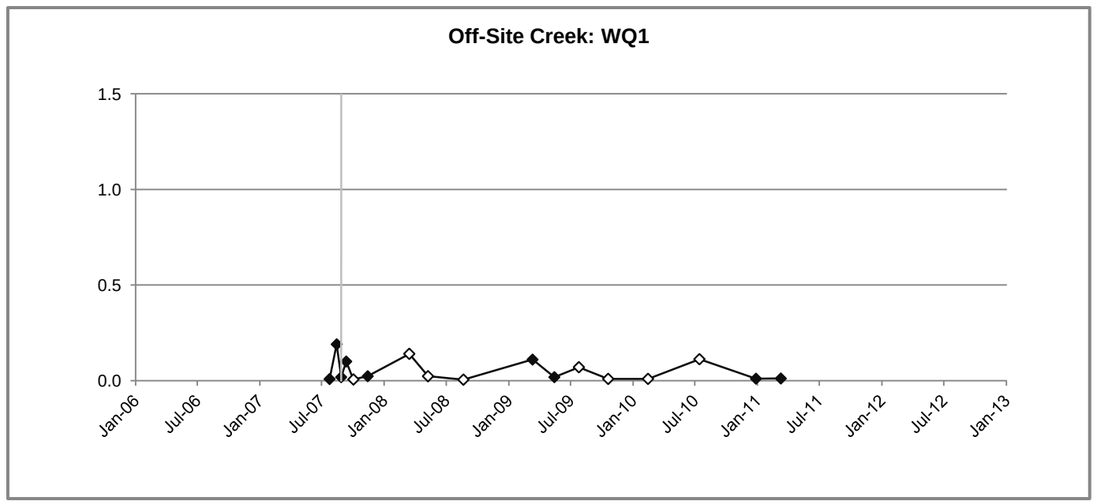
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

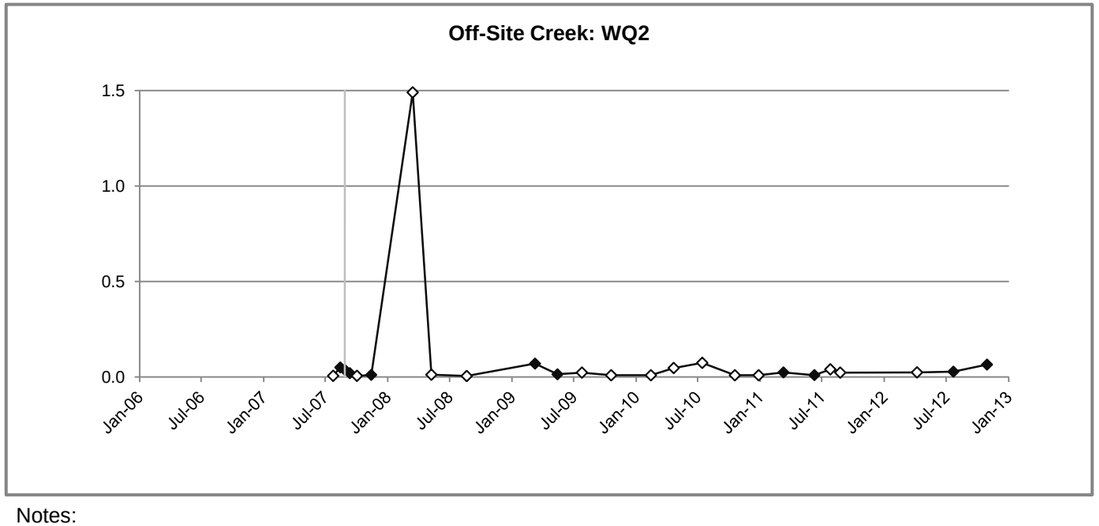
NIBLACK PROJECT LLC integral consulting inc.

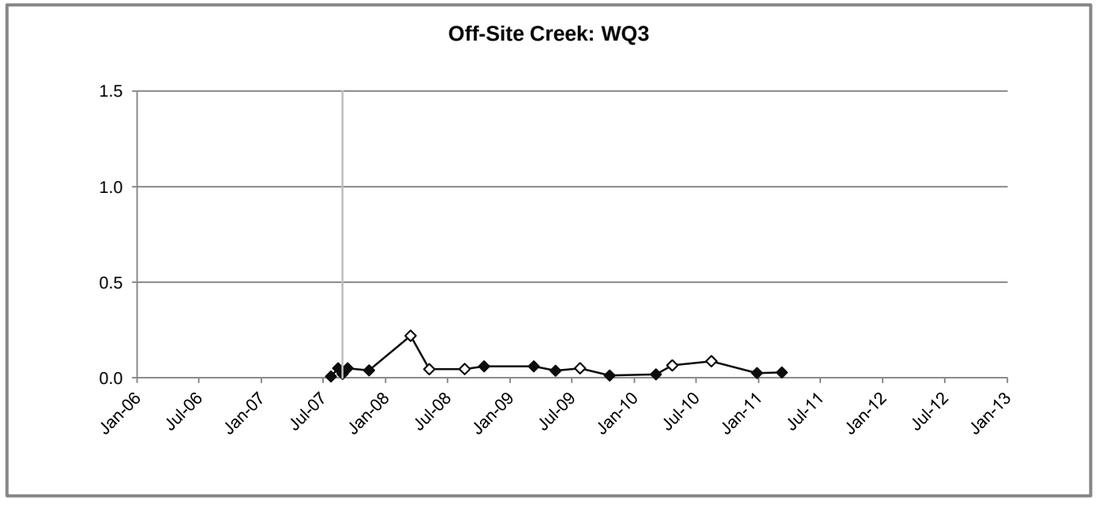
Figure 4-12b
Time Series Plots: Nitrate & Nitrite
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Nitrate & Nitrite (mg/L as N)









Notes:
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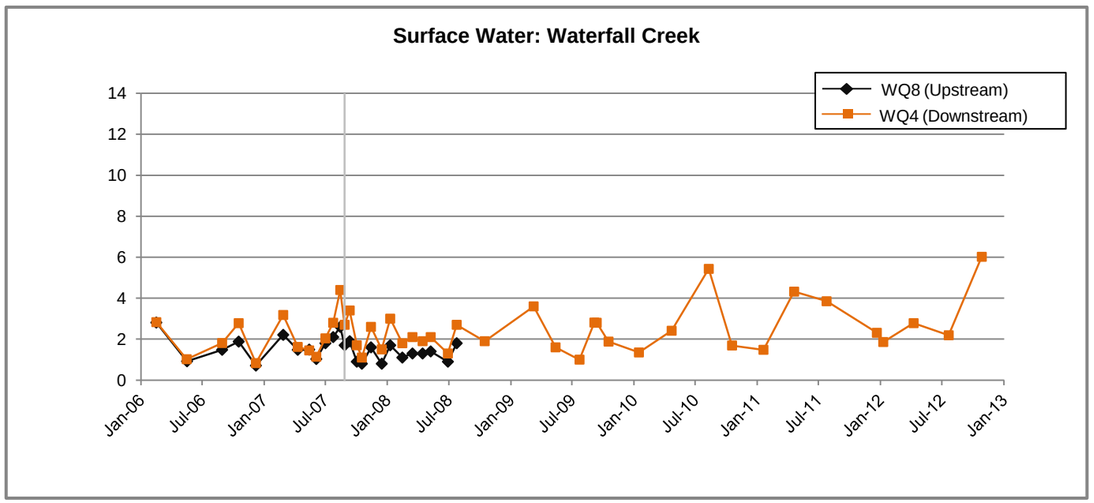
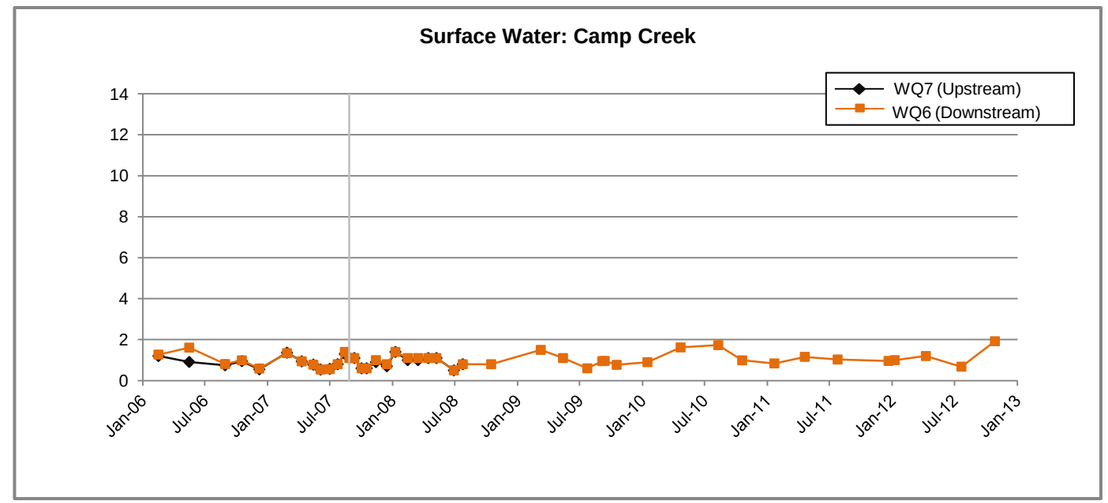
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

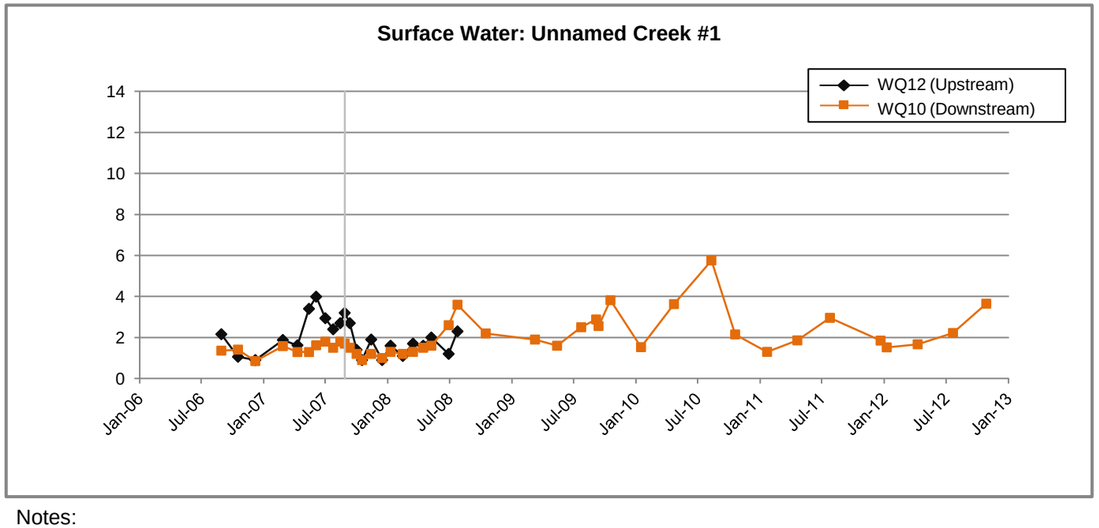
NIBLACK PROJECT LLC integral consulting inc.

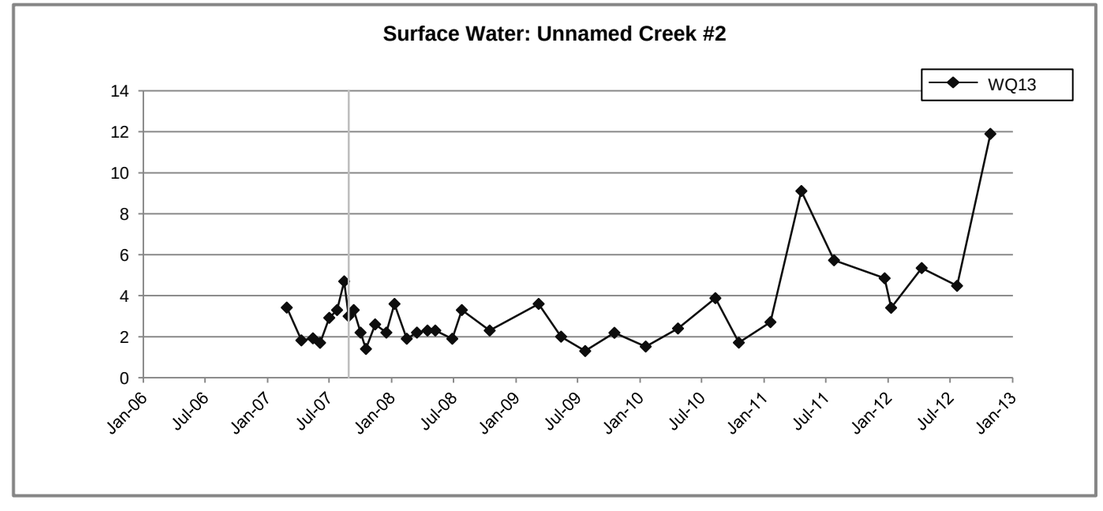
Figure 4-12c
Time Series Plots: Nitrate & Nitrite
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Sulfate (mg/L)







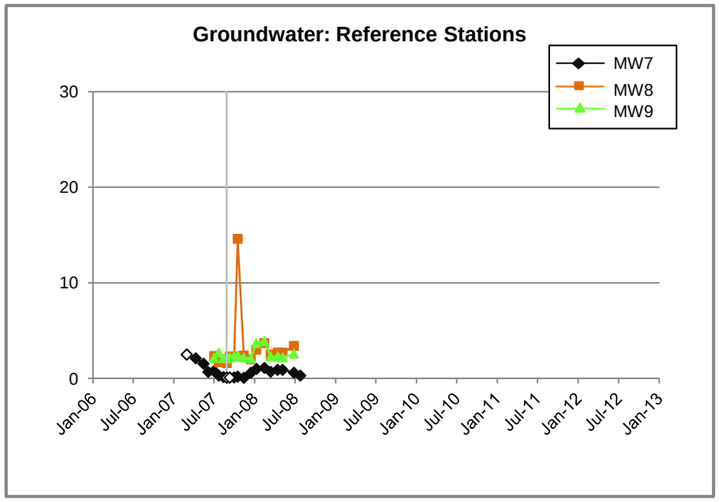


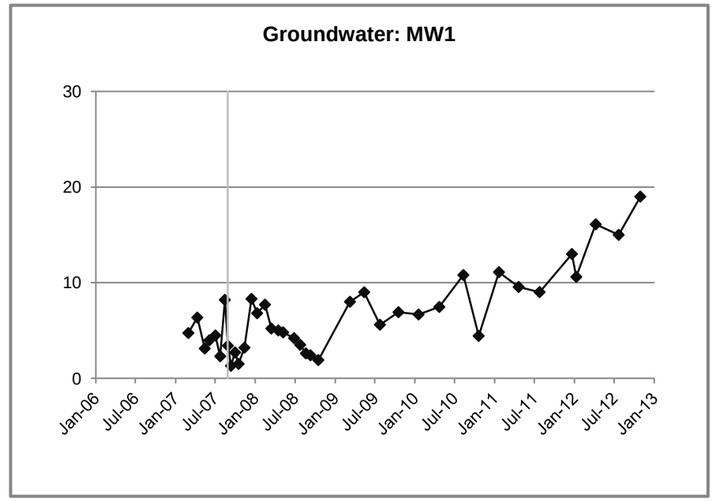
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

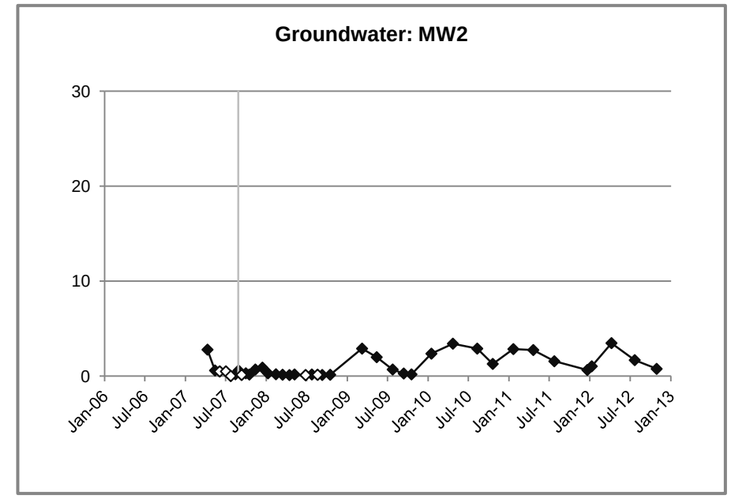
NIBLACK PROJECT LLC integral consulting inc.

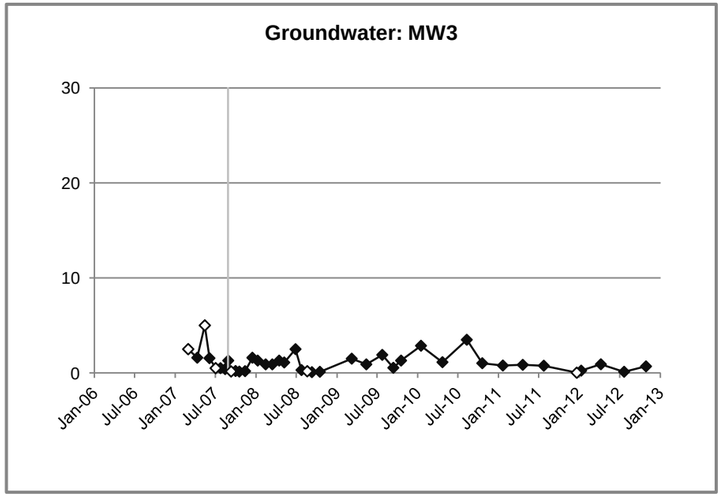
Figure 4-13a
Time Series Plots: Sulfate
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

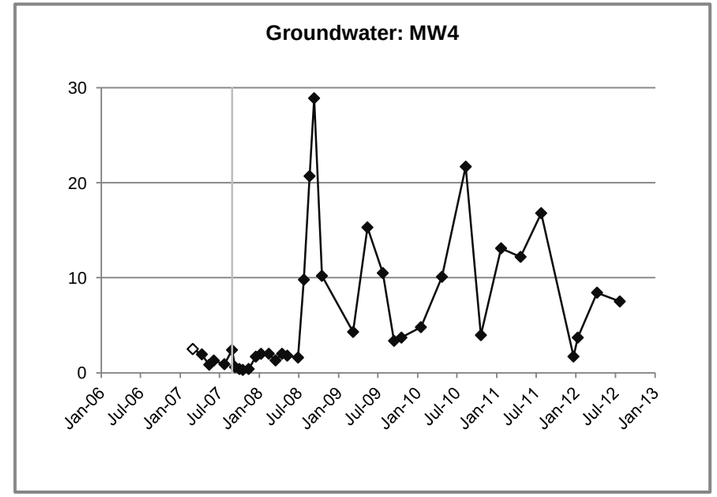
Permit Stations - Groundwater
Sulfate (mg/L)











Notes:
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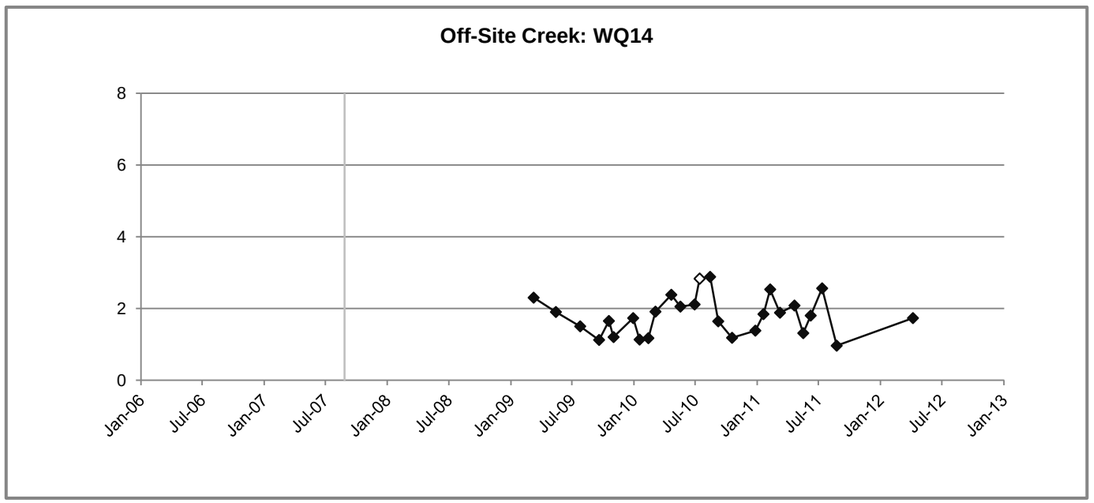
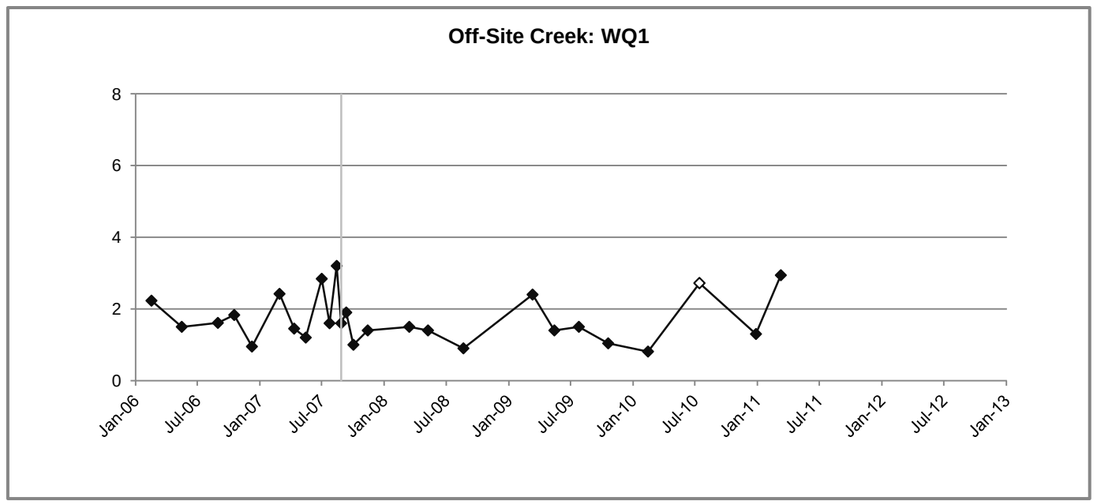
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

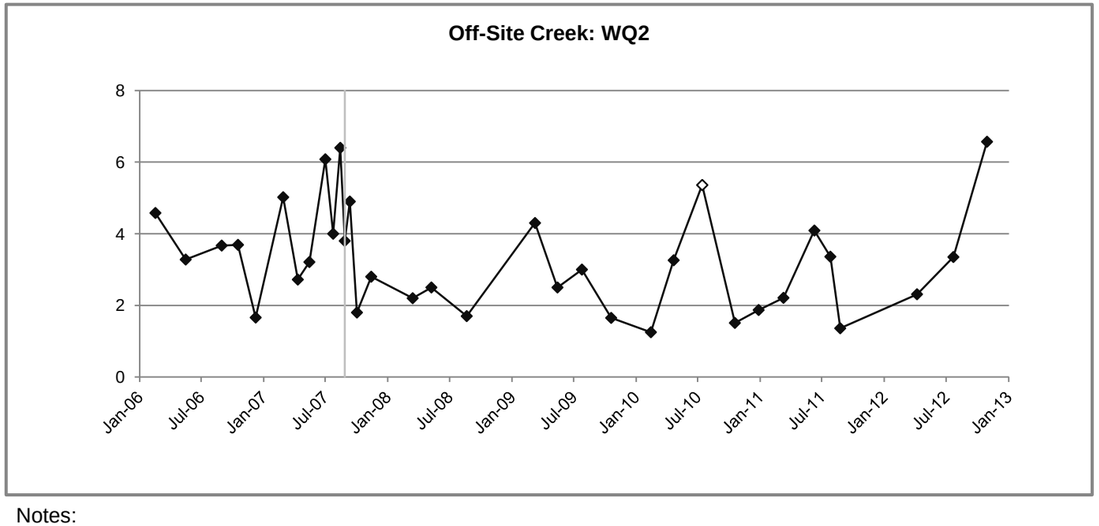
NIBLACK PROJECT LLC integral consulting inc.

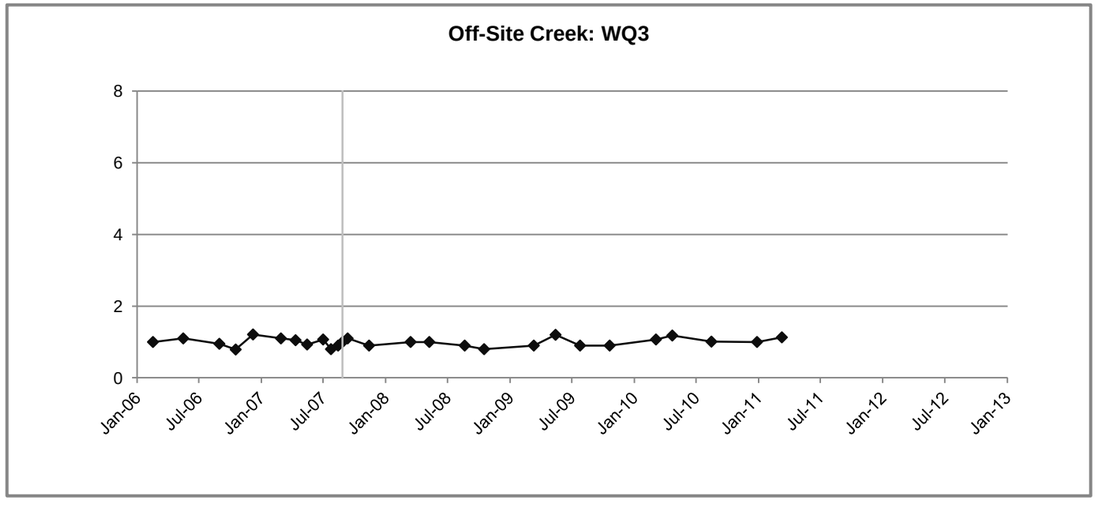
Figure 4-13b
Time Series Plots: Sulfate
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Sulfate (mg/L)









Notes:
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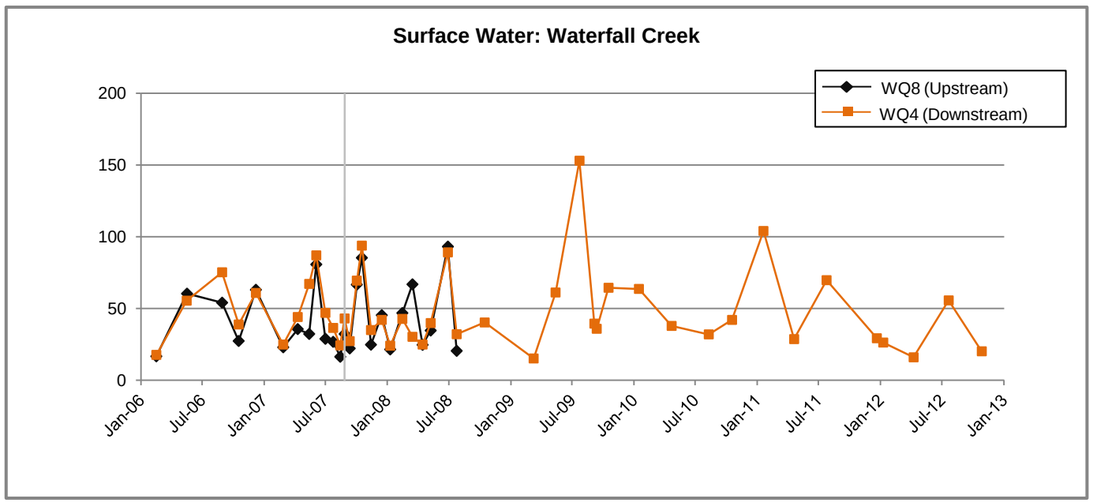
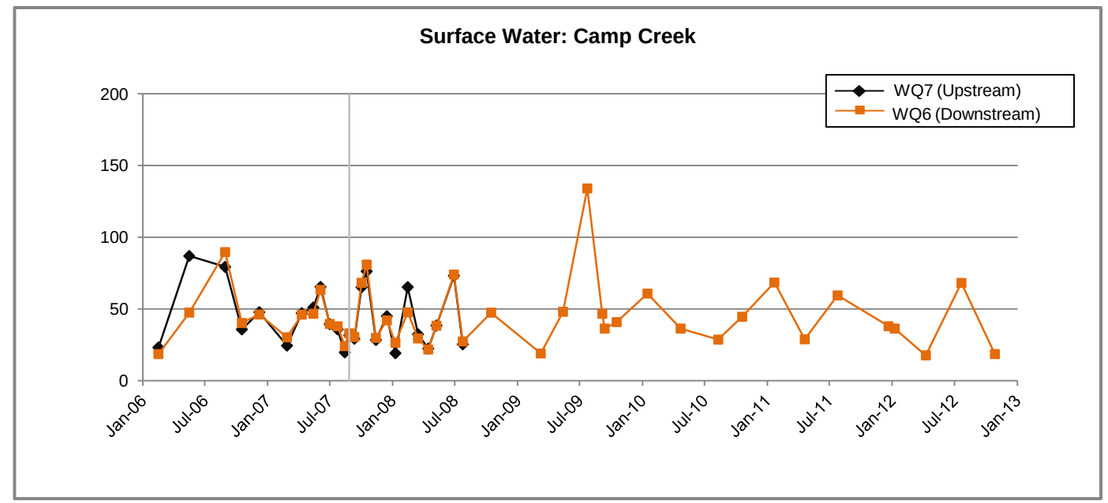
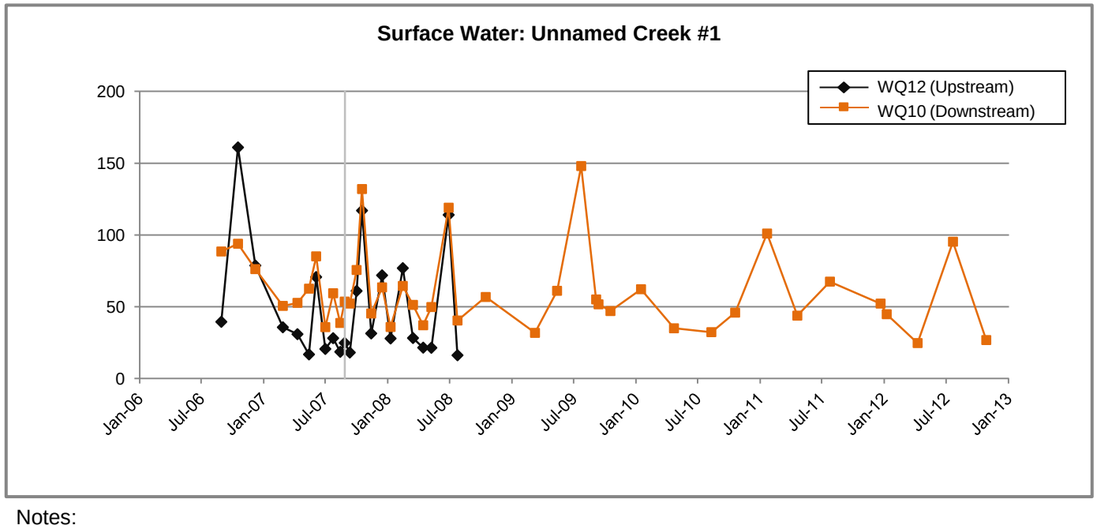
NIBLACK PROJECT LLC integral consulting inc.

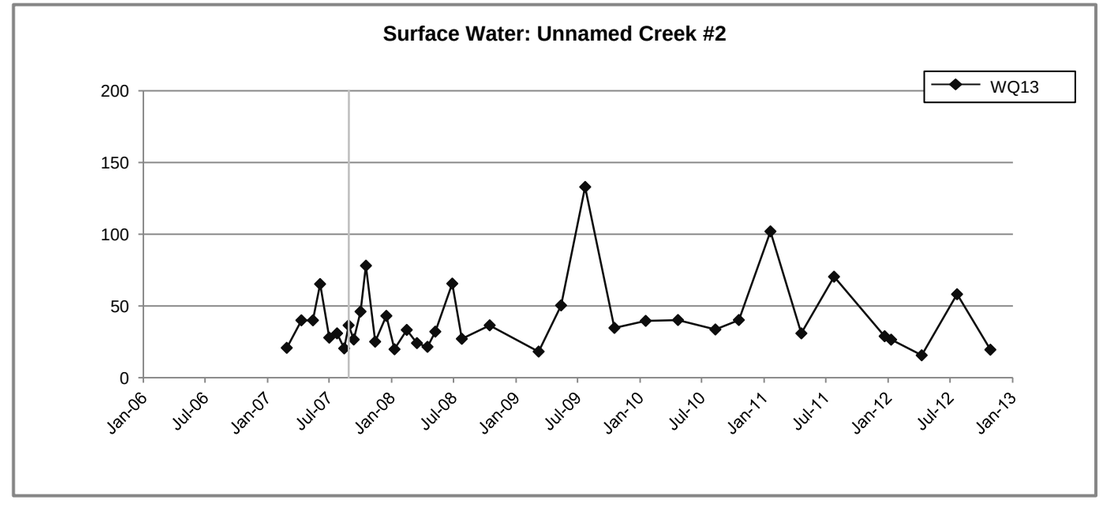
Figure 4-13c
Time Series Plots: Sulfate
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Aluminum (µg/L)







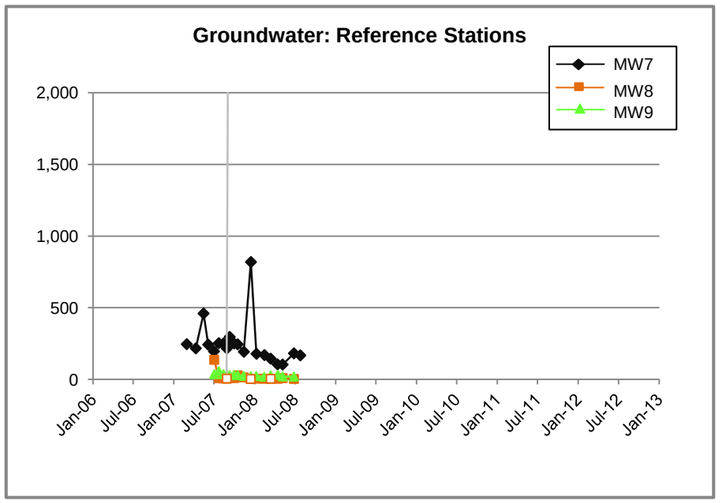


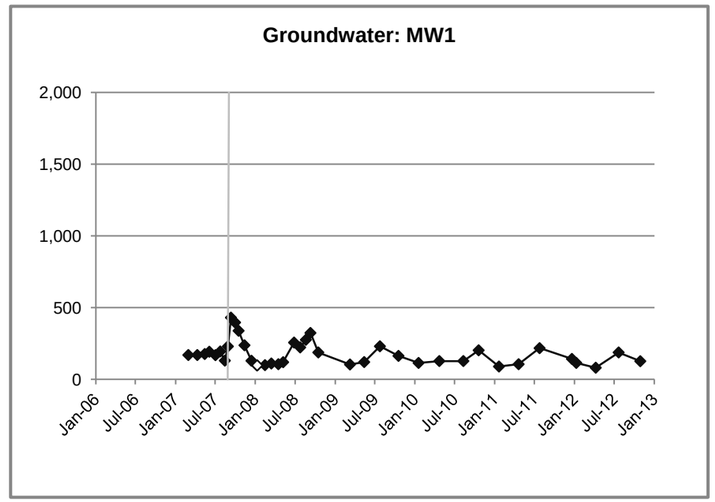
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

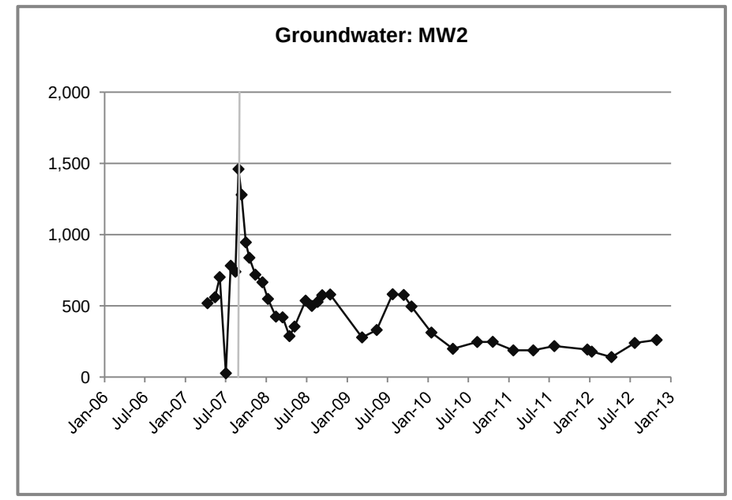
NIBLACK PROJECT LLC integral consulting inc.

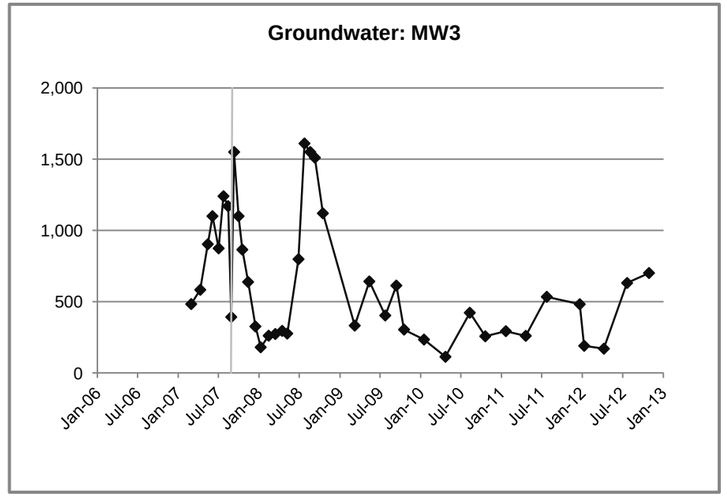
Figure 4-14a
Time Series Plots: Dissolved Aluminum
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

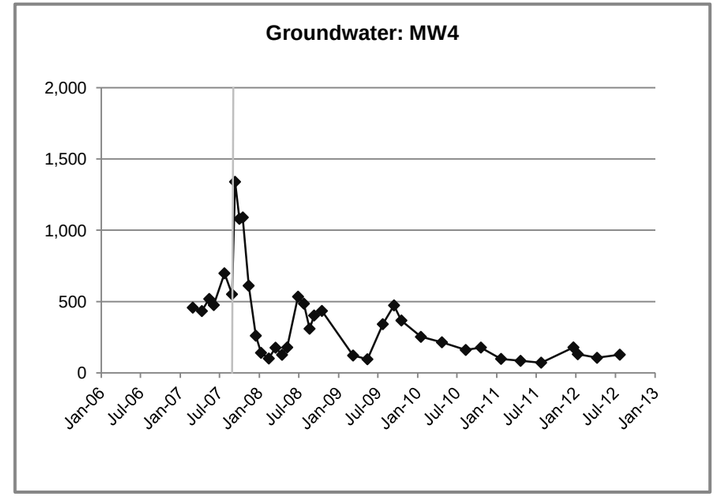
Permit Stations - Groundwater
Dissolved Aluminum (µg/L)









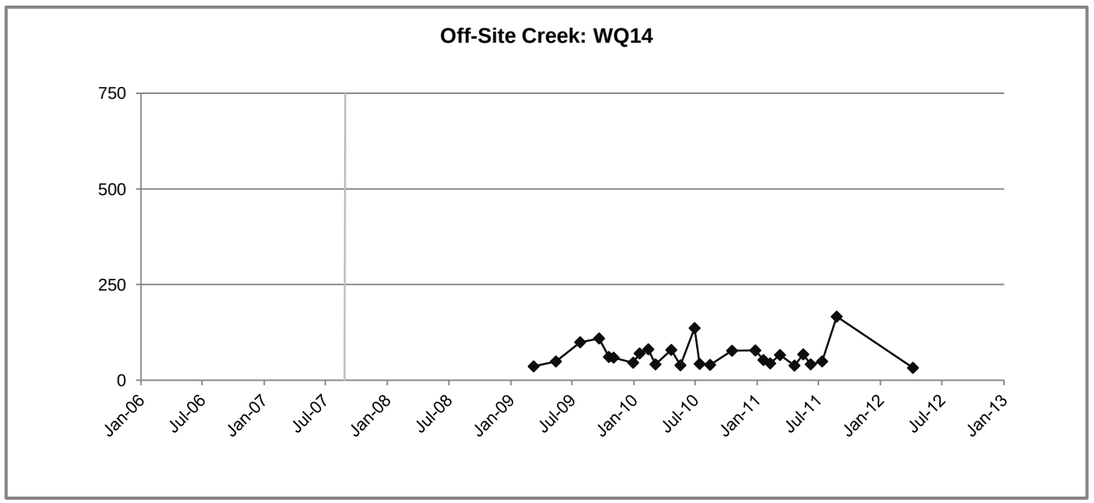


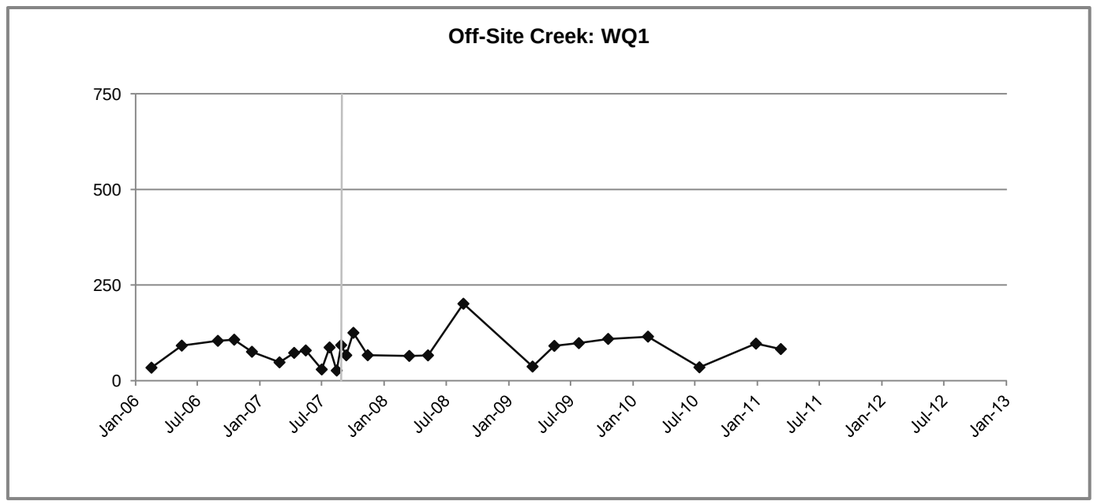
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

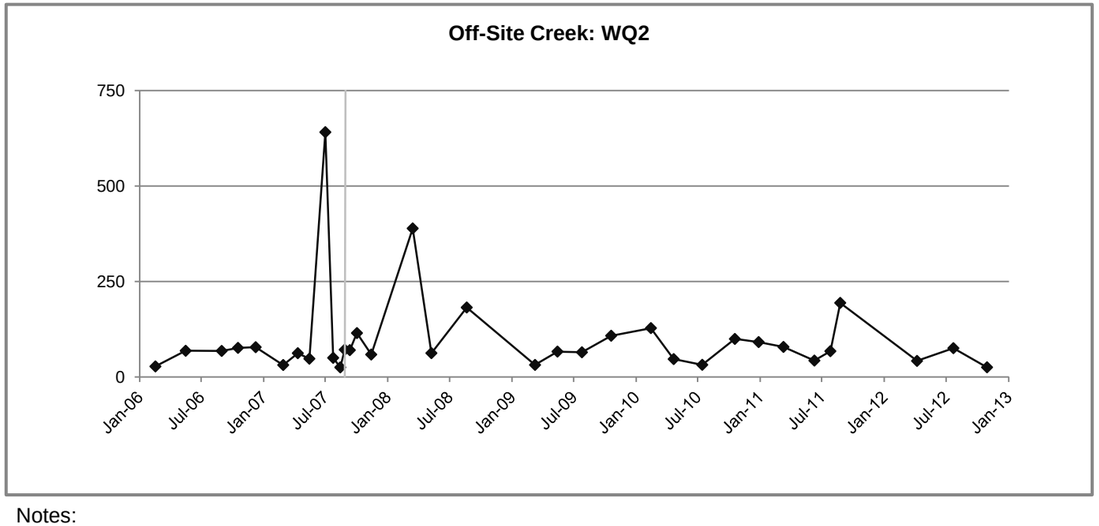
NIBLACK PROJECT LLC integral consulting inc.

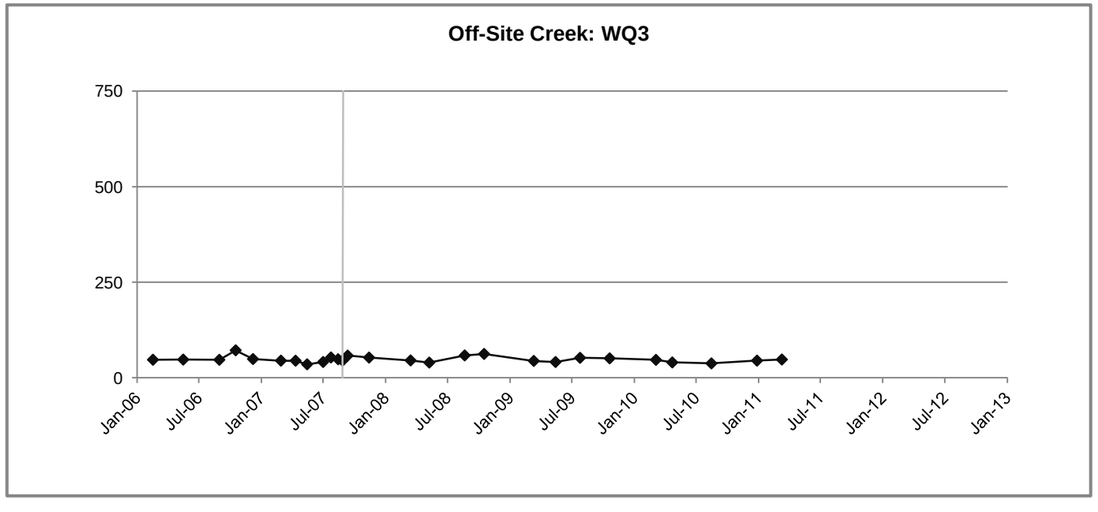
Figure 4-14b
Time Series Plots: Dissolved Aluminum
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Aluminum (µg/L)







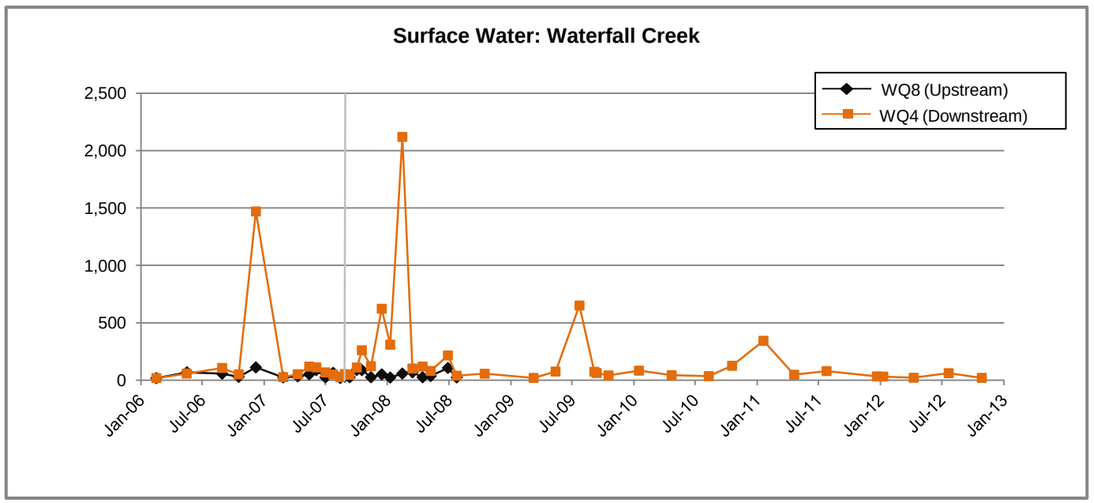


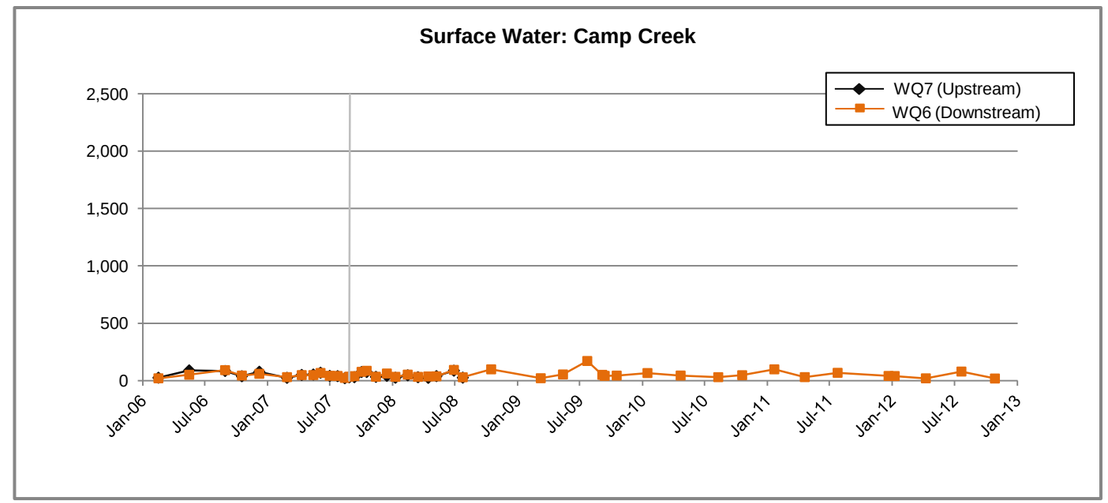
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

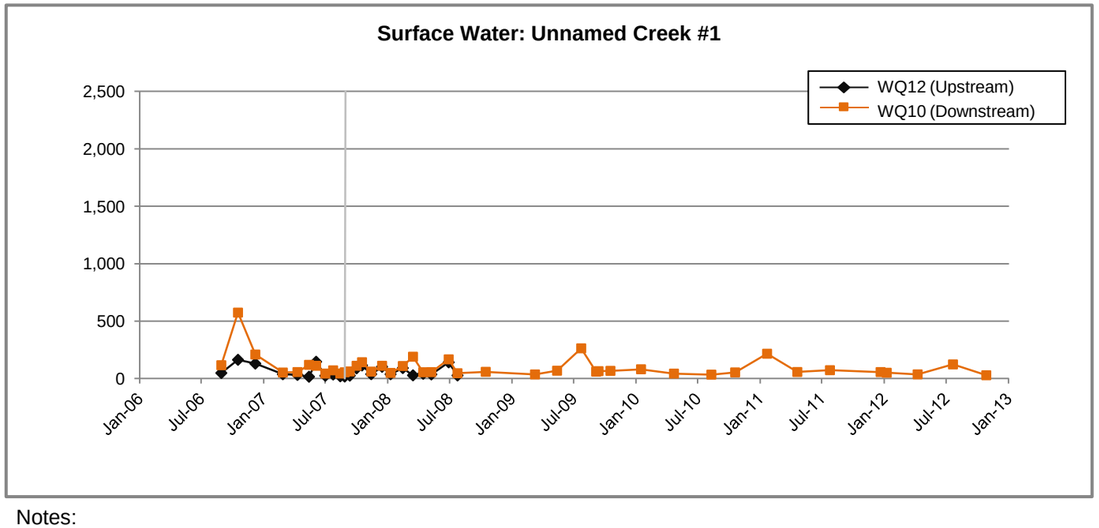
NIBLACK PROJECT LLC integral consulting inc.

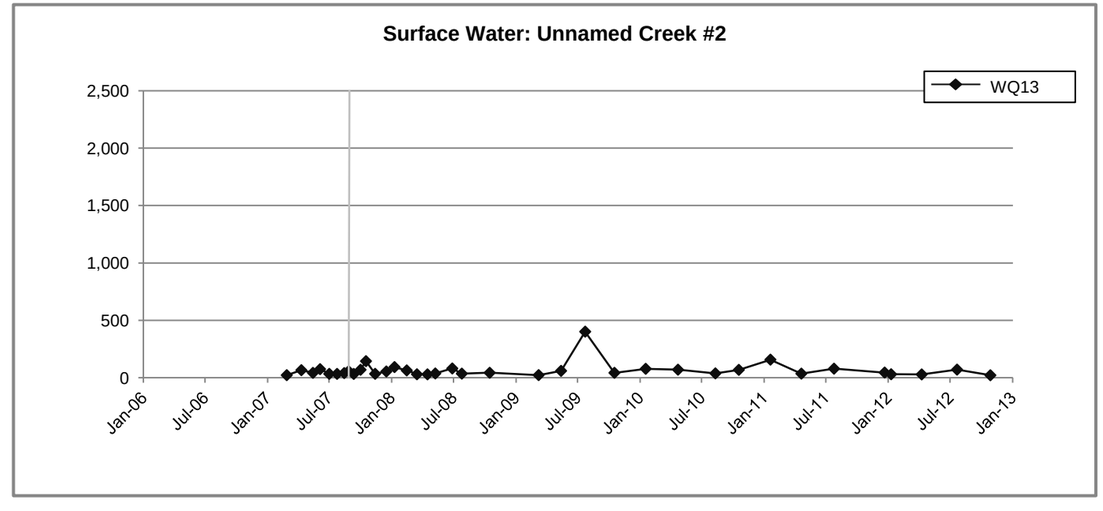
Figure 4-14c
Time Series Plots: Dissolved Aluminum
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Total Aluminum (µg/L)







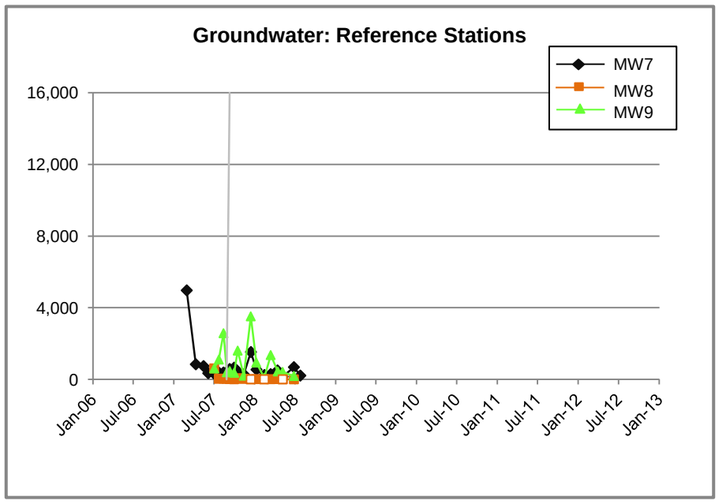


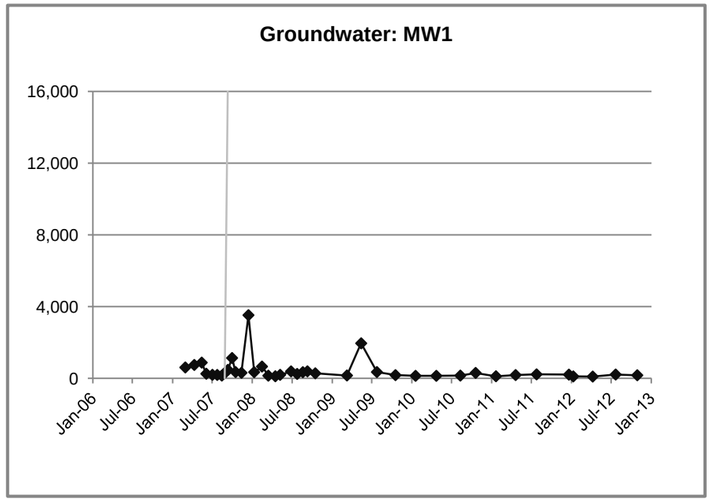
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

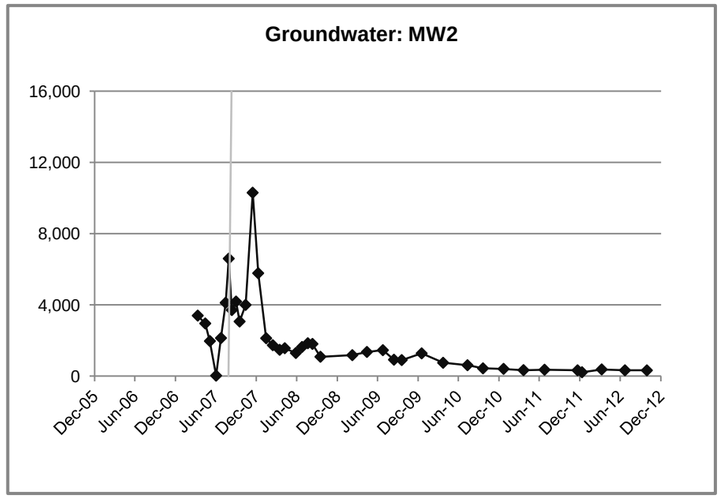
NIBLACK PROJECT LLC integral consulting inc.

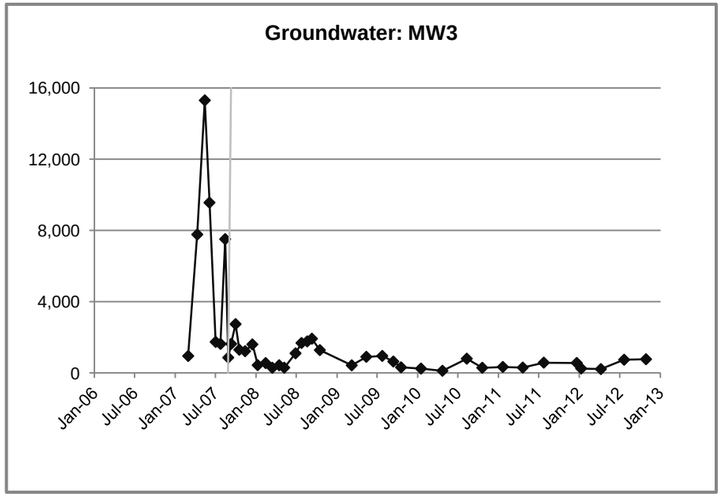
Figure 4-15a
Time Series Plots: Total Aluminum
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

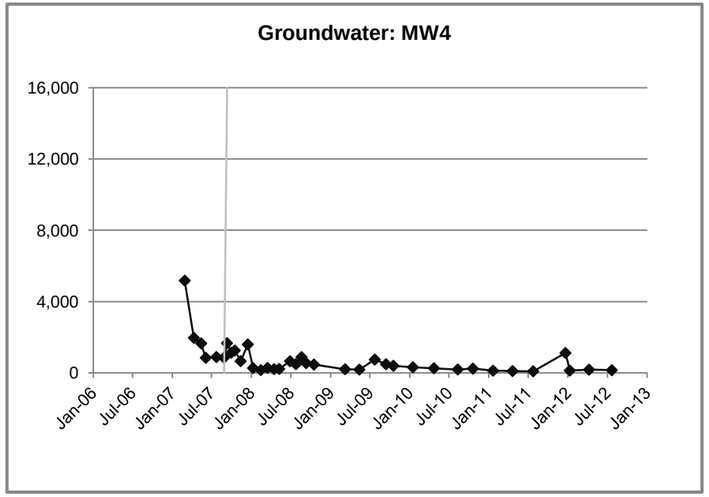
Permit Stations - Groundwater
Total Aluminum (µg/L)









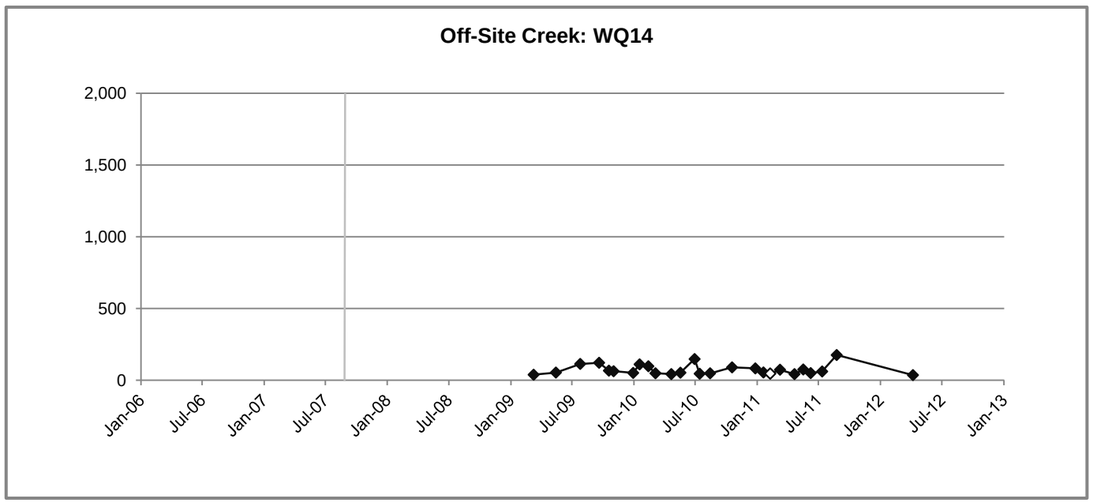


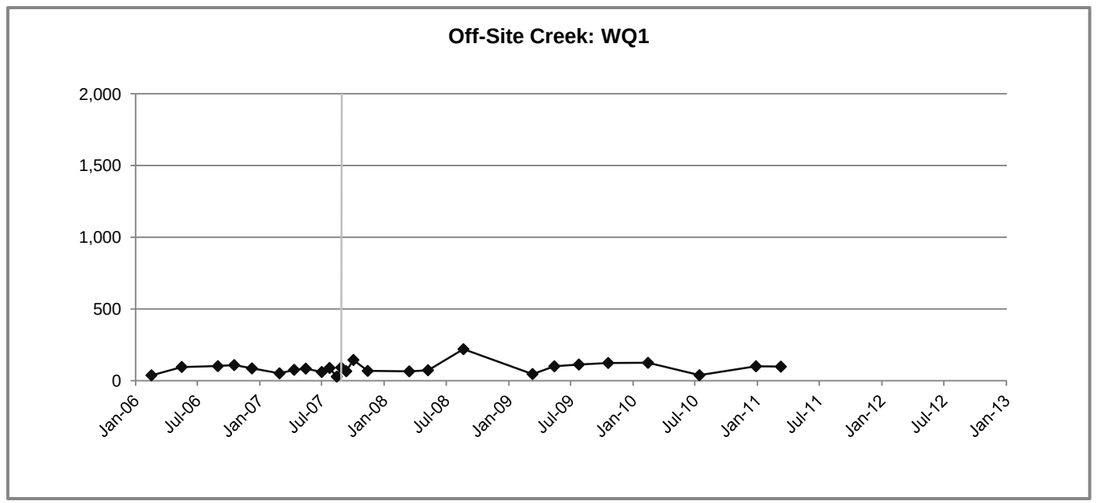
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

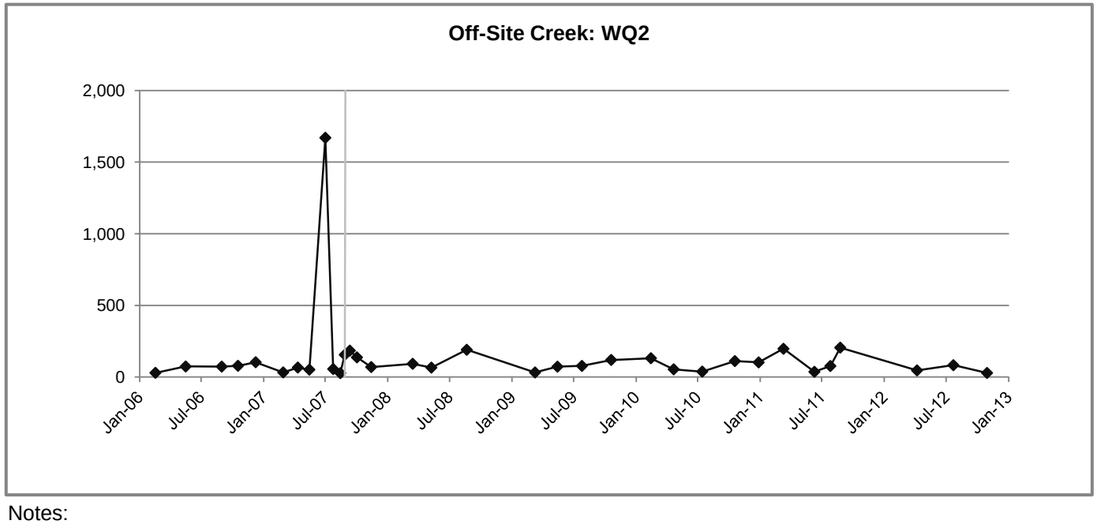
NIBLACK PROJECT LLC integral consulting inc.

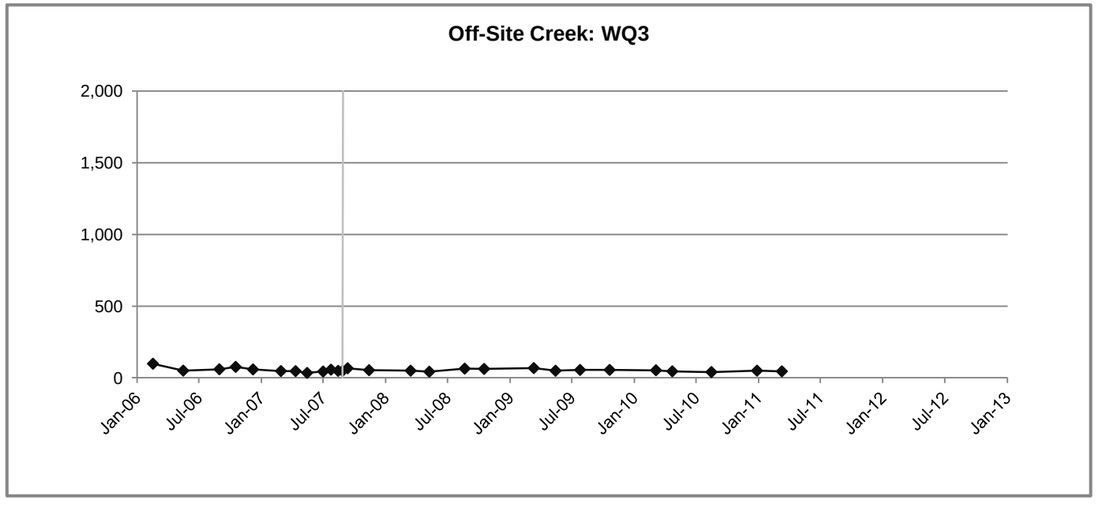
Figure 4-15b
Time Series Plots: Total Aluminum
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Total Aluminum (µg/L)







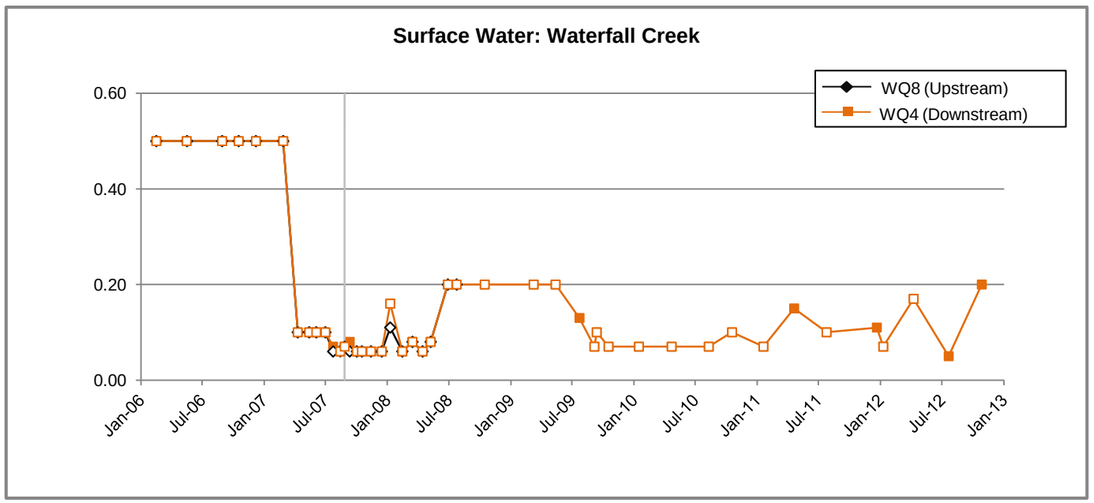


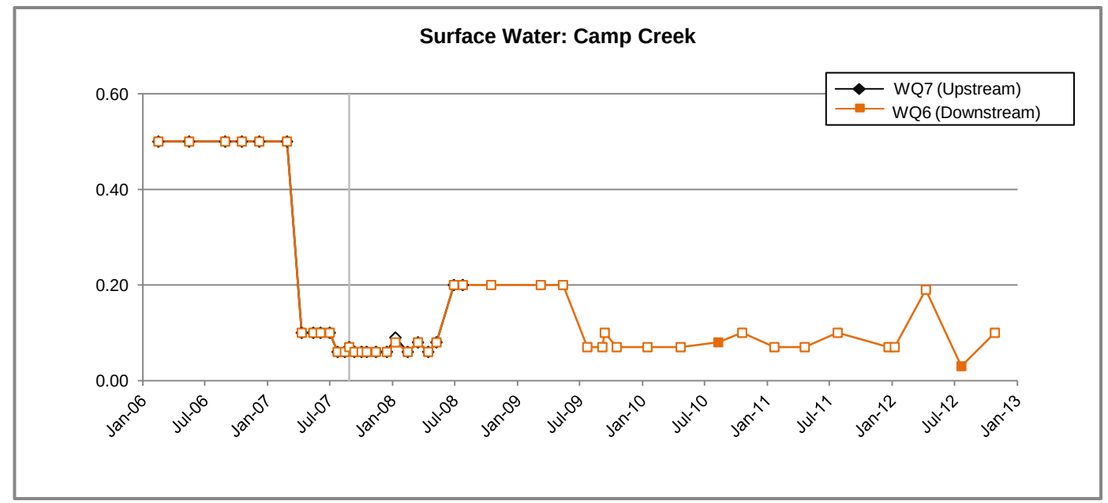
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

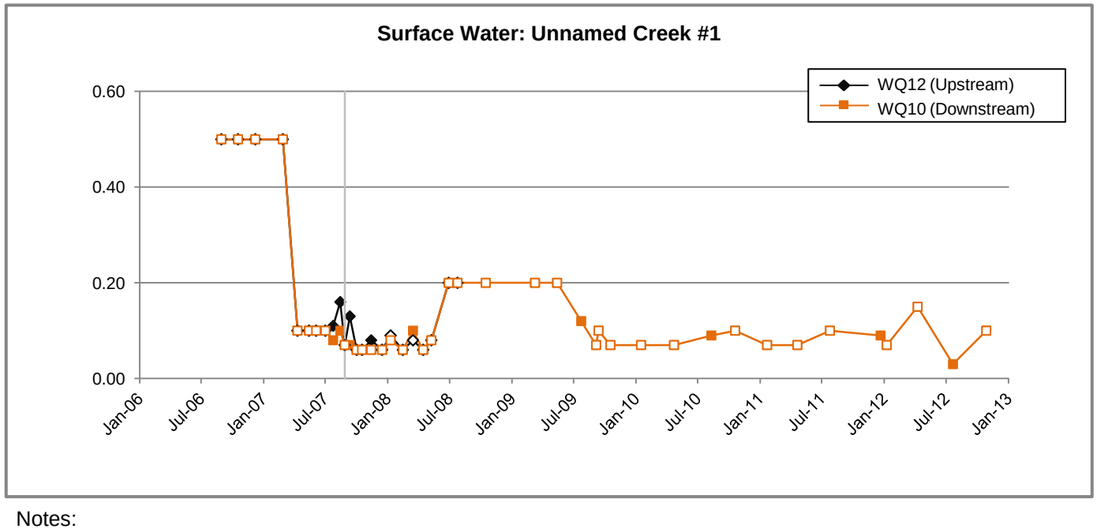
NIBLACK PROJECT LLC integral consulting inc.

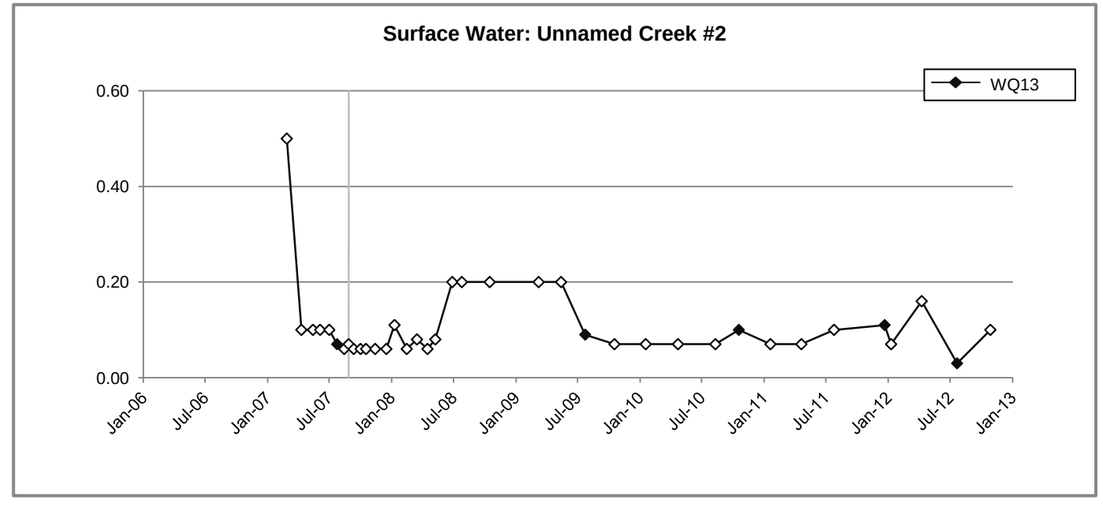
Figure 4-15c
Time Series Plots: Total Aluminum
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Arsenic (µg/L)







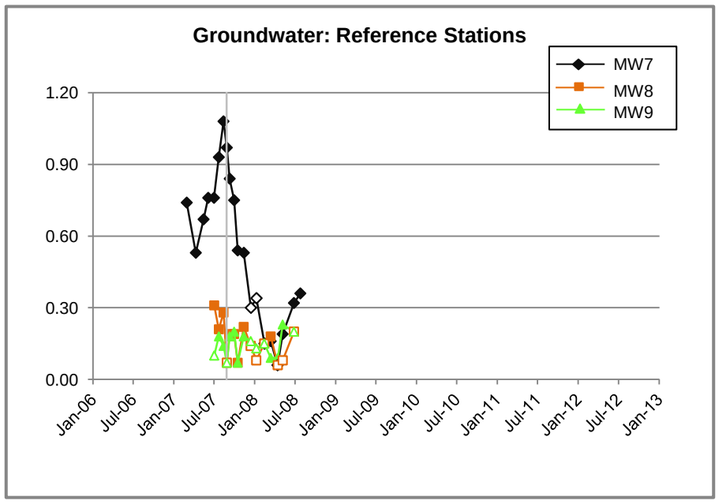


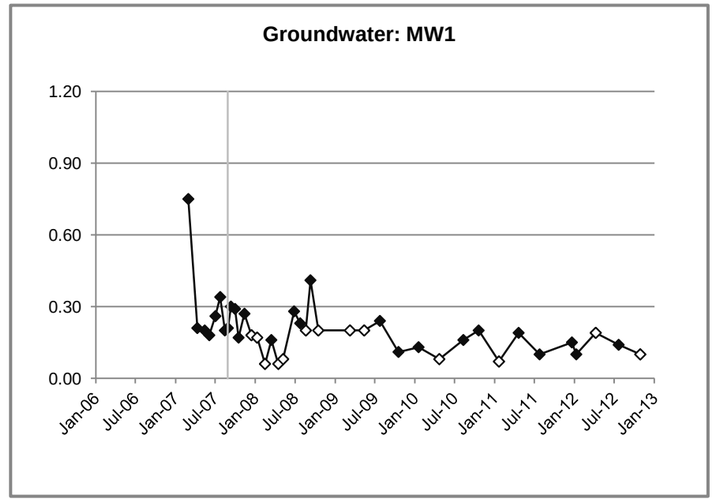
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

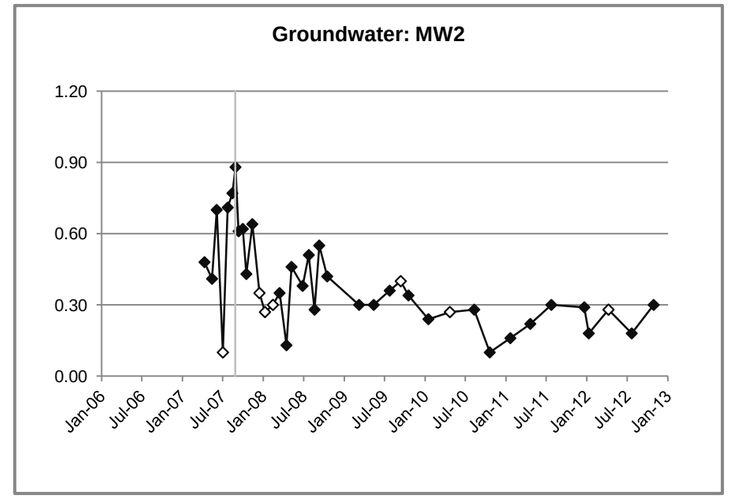
NIBLACK PROJECT LLC integral consulting inc.

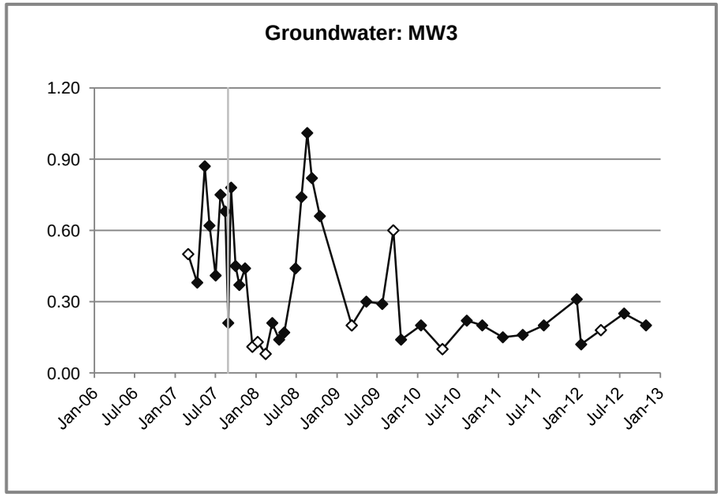
Figure 4-16a
Time Series Plots: Dissolved Arsenic
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

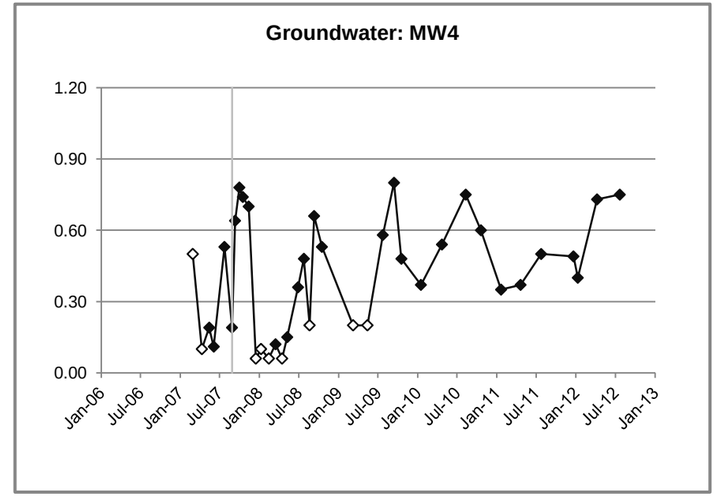
Permit Stations - Groundwater
Dissolved Arsenic (µg/L)









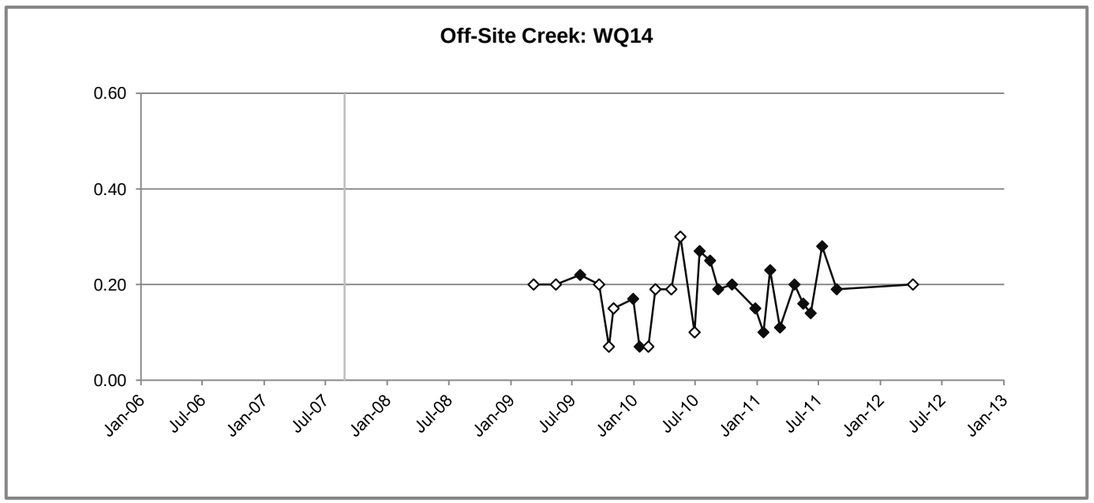


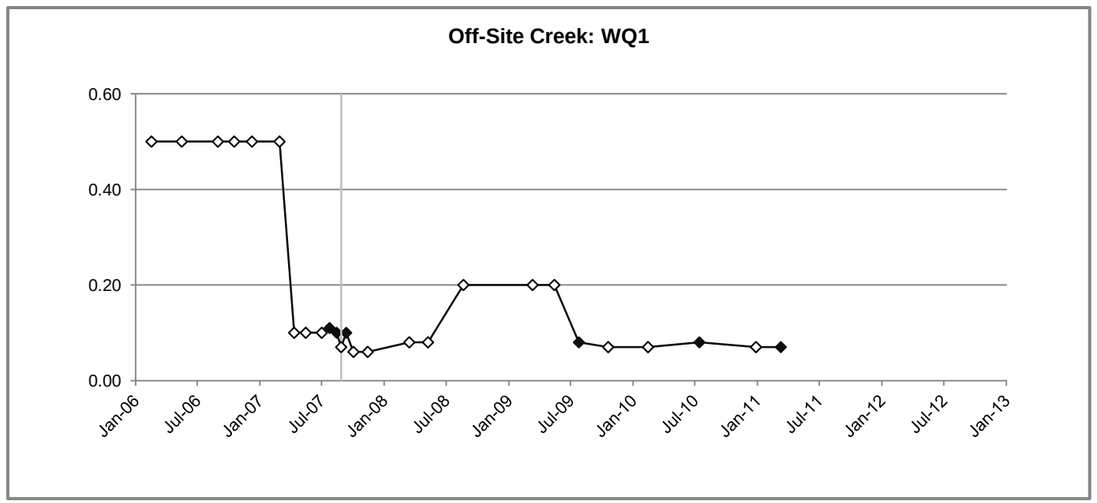
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

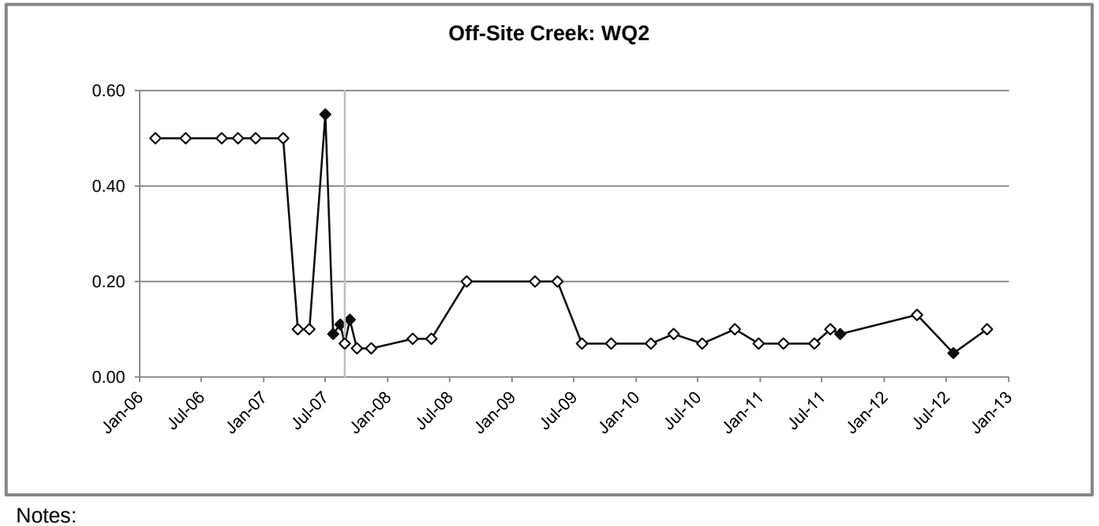
NIBLACK PROJECT LLC integral consulting inc.

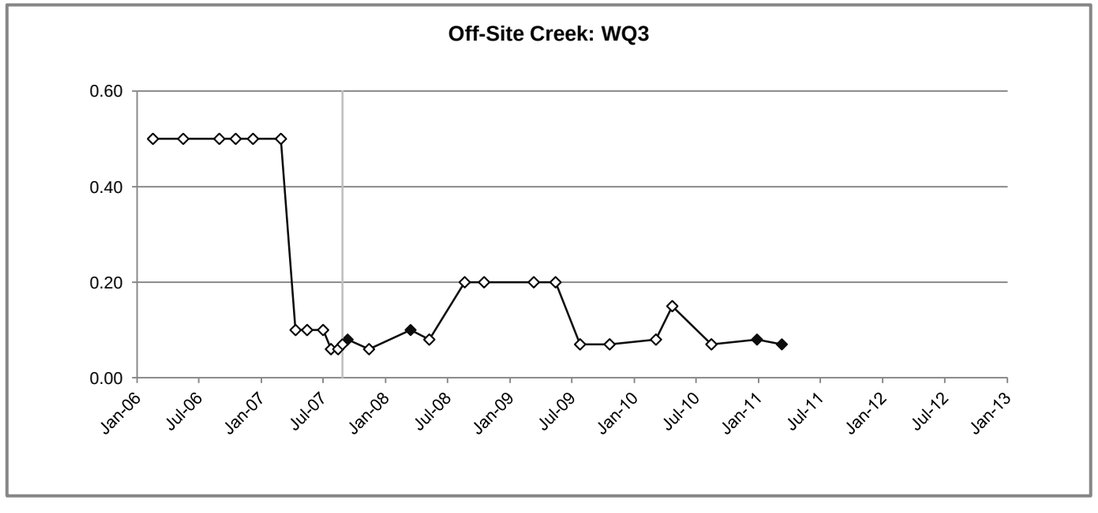
Figure 4-16b
Time Series Plots: Dissolved Arsenic
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Arsenic (µg/L)







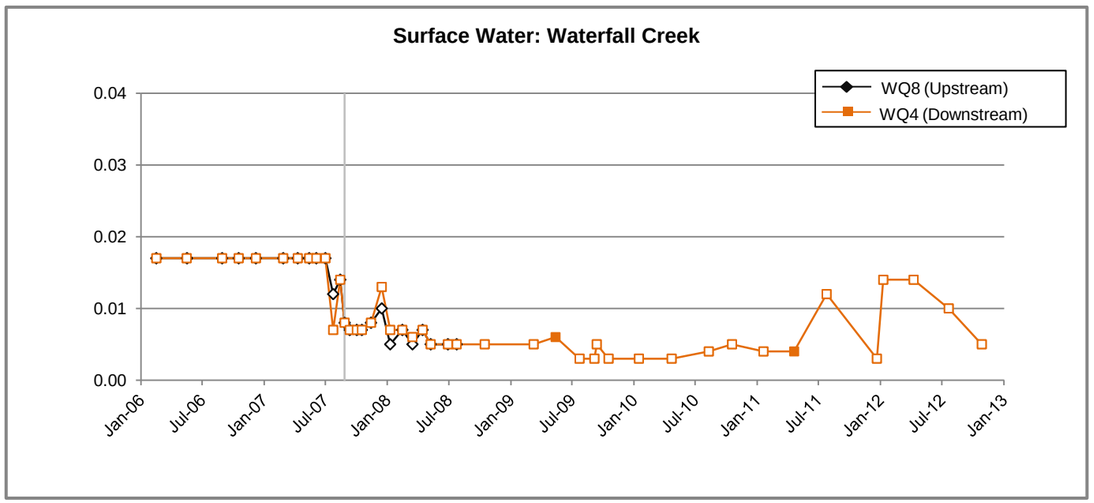


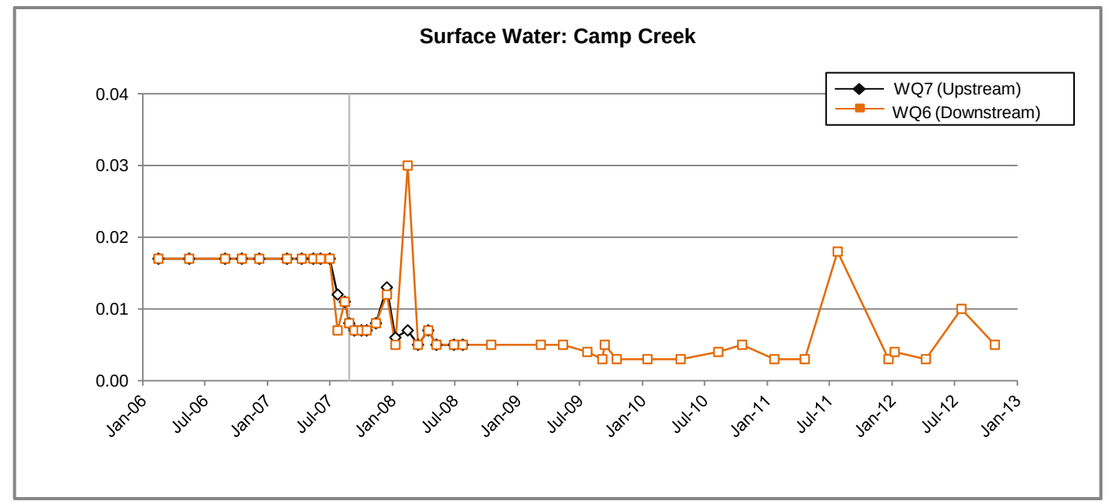
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

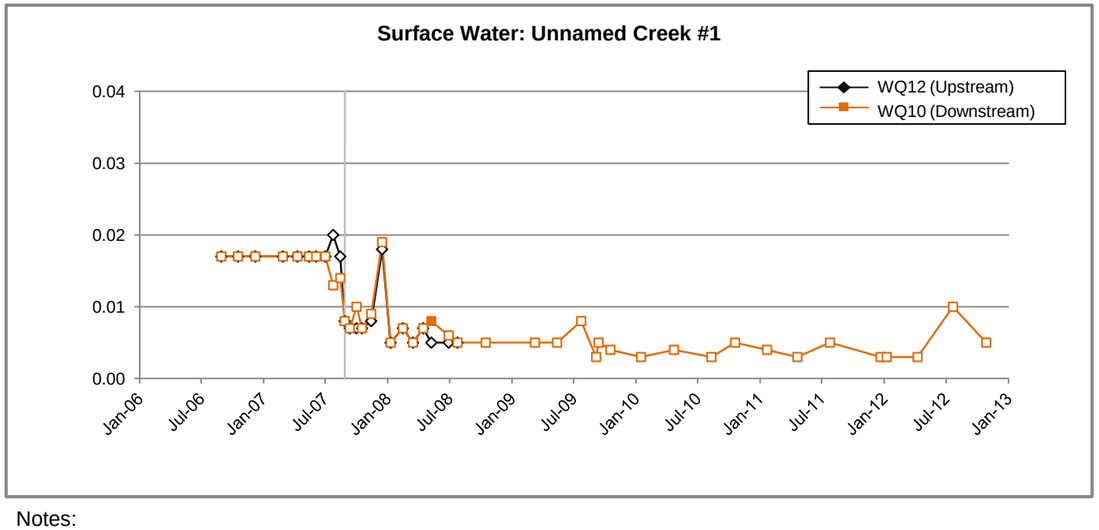
NIBLACK PROJECT LLC integral consulting inc.

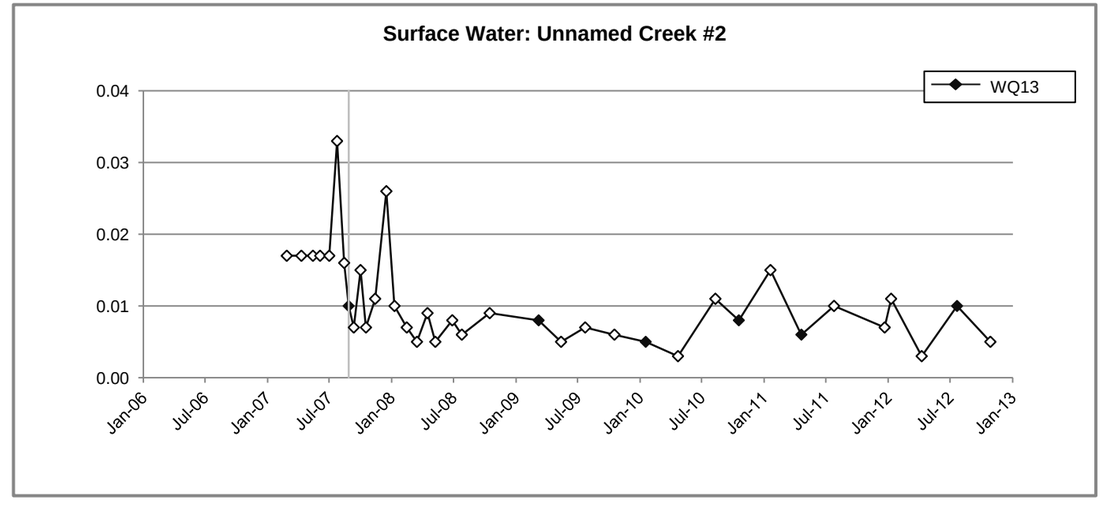
Figure 4-16c
Time Series Plots: Dissolved Arsenic
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Cadmium (µg/L)







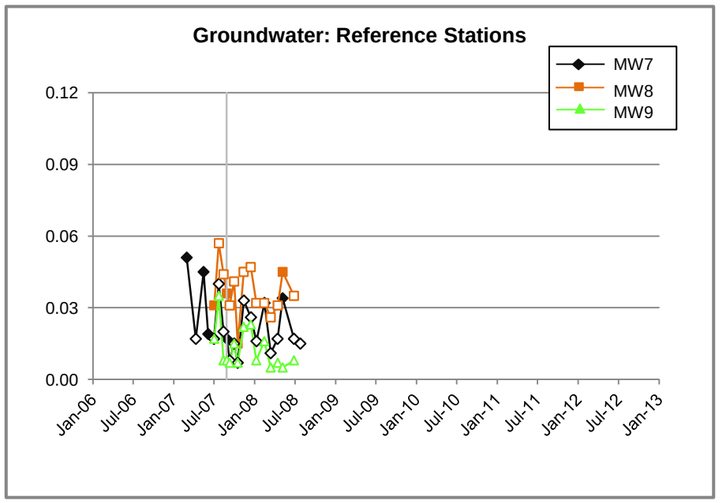


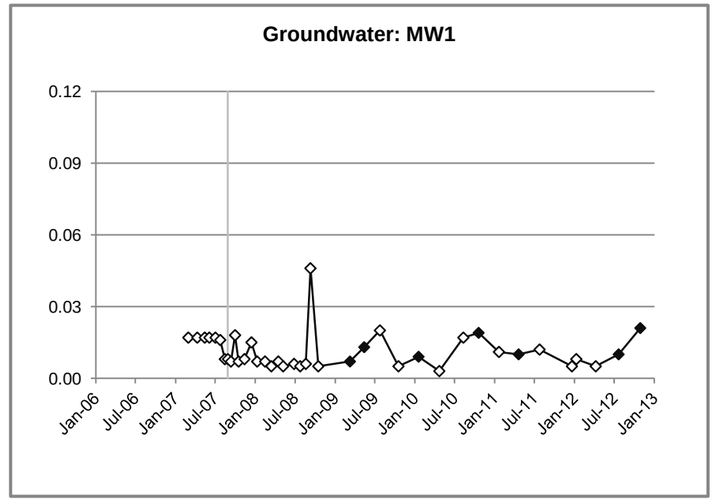
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

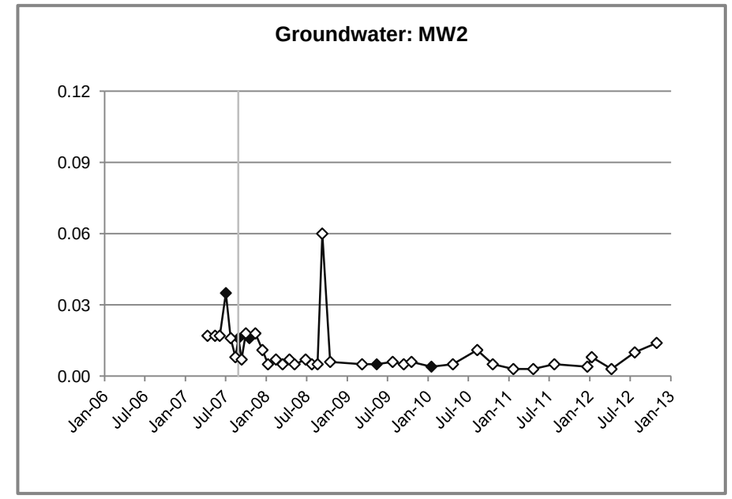
NIBLACK PROJECT LLC integral consulting inc.

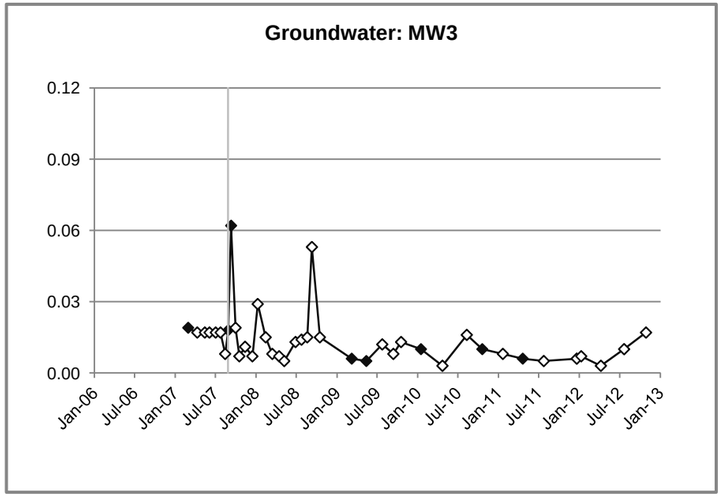
Figure 4-17a
Time Series Plots: Dissolved Cadmium
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

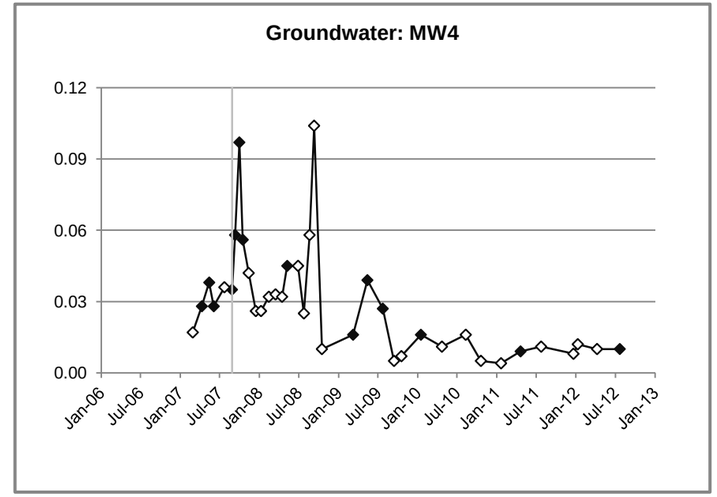
Permit Stations - Groundwater
Dissolved Cadmium (µg/L)











Notes:
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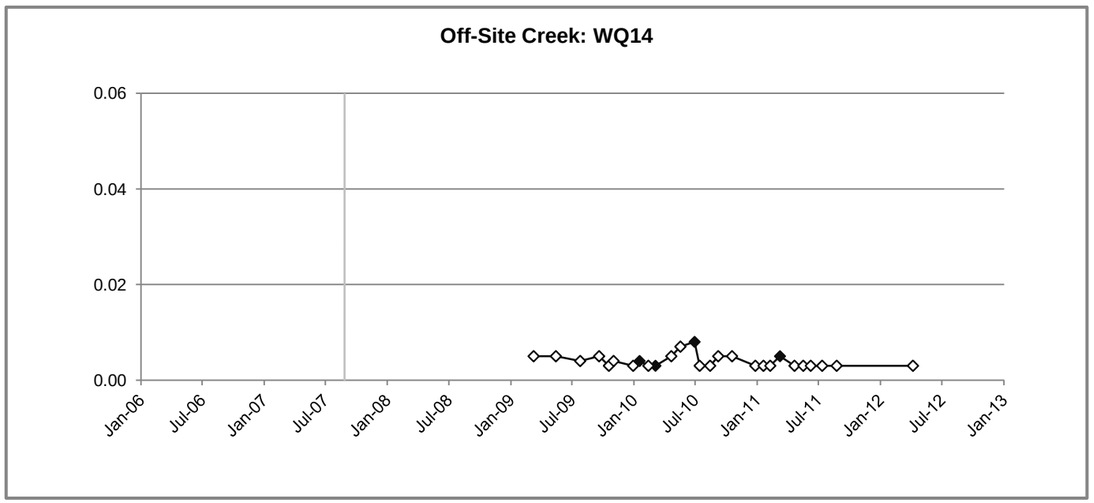
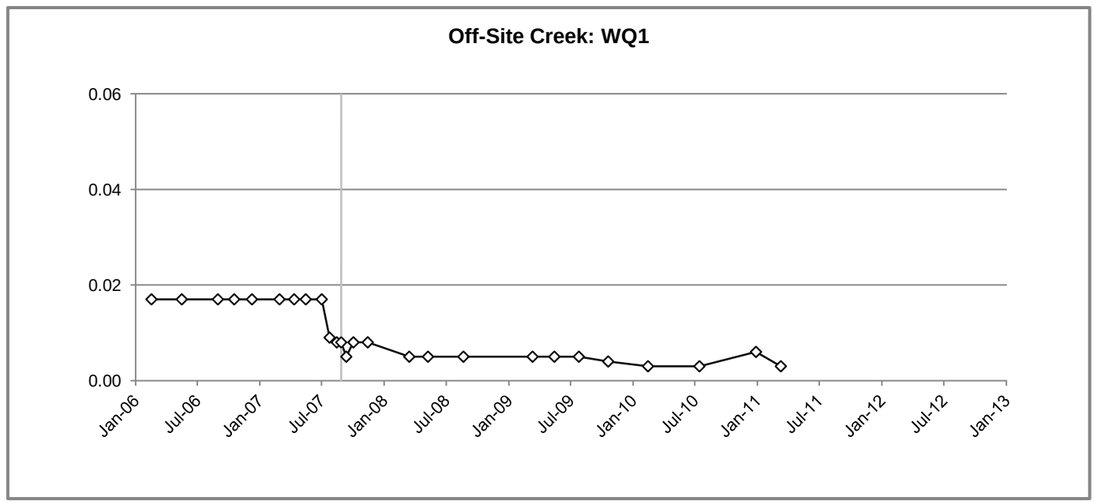
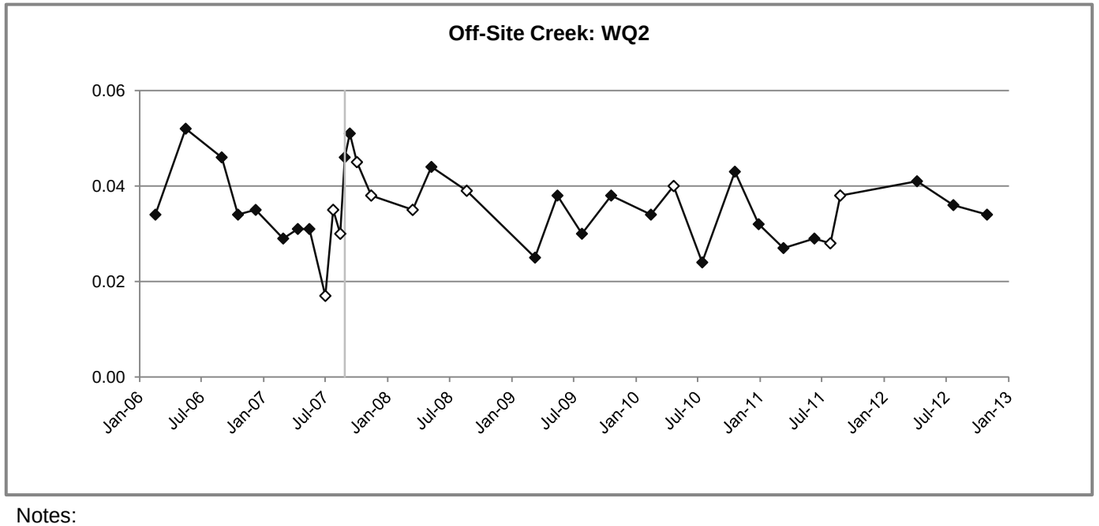
NIBLACK PROJECT LLC integral consulting inc.

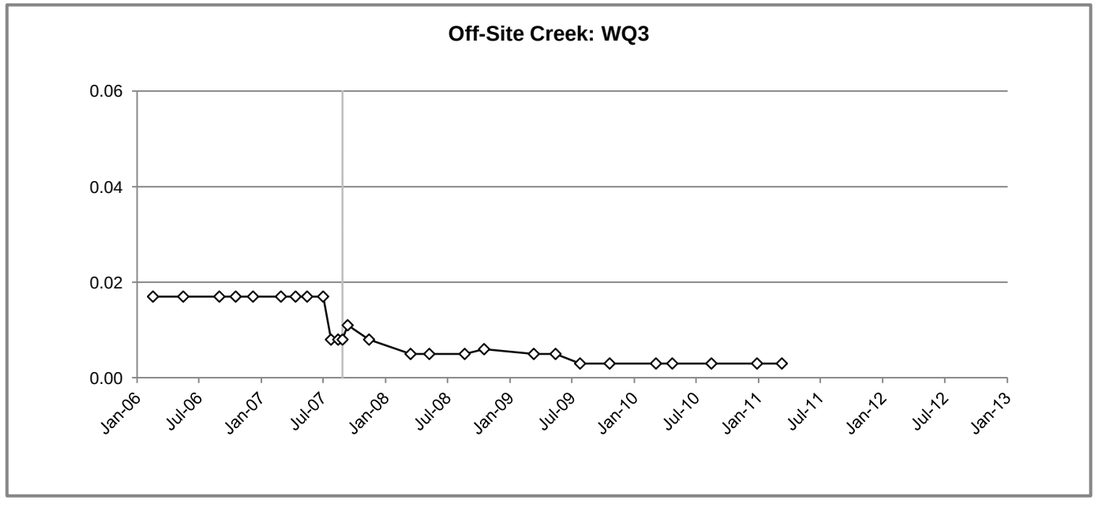
Figure 4-17b
Time Series Plots: Dissolved Cadmium
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Cadmium (µg/L)









Notes:
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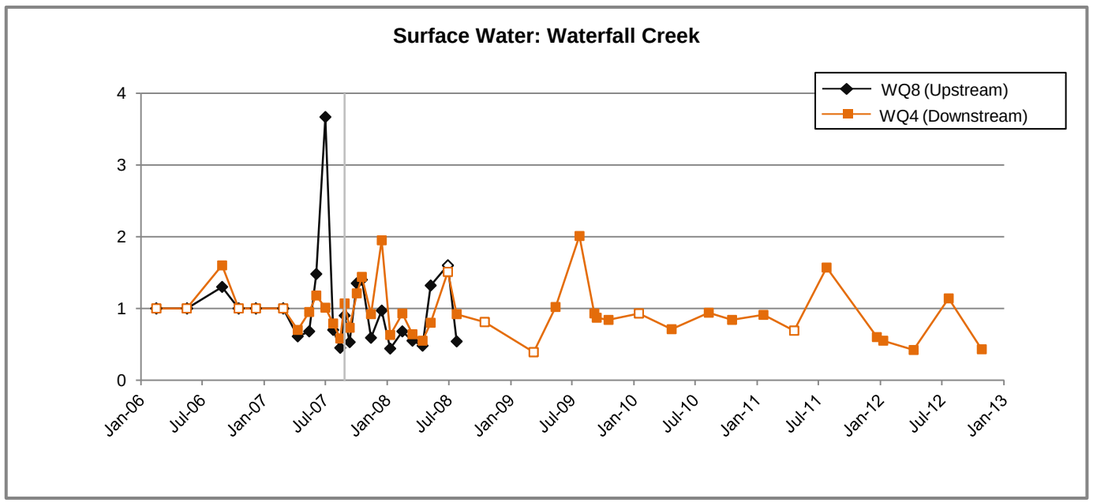
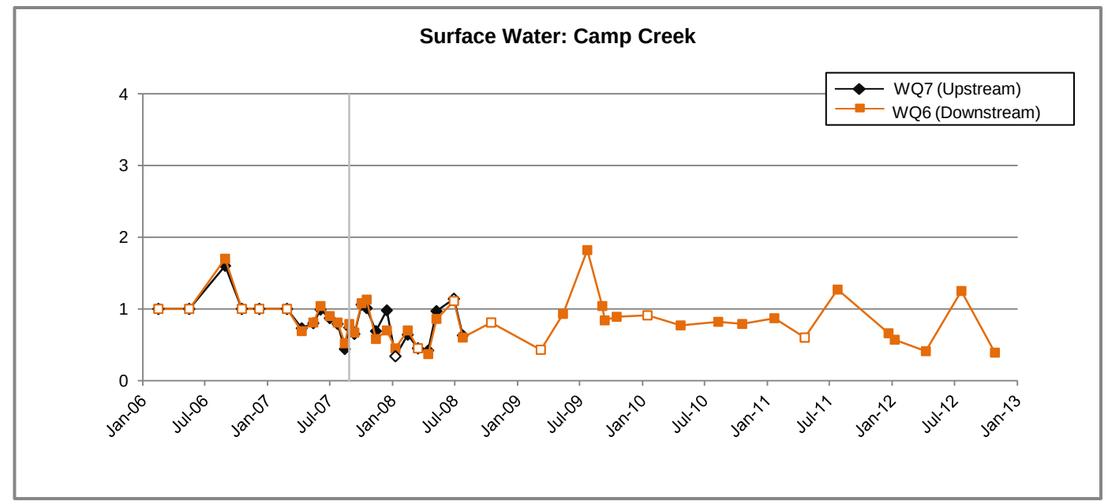
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

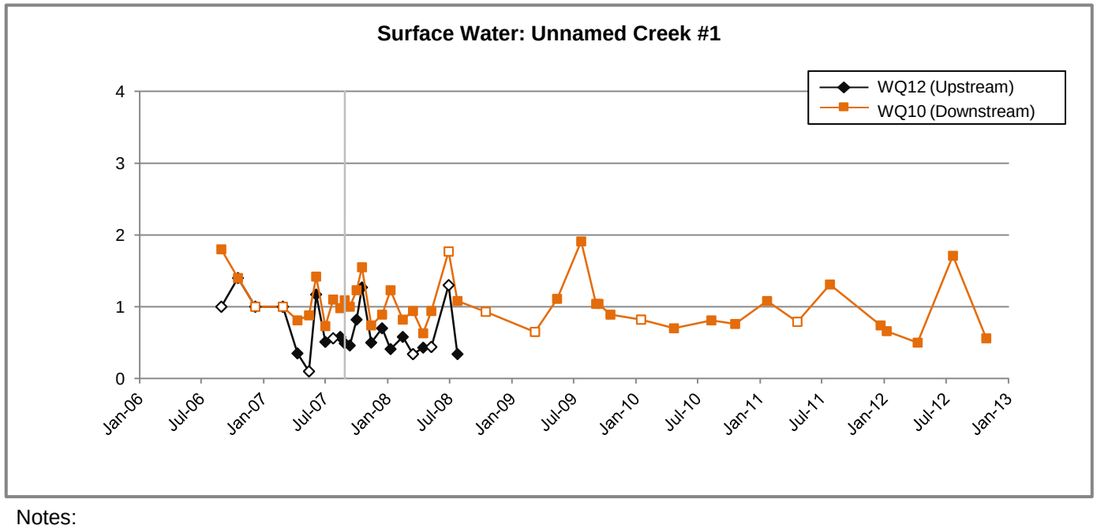
NIBLACK PROJECT LLC integral consulting inc.

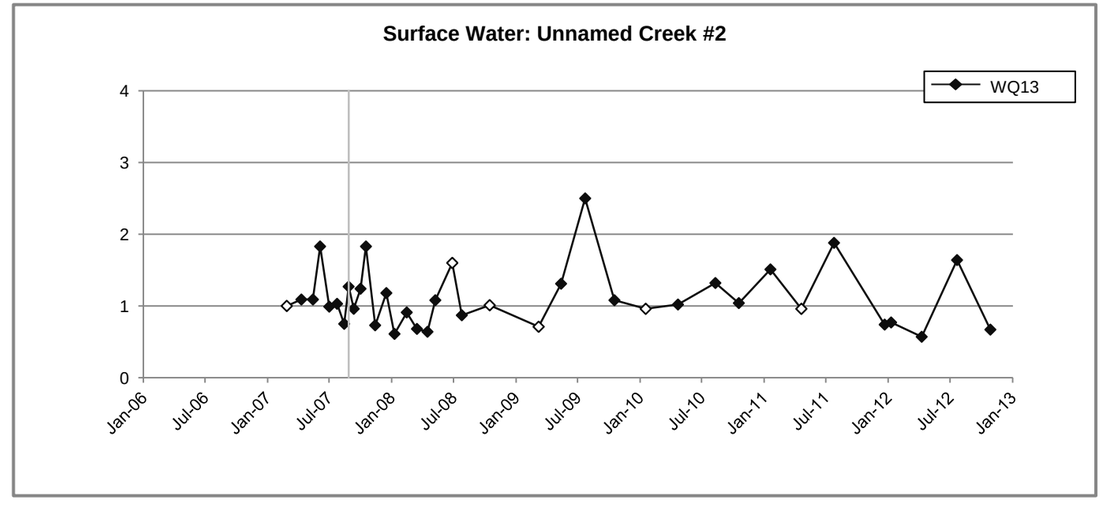
Figure 4-17c
Time Series Plots: Dissolved Cadmium
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Copper (µg/L)







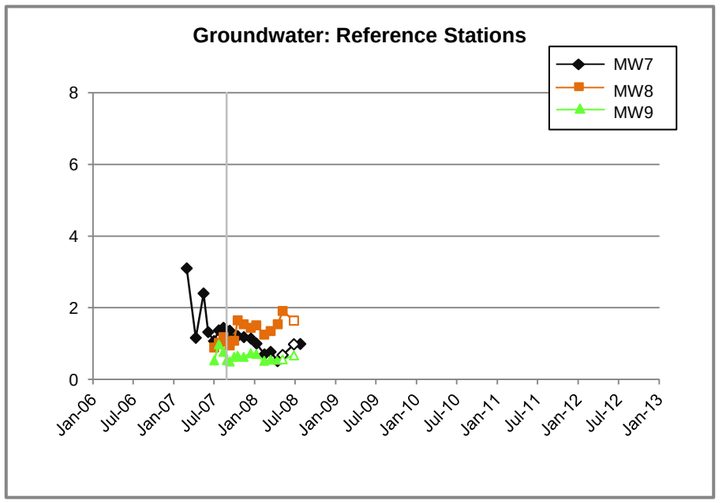


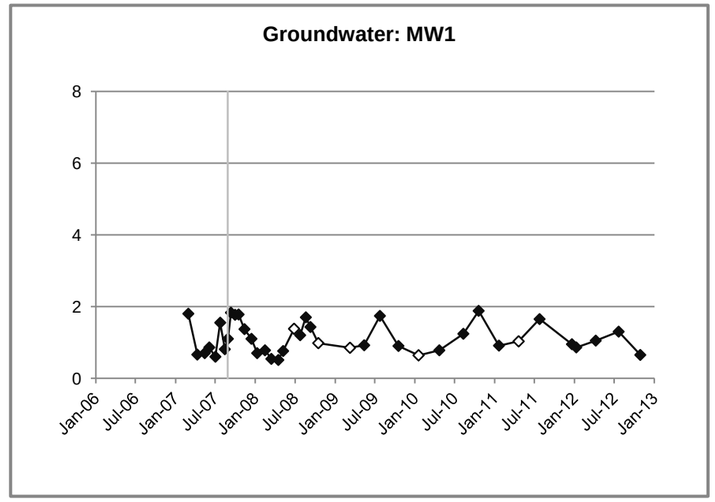
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

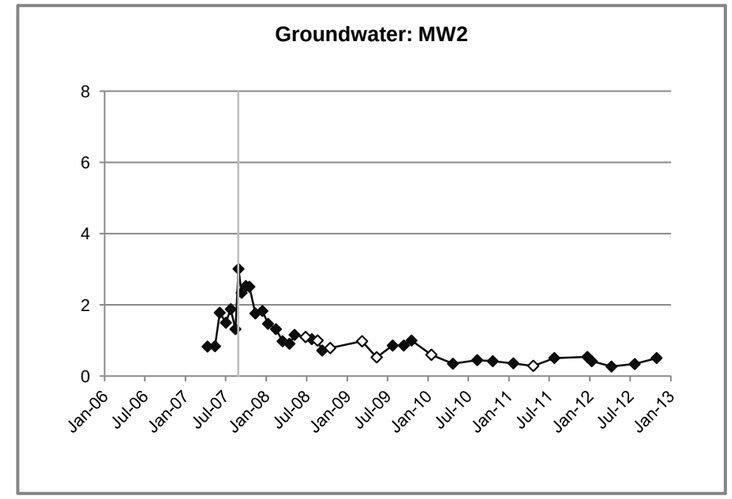
NIBLACK PROJECT LLC integral consulting inc.

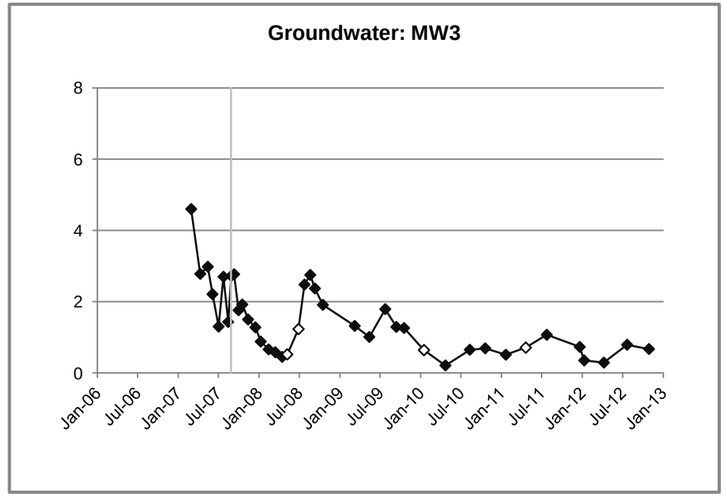
Figure 4-18a
Time Series Plots: Dissolved Copper
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

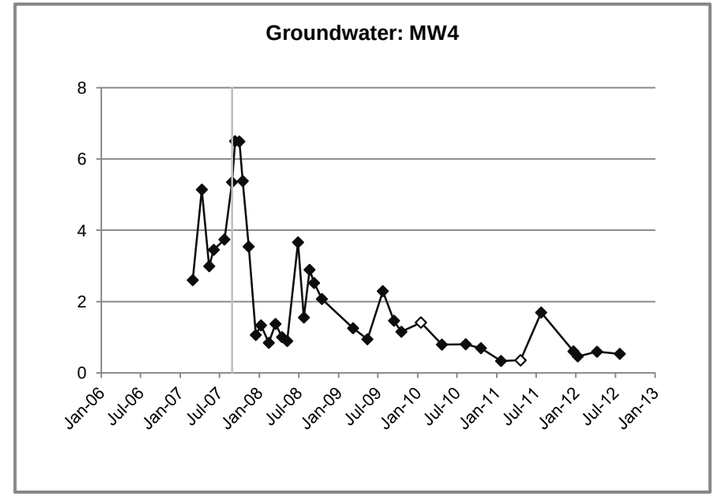
Permit Stations - Groundwater
Copper Dissolved (µg/L)











Notes:
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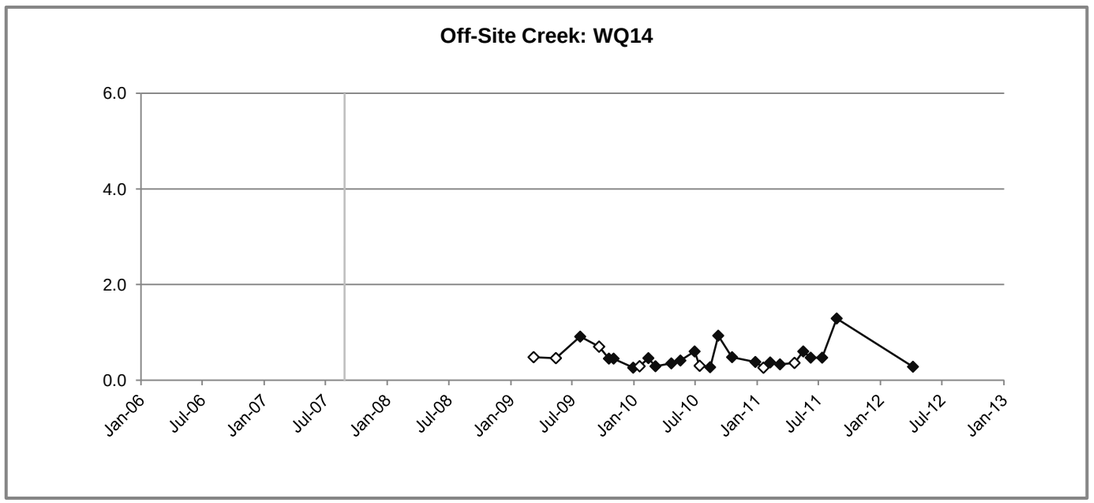
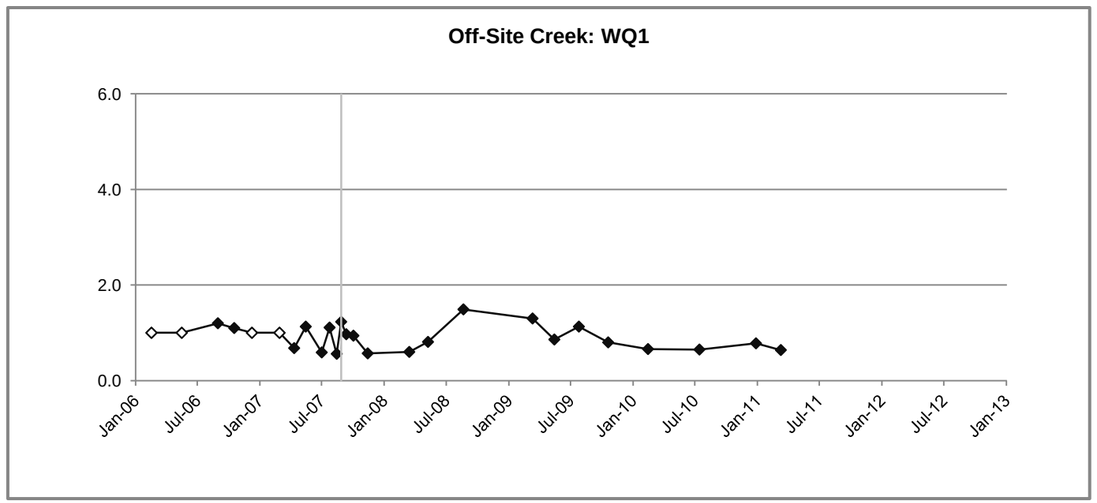
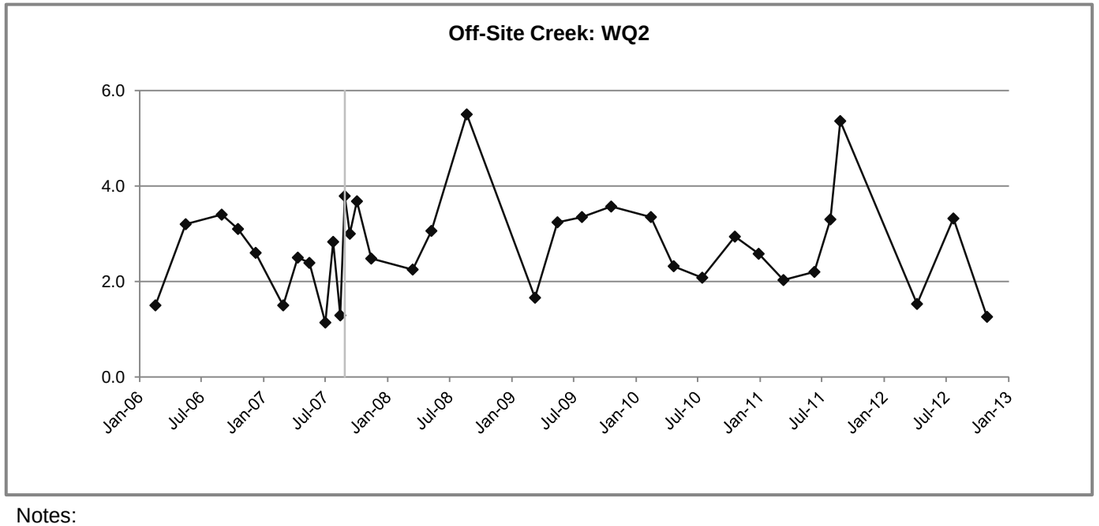
NIBLACK PROJECT LLC integral consulting inc.

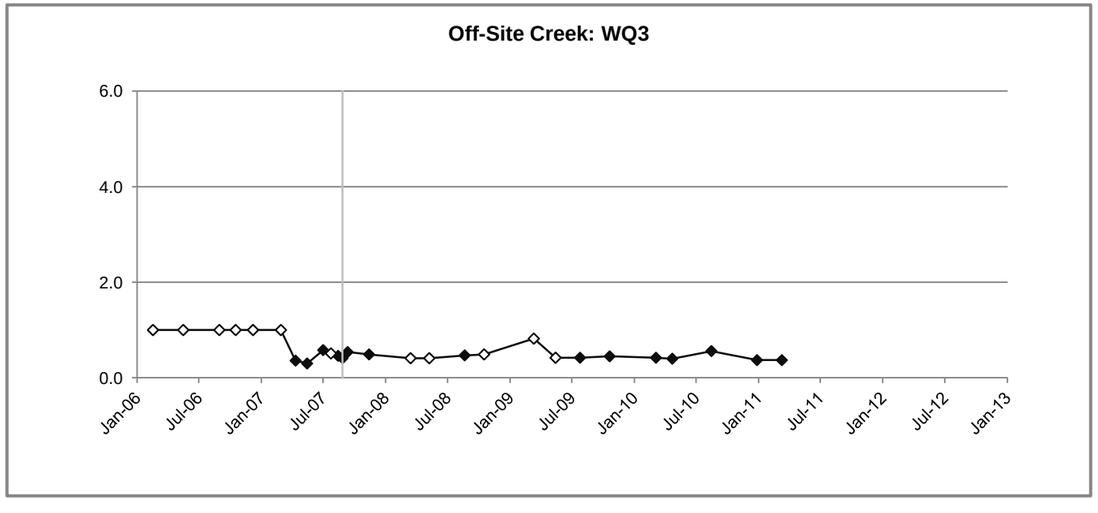
Figure 4-18b
Time Series Plots: Dissolved Copper
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Copper (µg/L)









Notes:
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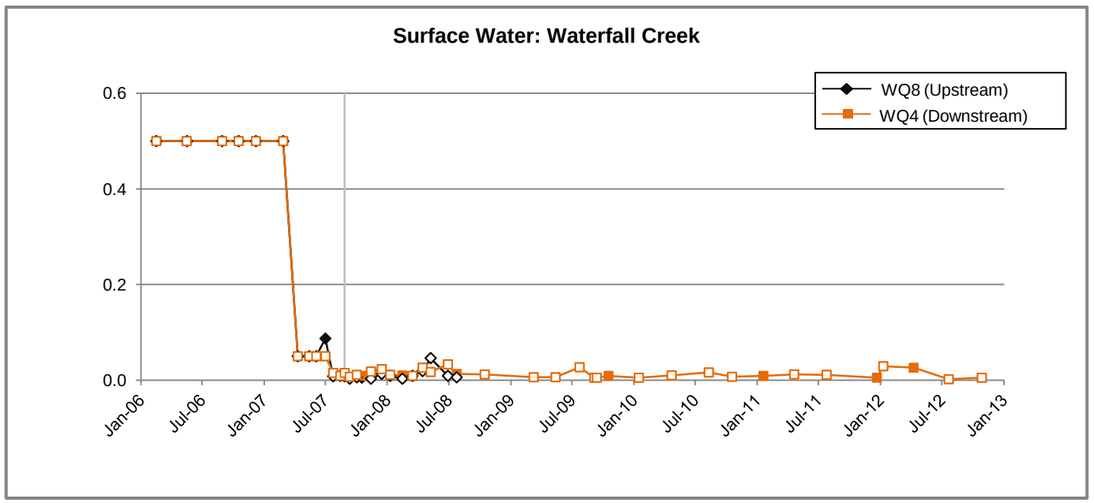
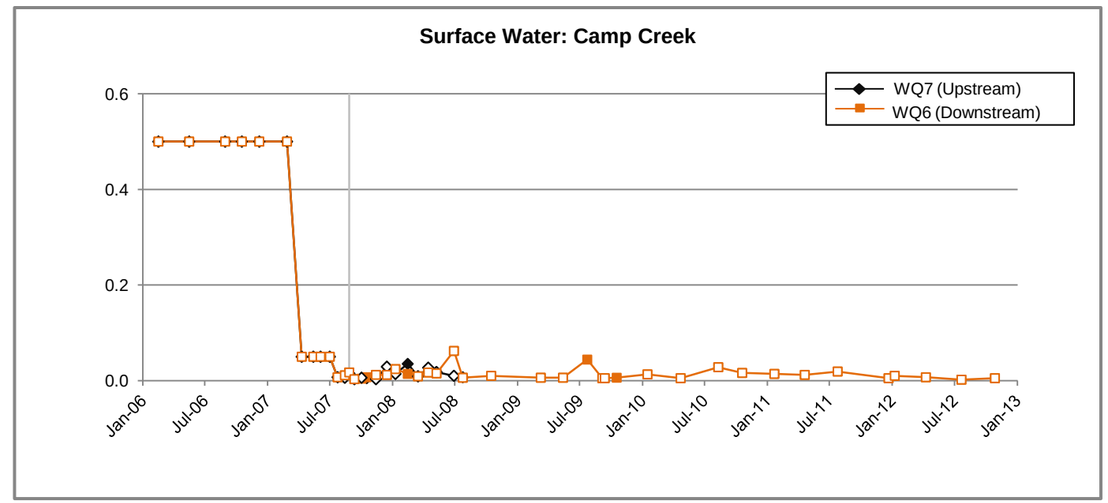
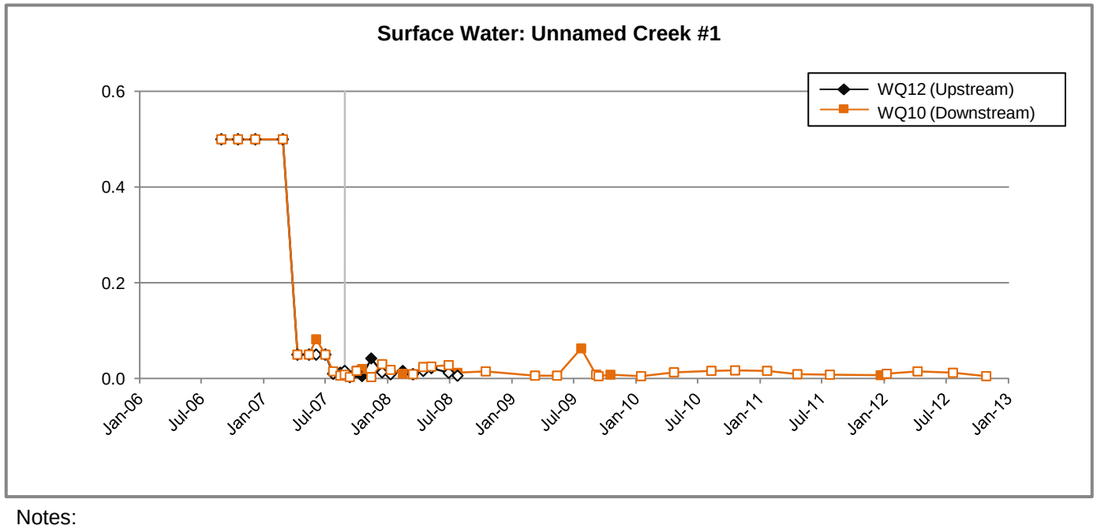
NIBLACK PROJECT LLC integral consulting inc.

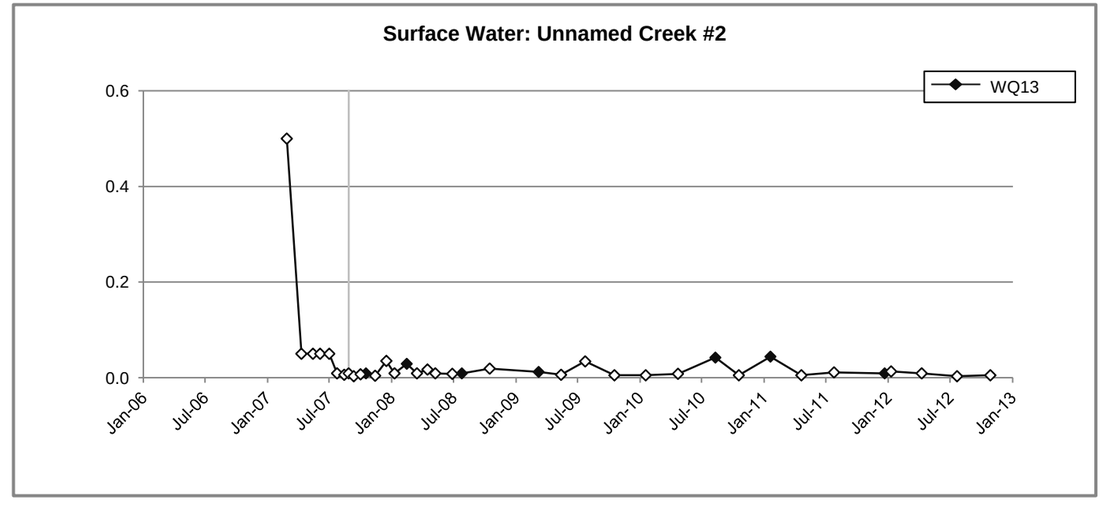
Figure 4-18c
Time Series Plots: Dissolved Copper
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Lead (µg/L)









Notes:
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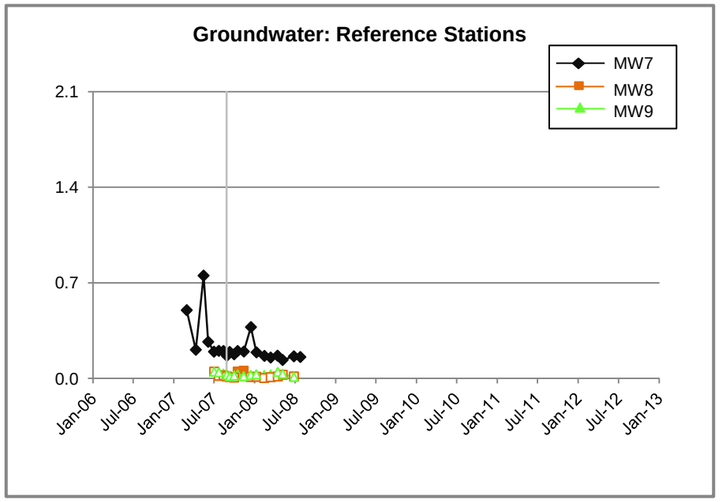
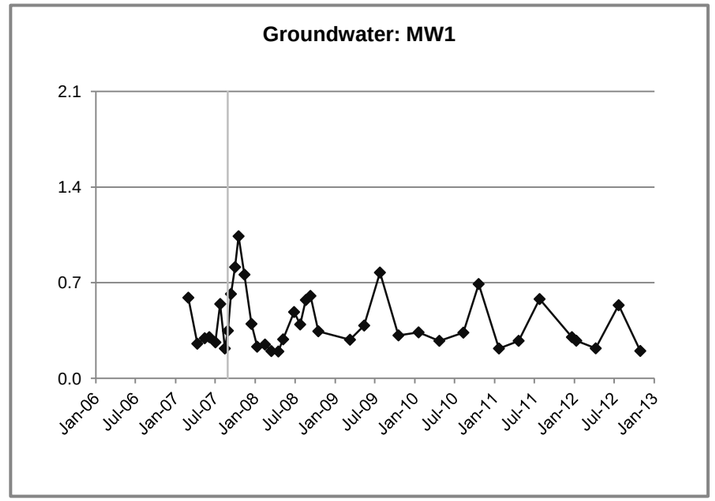
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

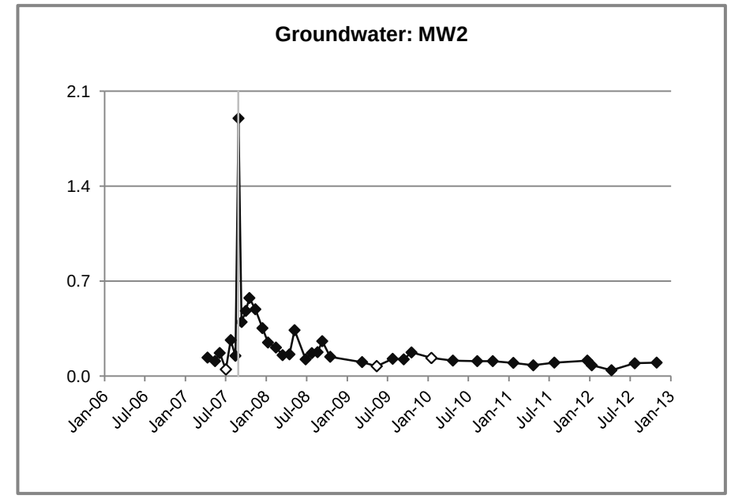
NIBLACK PROJECT LLC integral consulting inc.

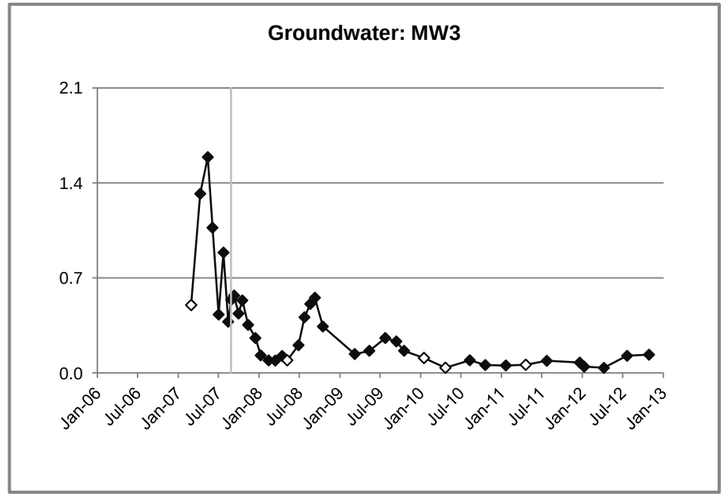
Figure 4-19a
Time Series Plots: Dissolved Lead
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

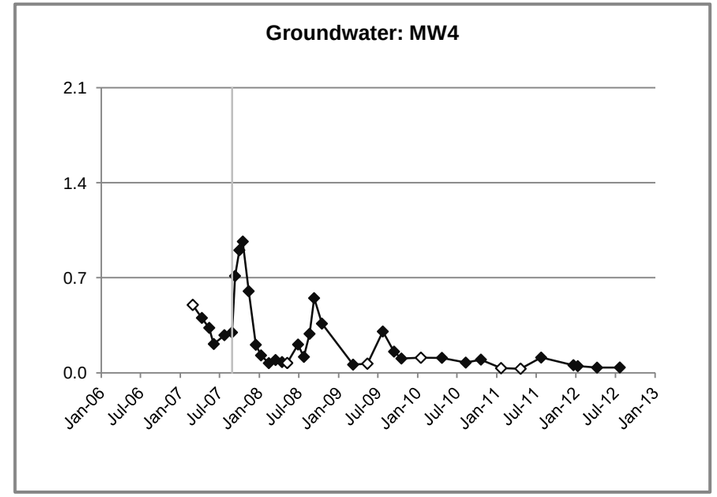
Permit Stations - Groundwater
Dissolved Lead (µg/L)











Notes:
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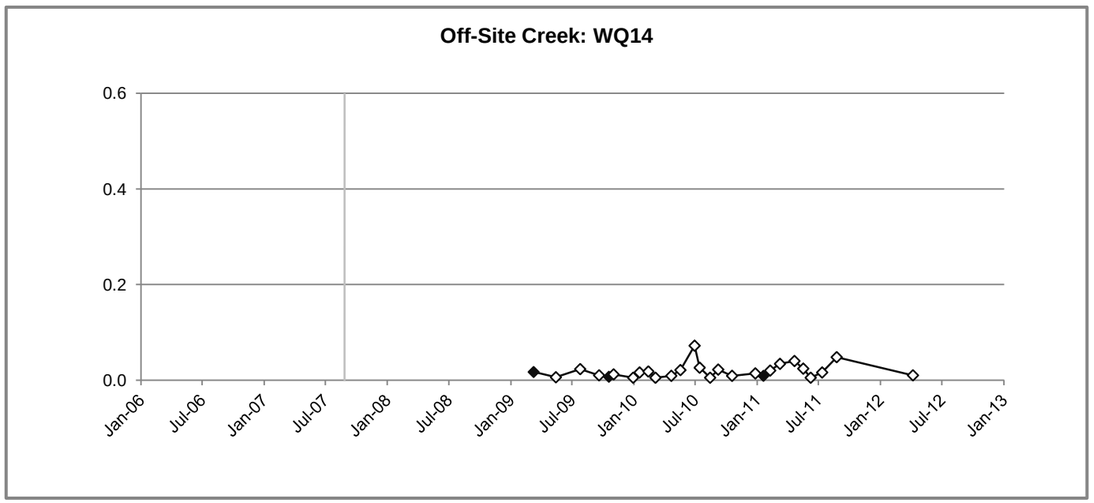
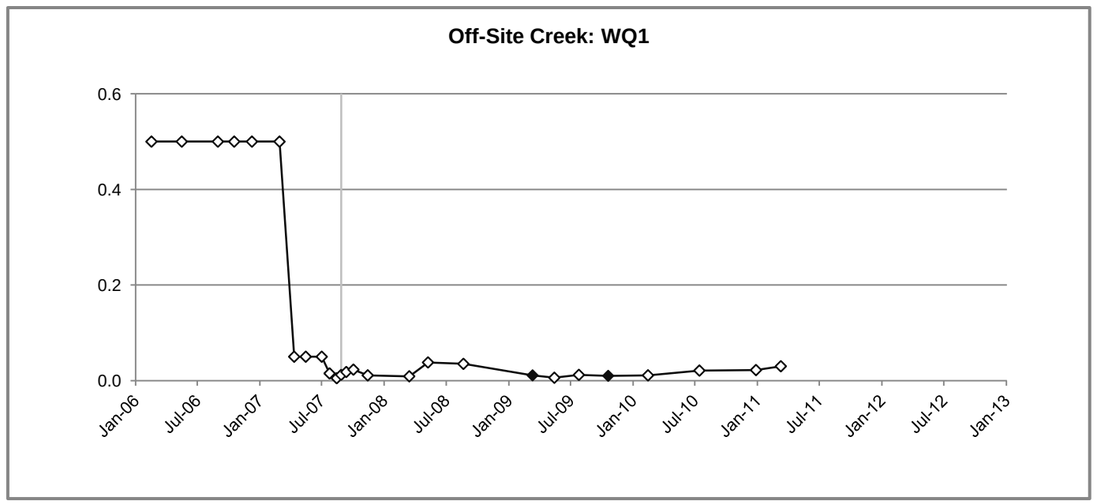
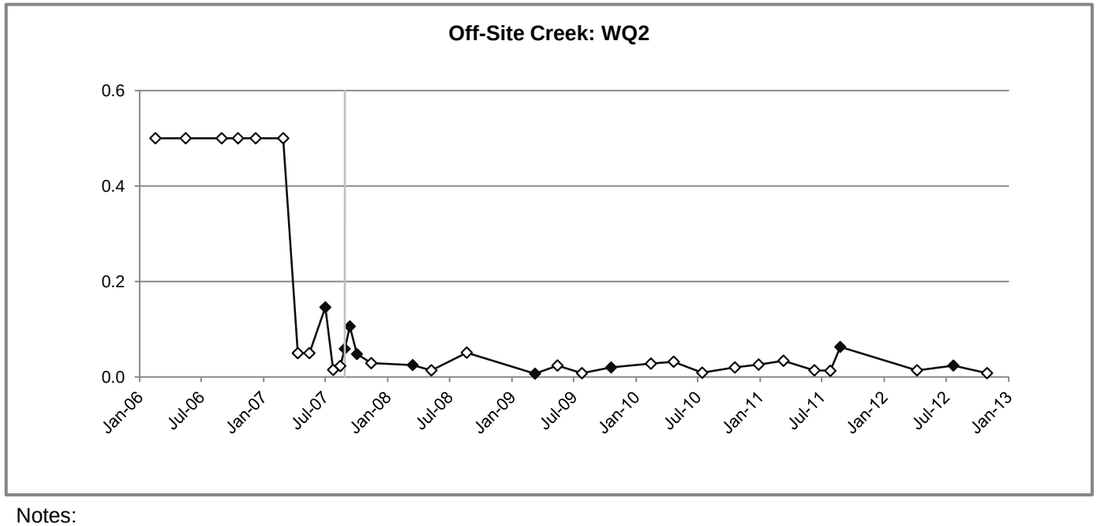
NIBLACK PROJECT LLC integral consulting inc.

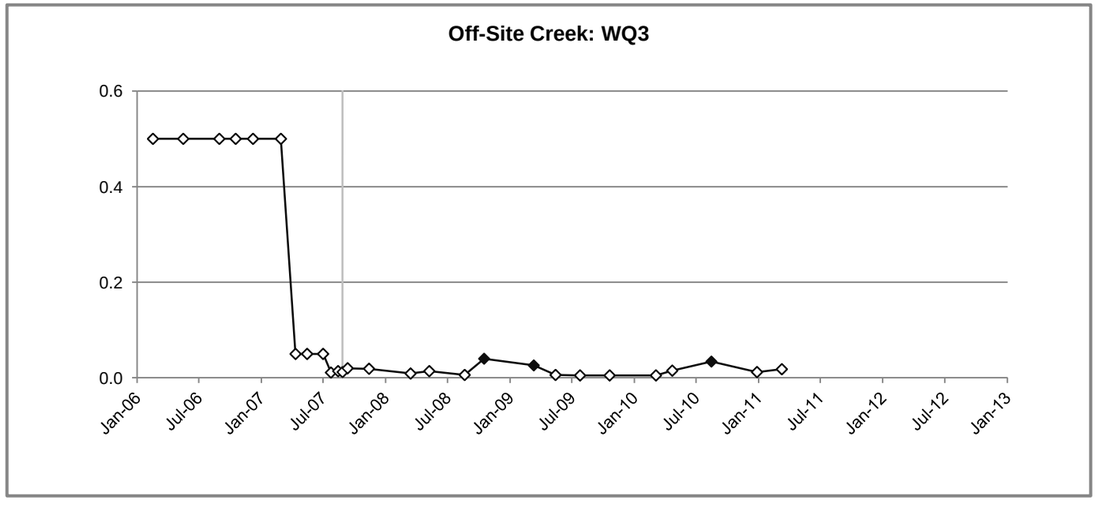
Figure 4-19b
Time Series Plots: Dissolved Lead
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Lead (µg/L)









Notes:
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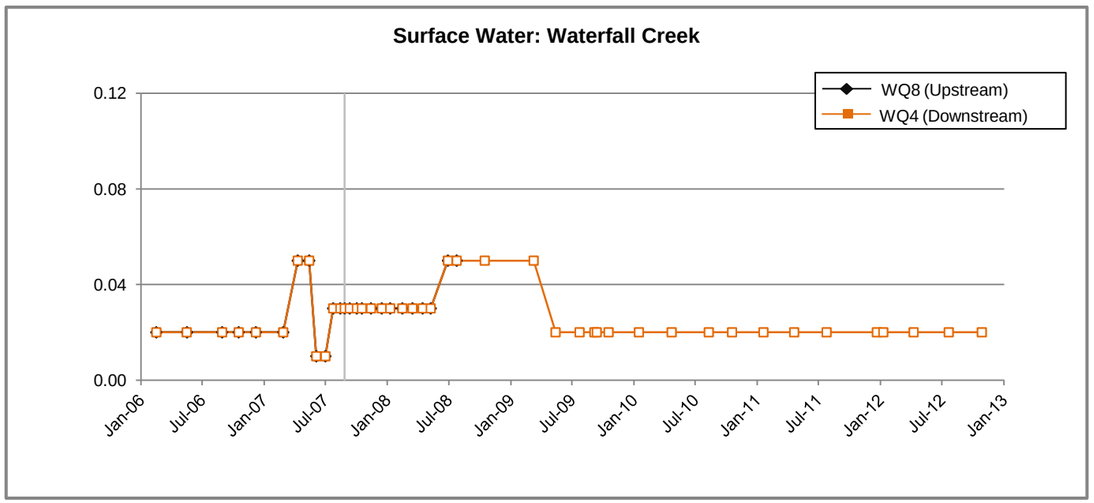
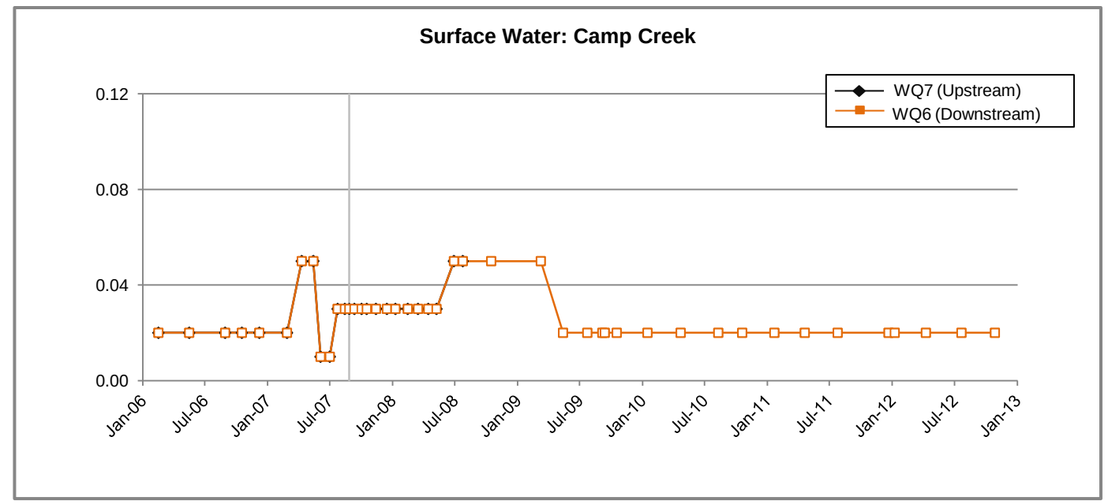
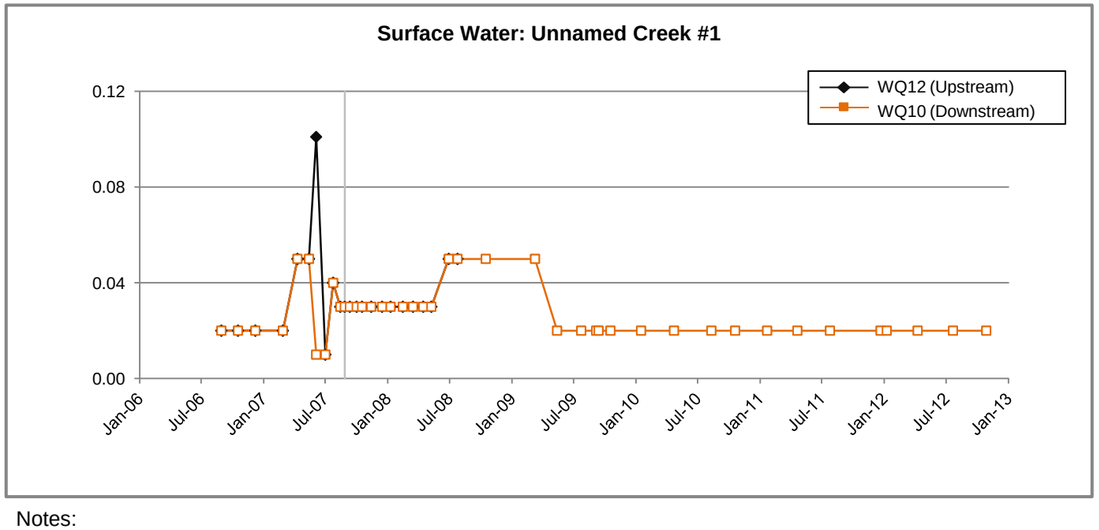
NIBLACK PROJECT LLC integral consulting inc.

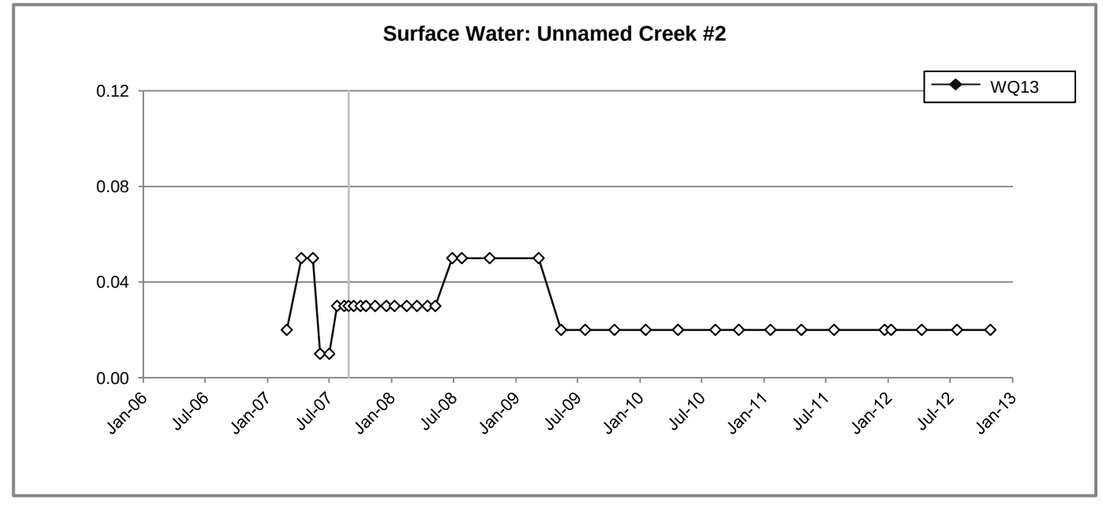
Figure 4-19c
Time Series Plots: Dissolved Lead
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Mercury (µg/L)









Notes:
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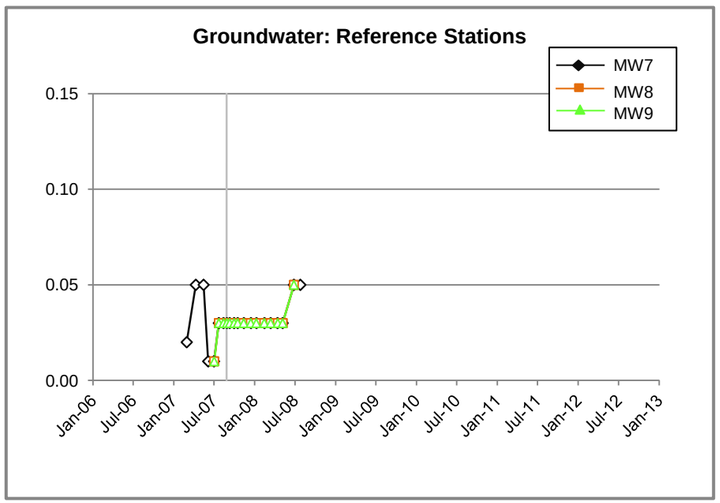
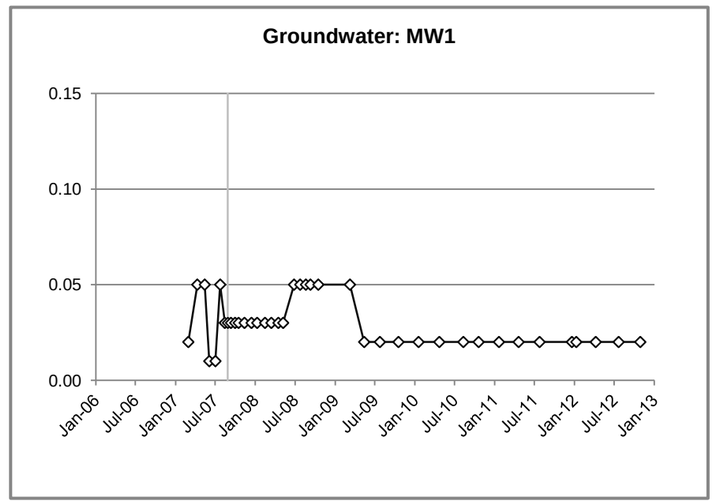
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

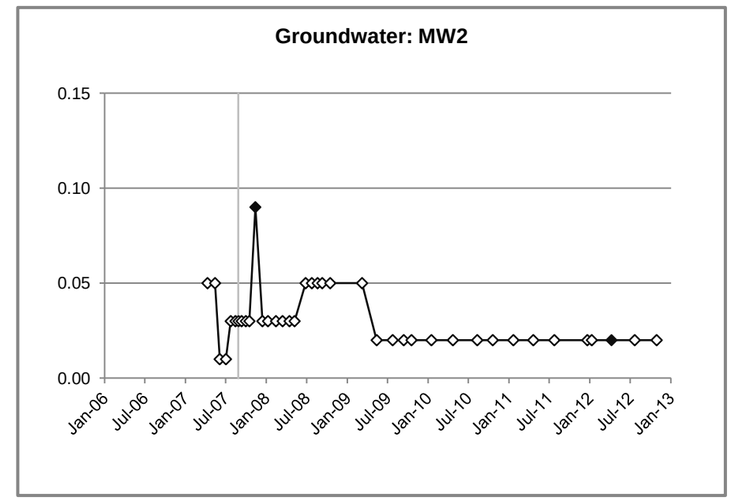
NIBLACK PROJECT LLC integral consulting inc.

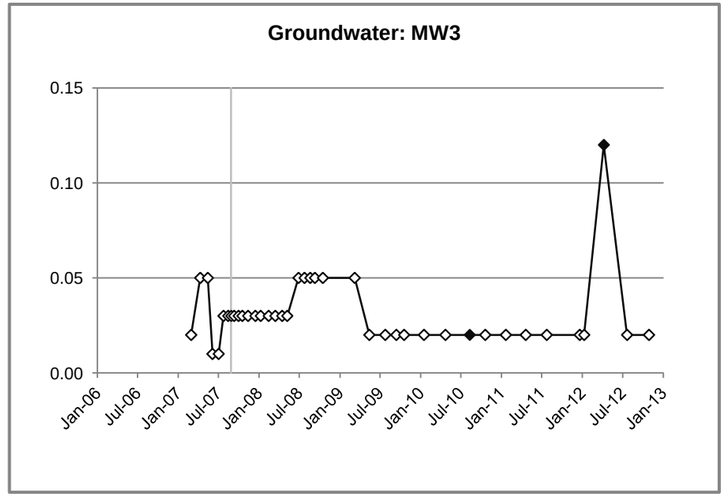
Figure 4-20a
Time Series Plots: Dissolved Mercury
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

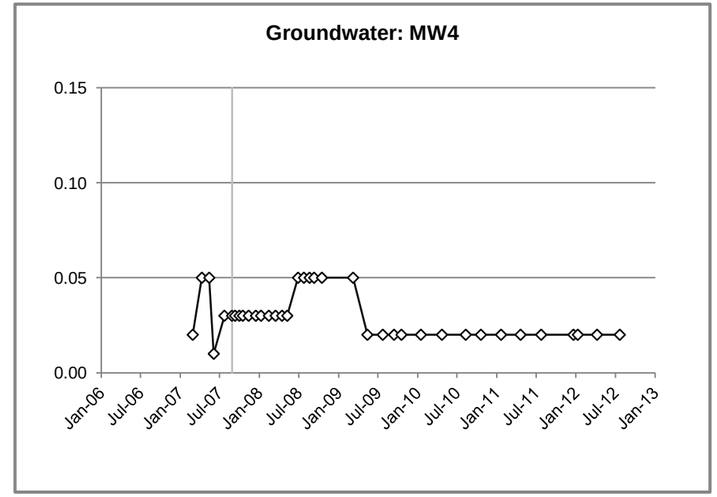
Permit Stations - Groundwater
Dissolved Mercury (µg/L)









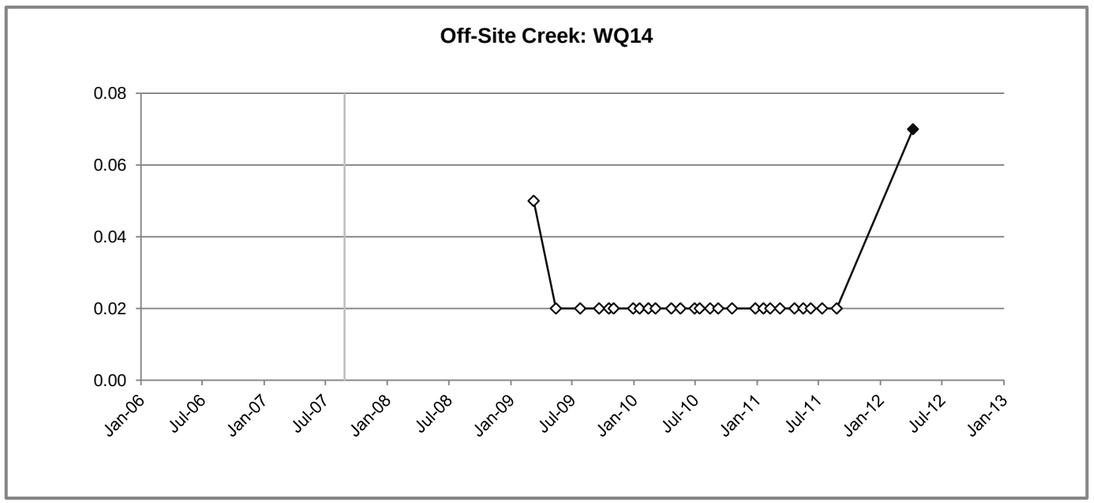


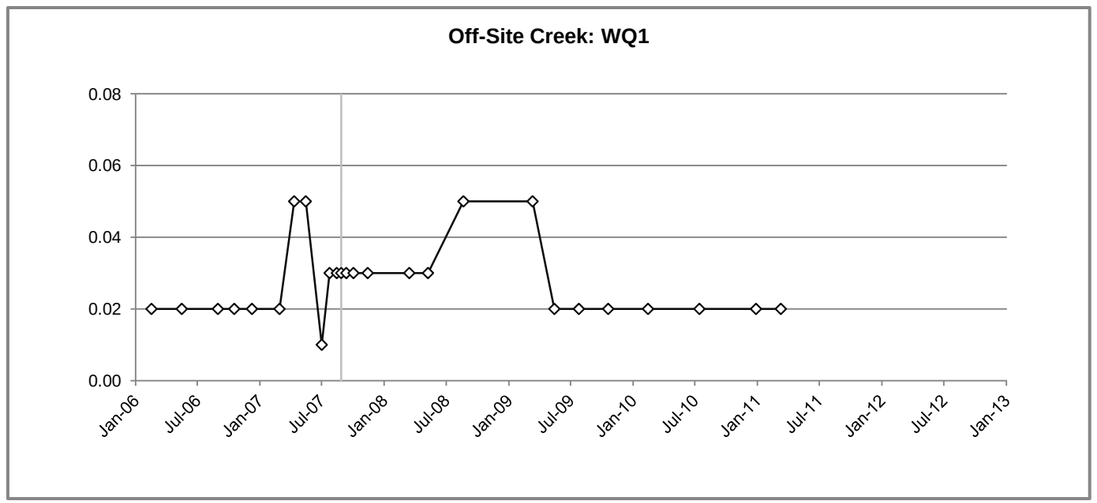
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

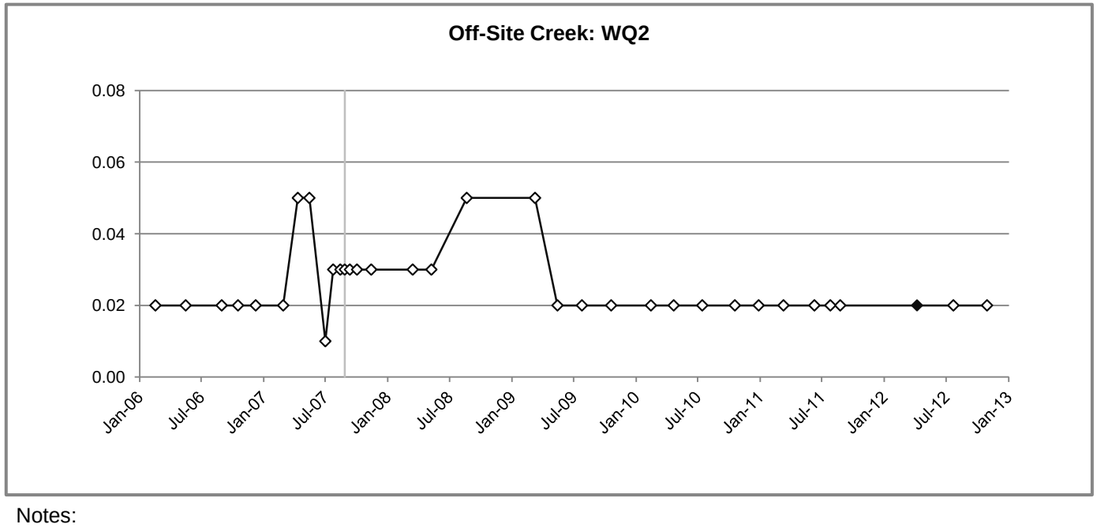
NIBLACK PROJECT LLC integral consulting inc.

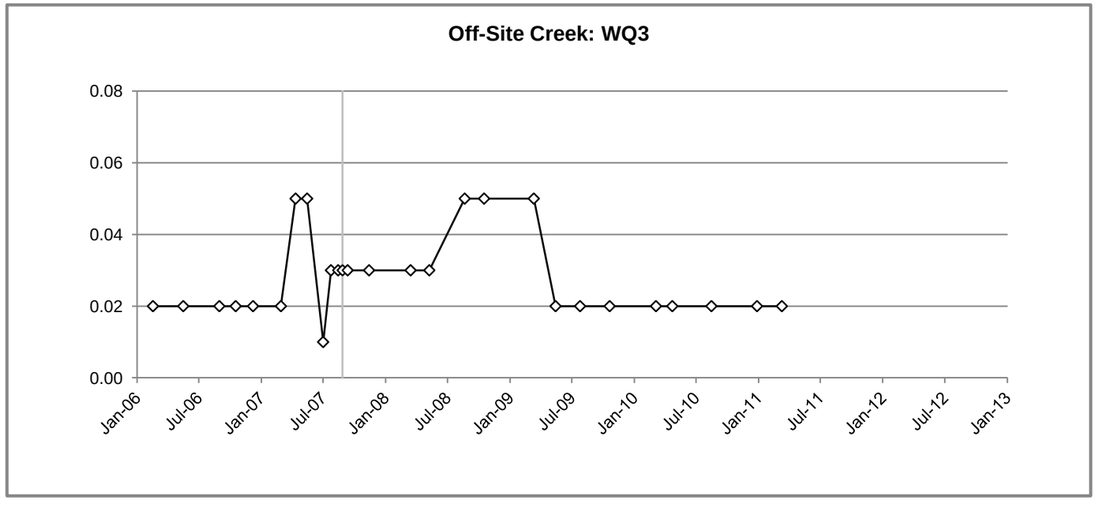
Figure 4-20b
Time Series Plots: Dissolved Mercury
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Mercury (µg/L)









Notes:
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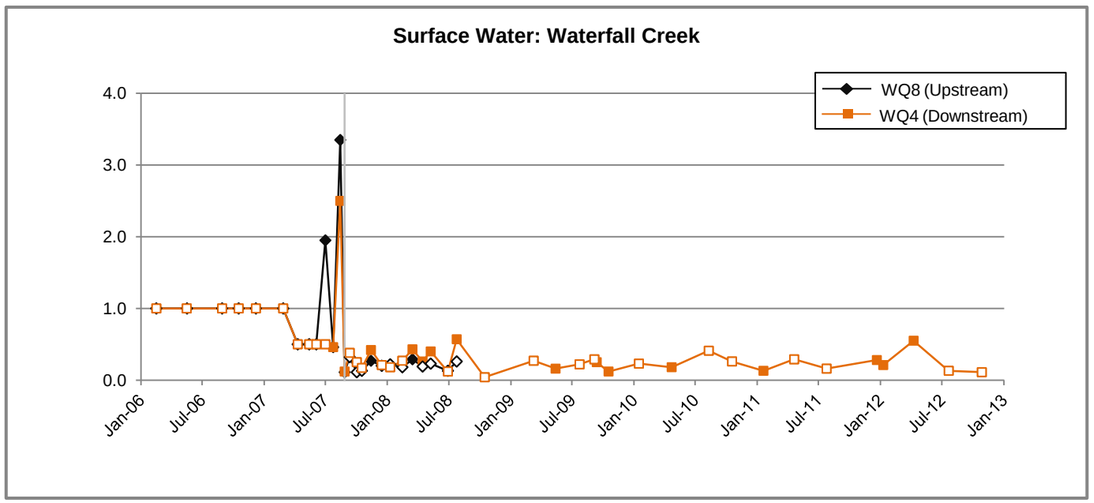
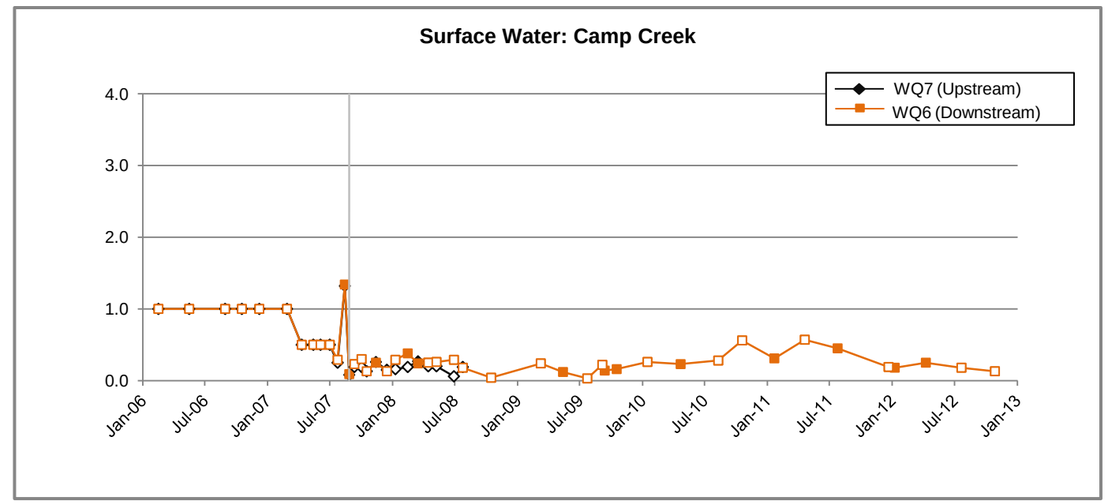
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

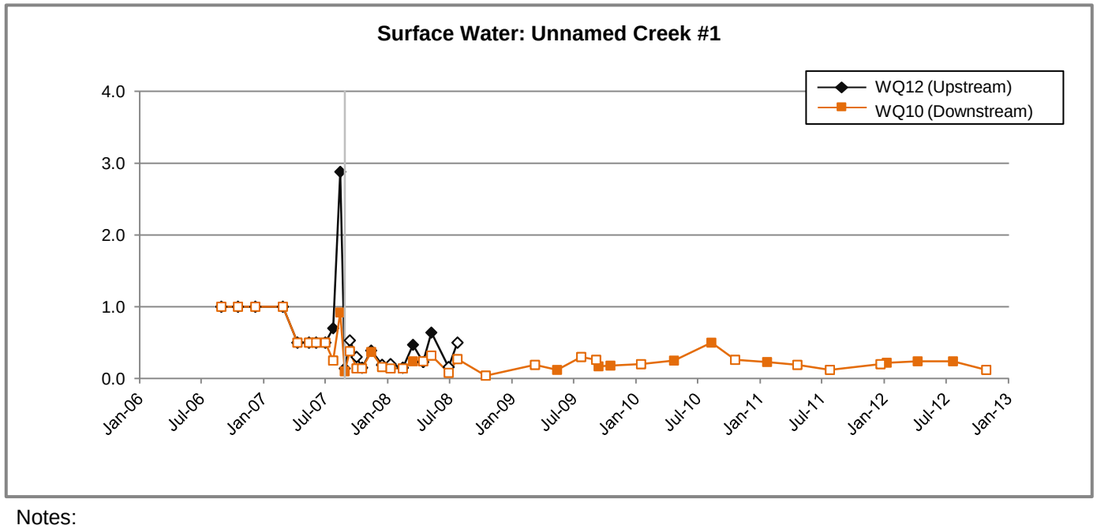
NIBLACK PROJECT LLC integral consulting inc.

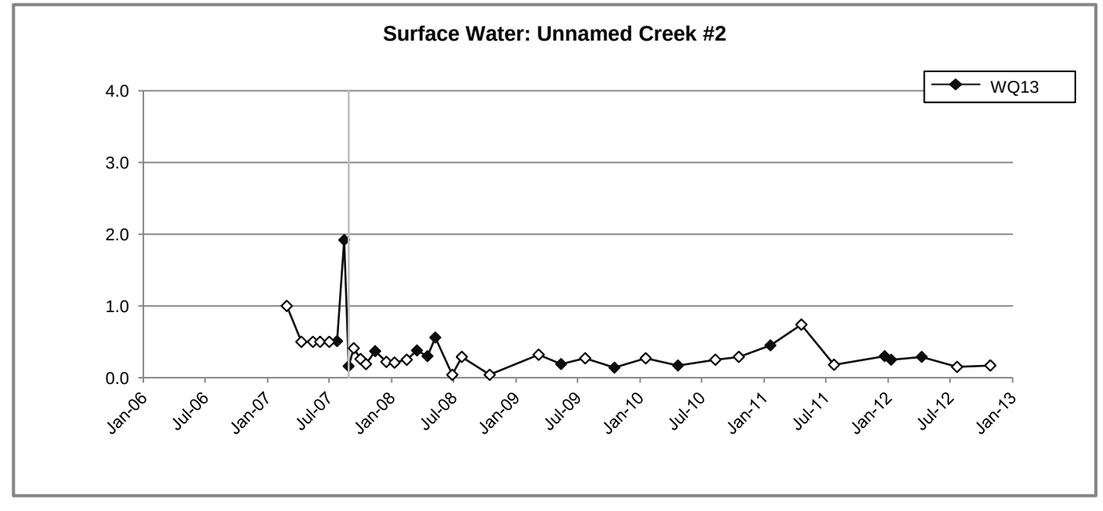
Figure 4-20c
Time Series Plots: Dissolved Mercury
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Nickel (µg/L)







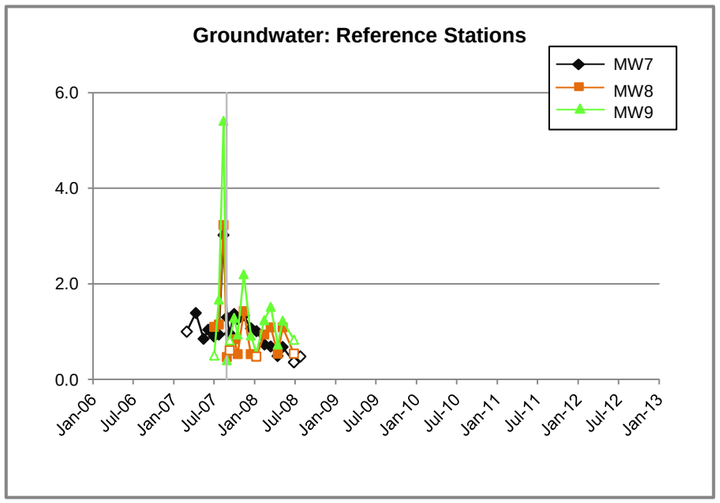


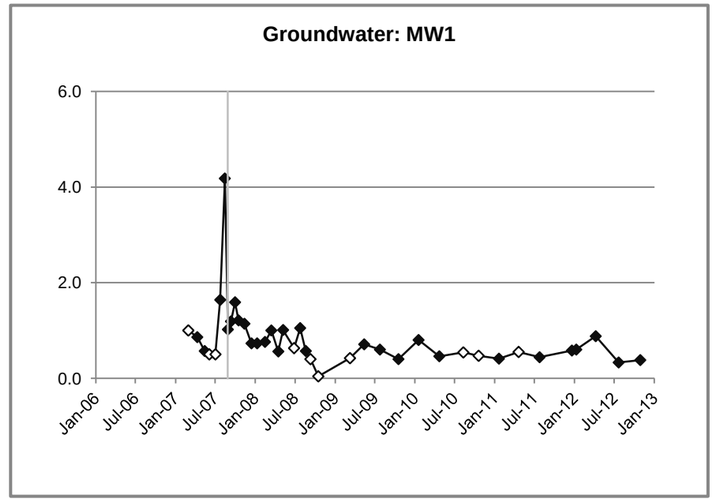
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

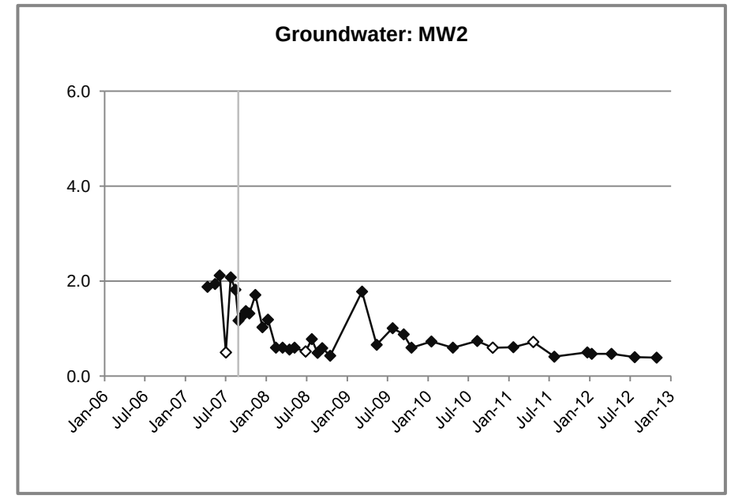
NIBLACK PROJECT LLC integral consulting inc.

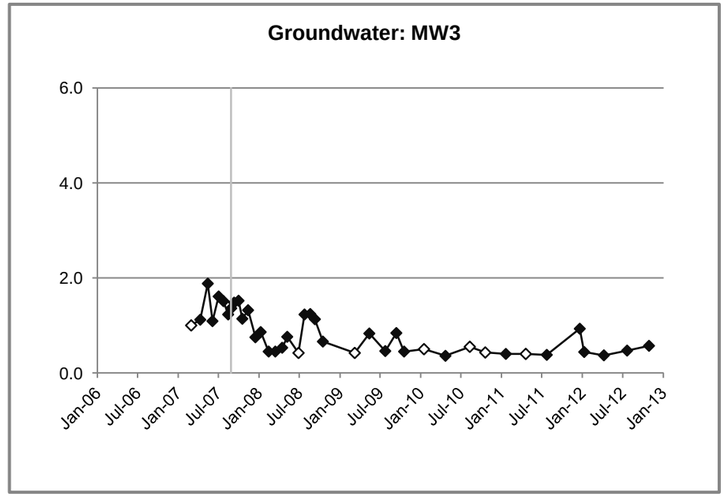
Figure 4-21a
Time Series Plots: Dissolved Nickel
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

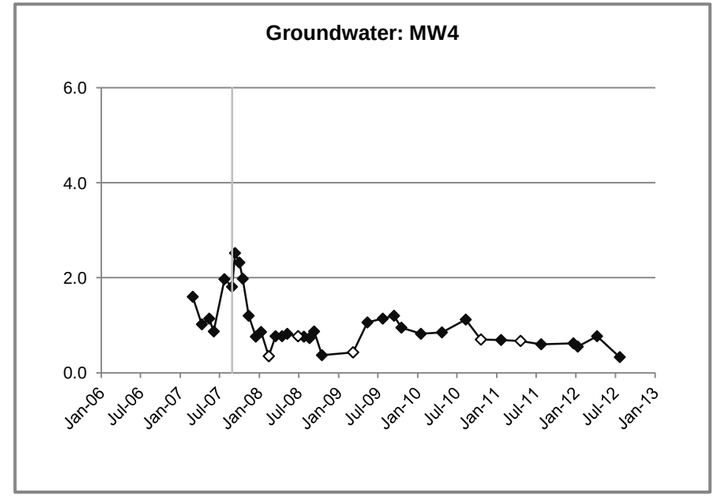
Permit Stations - Groundwater
Dissolved Nickel (µg/L)











Notes:
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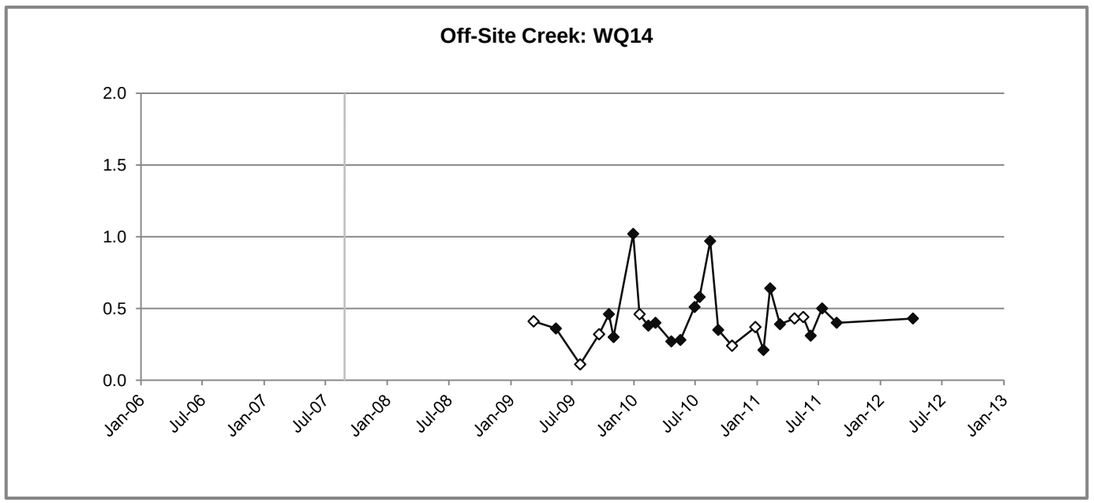
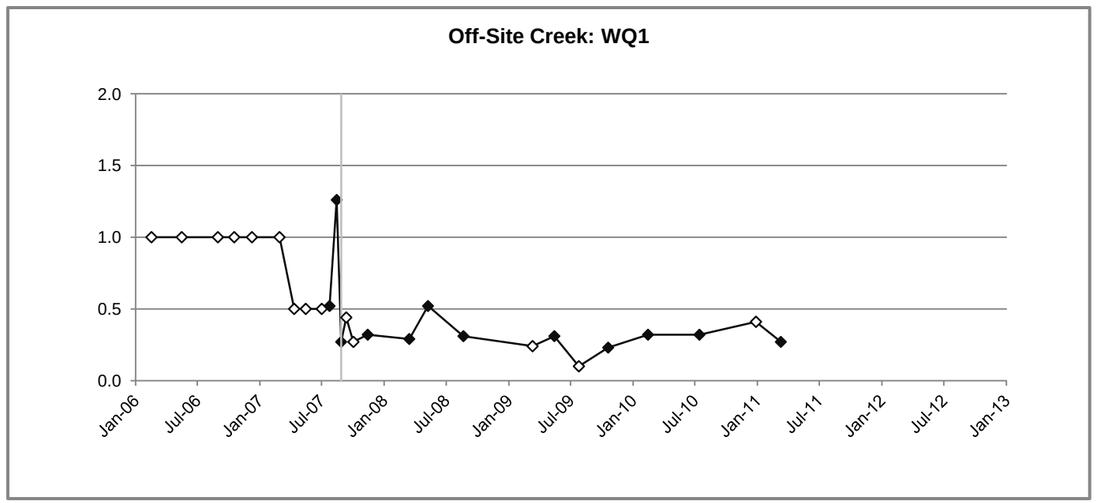
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

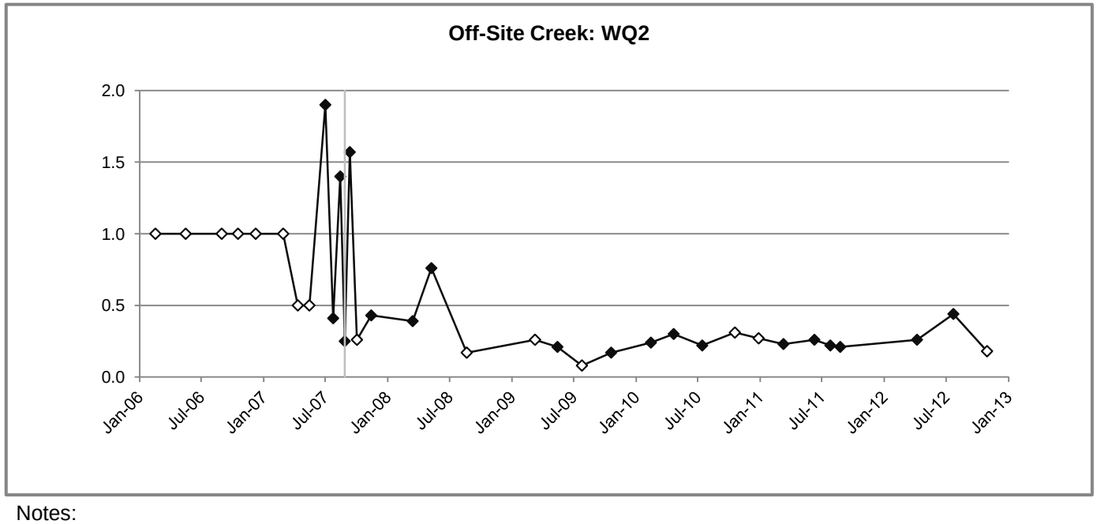
NIBLACK PROJECT LLC integral consulting inc.

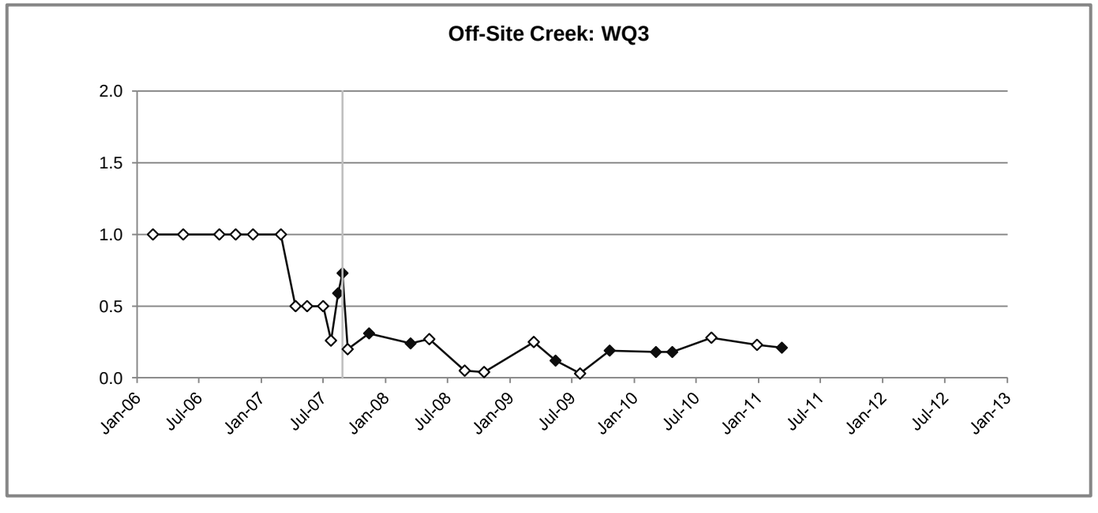
Figure 4-21b
Time Series Plots: Dissolved Nickel
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Nickel (µg/L)









Notes:
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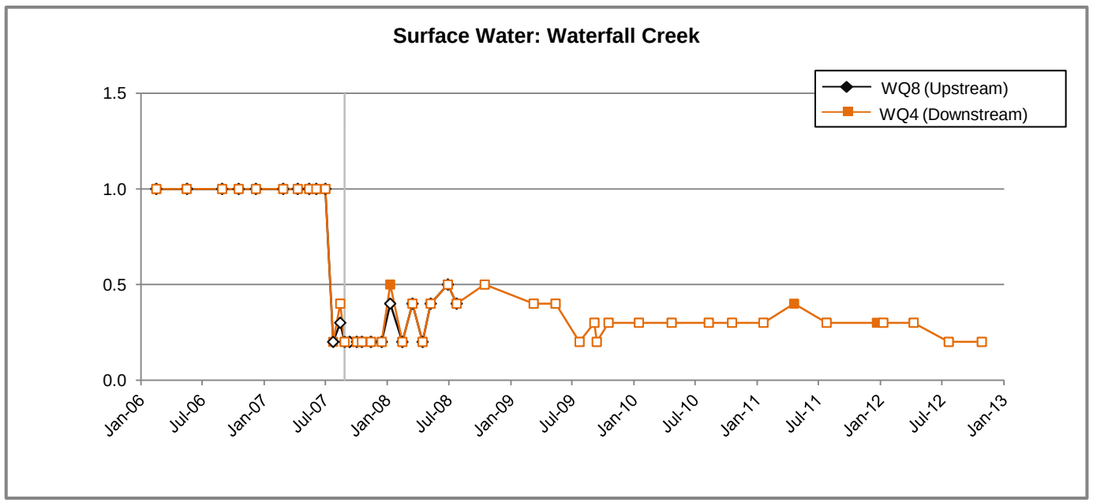
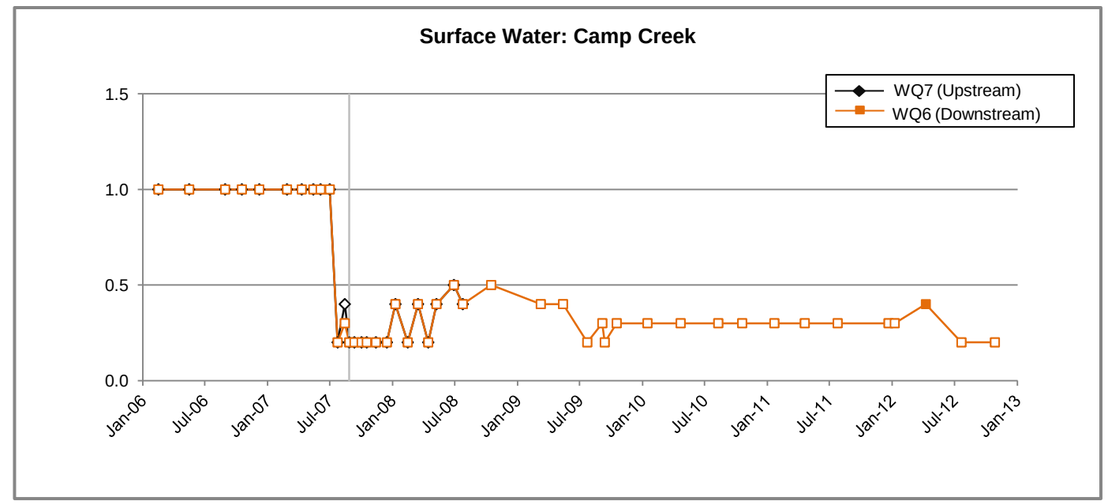
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

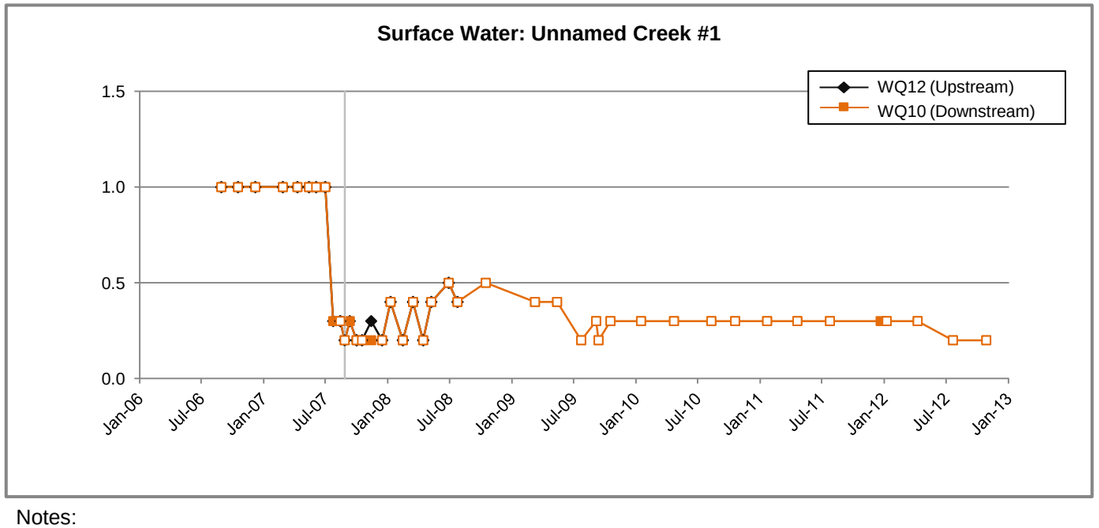
NIBLACK PROJECT LLC integral consulting inc.

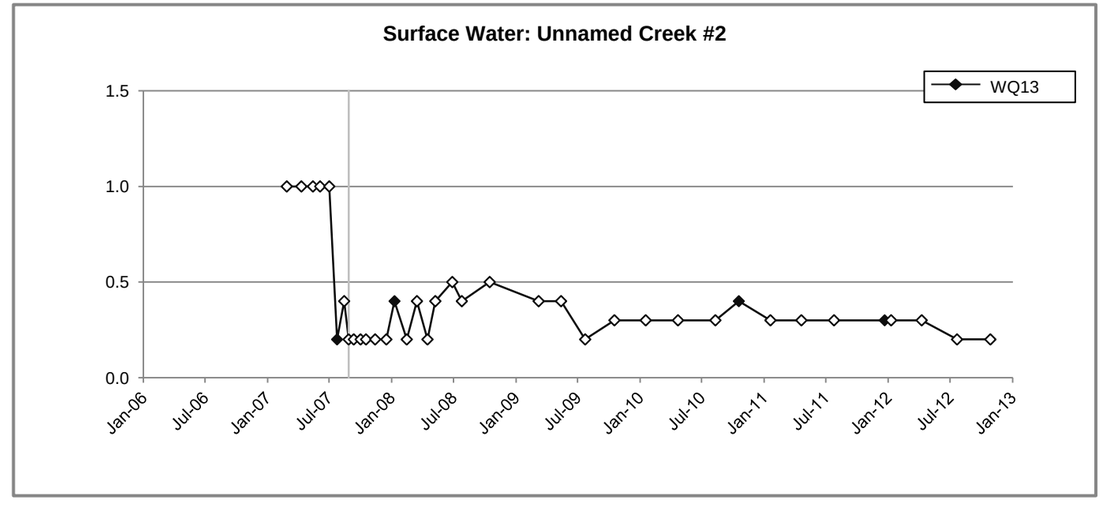
Figure 4-21c
Time Series Plots: Dissolved Nickel
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Selenium (µg/L)







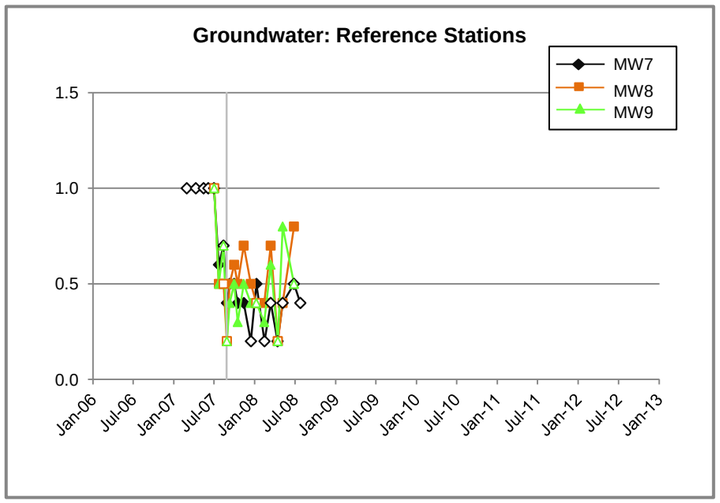


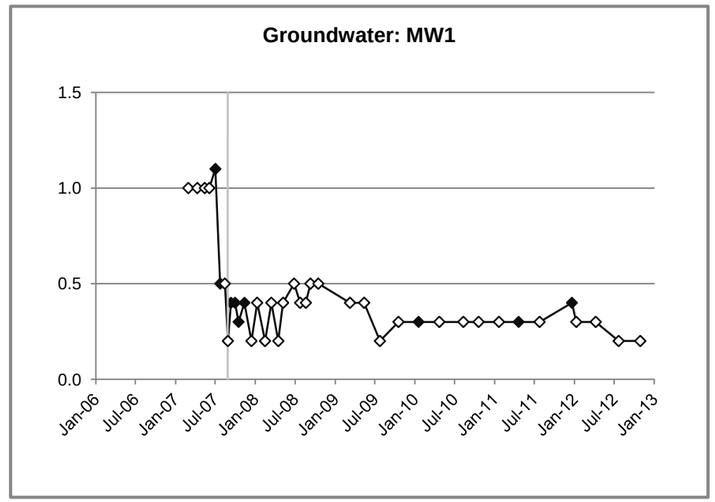
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

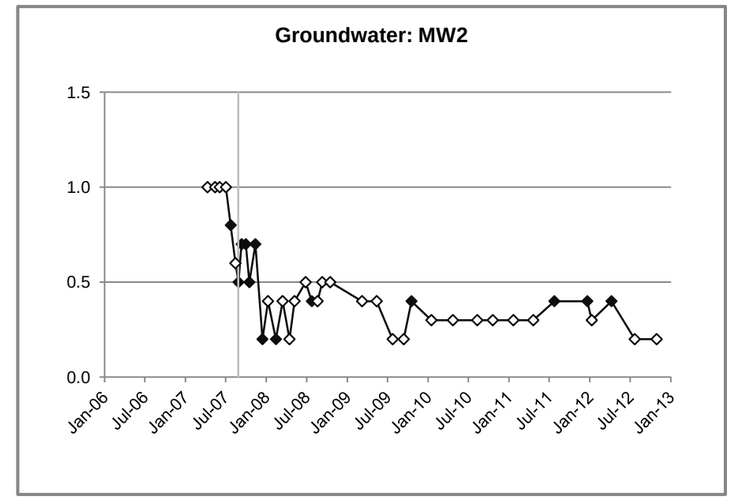
NIBLACK PROJECT LLC integral consulting inc.

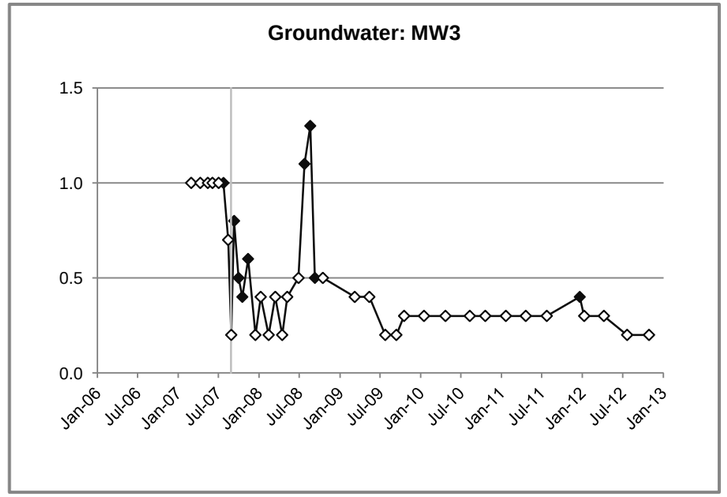
Figure 4-22a
Time Series Plots: Dissolved Selenium
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

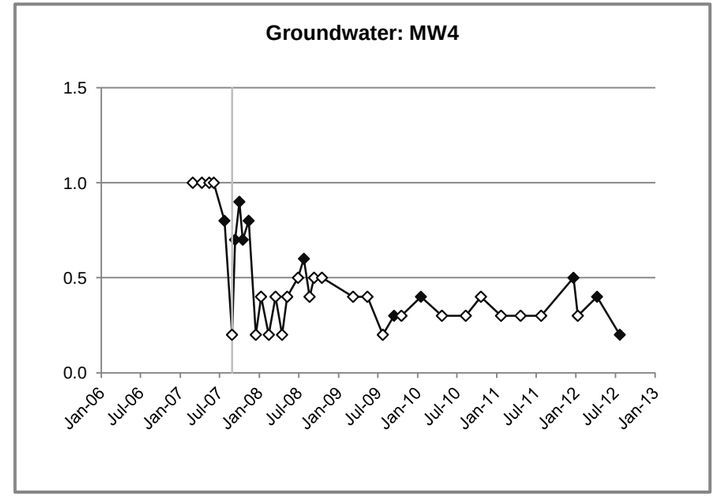
Permit Stations - Groundwater
Dissolved Selenium (µg/L)











Notes:
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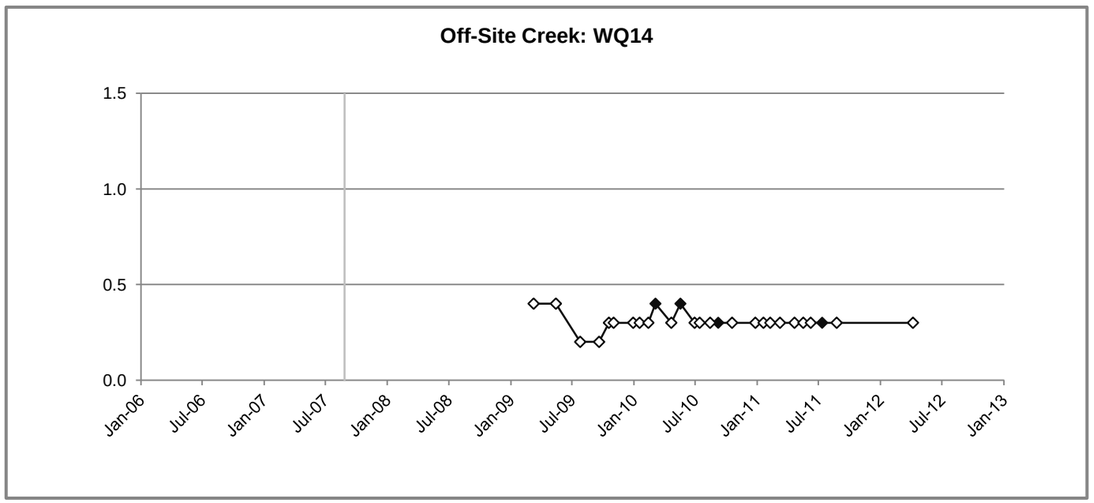
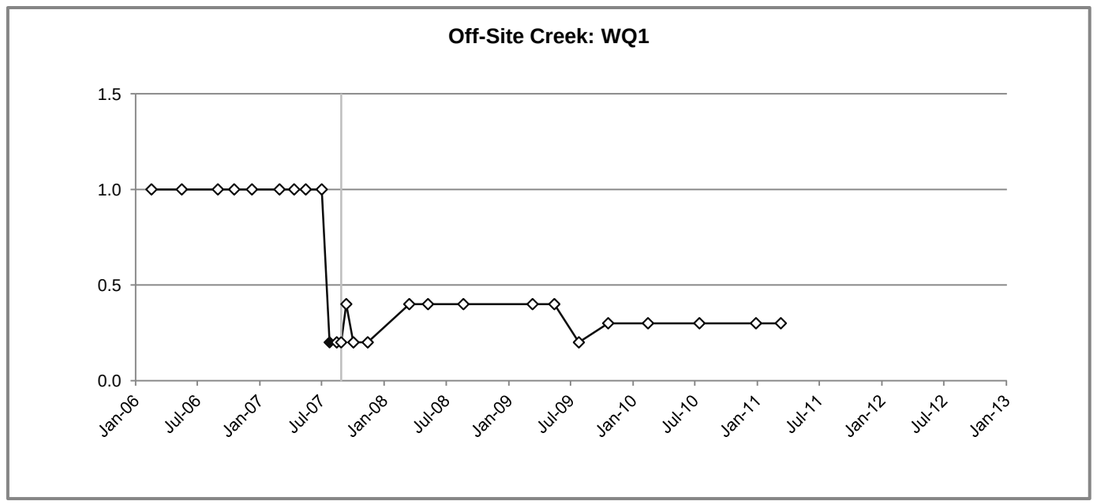
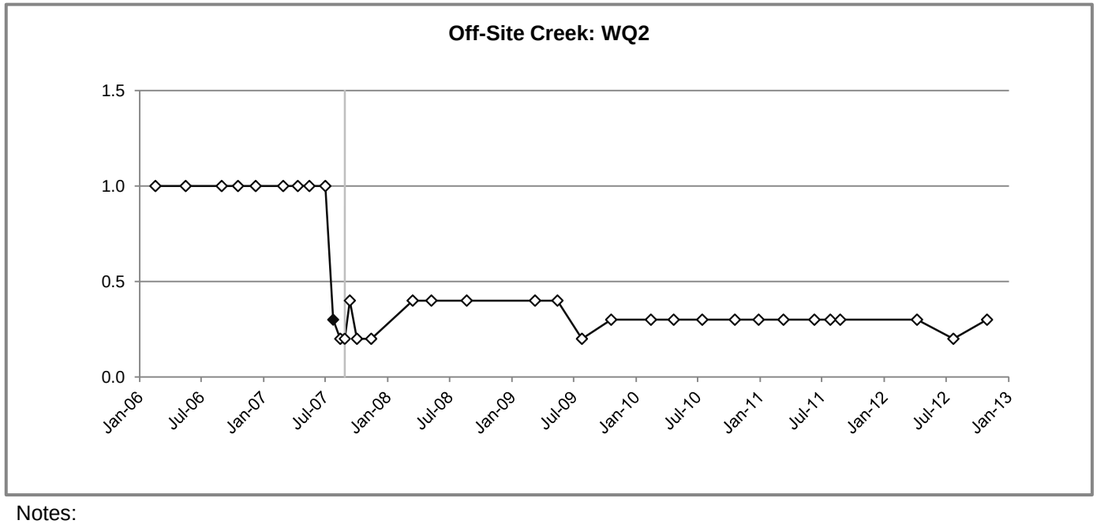
NIBLACK PROJECT LLC integral consulting inc.

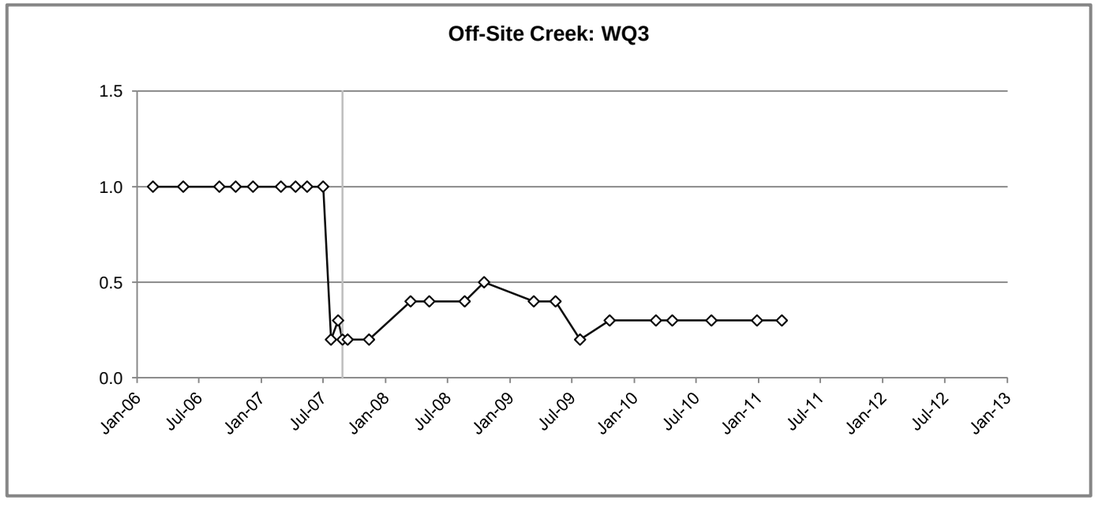
Figure 4-22b
Time Series Plots: Dissolved Selenium
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Selenium (µg/L)









Notes:
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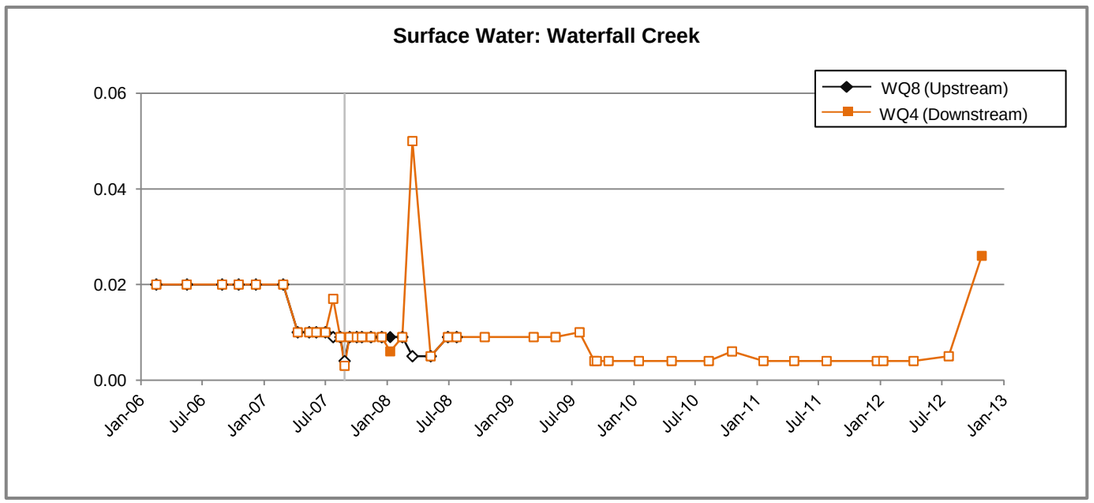
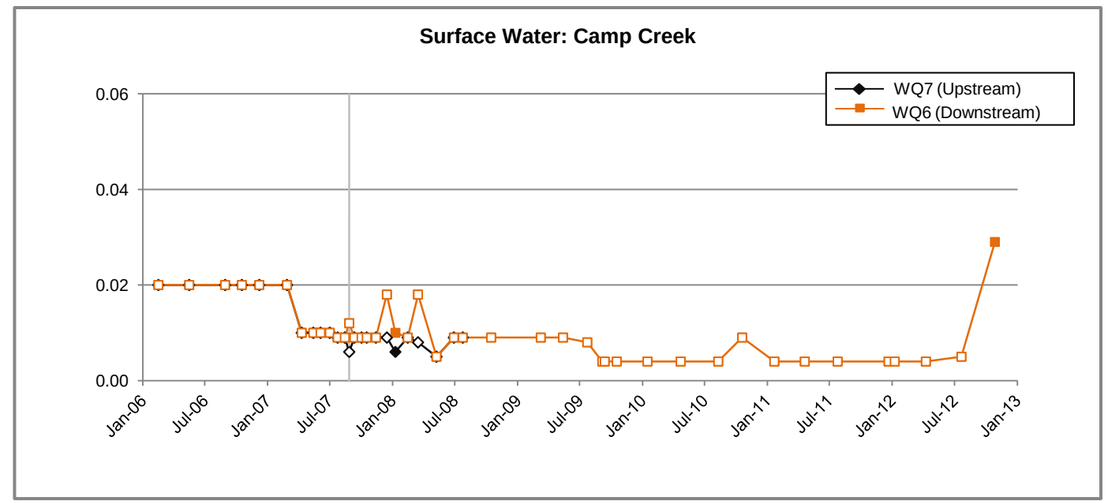
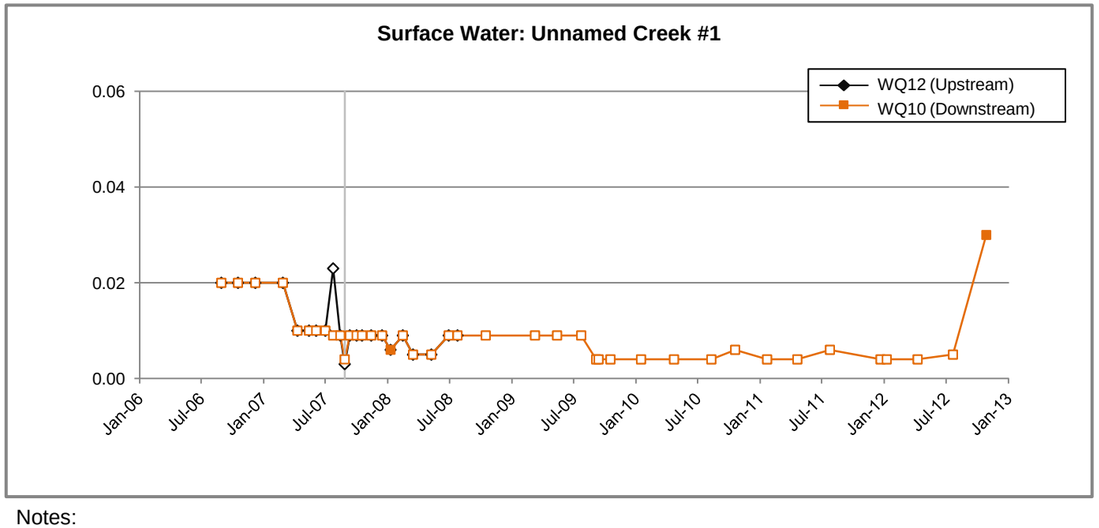
NIBLACK PROJECT LLC integral consulting inc.

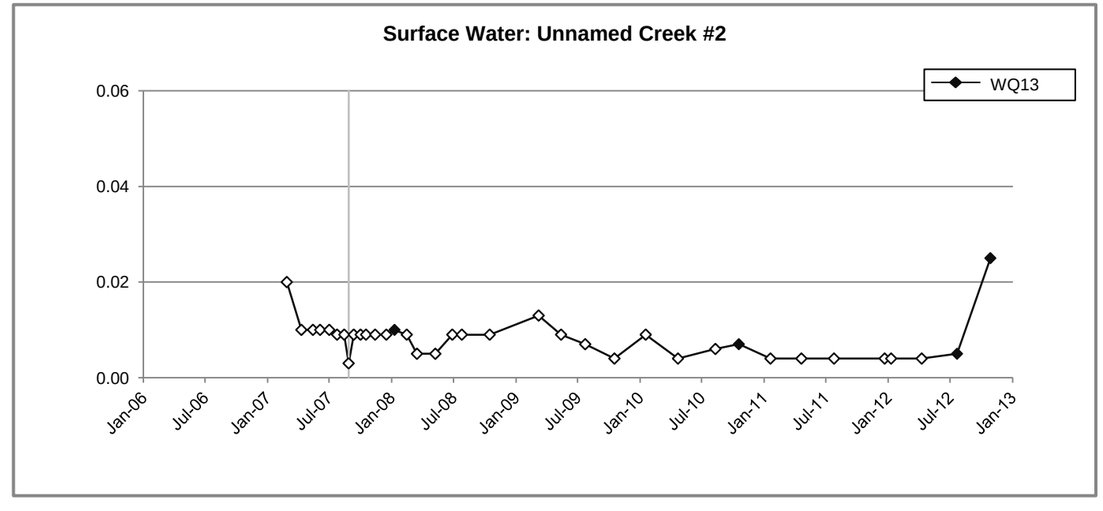
Figure 4-22c
Time Series Plots: Dissolved Selenium
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Silver (µg/L)









Notes:
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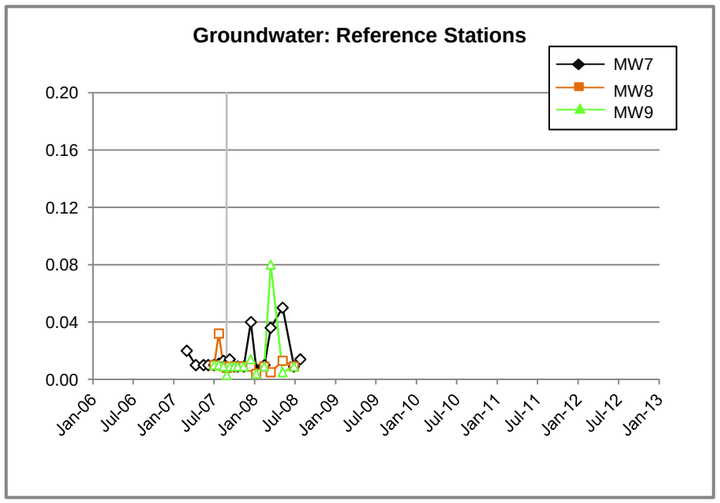
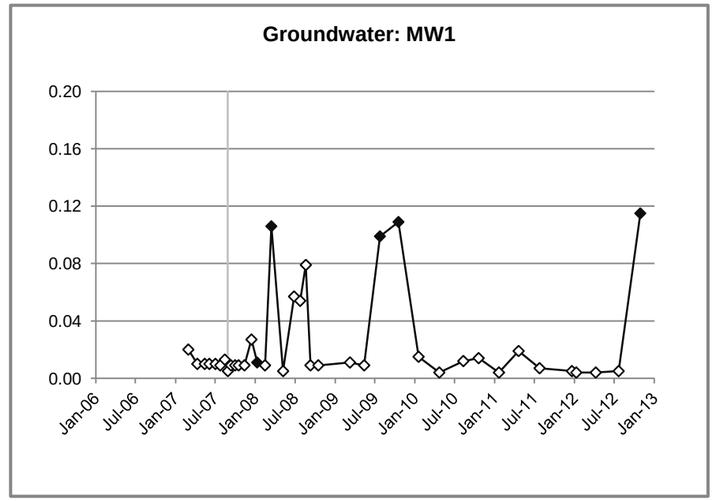
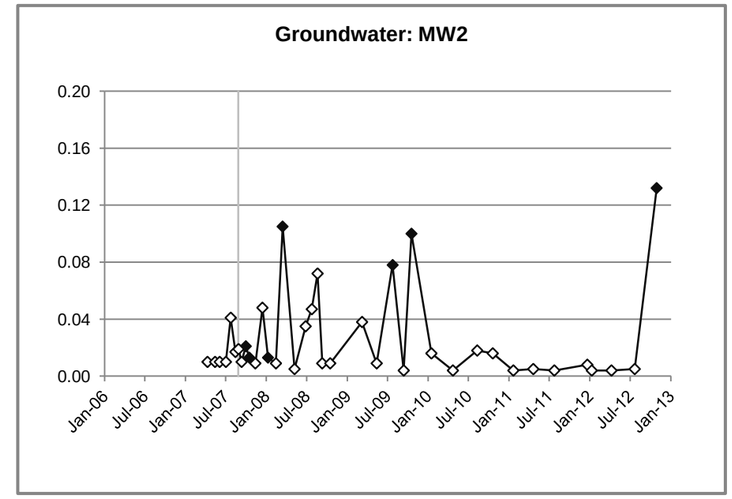
NIBLACK PROJECT LLC integral consulting inc.

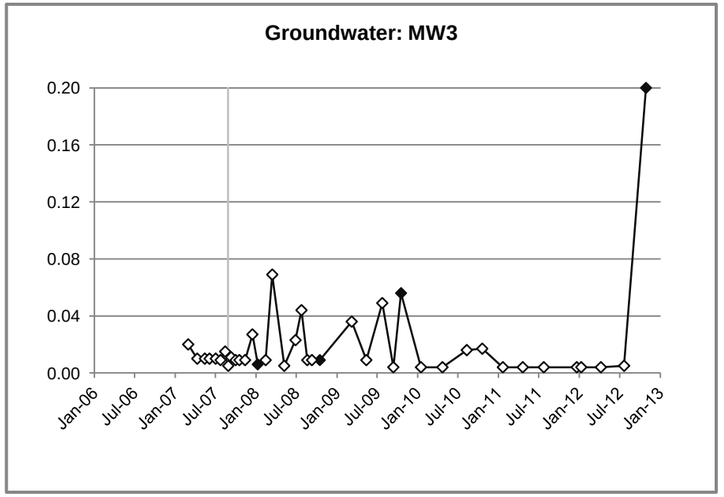
Figure 4-23a
Time Series Plots: Dissolved Silver
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

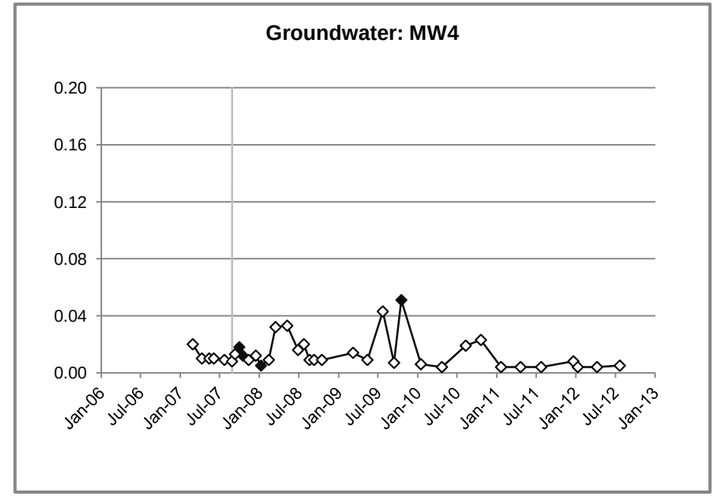
Permit Stations - Groundwater
Dissolved Silver (µg/L)











Notes:
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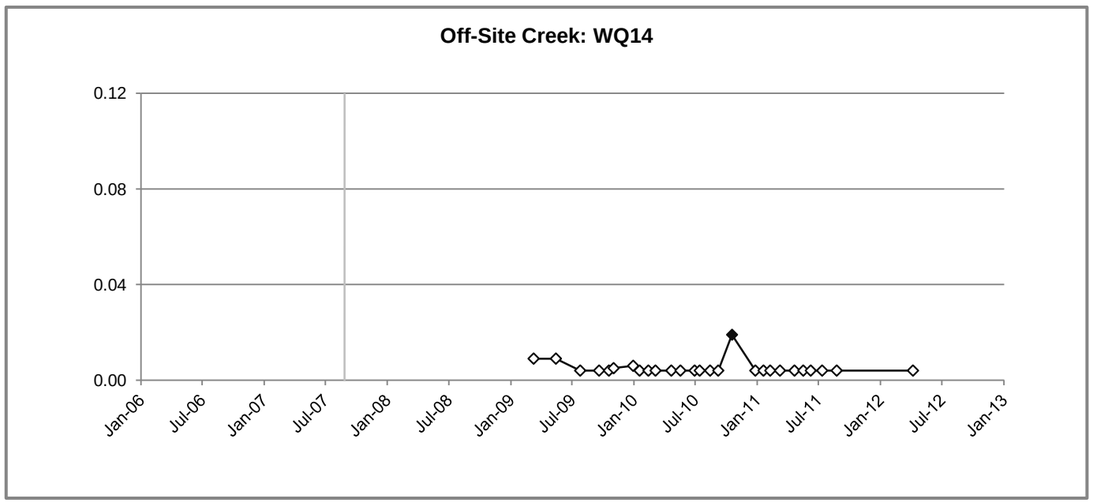
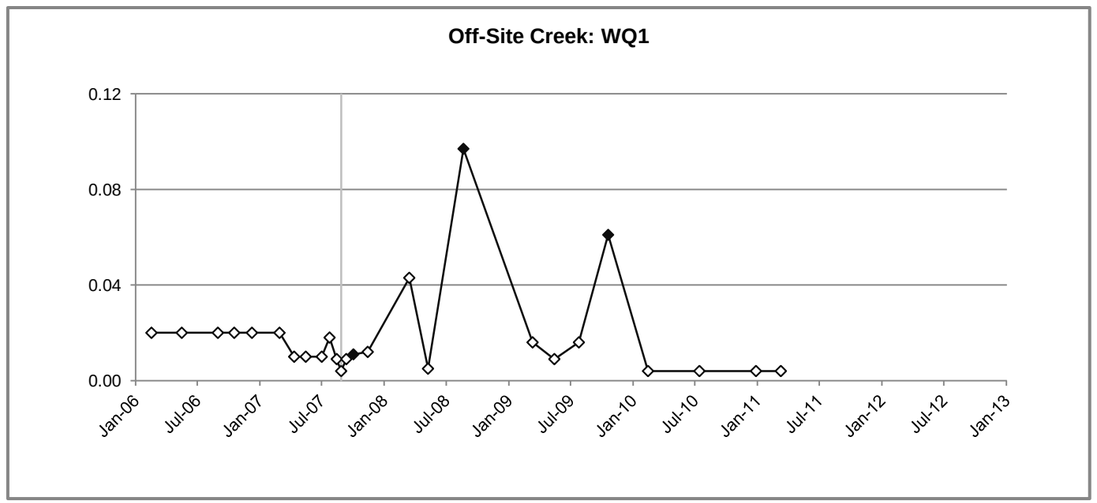
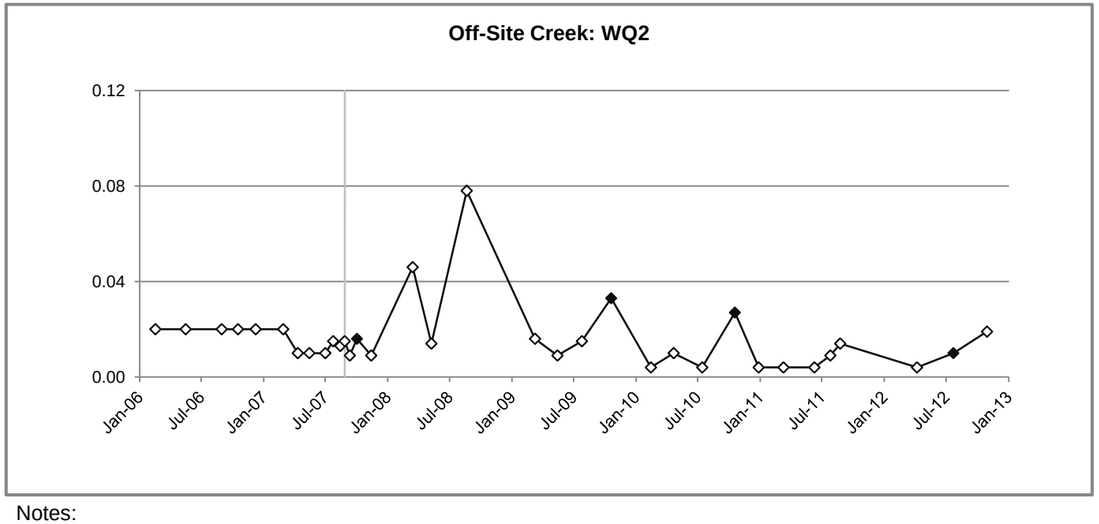
NIBLACK PROJECT LLC integral consulting inc.

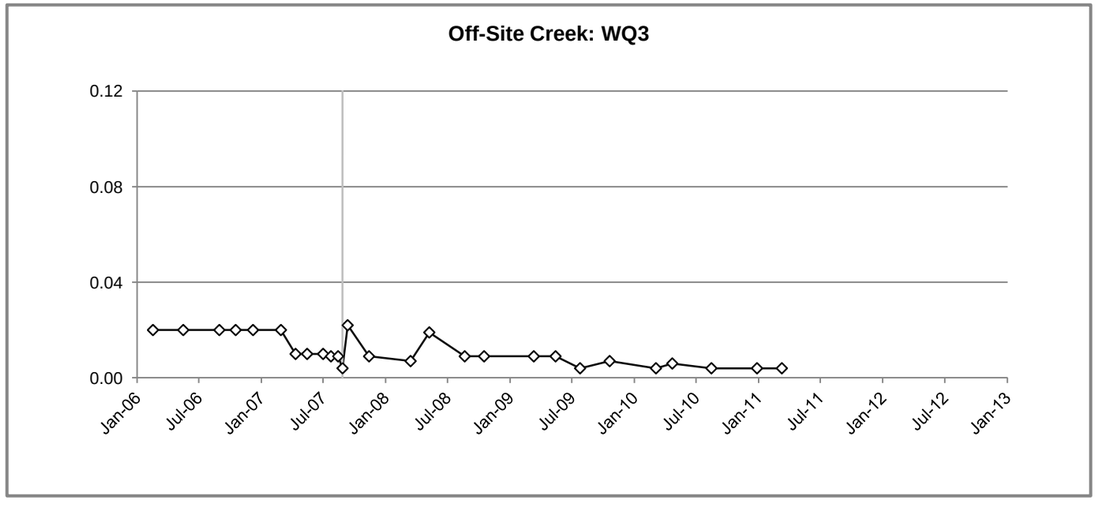
Figure 4-23b
Time Series Plots: Dissolved Silver
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Silver (µg/L)







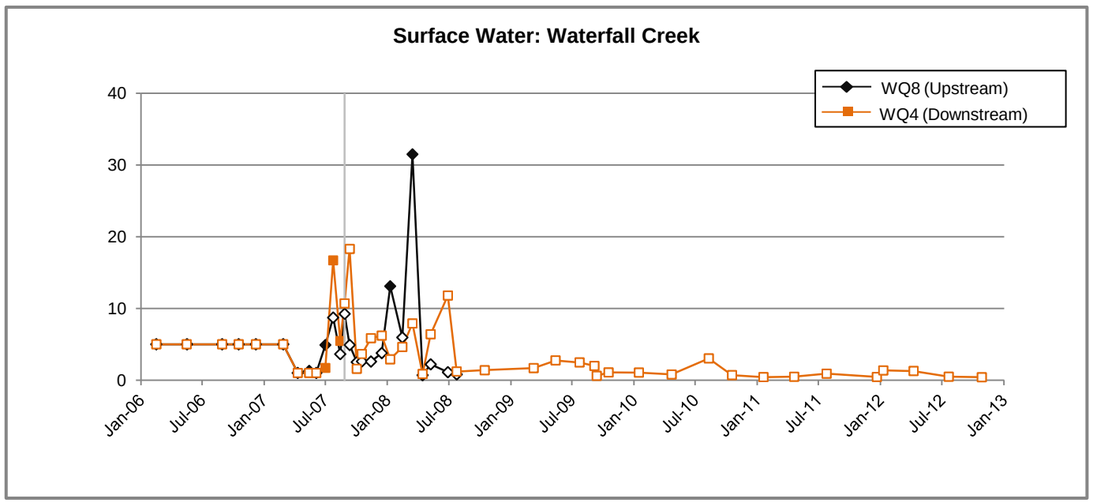


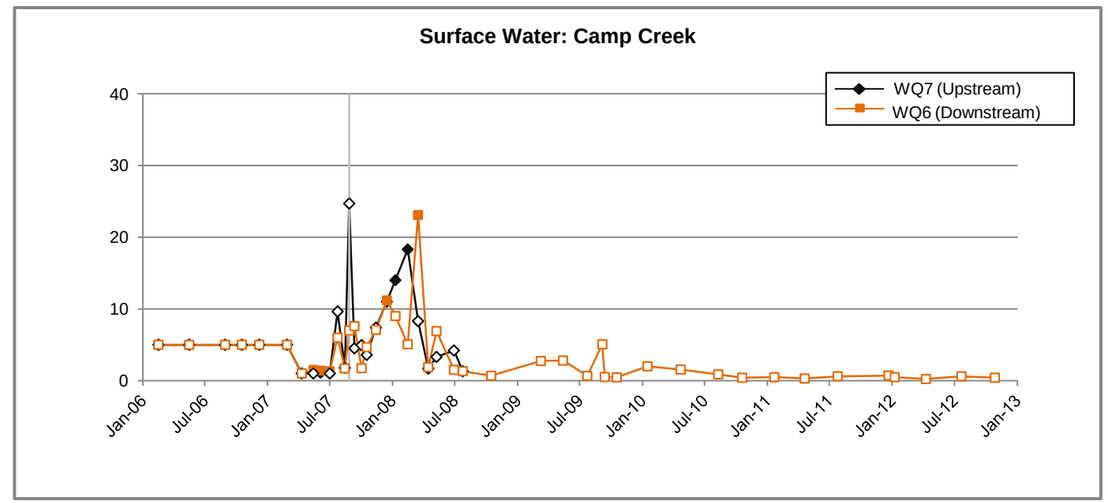
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

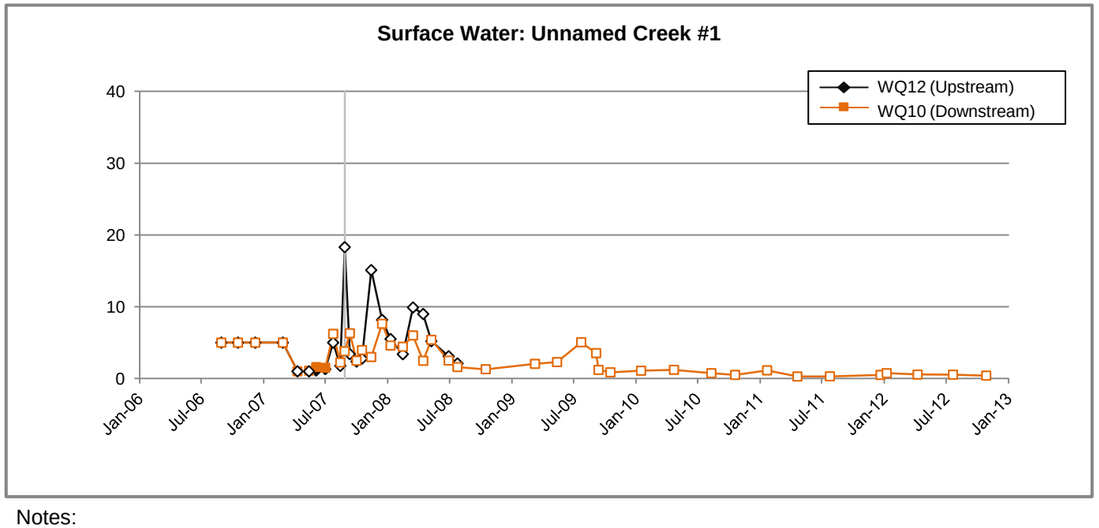
NIBLACK PROJECT LLC integral consulting inc.

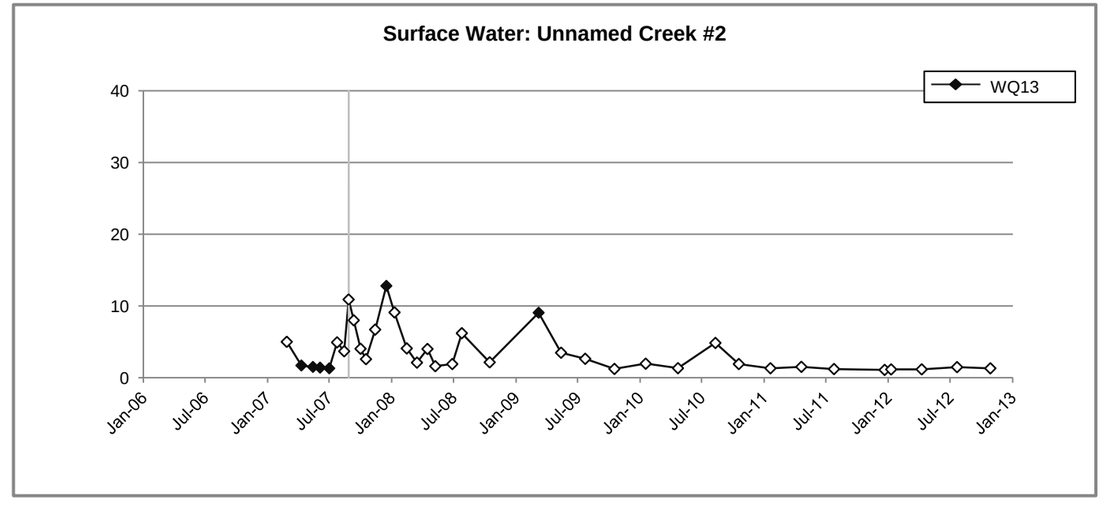
Figure 4-23c
Time Series Plots: Dissolved Silver
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

Permit Stations - Surface Water
Dissolved Zinc (µg/L)







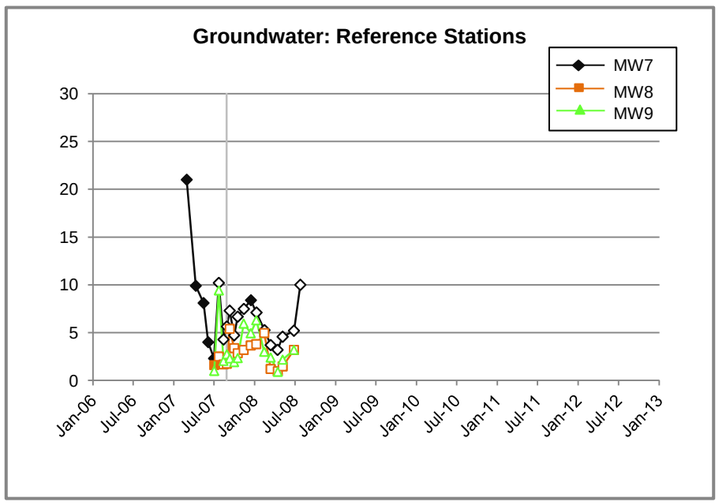


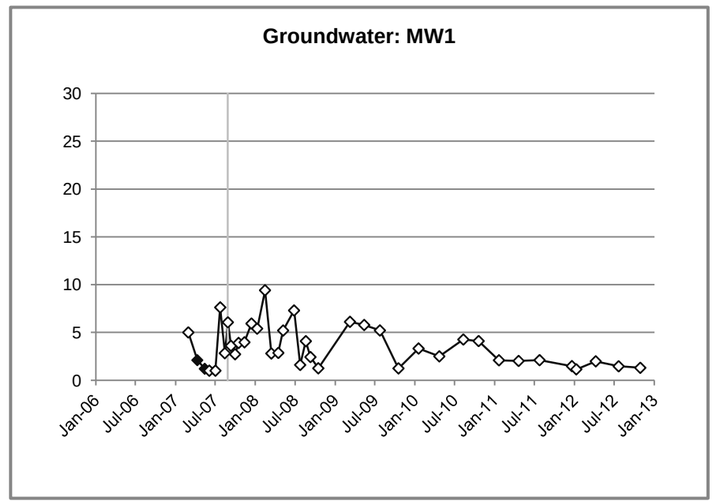
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

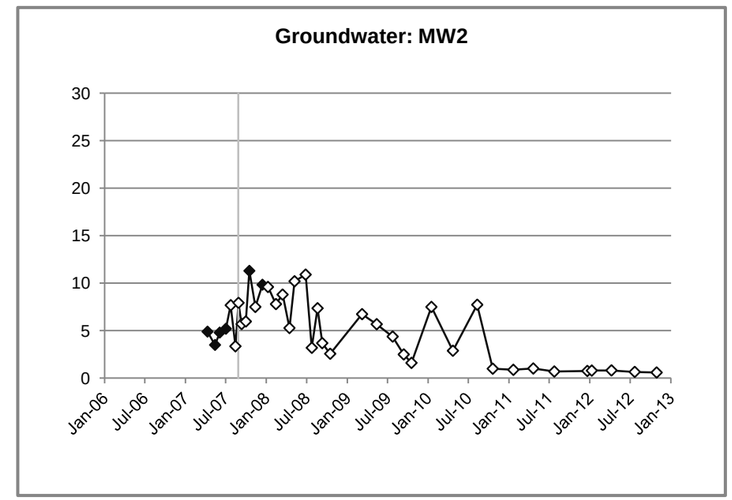
NIBLACK PROJECT LLC integral consulting inc.

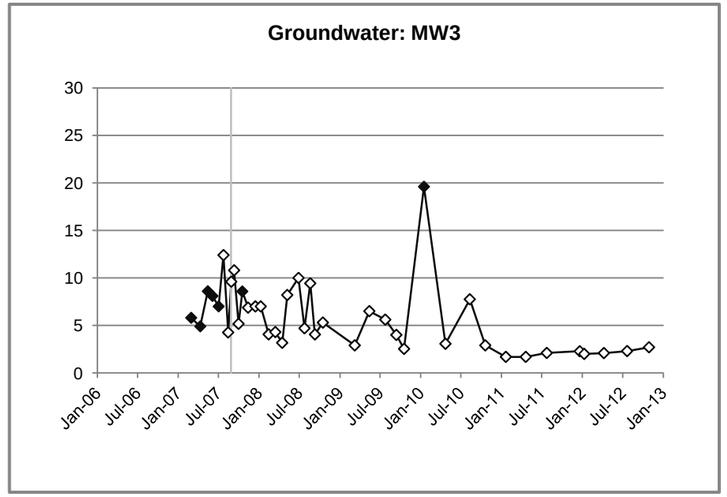
Figure 4-24a
Time Series Plots: Dissolved Zinc
Permit Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

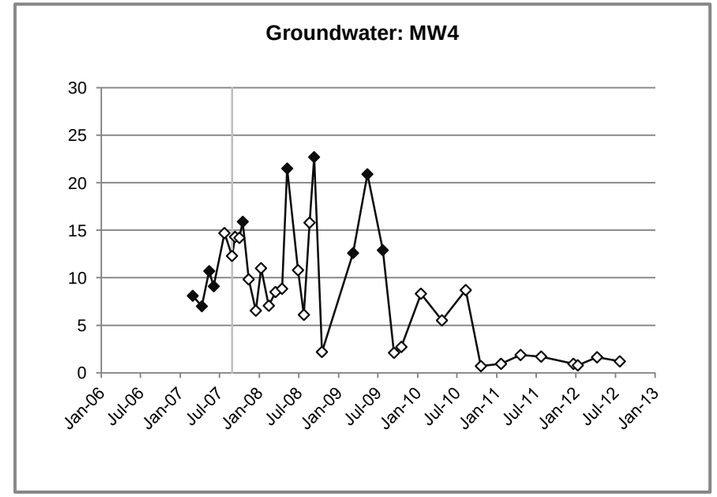
Permit Stations - Groundwater
Dissolved Zinc (µg/L)









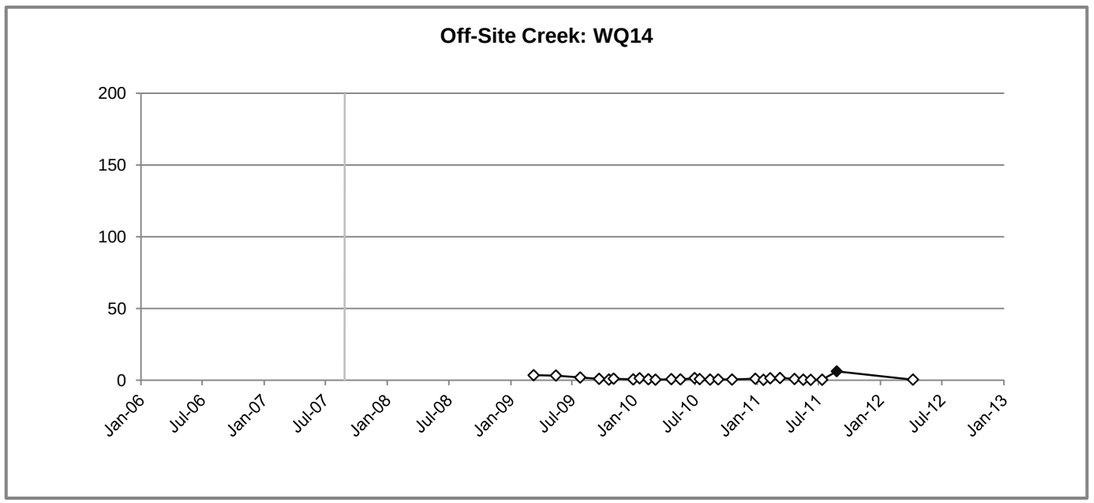


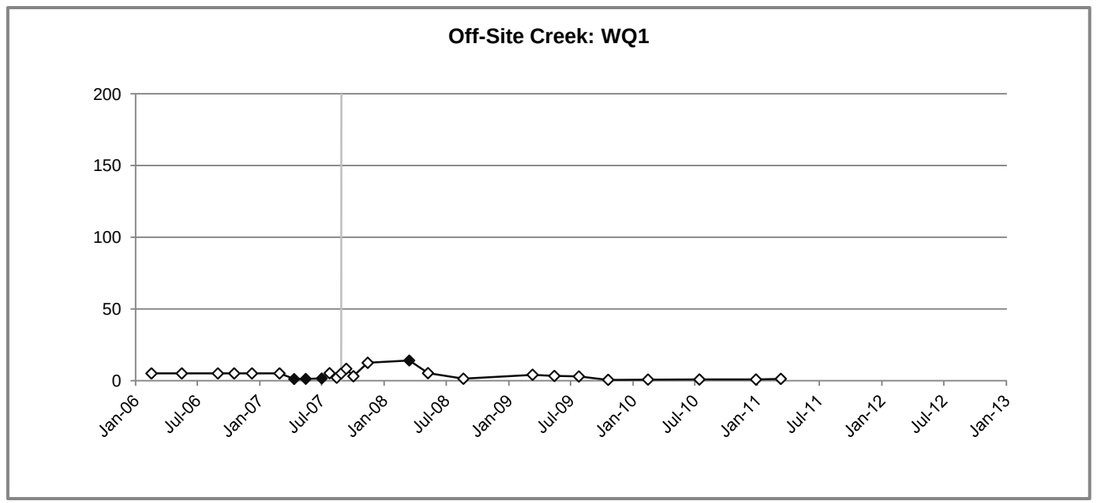
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

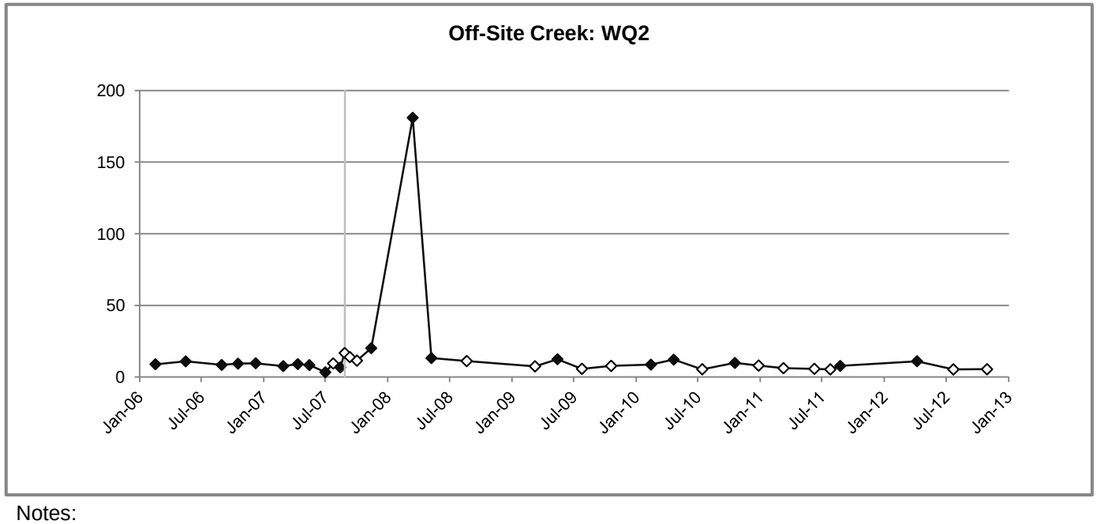
NIBLACK PROJECT LLC integral consulting inc.

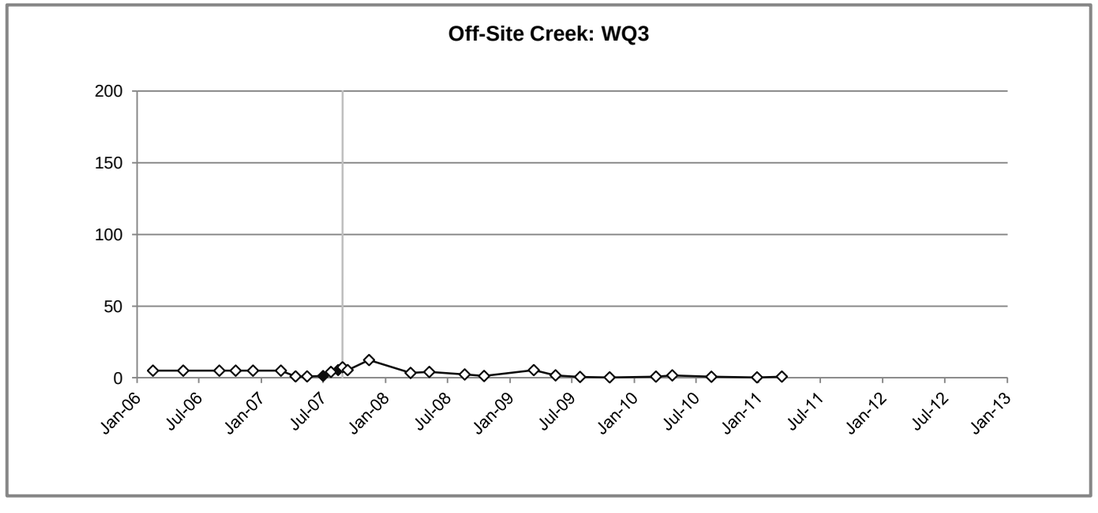
Figure 4-24b
Time Series Plots: Dissolved Zinc
Permit Stations - Groundwater
Niblack Exploration Project
2012 Annual Report

Offsite Stations - Surface Water
Dissolved Zinc (µg/L)





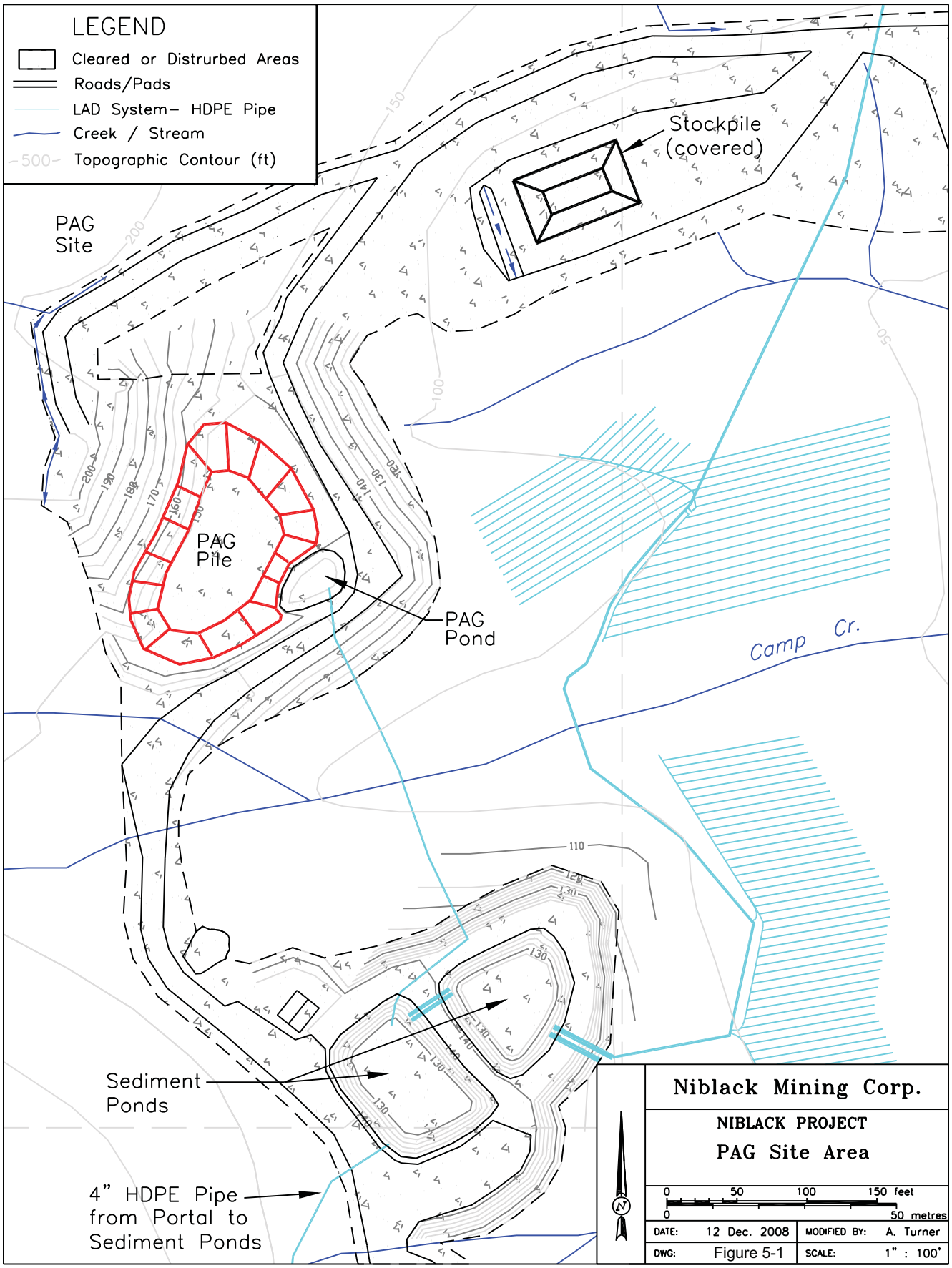


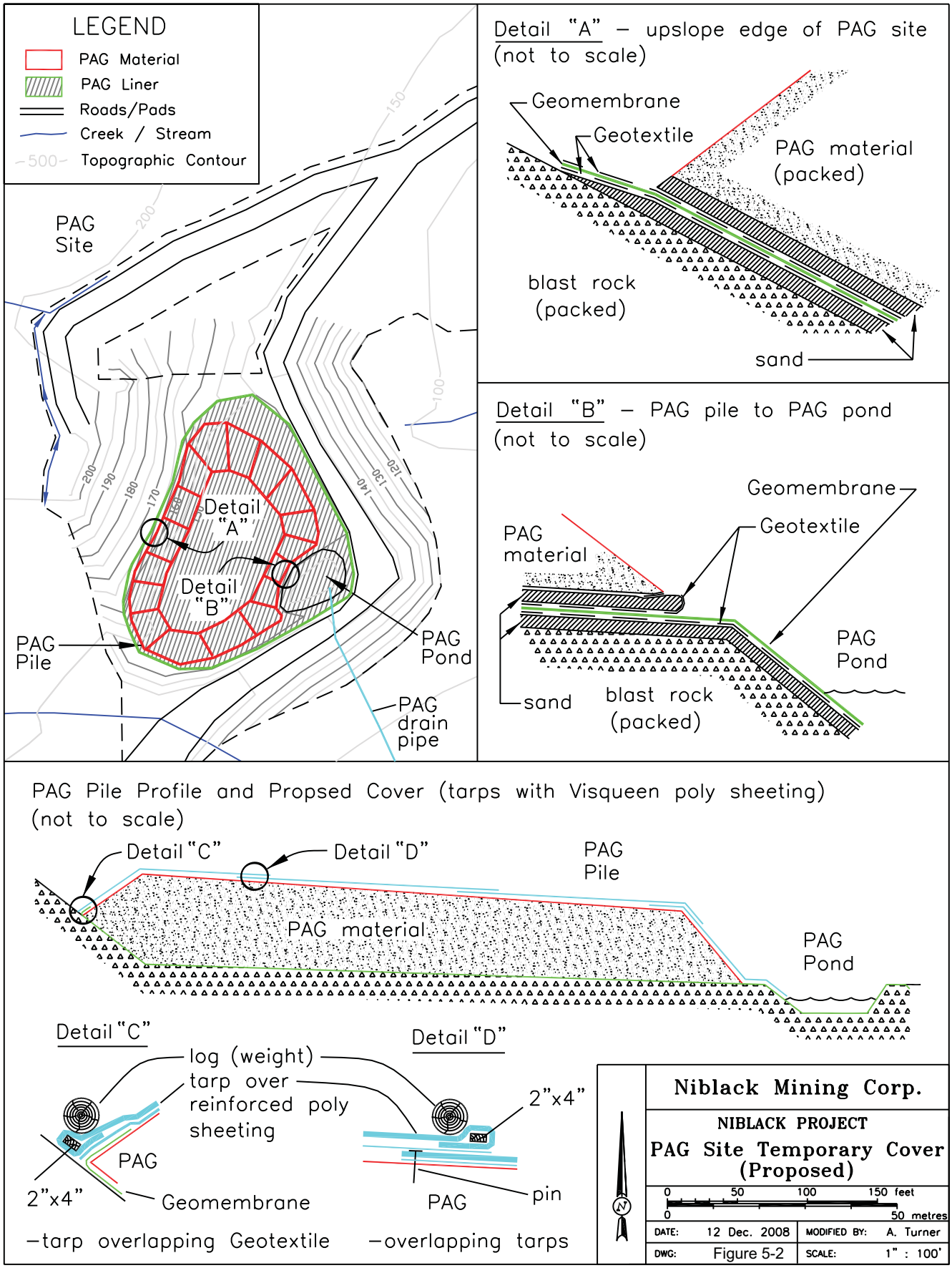


Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

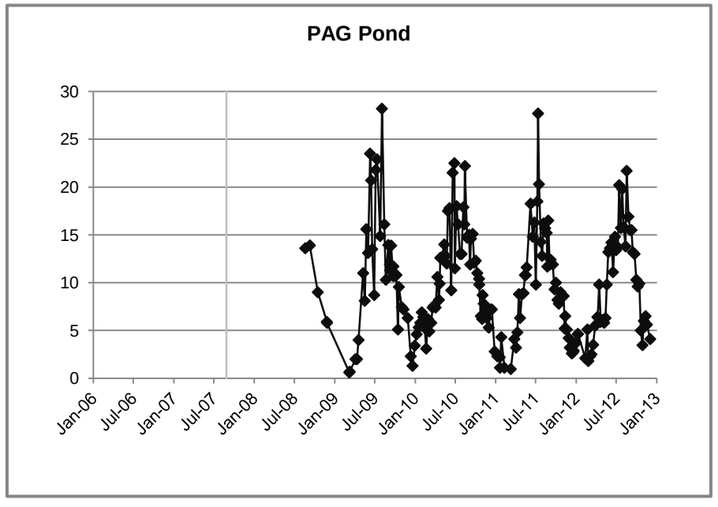
NIBLACK PROJECT LLC integral consulting inc.

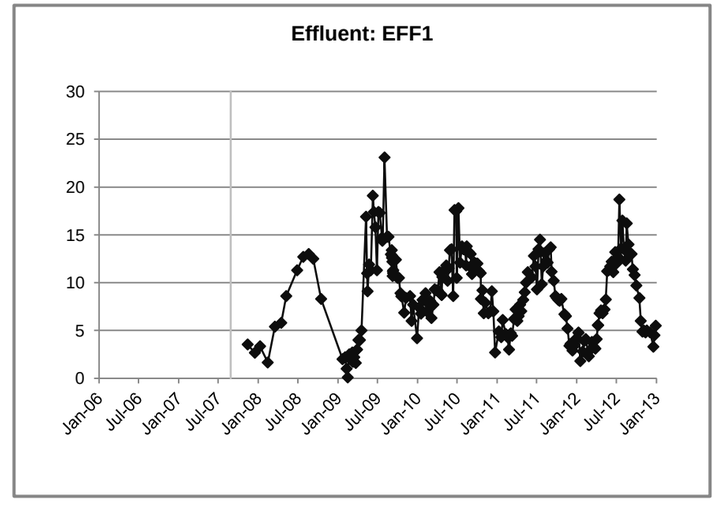
Figure 4-24c
Time Series Plots: Dissolved Zinc
Offsite Stations - Surface Water
Niblack Exploration Project
2012 Annual Report

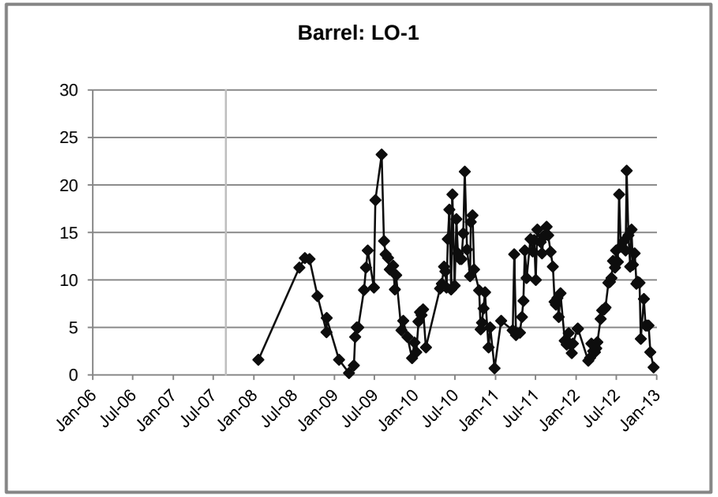

LEGEND
Cleared or Distrurbed Areas
Roads/Pads
LAD System– HDPE Pipe
Creek / Stream
500 Topographic Contour (ft)
PAG Site
Stockpile (covered)
PAG Pile
PAG Pond
Camp Cr.
Sediment Ponds
4" HDPE Pipe from Portal to Sediment Ponds
Niblack Mining Corp.
NIBLACK PROJECT
PAG Site Area
0 50 100 150 feet
0 50 metres
DATE: 12 Dec. 2008
MODIFIED BY: A. Turner
DWG: Figure 5-1
SCALE: 1" : 100'

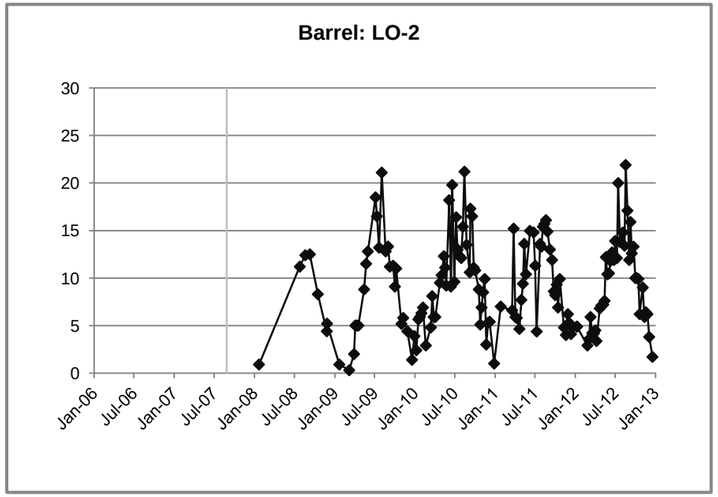

LEGEND
PAG Material
PAG Liner
Roads/Pads
Creek / Stream
500 Topographic Contour
PAG Site
Detail "A"
Detail "B"
PAG Pile
PAG Pond
PAG drain pipe
Detail "A" – upslope edge of PAG site
(not to scale)
Geomembrane
Geotextile
PAG material (packed)
blast rock (packed)
sand
Detail "B" – PAG pile to PAG pond
(not to scale)
Geomembrane
Geotextile
PAG material
PAG Pond
sand
blast rock (packed)
PAG Pile Profile and Propsed Cover (tarps with Visqueen poly sheeting)
(not to scale)
Detail "C"
Detail "D"
PAG Pile
PAG material
PAG Pond
Detail "C"
log (weight)
tarp over reinforced poly sheeting
PAG
2"x4"
Geomembrane
–tarp overlapping Geotextile
Detail "D"
2"x4"
PAG
pin
–overlapping tarps
Niblack Mining Corp.
NIBLACK PROJECT
PAG Site Temporary Cover (Proposed)
0 50 100 150 feet
0 50 metres
DATE: 12 Dec. 2008
MODIFIED BY: A. Turner
DWG: Figure 5-2
SCALE: 1" : 100'

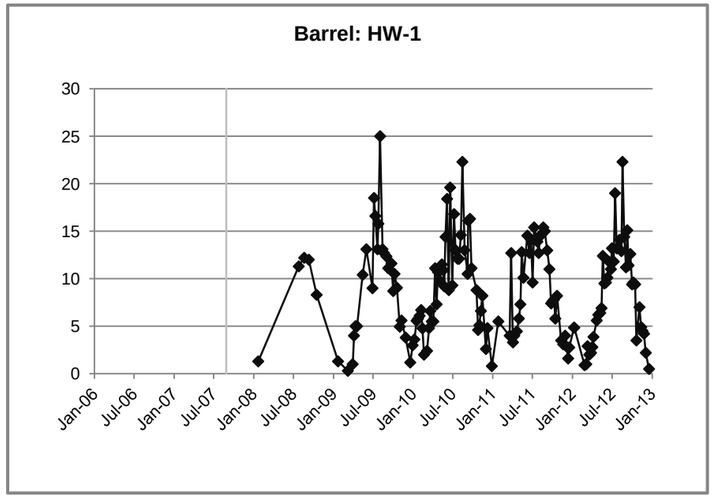
Effluent, PAG Pond, and Barrels
Temperature (°C)









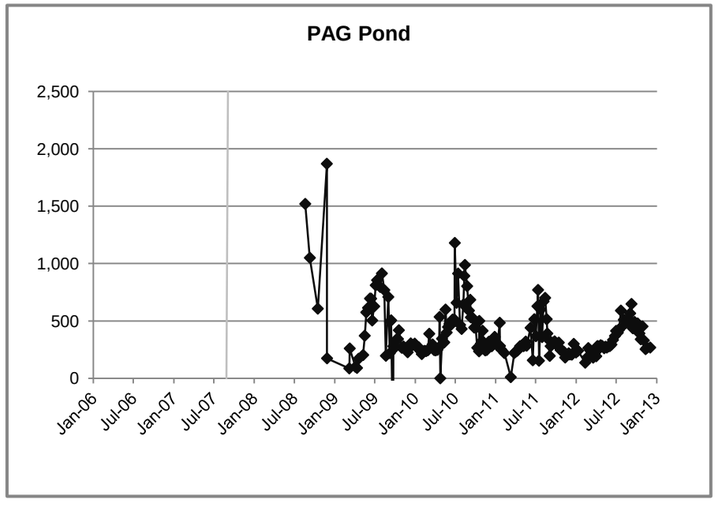


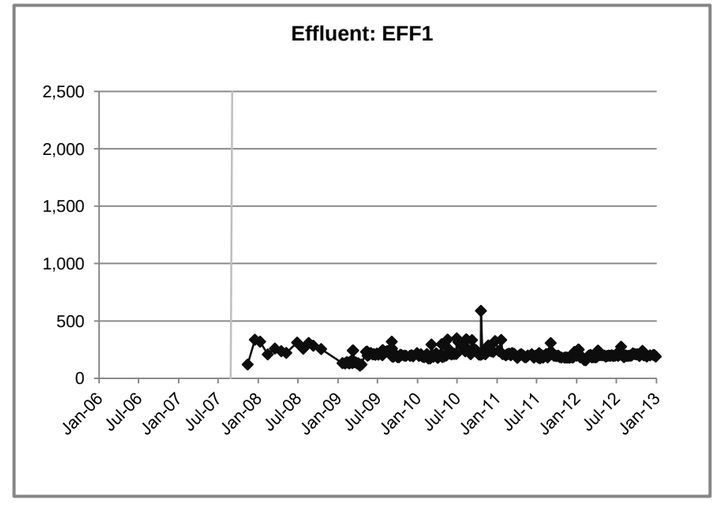
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

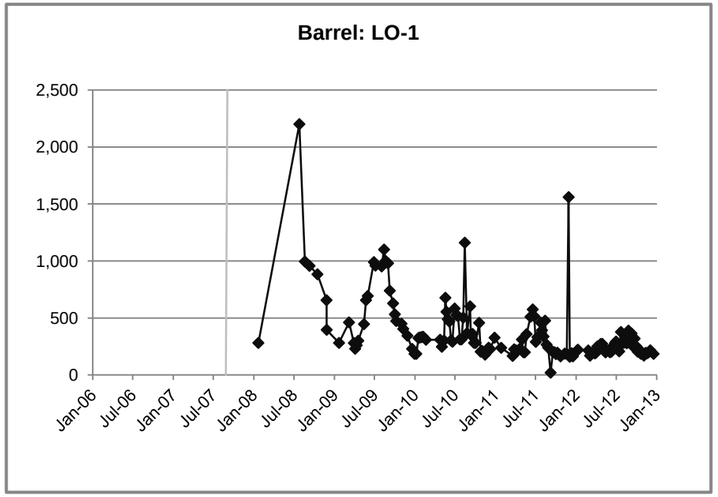
NIBLACK PROJECT LLC integral consulting inc.

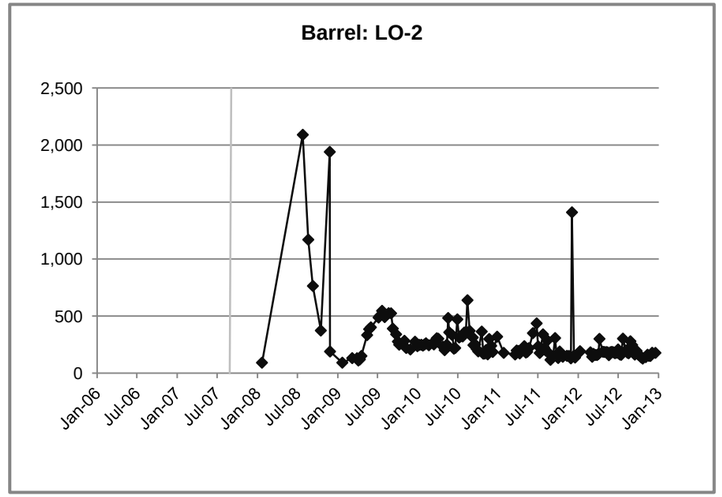
Figure 5-3
Time Series Plots: Temperature
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

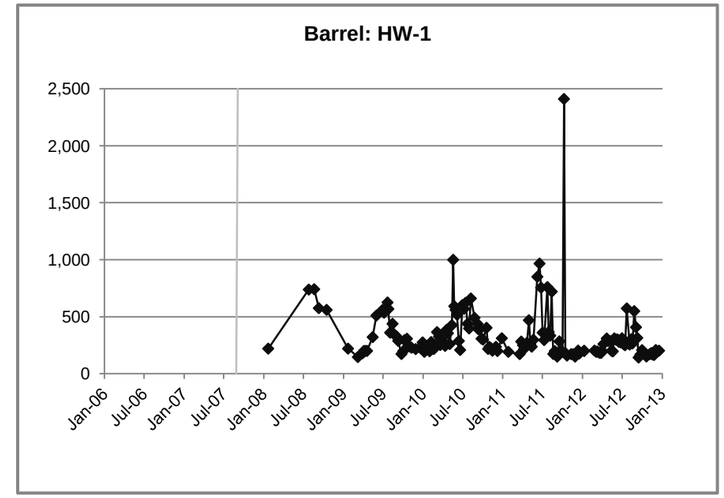
Effluent, PAG Pond, and Barrels
Conductivity (µS/cm)









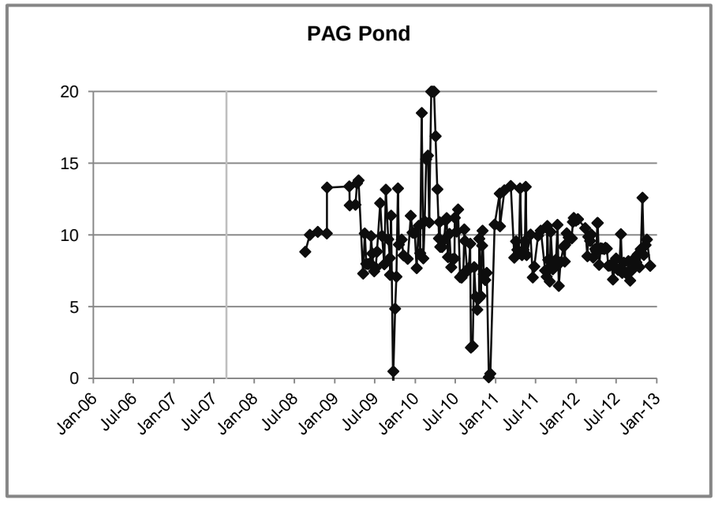


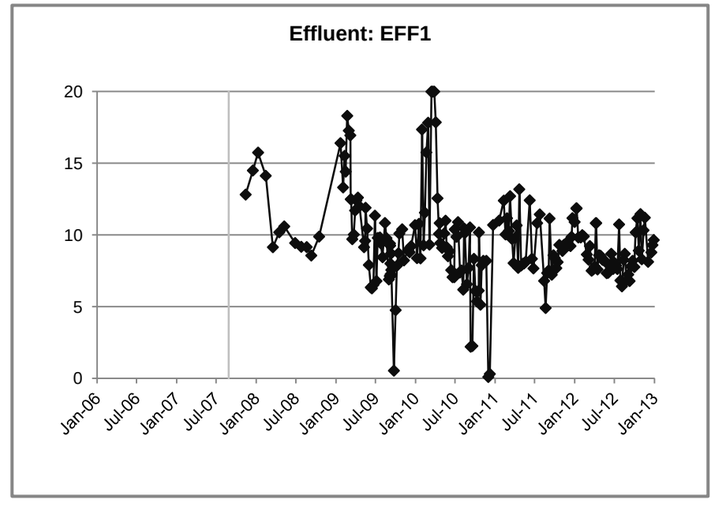
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

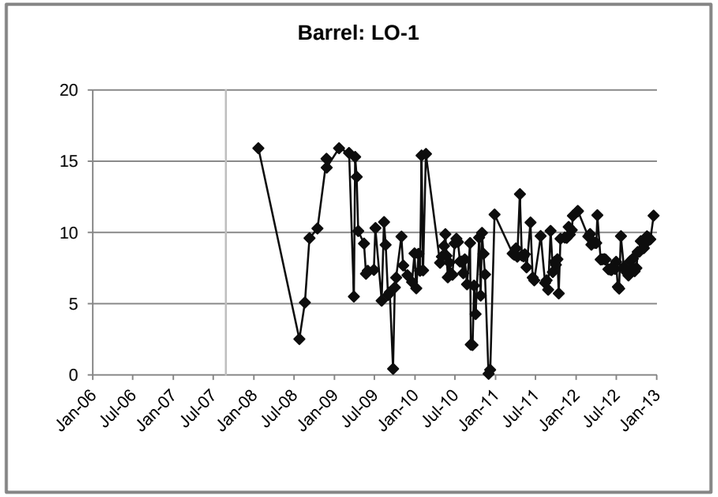
NIBLACK PROJECT LLC integral consulting inc.

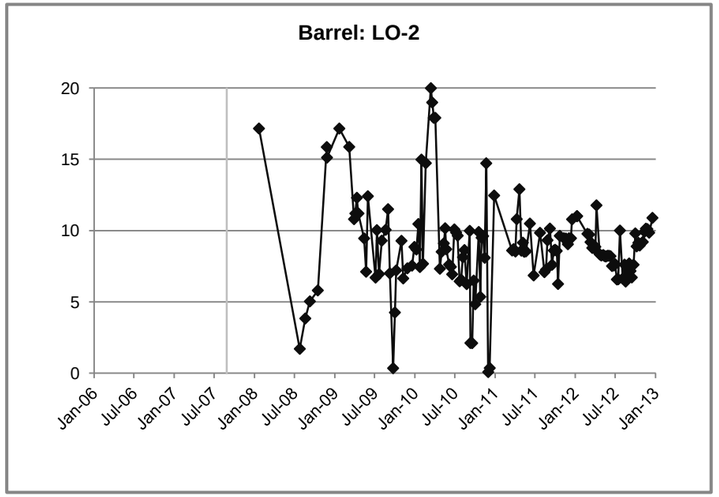
Figure 5-4
Time Series Plots: Conductivity
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

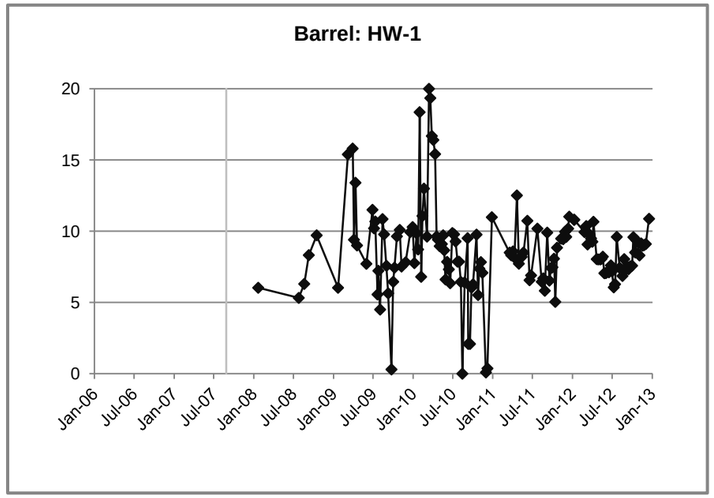
Effluent, PAG Pond, and Barrels
Dissolved Oxygen (mg/L)









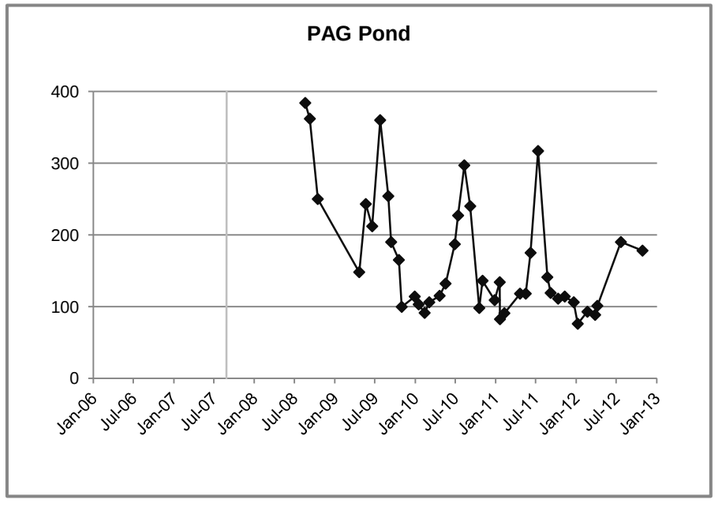


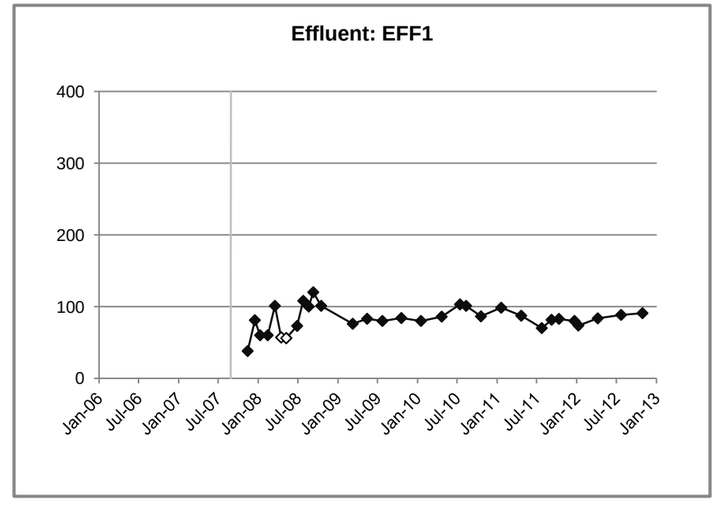
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

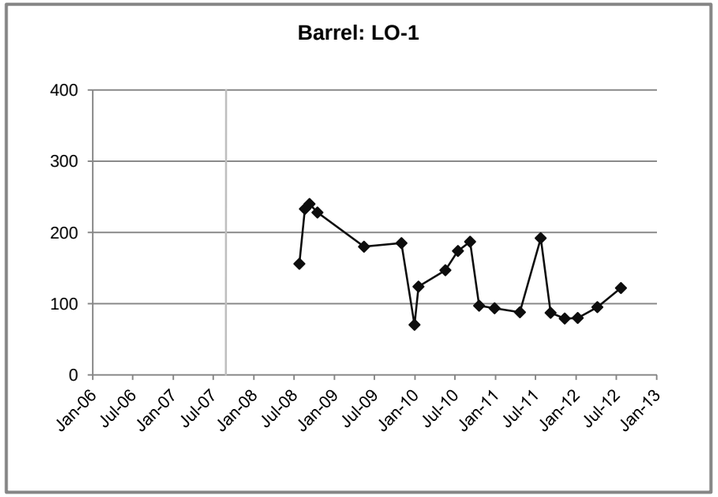
NIBLACK PROJECT LLC integral consulting inc.

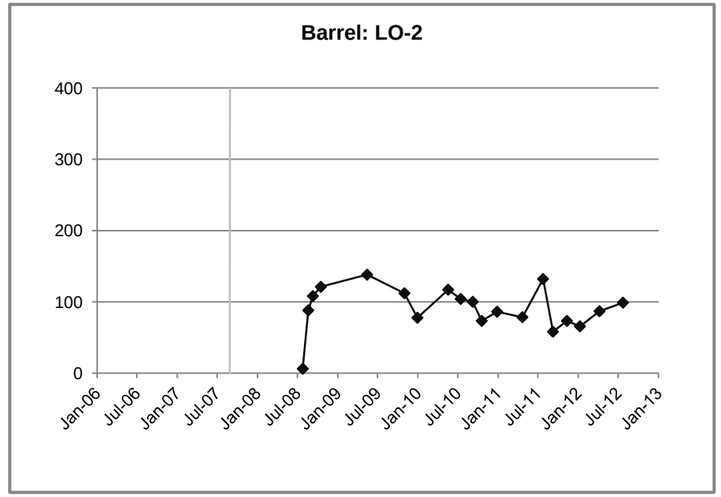
Figure 5-5
Time Series Plots: Dissolved Oxygen
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

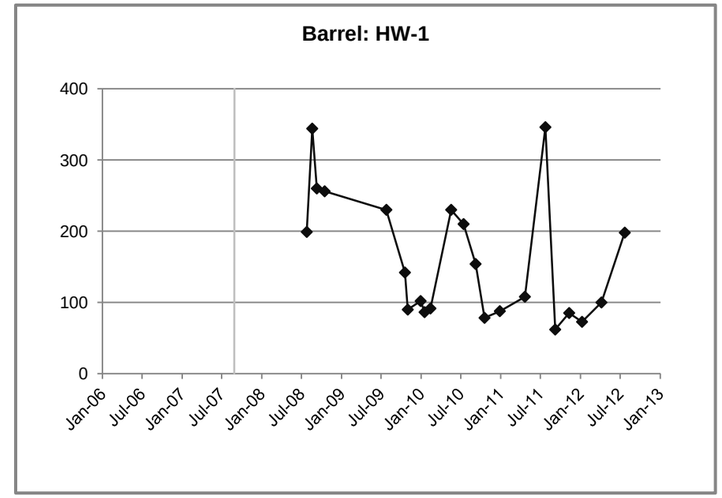
Effluent, PAG Pond, and Barrels
Hardness (mg/L as $CaCO_3$)









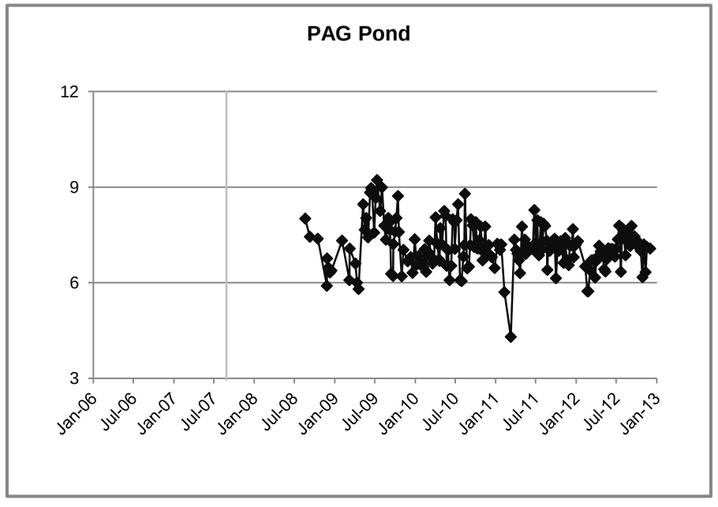


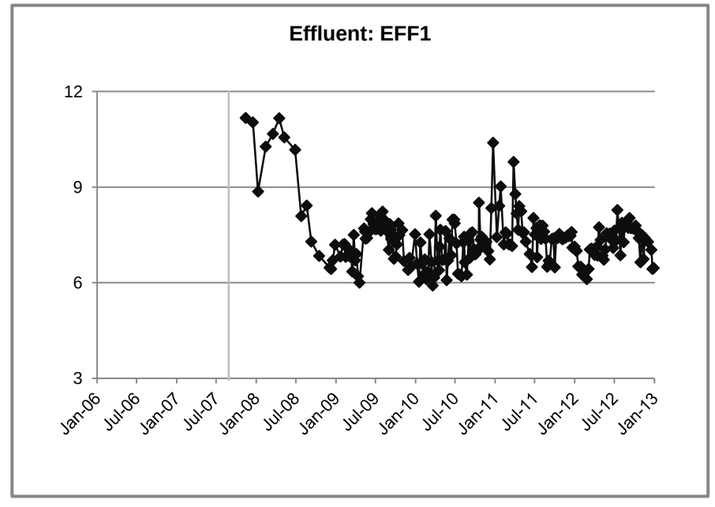
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

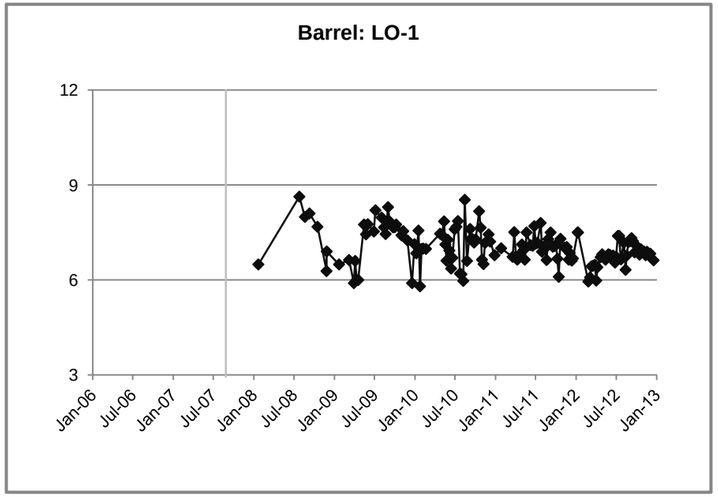
NIBLACK PROJECT LLC integral consulting inc.

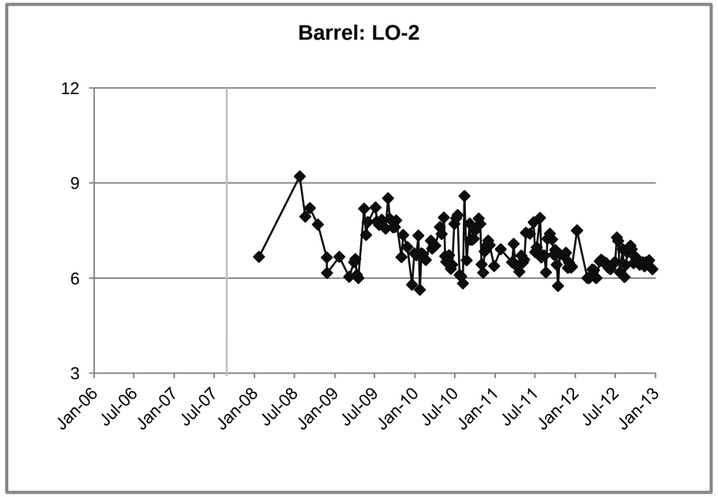
Figure 5-6
Time Series Plots: Hardness
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

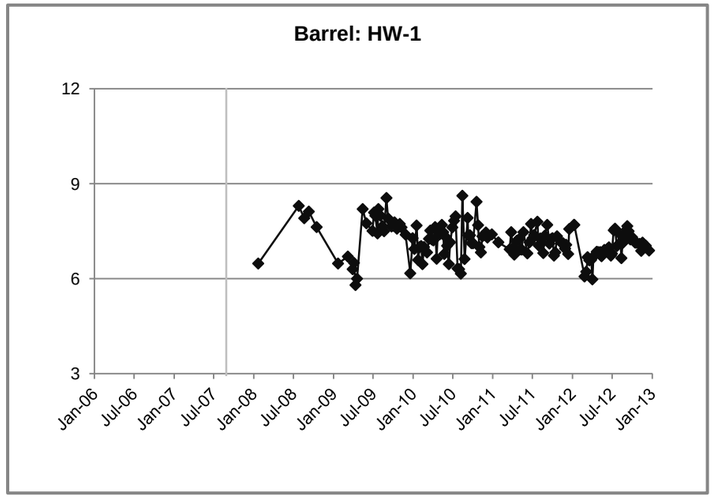
Effluent, PAG Pond, and Barrels
pH (standard pH units)









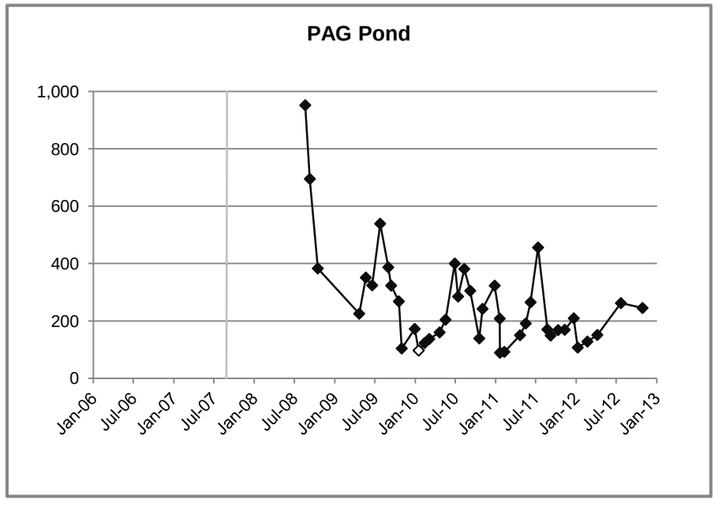


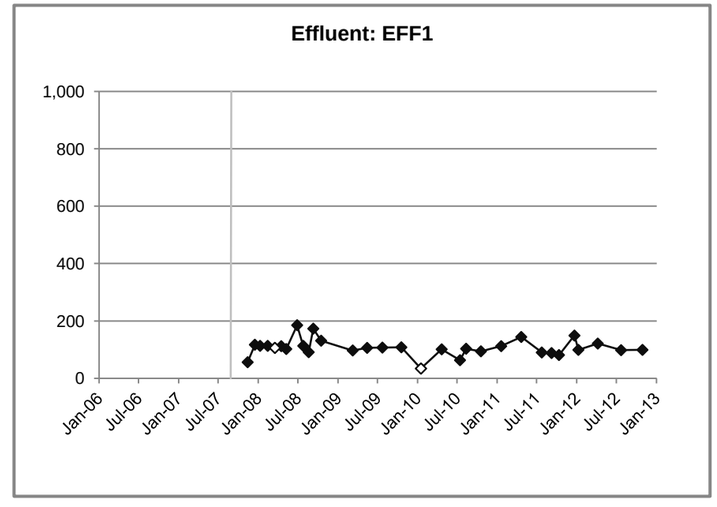
Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

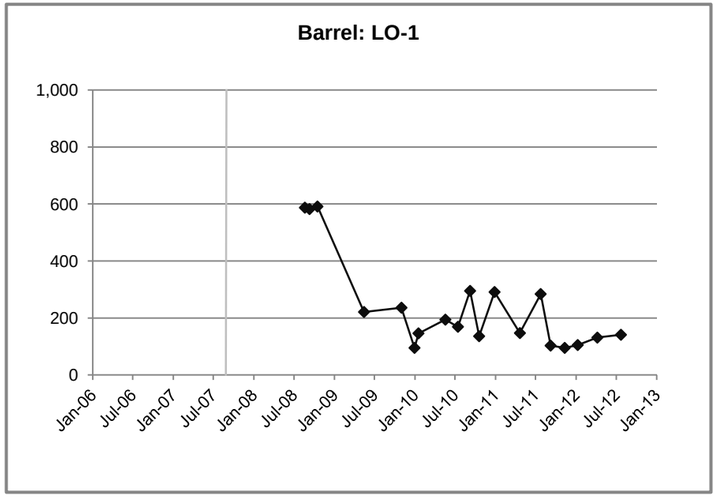
NIBLACK PROJECT LLC integral consulting inc.

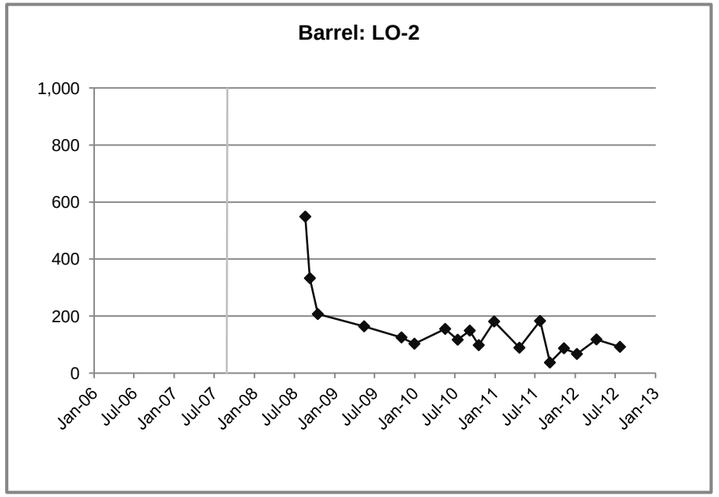
Figure 5-7
Time Series Plots: pH
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

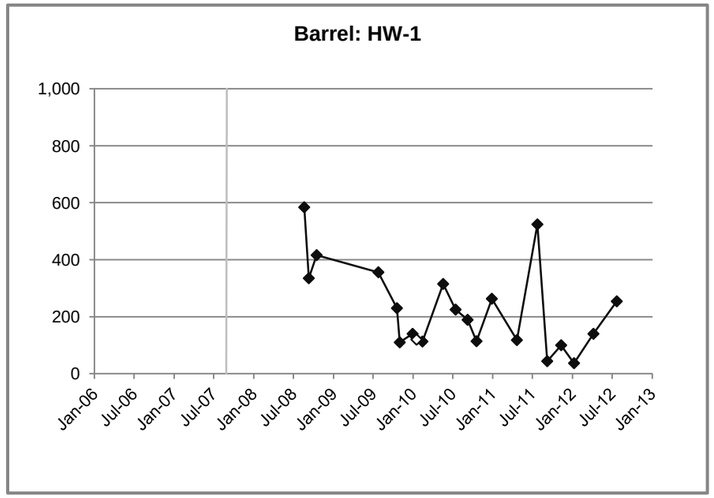
Effluent, PAG Pond, and Barrels
Total Dissolved Solids (mg/L)









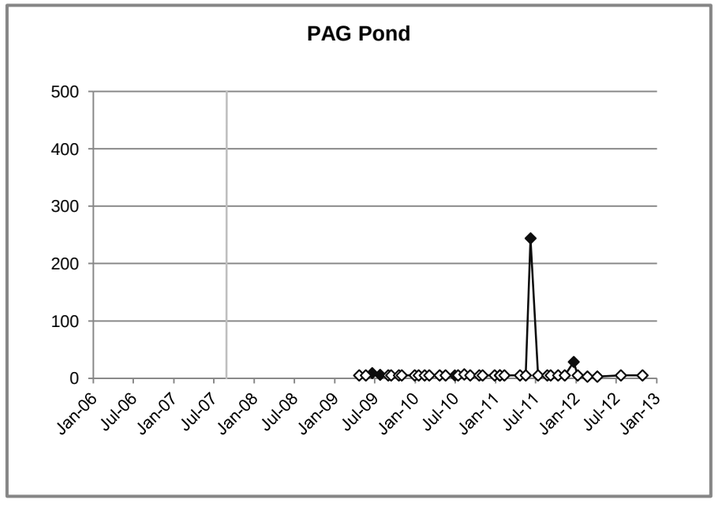


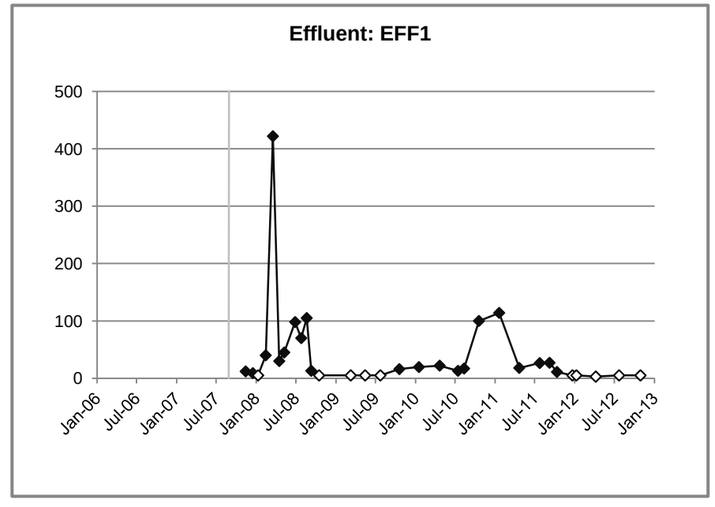
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

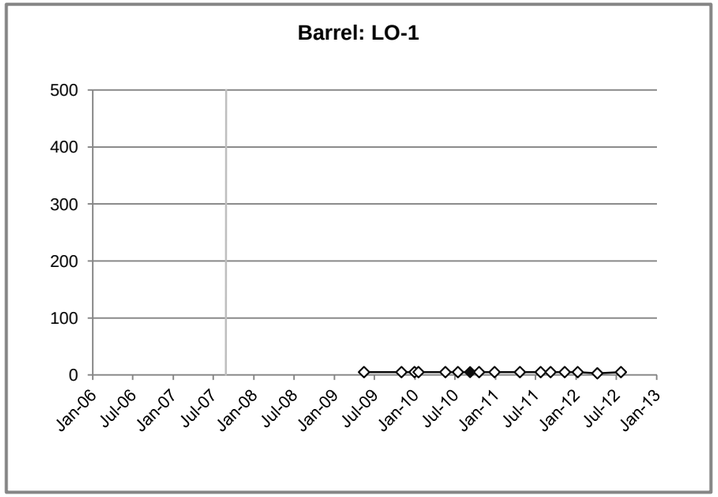
NIBLACK PROJECT LLC integral consulting inc.

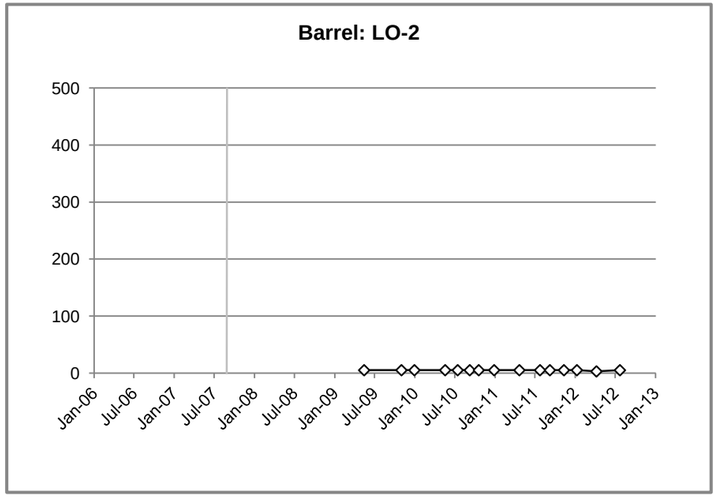
Figure 5-8
Time Series Plots: Total Dissolved Solids
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

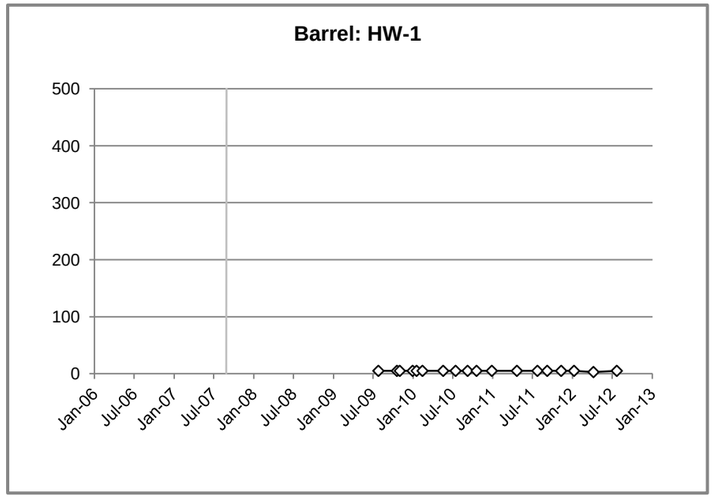
Effluent, PAG Pond, and Barrels
Total Suspended Solids (mg/L)









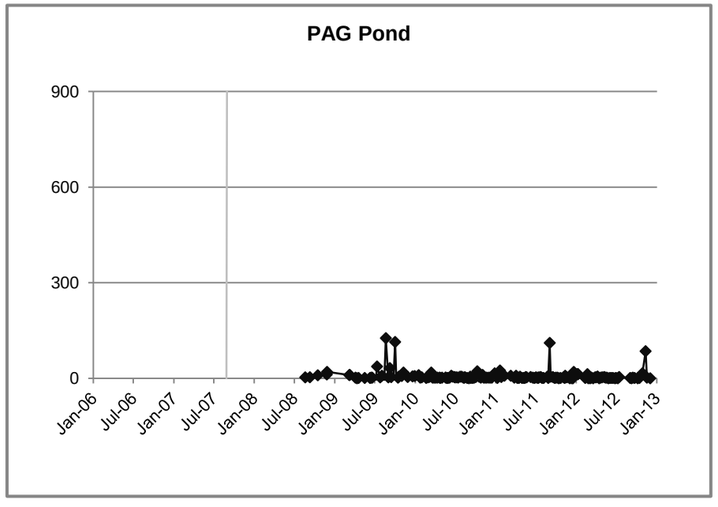


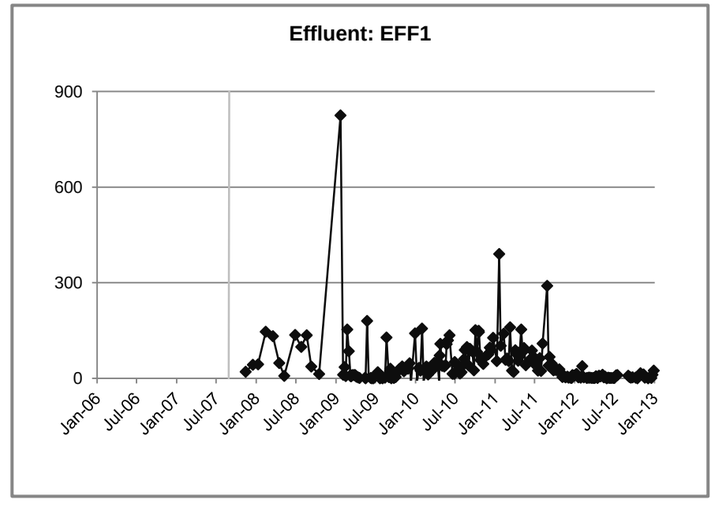
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

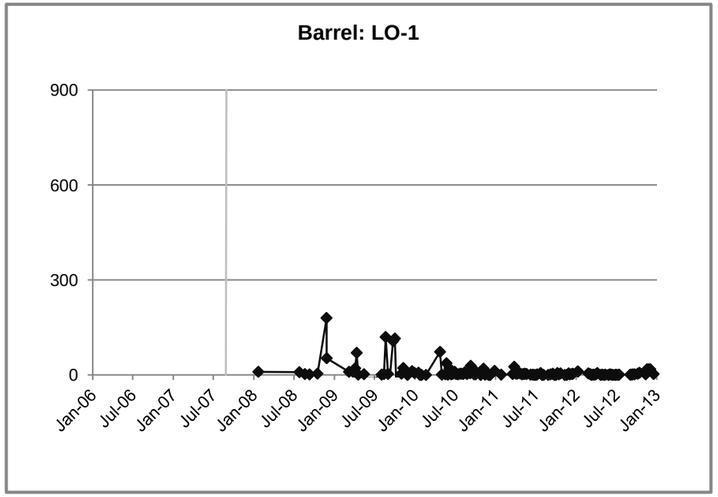
NIBLACK PROJECT LLC integral consulting inc.

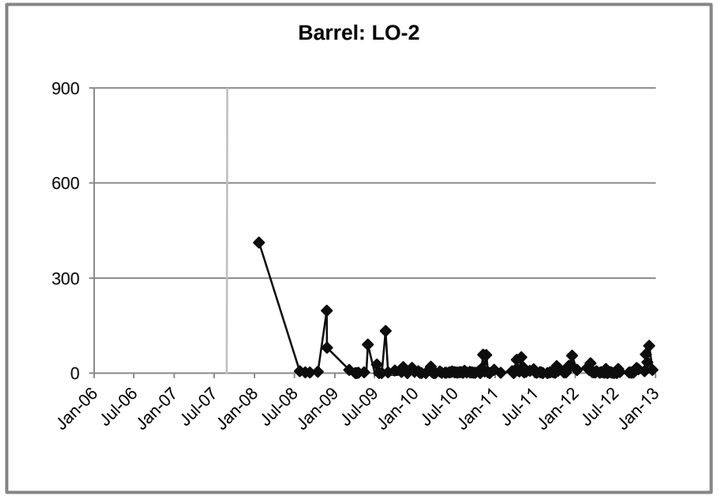
Figure 5-9
Time Series Plots: Total Suspended Solids
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

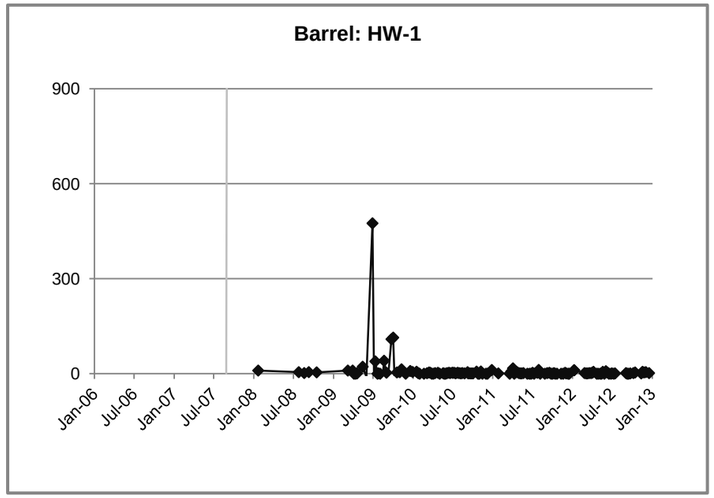
Effluent, PAG Pond, and Barrels
Turbidity (NTU)











Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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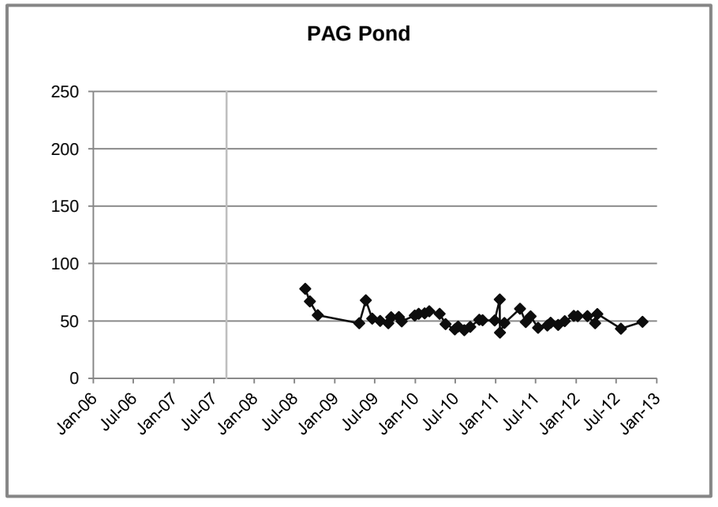
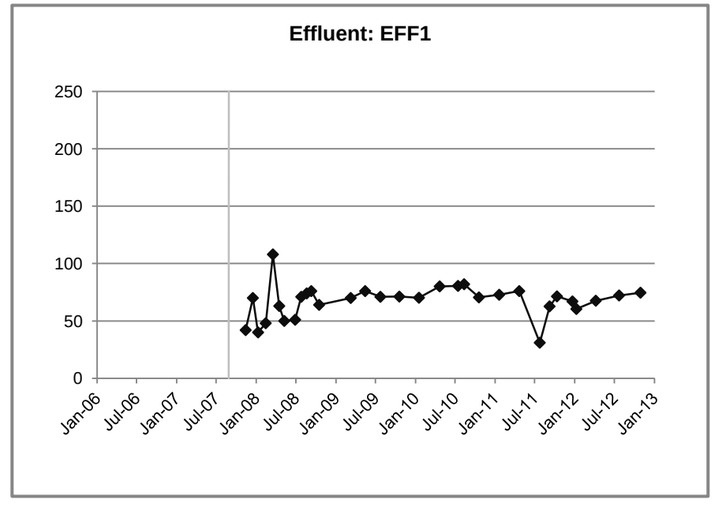
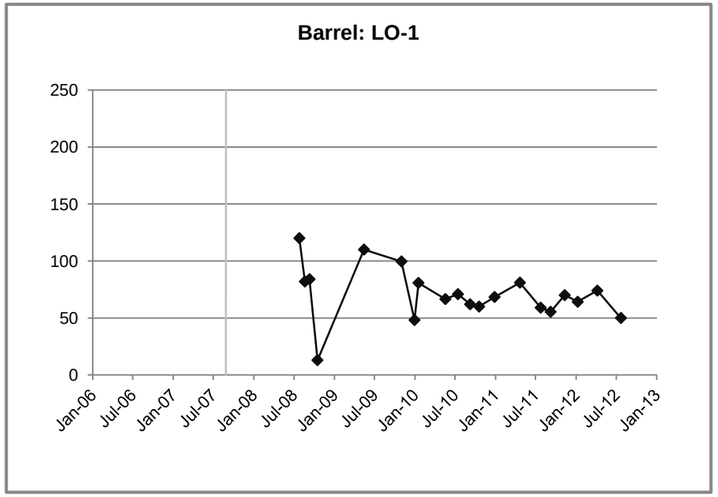
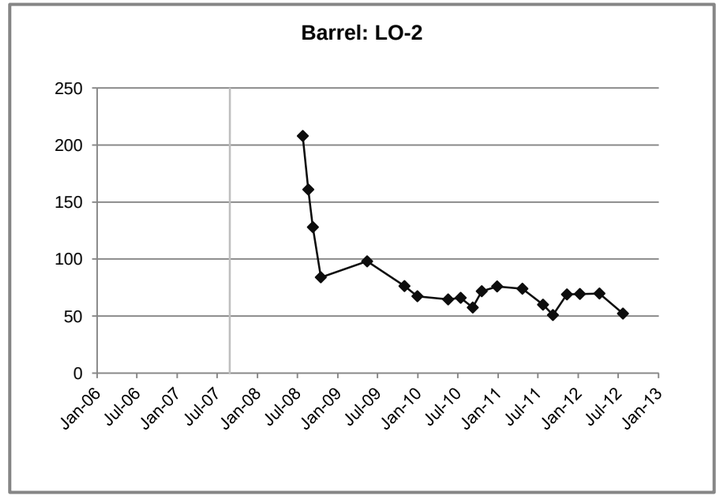
Figure 5-10
Time Series Plots: Turbidity
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

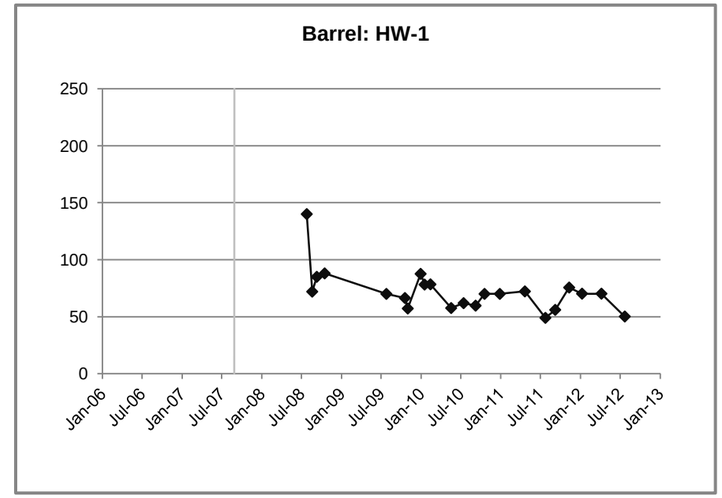
Effluent, PAG Pond, and Barrels
Alkalinity (mg/L)











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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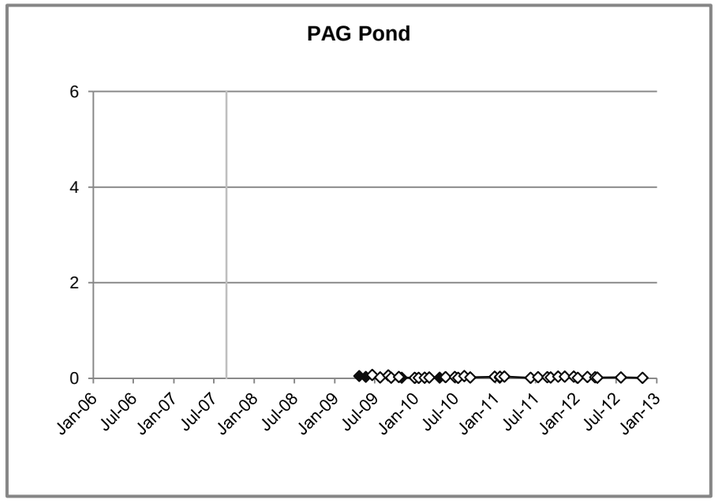
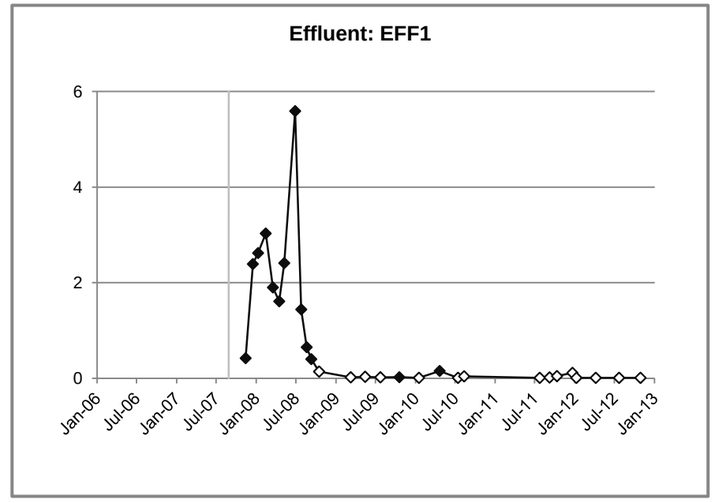
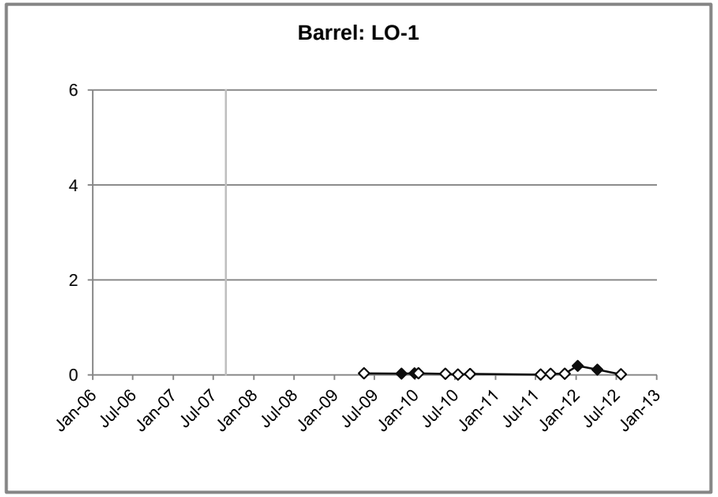
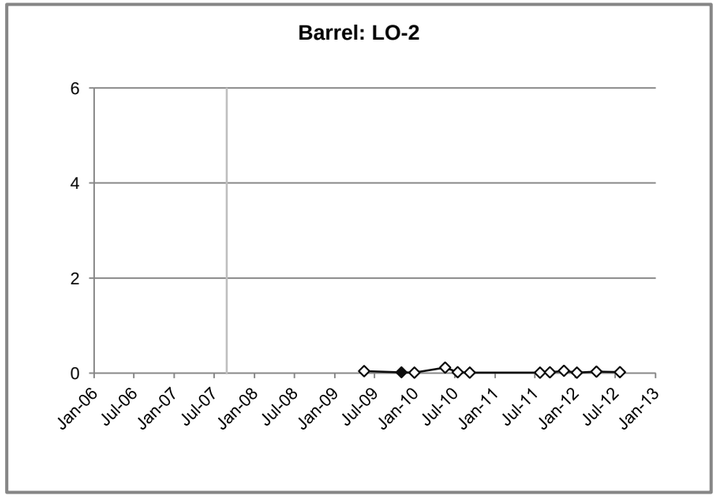
Figure 5-11
Time Series Plots: Alkalinity
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

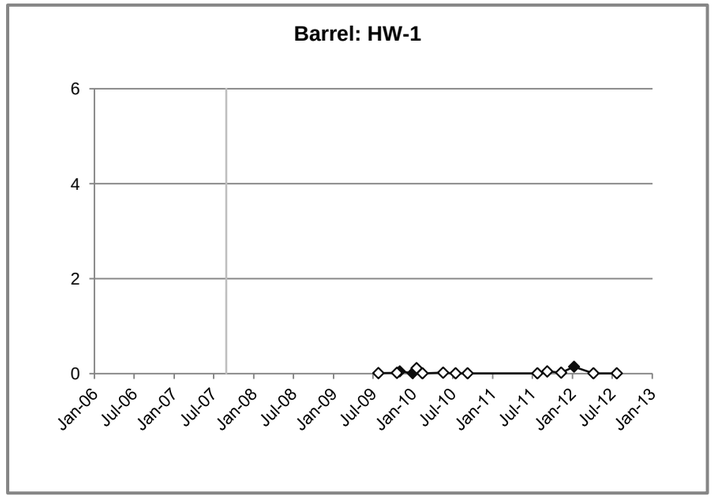
Effluent, PAG Pond, and Barrels
Ammonia (mg/L as N)









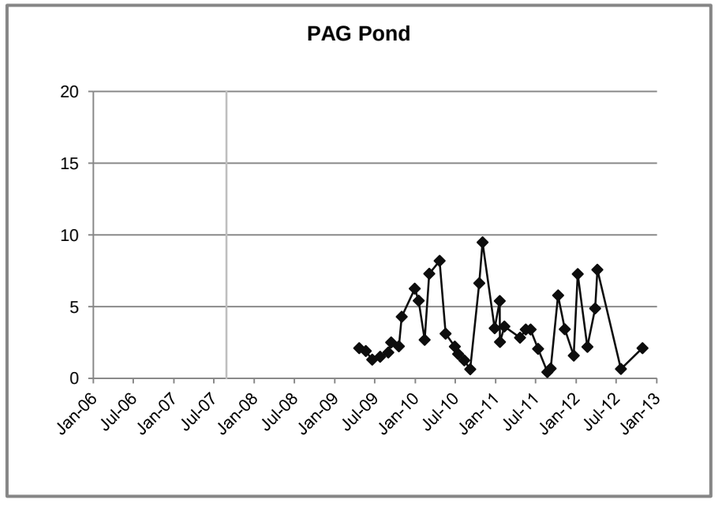


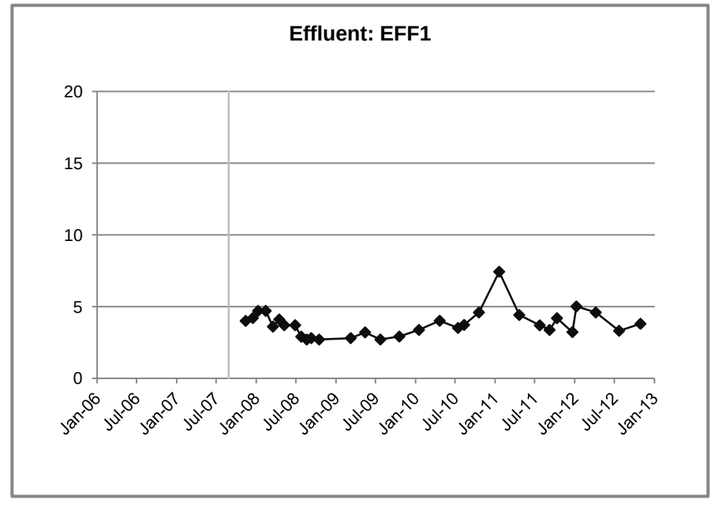
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

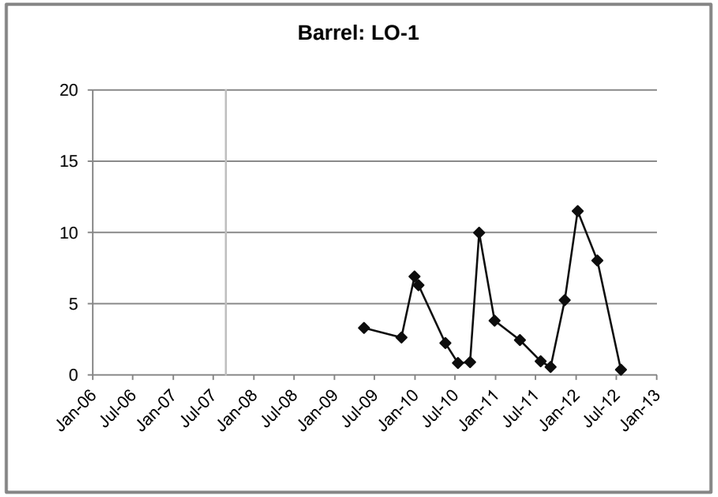
NIBLACK PROJECT LLC integral consulting inc.

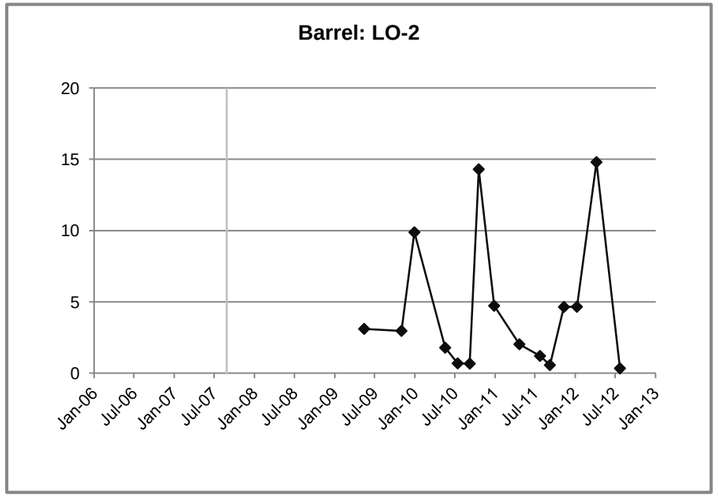
Figure 5-12
Time Series Plots: Ammonia
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

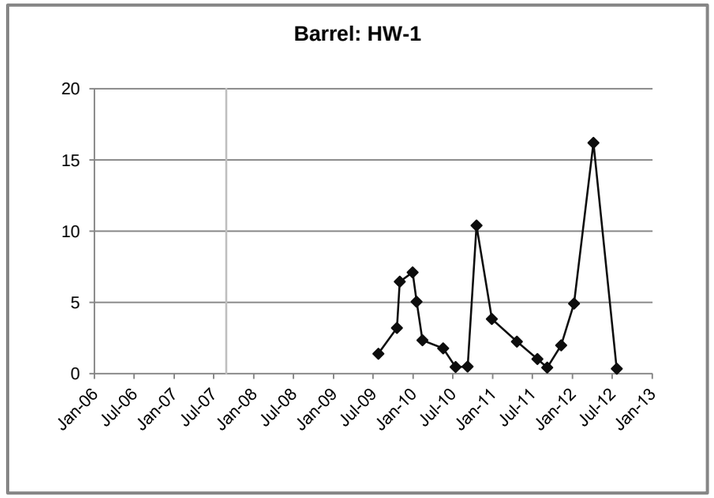
Effluent, PAG Pond, and Barrels
Chloride (mg/L)











Notes:
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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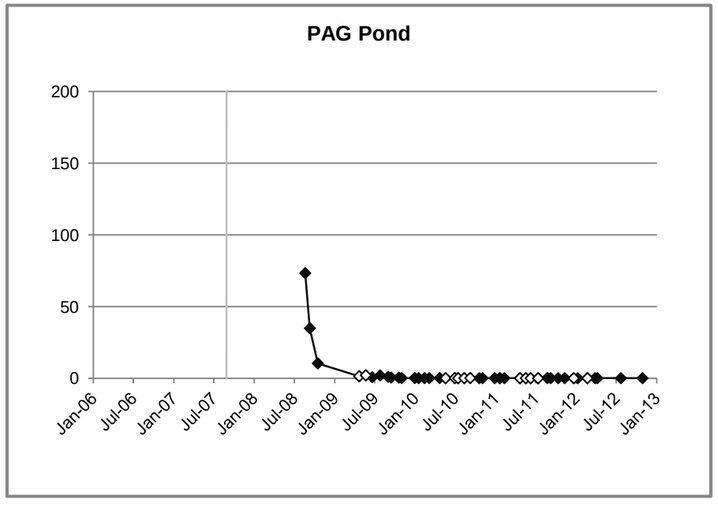
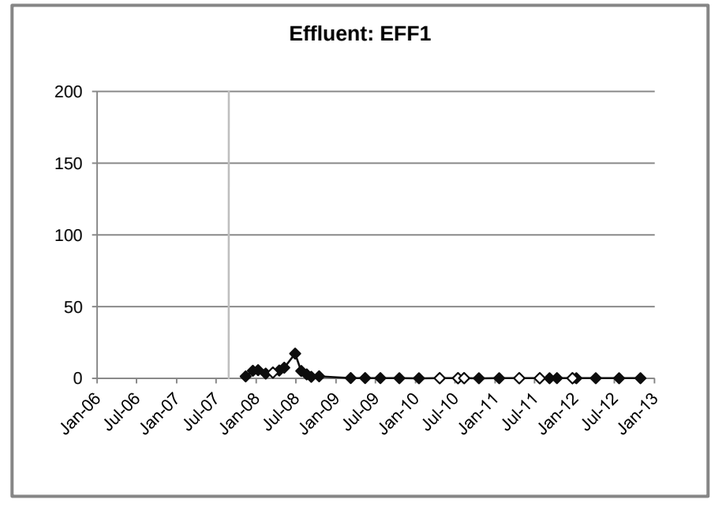
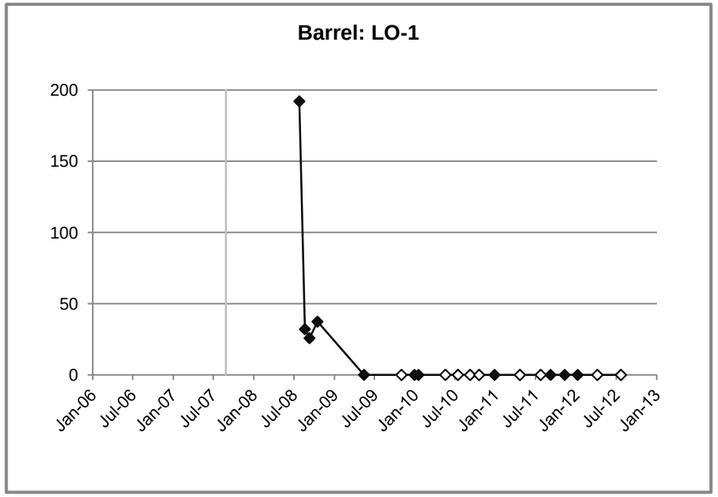
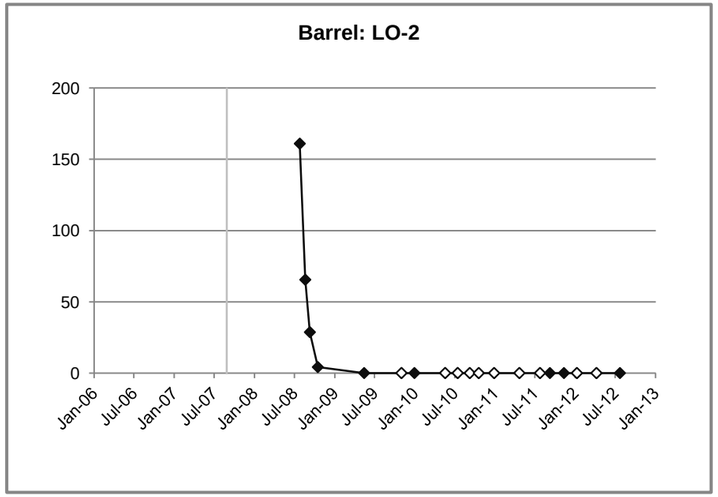
Figure 5-13
Time Series Plots: Chloride
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

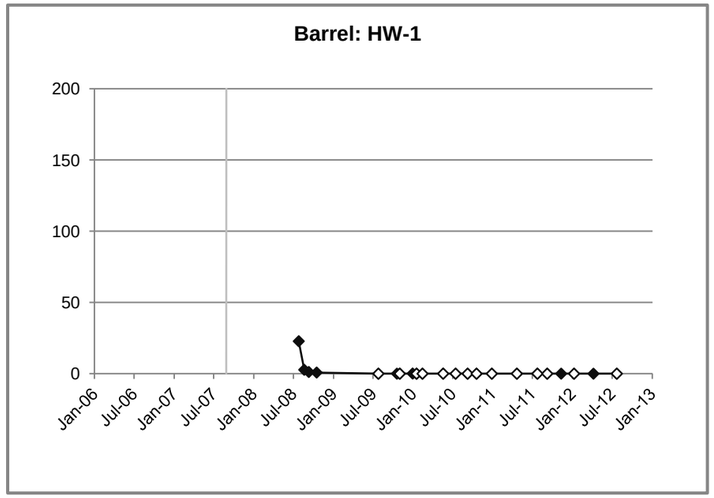
Effluent, PAG Pond, and Barrels
Nitrate & Nitrite (mg/L as N)











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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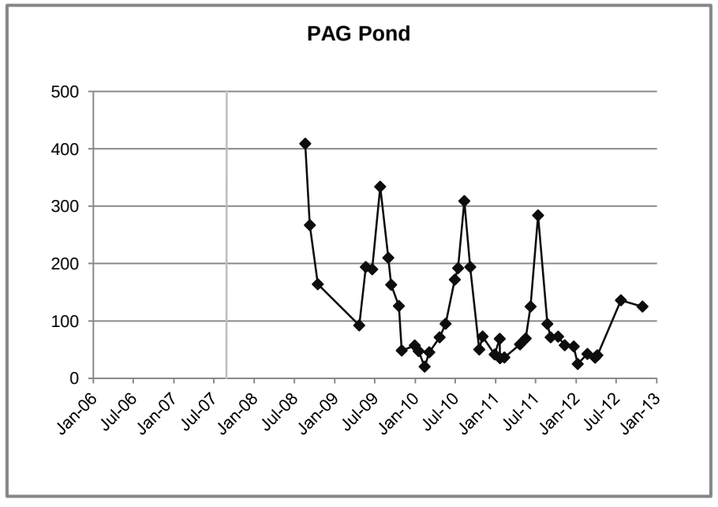
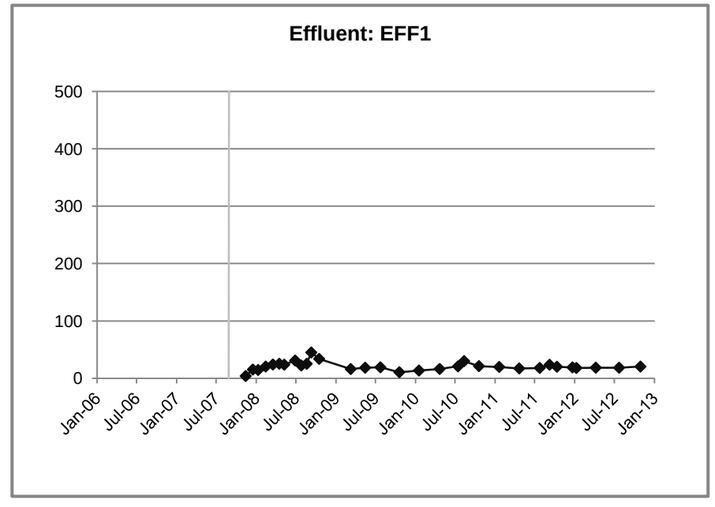
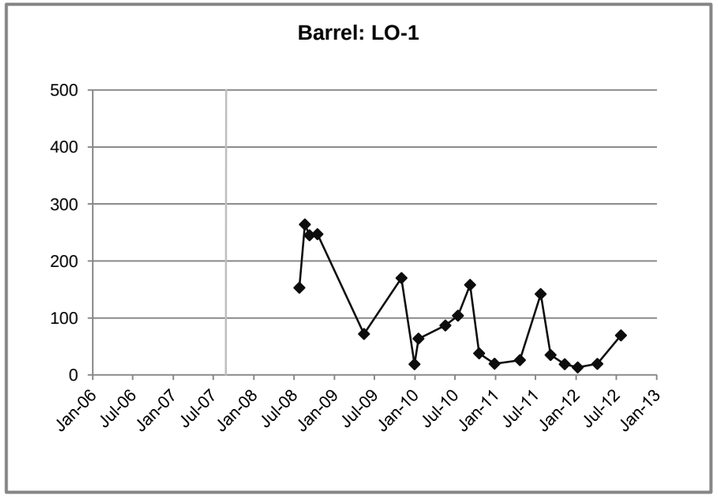
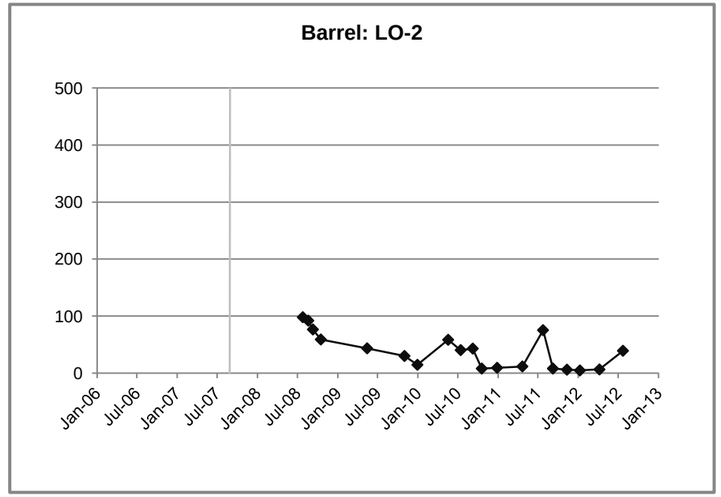
Figure 5-14
Time Series Plots: Nitrate & Nitrite
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

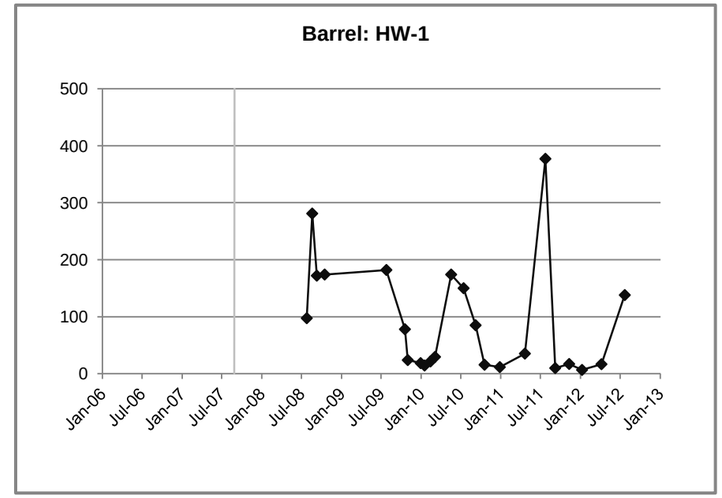
Effluent, PAG Pond, and Barrels
Sulfate (mg/L)











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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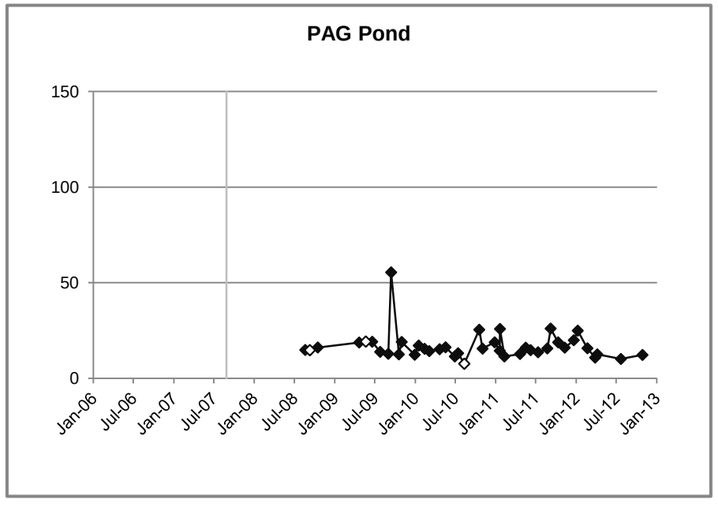
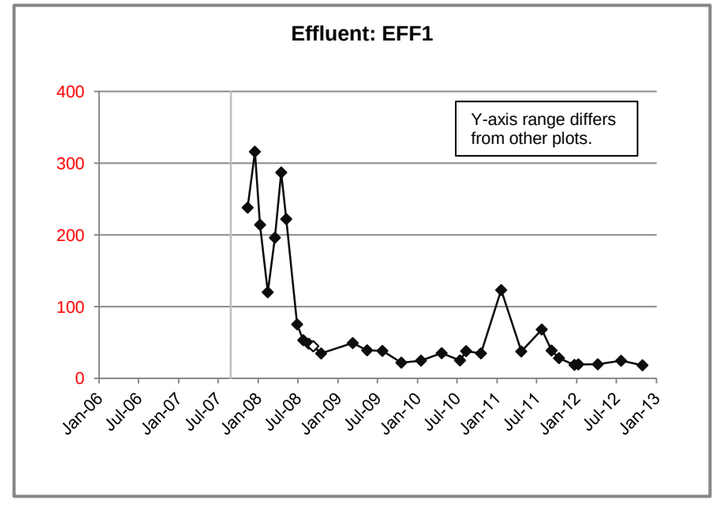
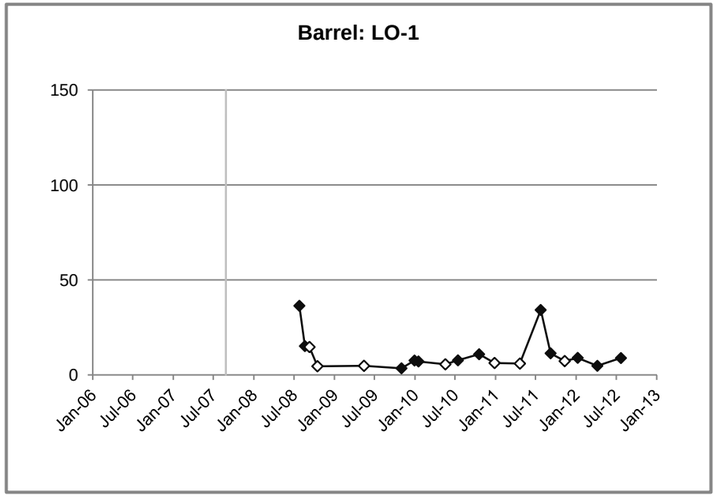
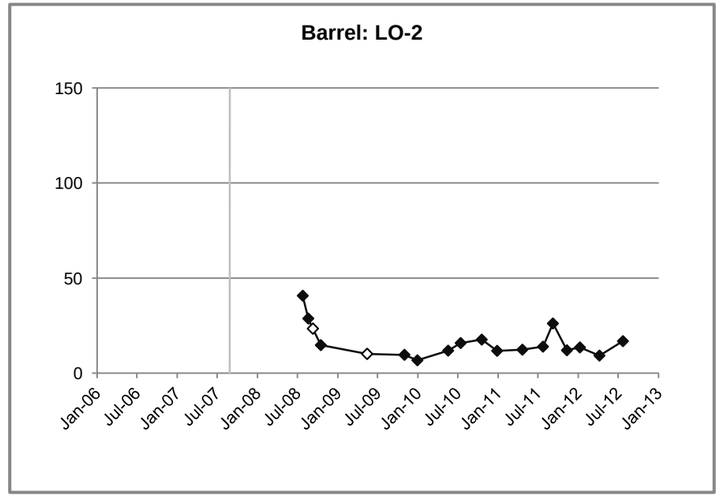
Figure 5-15
Time Series Plots: Sulfate
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

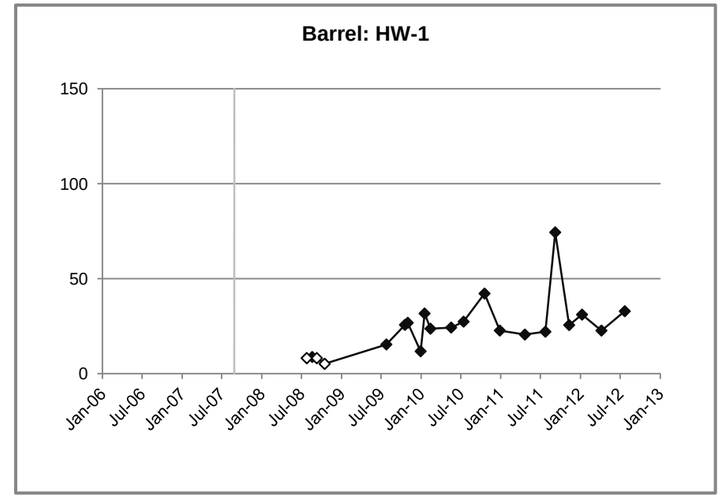
Effluent, PAG Pond, and Barrels
Dissolved Aluminum (µg/L)











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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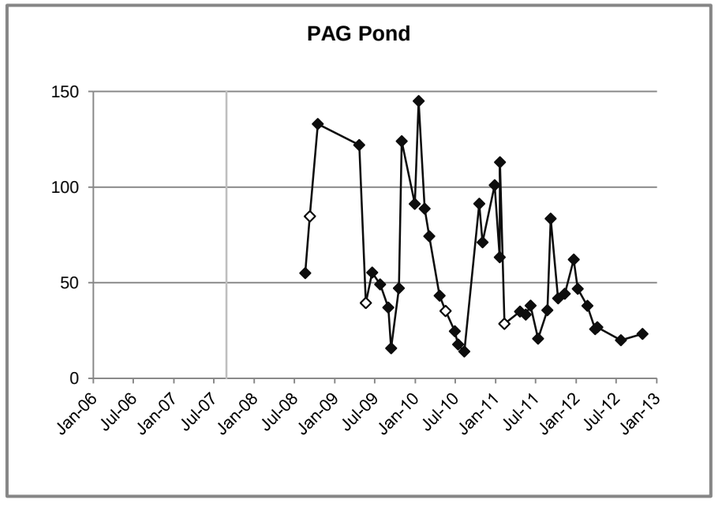
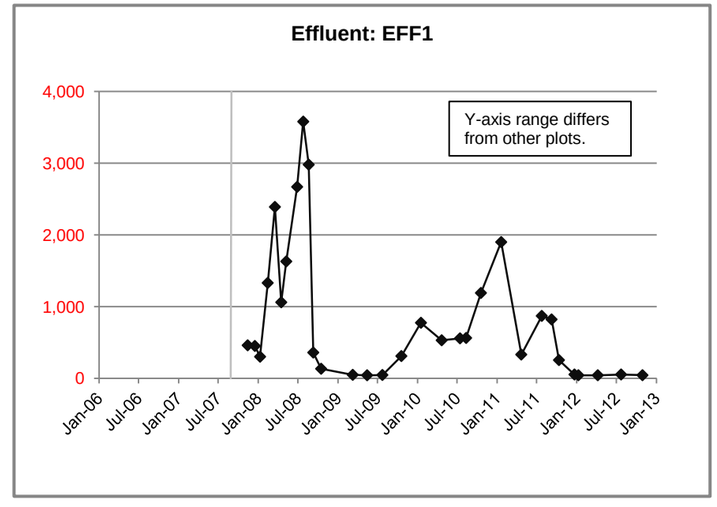
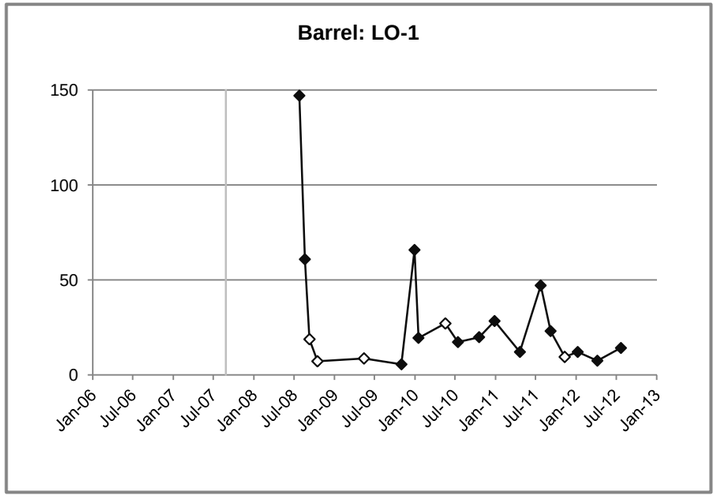
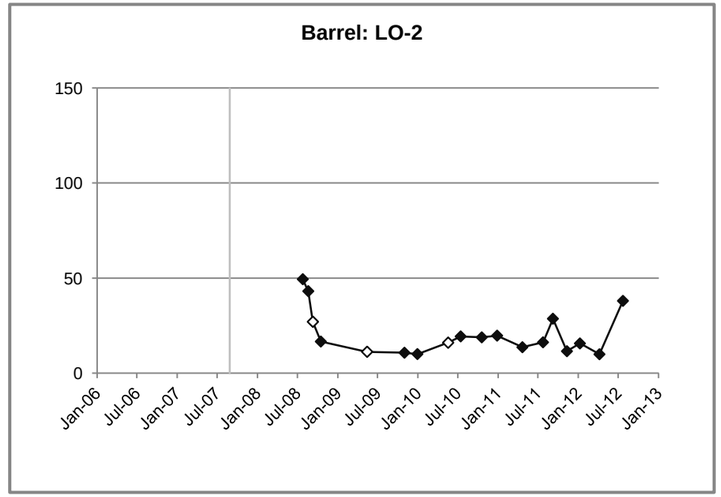
Figure 5-16
Time Series Plots: Dissolved Aluminum
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

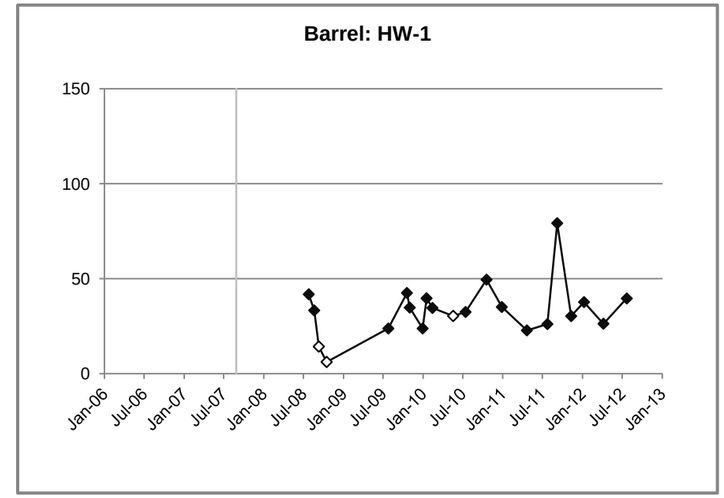
Effluent, PAG Pond, and Barrels
Total Aluminum (µg/L)









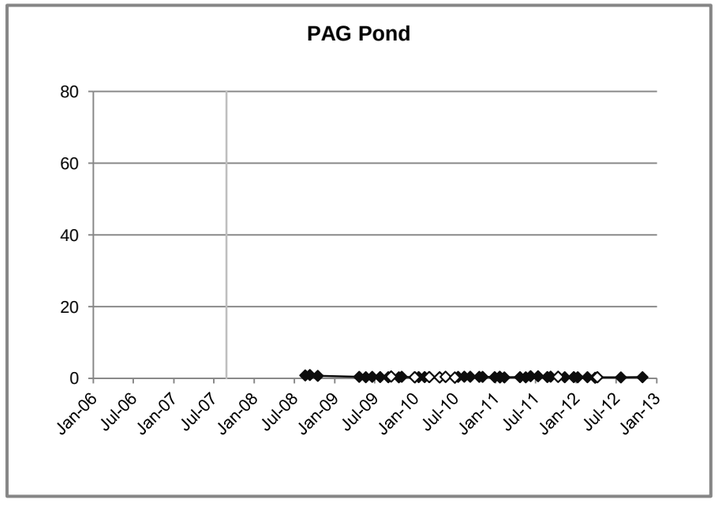


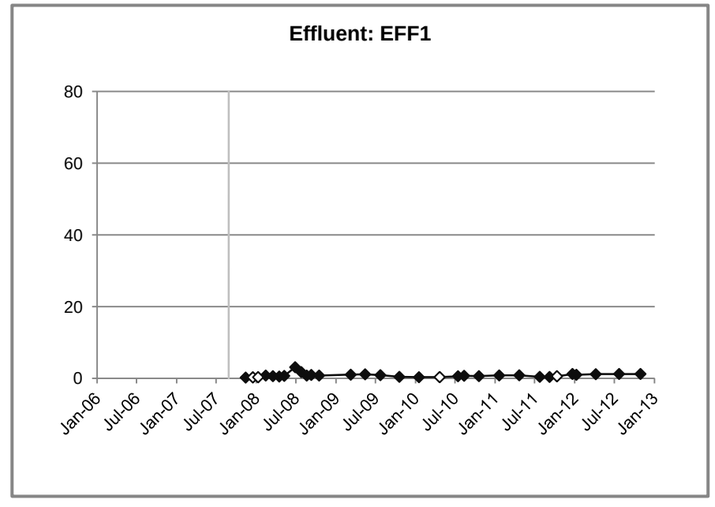
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

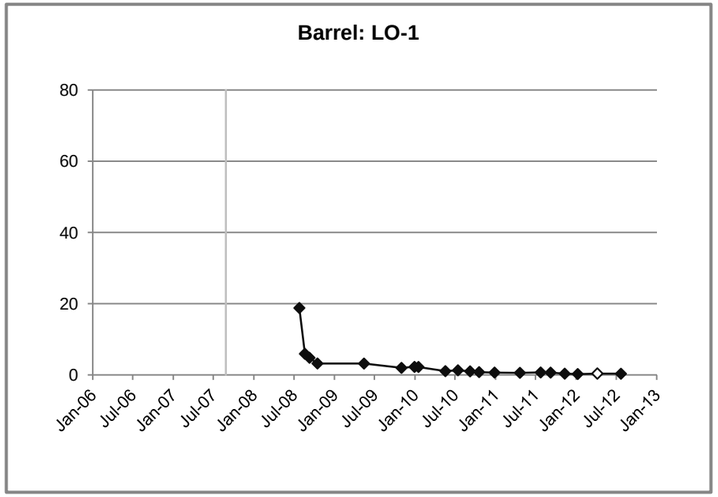
NIBLACK PROJECT LLC integral consulting inc.

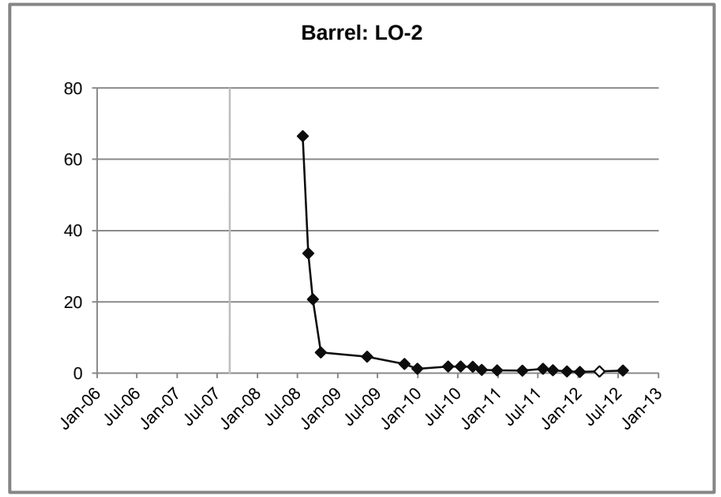
Figure 5-17
Time Series Plots: Total Aluminum
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

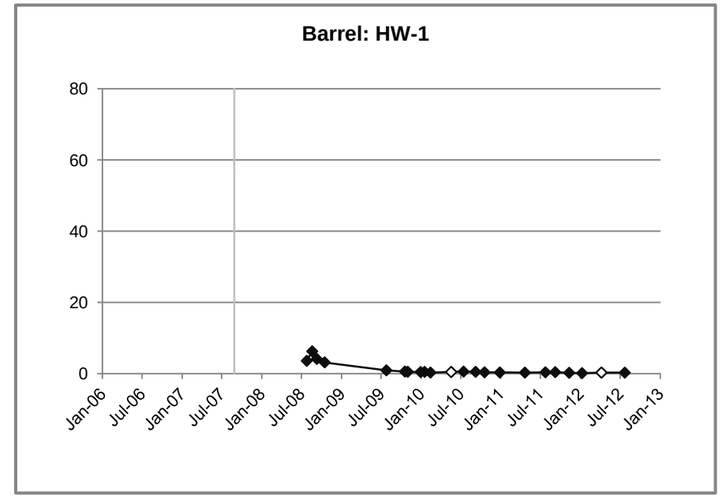
Effluent, PAG Pond, and Barrels
Dissolved Arsenic (µg/L)











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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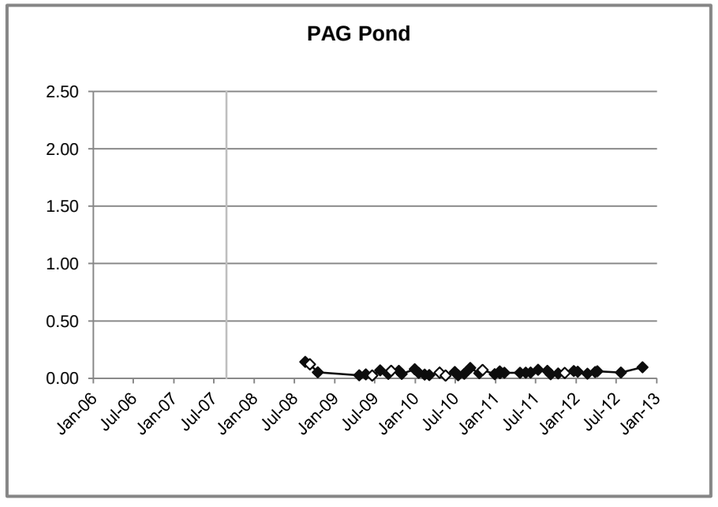
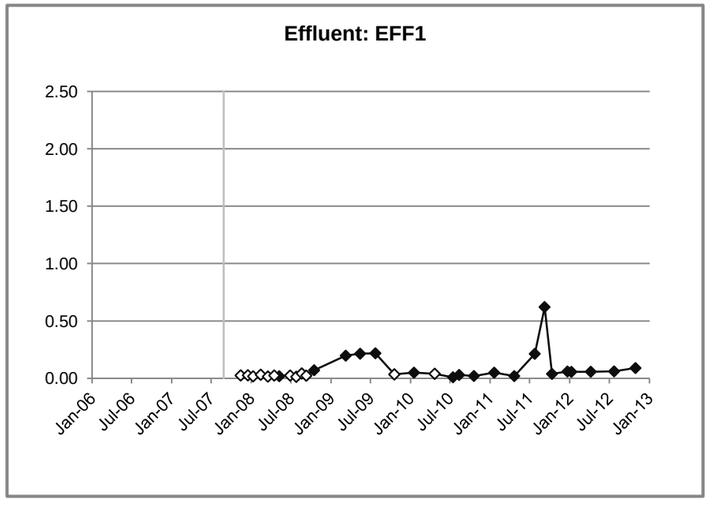
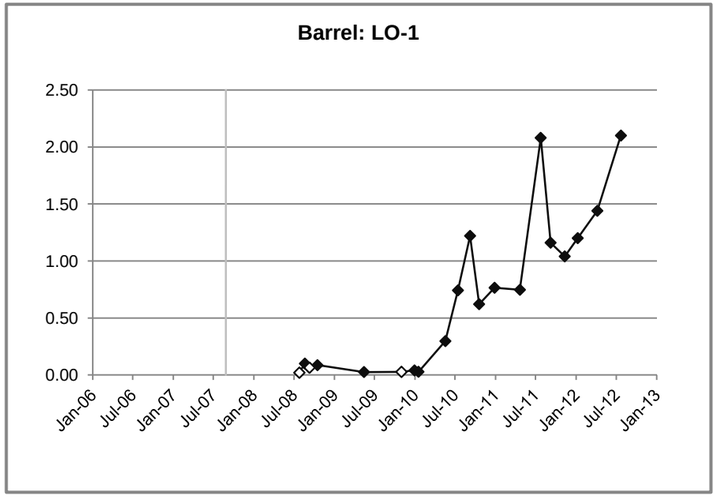
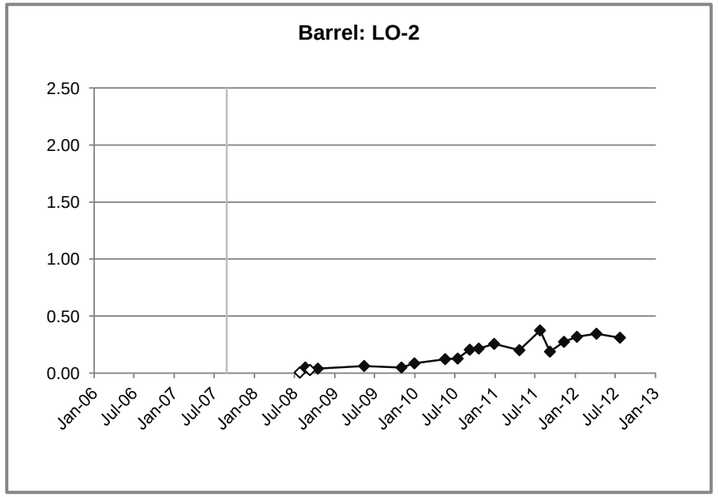
Figure 5-18
Time Series Plots: Dissolved Arsenic
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

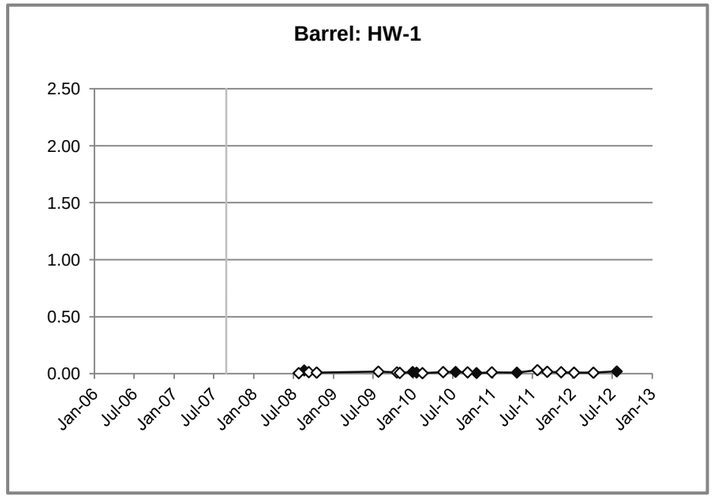
Effluent, PAG Pond, and Barrels
Dissolved Cadmium (µg/L)











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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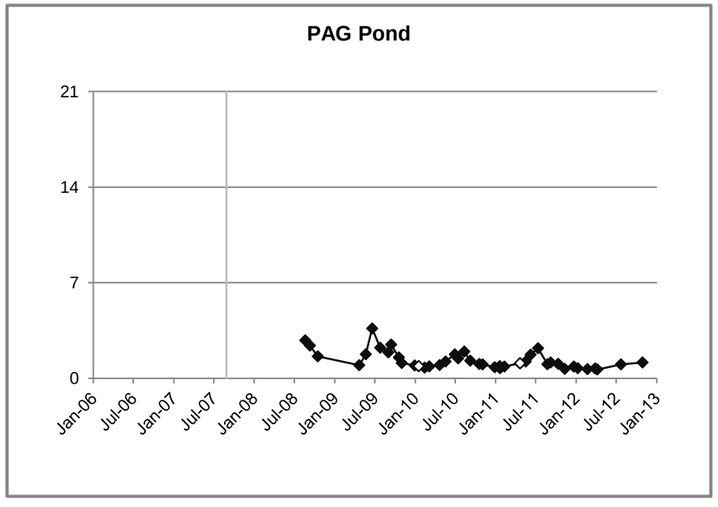
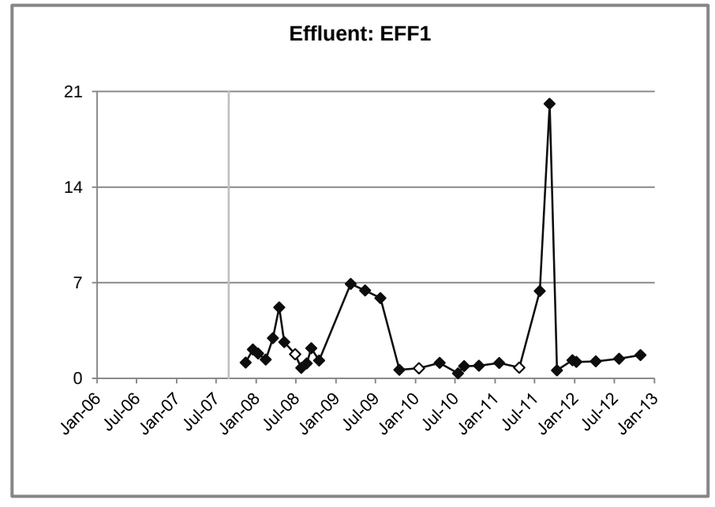
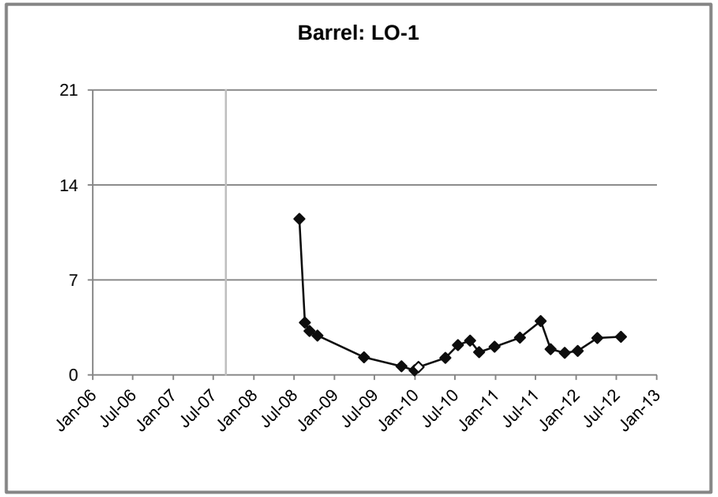
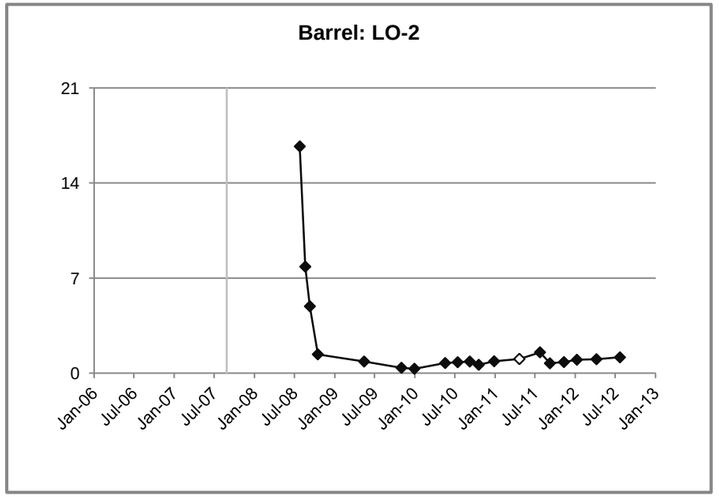
Figure 5-19
Time Series Plots: Dissolved Cadmium
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

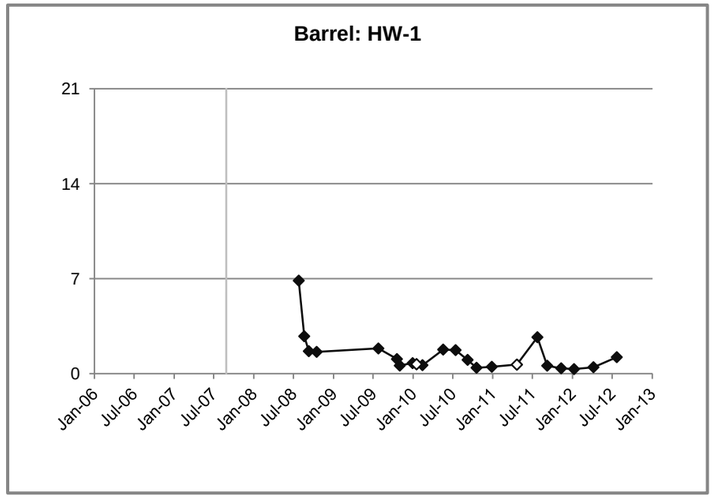
Effluent, PAG Pond, and Barrels
Dissolved Copper (µg/L)









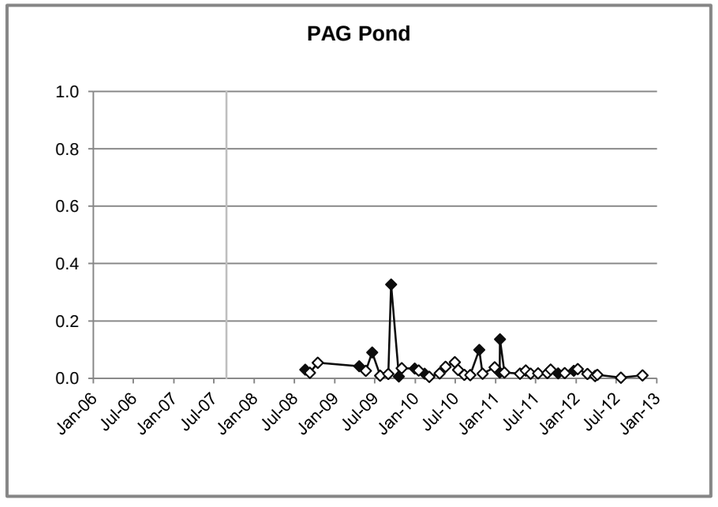


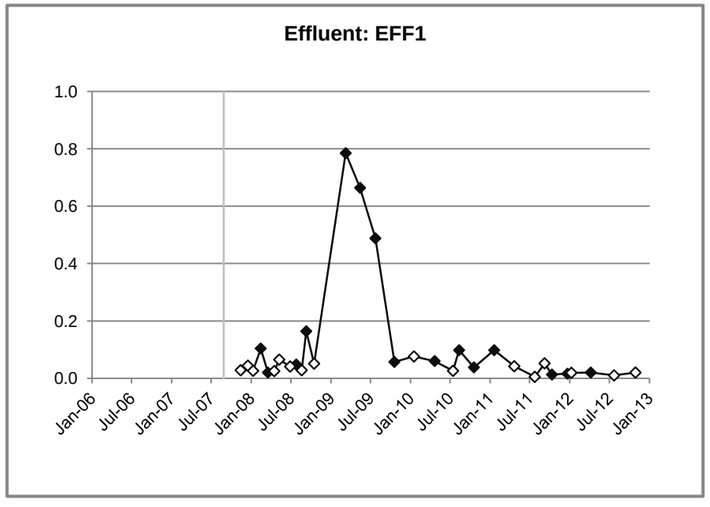
Notes:
Nondetect values shown at full detection limits as hollow symbols.
The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

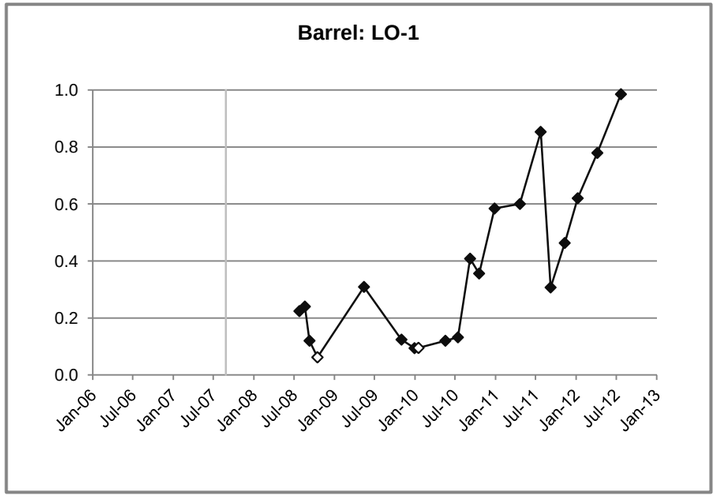
NIBLACK PROJECT LLC integral consulting inc.

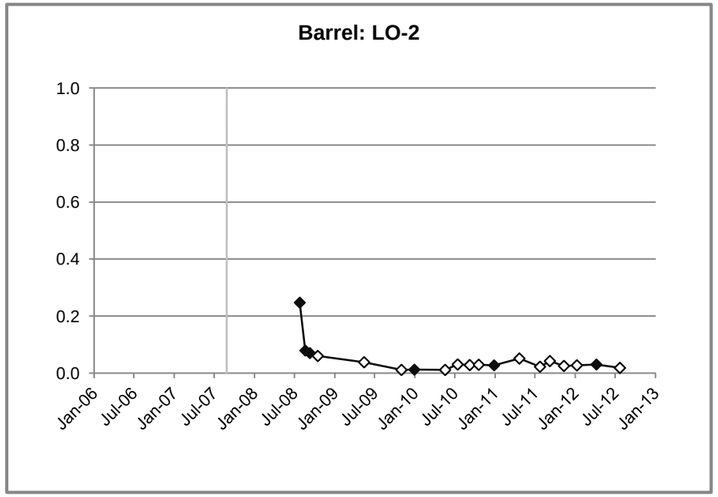
Figure 5-20
Time Series Plots: Dissolved Copper
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

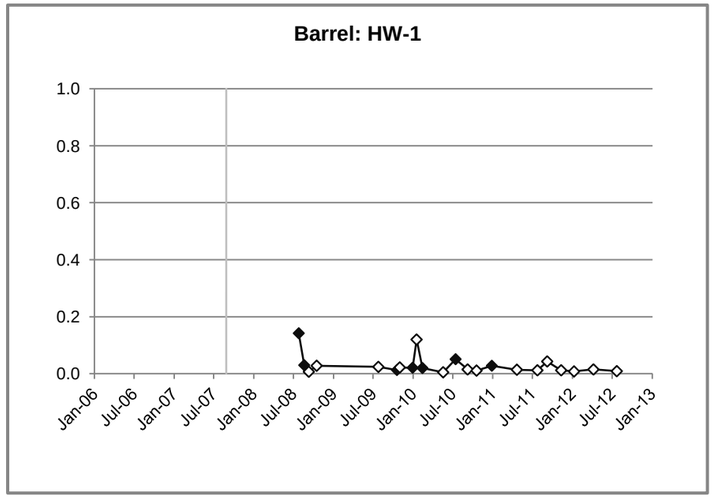
Effluent, PAG Pond, and Barrels
Dissolved Lead (µg/L)











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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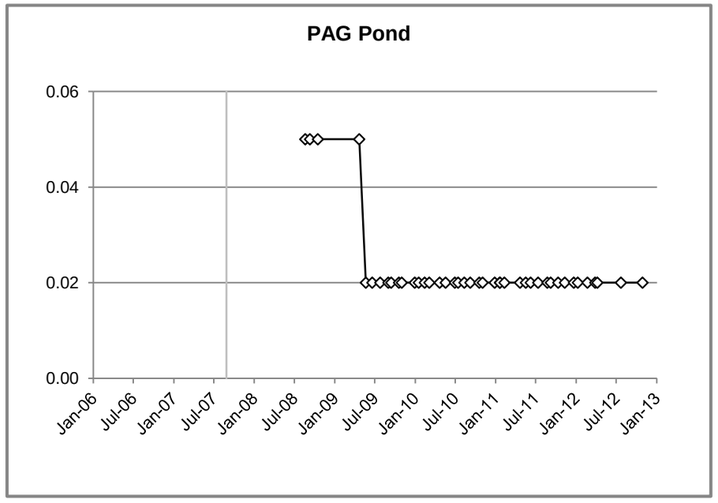
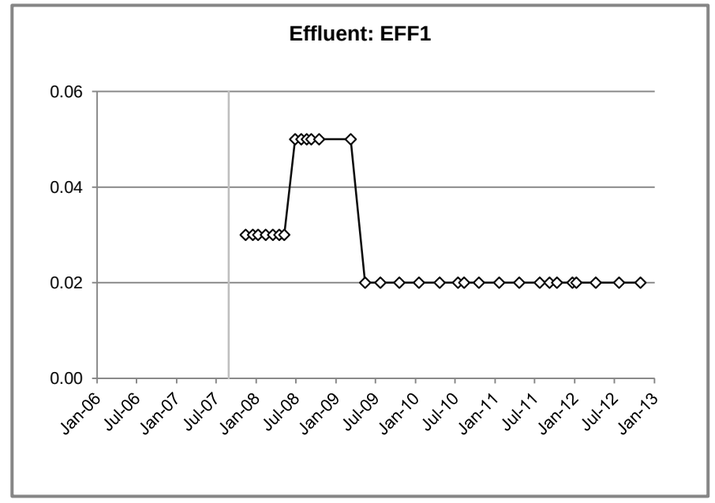
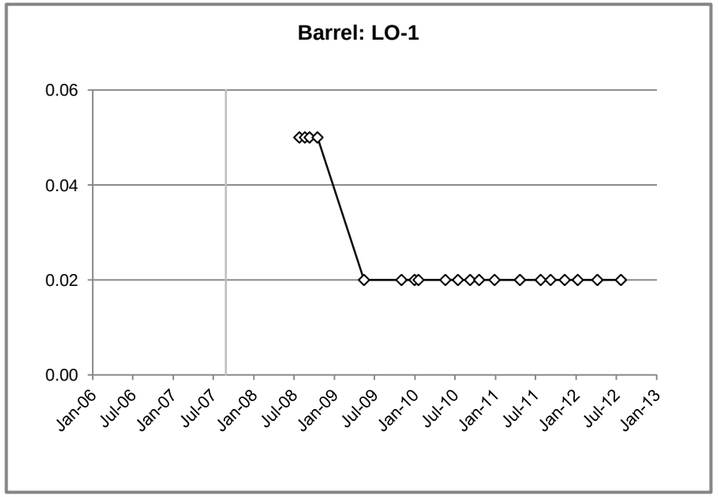
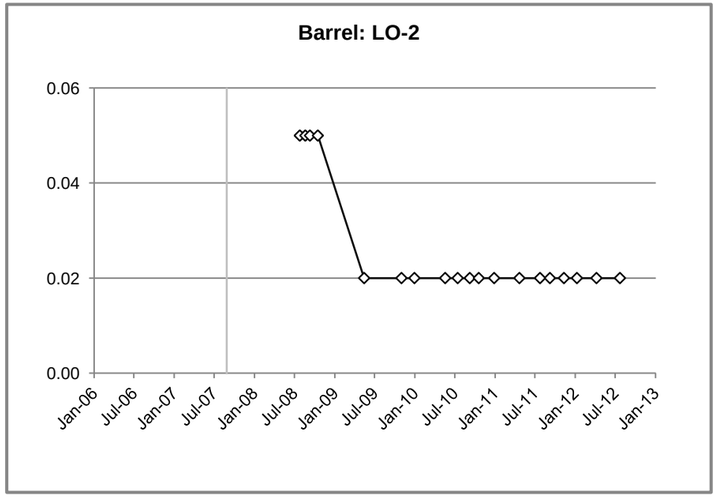
Figure 5-21
Time Series Plots: Dissolved Lead
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

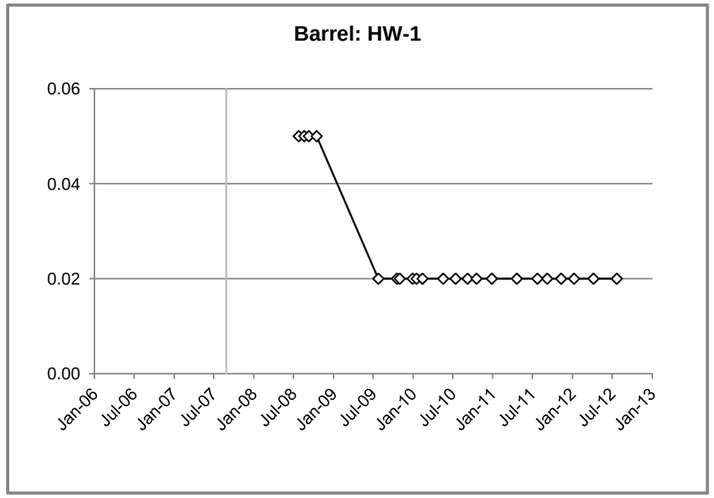
Effluent, PAG Pond, and Barrels
Dissolved Mercury (µg/L)











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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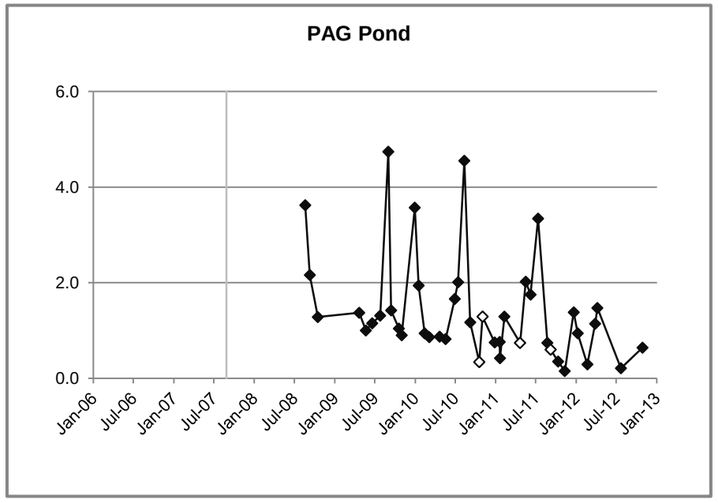
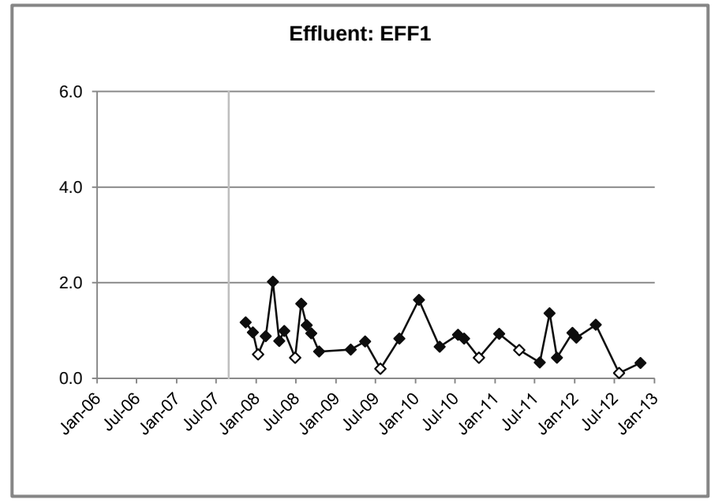
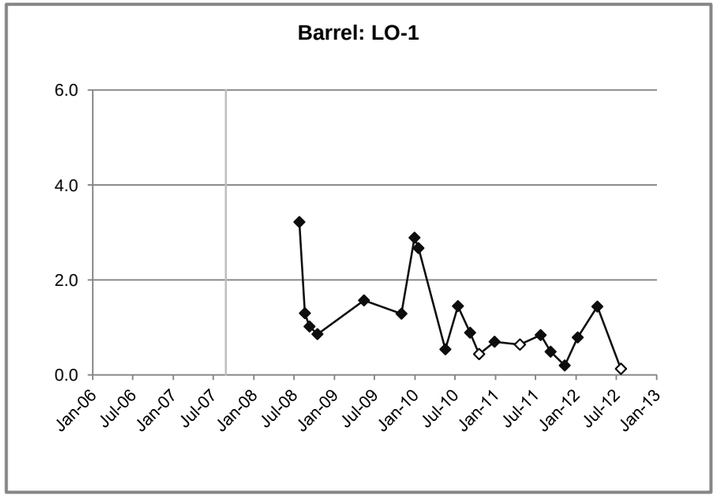
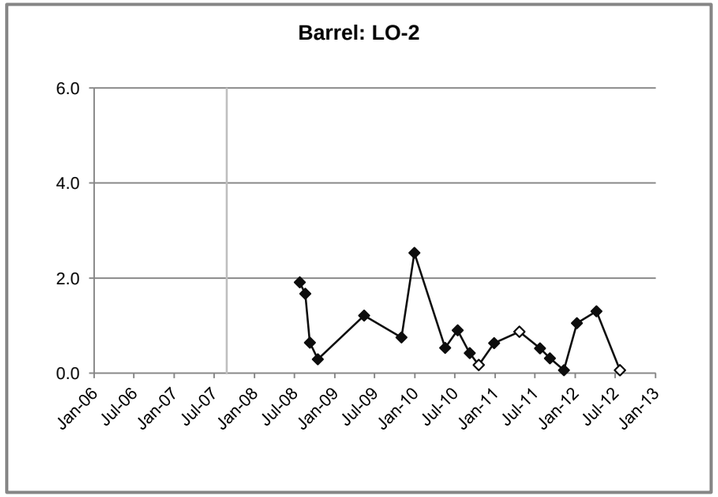
Figure 5-22
Time Series Plots: Dissolved Mercury
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

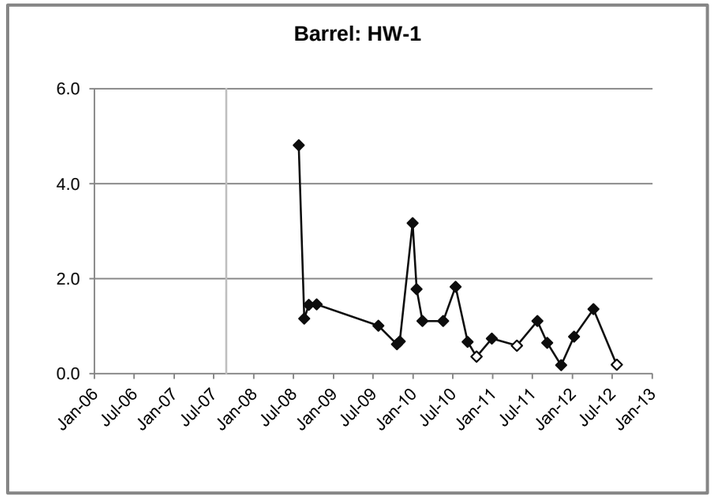
Effluent, PAG Pond, and Barrels
Dissolved Nickel (µg/L)











Notes:
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The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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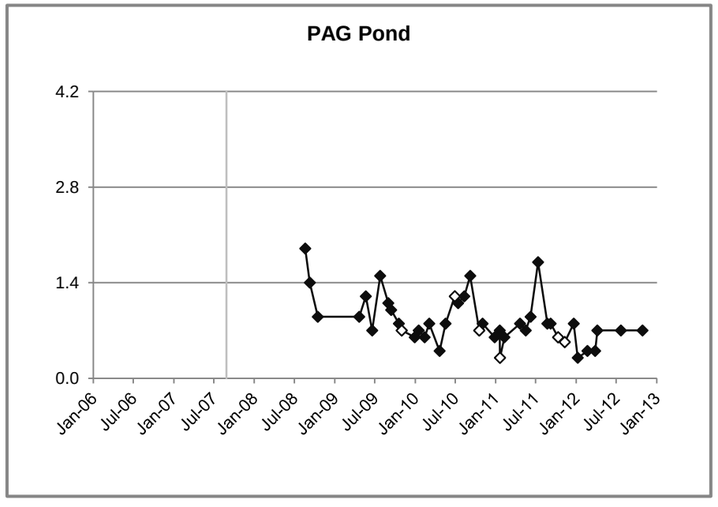
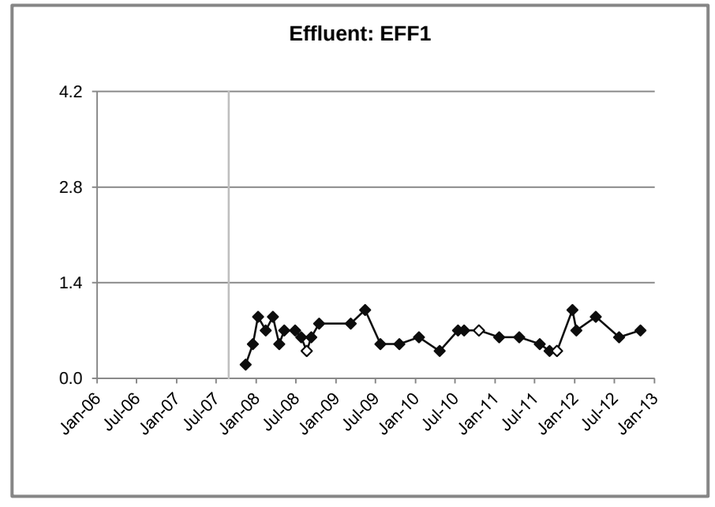
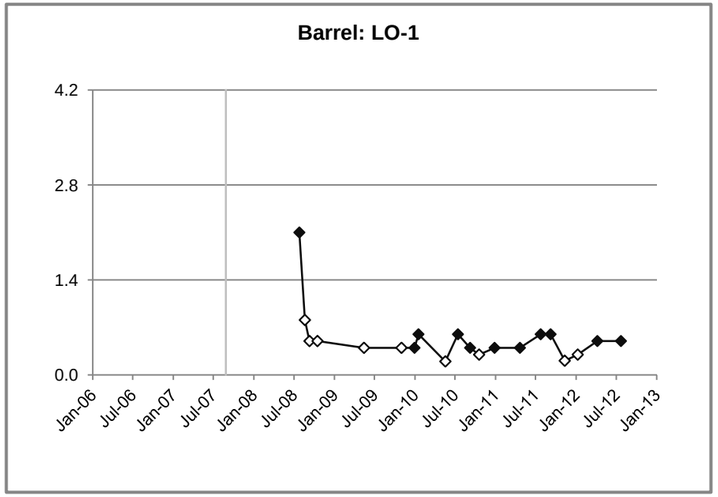
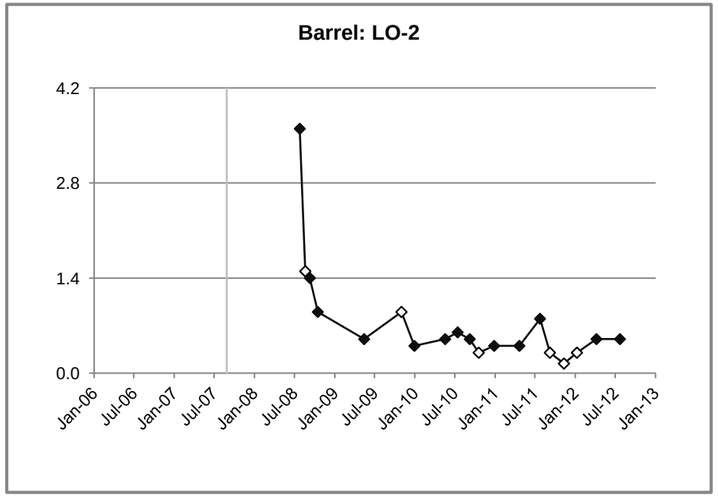
Figure 5-23
Time Series Plots: Dissolved Nickel
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

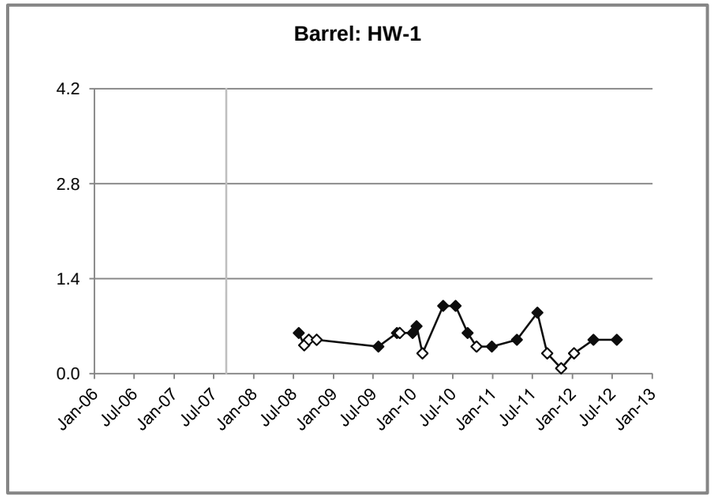
Effluent, PAG Pond, and Barrels
Dissolved Selenium (µg/L)











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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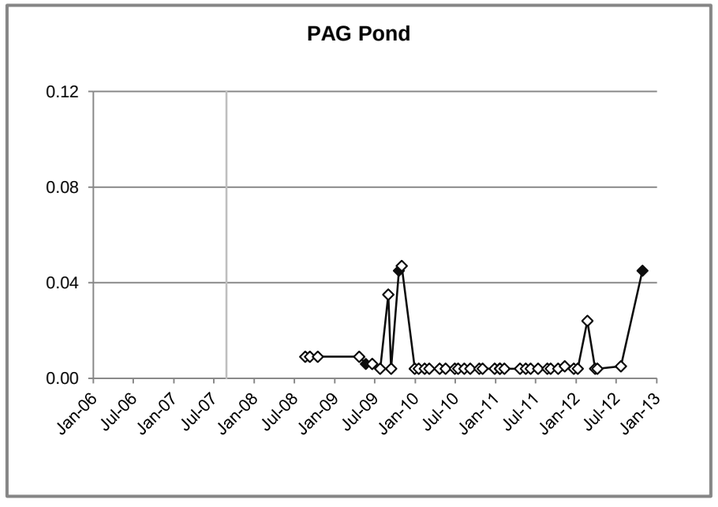
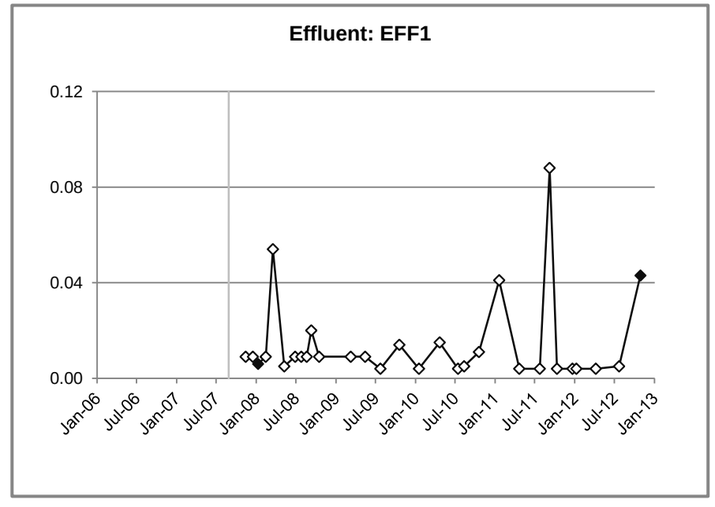
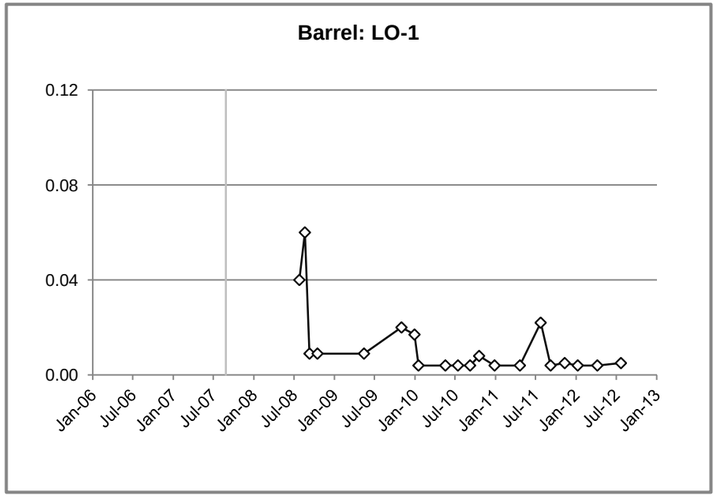
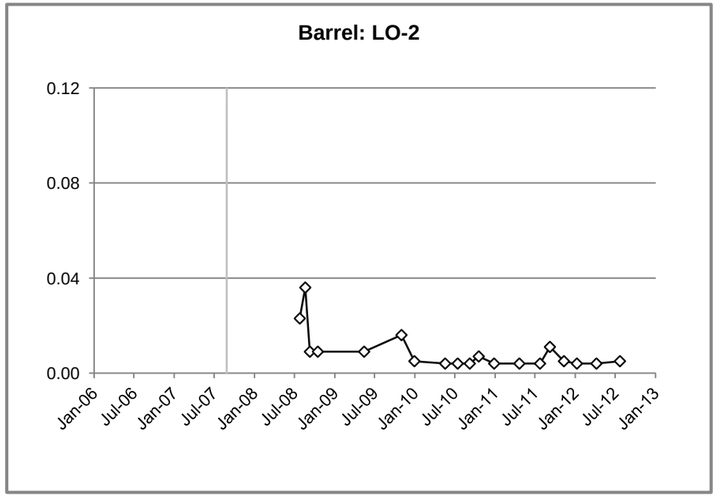
Figure 5-24
Time Series Plots: Dissolved Selenium
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

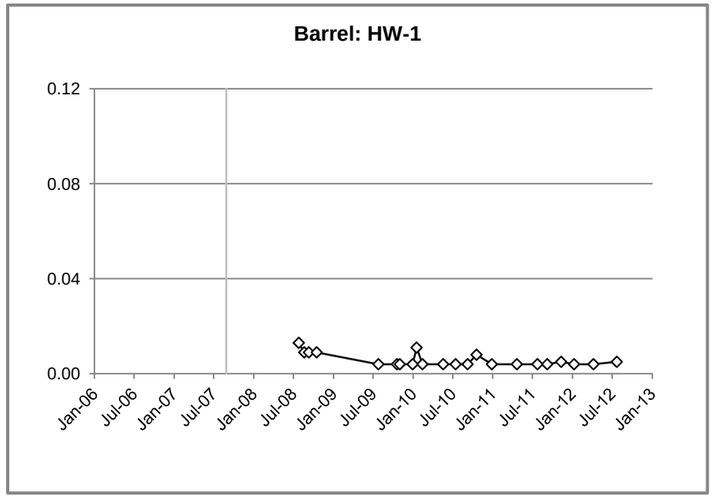
Effluent, PAG Pond, and Barrels
Dissolved Silver (µg/L)











Notes:
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The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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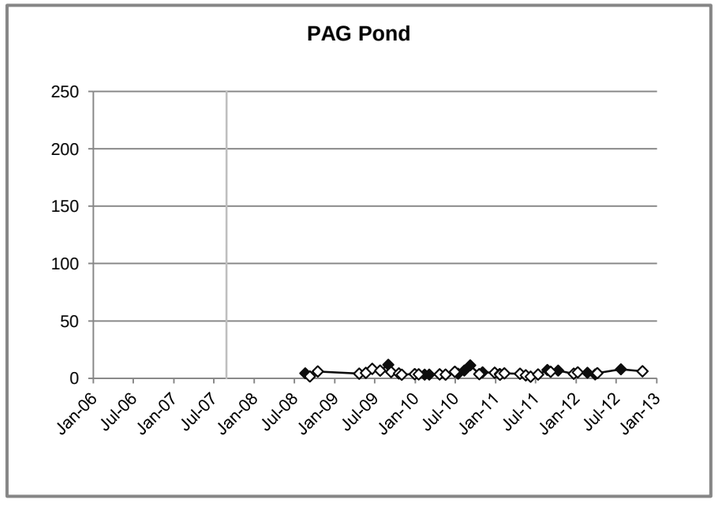
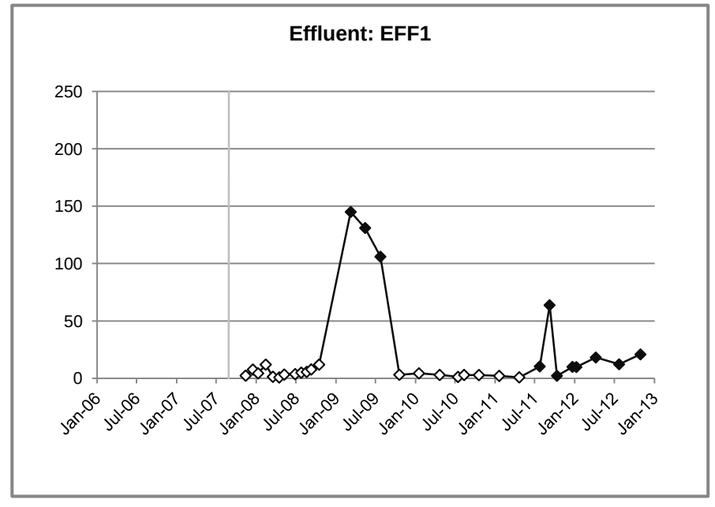
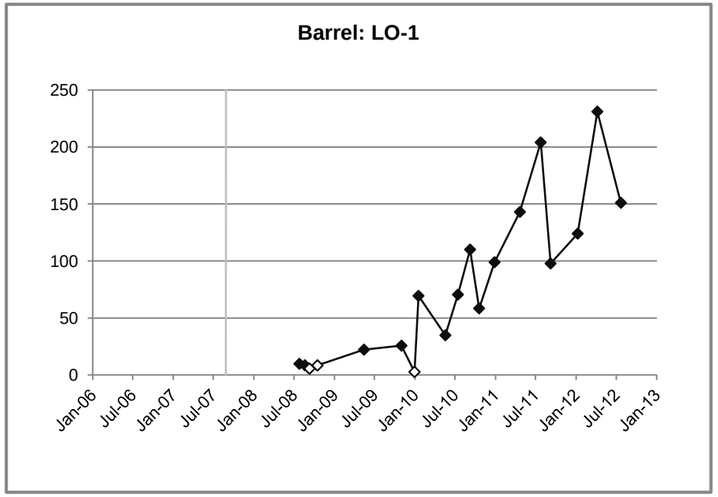
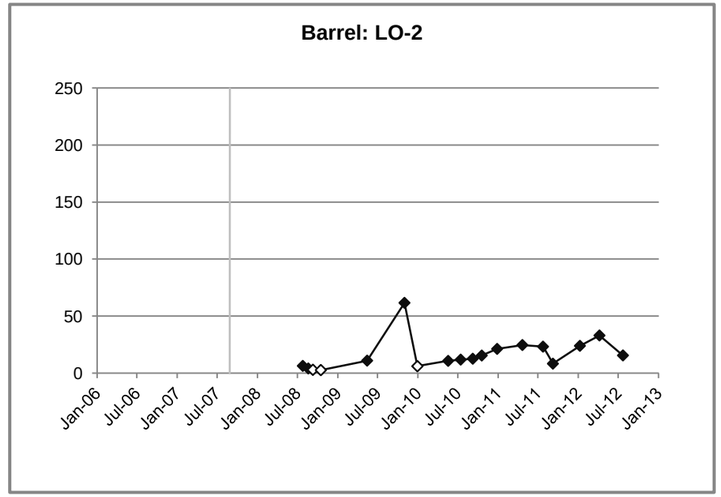
Figure 5-25
Time Series Plots: Dissolved Silver
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

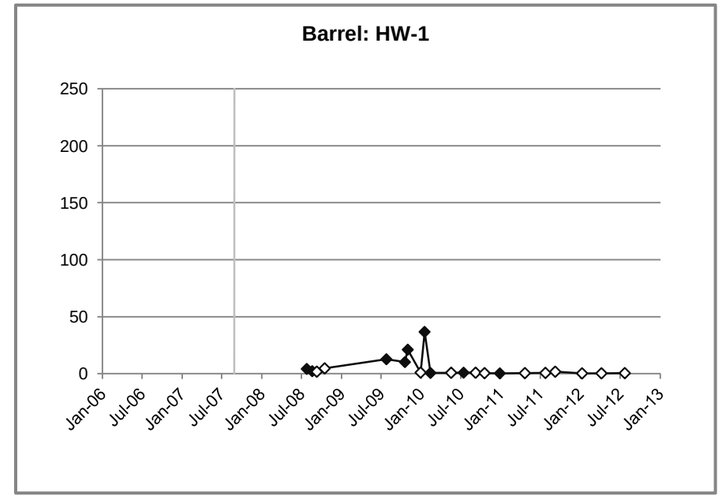
Effluent, PAG Pond, and Barrels
Dissolved Zinc (µg/L)











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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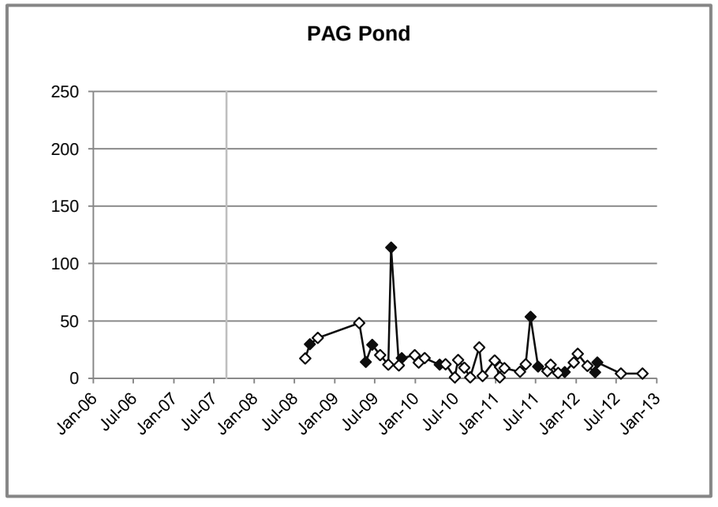
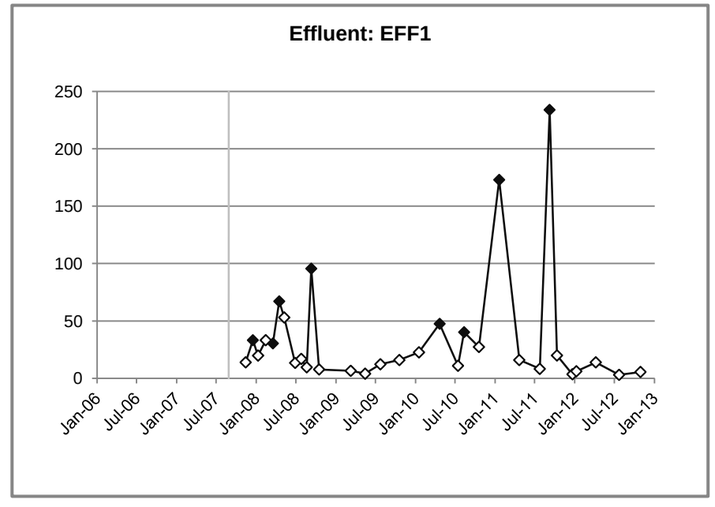
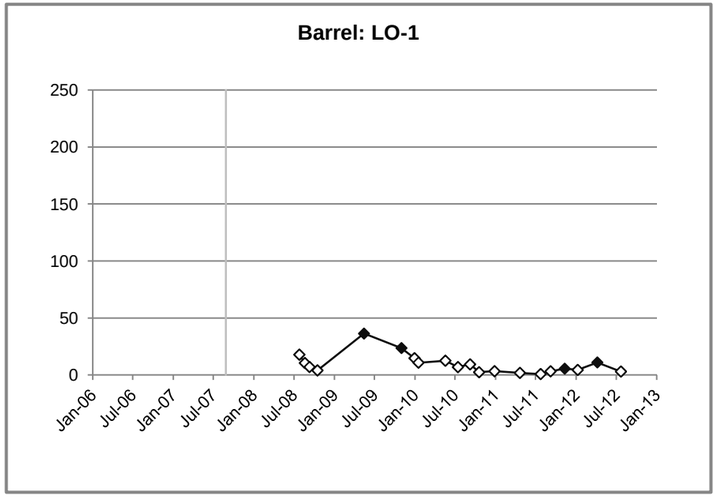
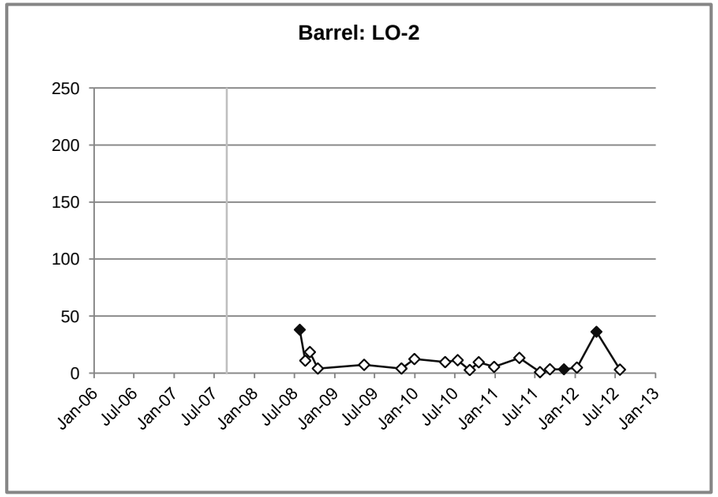
Figure 5-26
Time Series Plots: Dissolved Zinc
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

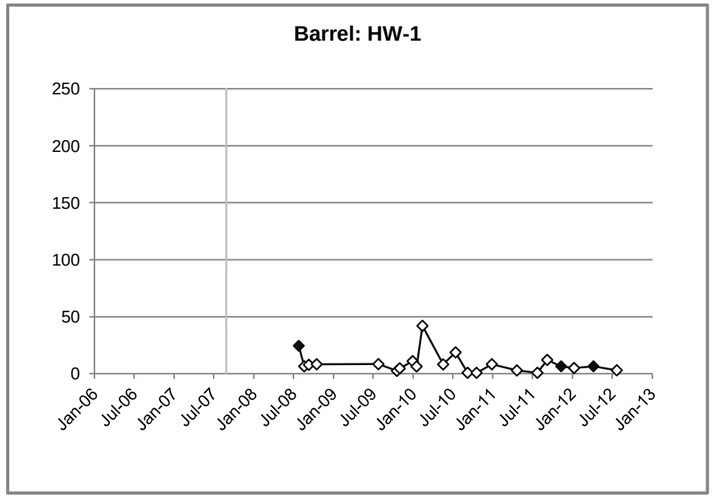
Effluent, PAG Pond, and Barrels
Dissolved Iron (µg/L)











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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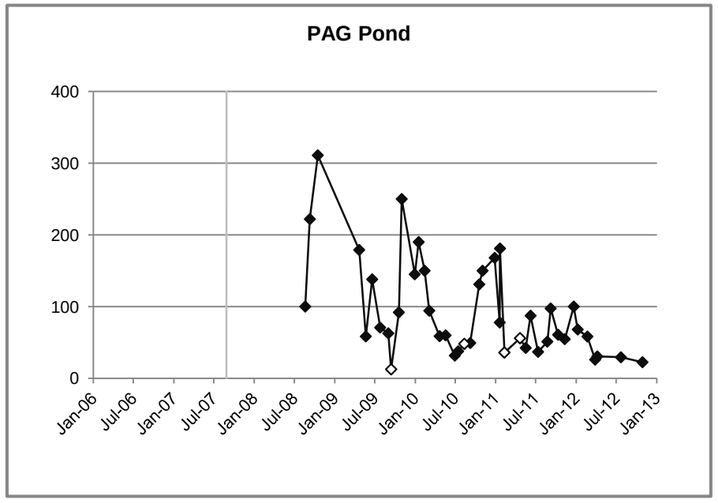
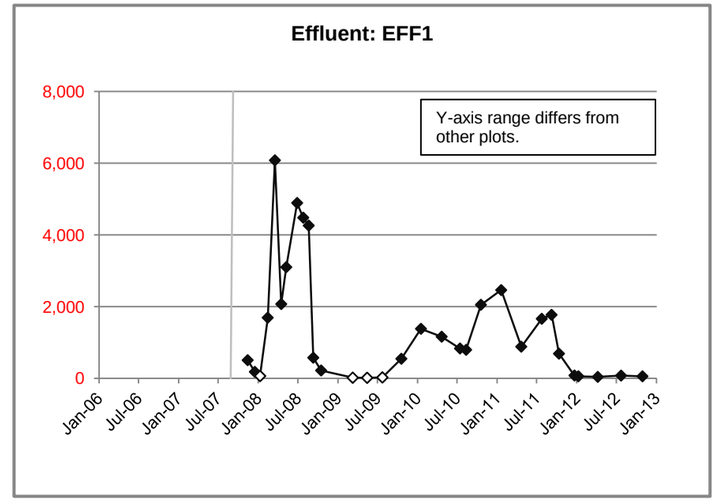
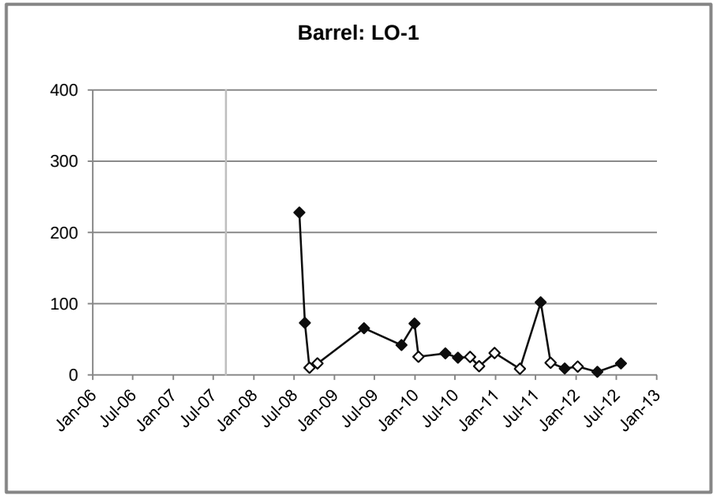
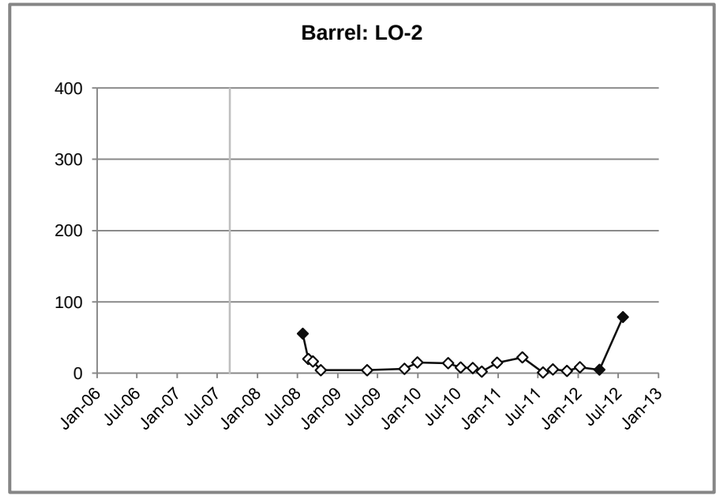
Figure 5-27
Time Series Plots: Dissolved Iron
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

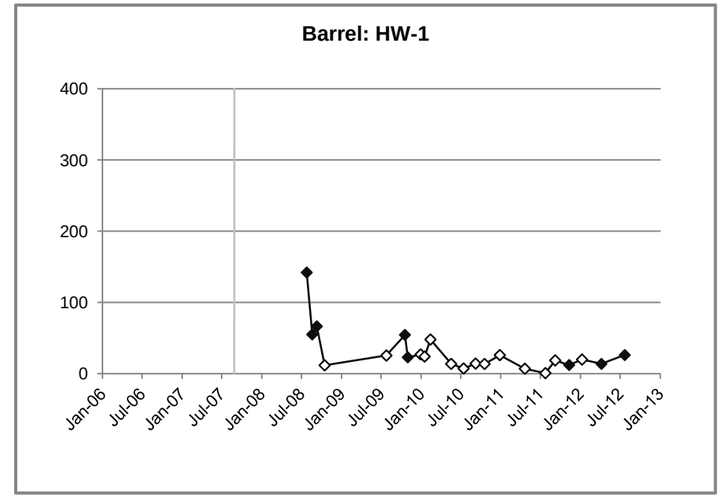
Effluent, PAG Pond, and Barrels
Total Iron (µg/L)











Notes:
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The vertical gray line on each plot indicates initiation of project activity on September 21, 2007.

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Figure 5-28
Time Series Plots: Total Iron
Effluent, PAG Pond, and Barrels
Niblack Exploration Project
2012 Annual Report

TABLES

Table 2-1. Water Balance Monthly Summary, 2012

	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]	
Month	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(inches)	(gal)	(gal/min)	(gal)	(gal/min)	(gal)	(gal/min)
Jan-12	*2,552,737*	*57*	22.3	*208,131*	*4.7*	22.3	*241,432*	*5.4*	*3,002,300*	*67*	3,002,300	*67*
Feb-12	*3,685,773*	*91*	9.3	*87,142*	*2.1*	9.3	*101,085*	*2.4*	*3,874,000*	*96*	3,874,000	*96*
Mar-12	*4,053,804*	*91*	10.7	*99,952*	*2.2*	10.7	*115,944*	*2.6*	*4,269,700*	*96*	4,269,700	*96*
Apr-12	*3,040,936*	*70*	8.0	*74,613*	*1.7*	8.0	*86,551*	*2.0*	*3,202,100*	*74*	3,202,100	*74*
May-12	*3,241,030*	*73*	19.2	*179,801*	*4.0*	19.2	*208,569*	*4.7*	*3,629,400*	*81*	3,629,400	*81*
Jun-12	*3,190,369*	*74*	9.9	*92,098*	*2.10*	9.9	*106,833*	*2.5*	*3,389,300*	*78*	3,389,300	*78*
Jul-12	*3,865,424*	*87*	9.1	*84,711*	*1.90*	9.1	*98,265*	*2.2*	*4,048,400*	*91*	4,048,400	*91*
Aug-12	*3,834,287*	*86*	5.7	*53,108*	*1.2*	5.7	*61,605*	*1.4*	*3,949,000*	*88*	3,949,000	*88*
Sep-12	*3,531,471*	*82*	14.4	*134,921*	*3.1*	14.4	*156,508*	*3.6*	*3,822,900*	*88*	3,822,900	*88*
Oct-12	*3,411,816*	*76*	8.6	*80,317*	*1.8*	8.6	*93,167*	*2.1*	*3,585,300*	*80*	3,585,300	*80*
Nov-12	*3,318,546*	*77*	17.1	*159,979*	*3.7*	17.1	*185,575*	*4.3*	*3,664,100*	*85*	3,664,100	*85*
Dec-12	*4,370,267*	*98*	9.9	*92,191*	*2.1*	9.9	*106,942*	*2.4*	*4,569,400*	*102*	4,569,400	*102*

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. Water Quality Monitoring Stations

Monitoring Point	Location	Coordinates (NAD27, UTM Zone 8N) Easting	Northing	Status	Purpose: Pre-project Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Surface Waters								
WQ1	Offsite at Deer Pasture Creek – downstream	684358.0	6104664.0	Inactive			X	
WQ2	Offsite at Lookout Creek – downstream	683575.0	6105162.0	Active			X	
WQ3	Offsite at Myrtle Creek – downstream	683179.0	6105980.0	Inactive			X	
WQ4	Waterfall Creek – downstream	682283.3	6105575.9	Active	X	X		X
WQ8	Waterfall Creek – upstream	682054.7	6105518.6	Discontinued [b]	X			
WQ5	Camp Creek – middle reach of creek	682054.7	6105518.6	Inactive	X			
WQ6	Camp Creek – downstream	682259.5	6105682.2	Active	X	X		
WQ7	Camp Creek – upstream	681989.1	6105602.1	Discontinued [b]	X			
WQ10	Unnamed Creek 1 – downstream	682171.0	6105725.0	Active	X	X		
WQ12	Unnamed Creek 1 – upstream	682019.5	6105713.6	Discontinued [b]	X			
Seep	Unnamed Creek 1 – upstream groundwater seep	682306.0	6105546.4	Inactive	X			
WQ13	Unnamed Creek 2 – downstream	682306.0	6105546.4	Active	X			X
WQ14	Unnamed Creek on South side of Lookout Mountain	682955.0	6101933.0	Discontinued [c]			X	X
Groundwater Wells								
MW1	Wetlands below NAG site	682335.3	6105502.0	Active	X	X [d]		X
MW2	Wetlands below settling ponds and LAD area	682191.0	6105606.0	Active	X	X [d]		X
MW3	Wetlands below PAG site and LAD area	682219.1	6105684.2	Active	X	X [d]		X
MW4	Wetlands below and LAD area	682288.0	6105792.0	Active	X	X [d]		X
MW7	Wetlands – offsite and to the east of the project	682607.0	6105469.0	Discontinued [b]	X			
MW8	Upgradient of LAD area and MW3	682028.0	6105561.0	Discontinued [b]			X [e]	
MW9	Upgradient of and LAD area and MW4	682064.0	6105796.0	Discontinued [b]			X [e]	
GW1	Pre-existing drill hole	682134.0	6105711.0	Inactive	X			
GW2	Upgradient of and LAD area and MW6	682178.0	6105640.0	Inactive	X			

Table 3-1. Water Quality Monitoring Stations

Monitoring Point	Location	Coordinates (NAD27, UTM Zone 8N) Easting	Northing	Status	Purpose: Pre-project Reference Conditions	Compliance Location	Information Only	Post-closure Monitoring
Effluent, PAG Pond, and Barrels								
EFF1	Settling ponds at point of discharge to LAD	682103.6	6105572.1	Active			X	
PAG	PAG leak detection system	--	--	Active (no water) [a]			X [a]	
PAG Pond	PAG leachate/runoff capture pond	682046.3	6105664.3	Active			X	
LO1	Field kinetic test barrel	--	--	Active			X	
LO2	Field kinetic test barrel	--	--	Active			X	
HW1	Field kinetic test barrel	--	--	Active			X	
PORTAL/ DRIFT	Mine drift water at point of entry to the settling ponds	--	--	Active (intermittent)			X	
Portal (multiple locations)	Mine drift sampled within the drift or at the portal entrance	--	--	Active (intermittent)	X [f]		X	

Notes:

ADEC = Alaska Department of Environmental Conservation

LAD = land application/dispersion

NAG = non-acid generating

PAG = potentially acid-generating

[a] A visual monitoring station was established below the PAG waste disposal area as part of a leak detection system. No water is anticipated to collect at this point unless there is a breach in the liner

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

[c] Monitoring at station WQ14 was discontinued following collection of 20 baseline samples in the second quarter of 2012.

[d] 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.

[e] MW8 and MW9 will be used to determine background groundwater quality for information purposes only.

[f] As specified in Niblack Waste Management Permit 2006-DB0037 (ADEC 2007), samples were to be collected at seeps or drill holes near the portal entrance to determine natural groundwater quality to support post-closure monitoring of drainage water from the closed adit (if drainage occurs).

Table 3-2. Sampling Event Summary, 2012

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
January 8-9, 2012	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, PAG pond, EFF1, HW1, LO1, LO2	Field duplicates of MW1 and WQ13, total and dissolved field blanks	Analytical chemistry and field parameters
January 17, 2012	EFF1	None	Field parameters
January 28, 2012	EFF1	None	Field parameters
February 4, 2012	PAG pond, EFF1	None	Field parameters
February 11, 2012	PAG pond, EFF1	None	Field parameters
February 21, 2012	PAG pond	None	Analytical chemistry and field parameters
February 25, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
March 4, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
March 10, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
March 18, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters

Table 3-2. Sampling Event Summary, 2012

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
March 26, 2012	EFF1, HW1, LO1, LO2	None	Field parameters
March 27, 2012	PAG pond	None	Analytical chemistry and field parameters
April 1, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
April 6-8, 2012	MW1, MW2, MW3, MW4, WQ4, WQ6, WQ10, WQ13, PAG pond, EFF1, HW1, LO1, LO2	Field duplicates of MW1 and WQ4, total and dissolved field blanks	Analytical chemistry and field parameters
April 14, 2012	PAG pond, EFF1	None	Field parameters
April 21, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
April 28, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
May 7, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
May 13, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
May 19, 2012	PAG pond, EFF1, HW1, LO2	None	Field parameters

Table 3-2. Sampling Event Summary, 2012

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
May 26, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
June 2, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
June 9, 2012	PAG pond, EFF1, HW1, LO1	None	Field parameters
June 16, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
June 25, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
June 30, 2012	PAG pond, EFF1, HW1, LO1, LO2	None	Field parameters
July 8, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
July 14, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
July 21-22, 2012	MW1, MW2, MW3, MW4, WQ2, WQ4, WQ6, WQ10, WQ13, EFF1, HW1, LO1, LO2, DRIFT, PAG pond	Field replicates of MW4 and WQ2, total and dissolved field blanks	Analytical chemistry and field parameters
July 28, 2012	EFF1, PAG pond	None	Field parameters

Table 3-2. Sampling Event Summary, 2012

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
August 4, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
August 12, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
August 17, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
August 25, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
September 2, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
September 8, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
September 14, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
September 22, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
September 30, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
October 6, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
October 14, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters

Table 3-2. Sampling Event Summary, 2012

Date of Sampling Event	Stations Sampled	QA/QC Samples Collected	Parameters Collected
October 20, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
October 27-29, 2012	MW1, MW2, MW3, WQ2, WQ4, WQ6, WQ10, WQ13, EFF1, DRIFT, PAG pond	Field replicates of MW1 and WQ10, total and dissolved field blanks	Analytical chemistry and field parameters
November 3, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
November 11, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
November 17, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
November 24, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
December 2, 2012	EFF1, PAG pond, LO1, LO2, HW1	None	Field parameters
December 17, 2012	EFF1, LO1, LO2, HW1	None	Field parameters
December 22, 2012	EFF1	None	Field parameters

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 3-3. 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	
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	--	--	SM 2340 C	Titrimetric
Total dissolved solids	X	--	--	SM 2540 C	Gravimetric
Total suspended solids	X	--	--	SM 2540 D	Gravimetric
Cations/Anions					
Alkalinity as $CaCO_3$	X	--	--	SM 2320 B	Titrimetric
Bromide, fluoride		--	--	EPA 300.0	Ion chromatography
Chloride, sulfate	X	--	--	EPA 300.0	Ion chromatography
Nitrate/nitrite as N	X	EPA 353.2	Cadmium reduction	EPA 353.2	Colorimetric
Ammonia as N	X	--	--	SM 4500-NH3 E	Electrometric
o-Phosphate as P, dissolved			Persulfate digestion		
Phosphate as P, dissolved		EPA 365.3	Persulfate digestion & 0.45-mm filtration	EPA 365.3	Colorimetric
Phosphate as P, total			Persulfate digestion		
Total/Dissolved Metals					
Antimony, beryllium, bismuth, cobalt, manganese, molybdenum, thallium, tin, uranium, vanadium		EPA 3020A	Nitric acid digestion	EPA 6020A	ICP/MS
Aluminum, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, zinc	X [a]	EPA 3020A	Nitric acid digestion	EPA 6020A	ICP/MS
Barium, boron, lithium, phosphorus, silicon, strontium, titanium		EPA 3010A	Nitric/hydrochloric acid digestion	EPA 6010C	ICP/AES
Calcium, iron, magnesium, potassium, sodium	X	EPA 3010A	Nitric/hydrochloric acid digestion	EPA 6010C	ICP/AES
Mercury	X	EPA 7470A	Acid digestion/oxidation	EPA 7470A	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

[a] Chromium is included on the reduced monitoring list for station EFF1 only.

Table 3-5. Water Quality Monitoring Station Analyte List Summary, 2007–2012

			Compliance Stations (Active)		Reference/Background Stations (Discontinued)			Off-Site Stations (Active As-Needed)				Mine Water and Waste Rock Monitoring (Active)		
Year	Quarter	Month	Surface Water (WQ4, WQ6, WQ10, WQ13)	Monitoring Wells (MW1, MW2, MW3, MW4)	Surface Water (WQ7, WQ8, WQ12) [a]	Monitoring Wells (MW7, MW8, MW9)	Monitoring Wells & Seep (GW1, GW2, SEEP) [b]	Surface Water (WQ1)	Surface Water (WQ2)	Surface Water (WQ3)	Surface Water (WQ14)	Settling Ponds (EFF1)	PAG Pond (PAG)	Kinetic Test Barrels (LO1, LO2, HW1)
2012	Q1	Jan	Reduced list	Reduced list								Reduced list & Cr		
		Feb												
		Mar												
	Q2	Apr	Reduced list	Reduced list					Original list		Original list	Reduced list & Cr	Reduced list	Reduced list
		May											Reduced list	
		Jun												
	Q3	Jul	Reduced list	Reduced list					Reduced list			Reduced list & Cr	Reduced list	Reduced list
		Aug												
		Sep												
	Q4	Oct	Reduced list	Reduced list					Original list			Reduced list & Cr	Reduced list	
		Nov												
		Dec												
2011	Q1	Jan	Reduced list	Reduced list							Original list	Reduced list & Cr	Original list	
		Feb									Original list		Original list	
		Mar						Original list	Original list	Original list	Original list			
	Q2	Apr	Reduced list	Reduced list							Original list	Reduced list	Reduced list	Reduced list
		May									Original list		Original list	
		Jun							Original list		Original list		Original list	
	Q3	Jul	Reduced list	Reduced list					Reduced list		Original list	Reduced list & Cr	Original list	Reduced list
		Aug							Original list		Original list		Original list	
		Sep										Reduced list & Cr		Reduced list
	Q4	Oct										Reduced list & Cr	Reduced list	
		Nov											Reduced list	Reduced list
		Dec	Reduced list	Reduced list								Reduced list & Cr	Reduced list	
2010	Q1	Jan	Reduced list	Reduced list							Original list	Reduced list	Reduced list	Reduced list
		Feb						Original list	Original list		Original list		Reduced list	Reduced list
		Mar								Original list	Original list		Reduced list	
	Q2	Apr	Reduced list	Reduced list					Original list	Original list	Original list	Reduced list	Reduced list	
		May									Original list		Original list	Reduced list
		Jun									Original list		Original list	
	Q3	Jul						Original list	Original list		Original list	Reduced list & Cr	Reduced list	Reduced list
		Aug	Reduced list	Reduced list						Original list	Original list	Reduced list & Cr	Reduced list	
		Sep									Original list		Reduced list	Reduced list
	Q4	Oct	Reduced list	Reduced list					Original list		Original list	Reduced list & Cr	Reduced list	Reduced list
		Nov											Reduced list	
		Dec						Original list	Original list	Original list	Original list		Original list	Reduced list

Table 3-5. Water Quality Monitoring Station Analyte List Summary, 2007–2012

			Compliance Stations (Active)		Reference/Background Stations (Discontinued)			Off-Site Stations (Active As-Needed)				Mine Water and Waste Rock Monitoring (Active)		
Year	Quarter	Month	Surface Water (WQ4, WQ6, WQ10, WQ13)	Monitoring Wells (MW1, MW2, MW3, MW4)	Surface Water (WQ7, WQ8, WQ12) [a]	Monitoring Wells (MW7, MW8, MW9)	Monitoring Wells & Seep (GW1, GW2, SEEP) [b]	Surface Water (WQ1)	Surface Water (WQ2)	Surface Water (WQ3)	Surface Water (WQ14)	Settling Ponds (EFF1)	PAG Pond (PAG)	Kinetic Test Barrels (LO1, LO2, HW1)
2009	Q1	Jan												
		Feb												
		Mar	Reduced list	Reduced list				Reduced list	Reduced list	Reduced list	Reduced list	Reduced list & Cr		
	Q2	Apr											Reduced list & Cr	
		May	Reduced list	Reduced list				Reduced list	Reduced list	Reduced list	Reduced list	Reduced list & Cr	Reduced list & Cr	Reduced list & Cr
		Jun											Reduced list & Cr	
	Q3	Jul	Reduced list	Reduced list				Reduced list	Reduced list	Reduced list	Reduced list	Reduced list & Cr	Reduced list & Cr	Reduced list & Cr
		Aug											Reduced list	
		Sep	Reduced list	Reduced list							Reduced list		Reduced list	
	Q4	Oct	Reduced list	Reduced list				Reduced list	Reduced list	Reduced list	Original list	Reduced list	Reduced list	Reduced list
		Nov												
		Dec									Original list	Reduced list	Reduced list	Reduced list
2008	Q1	Jan	Original list	Original list	Original list	Original list						Original list		
		Feb	Original list	Original list	Original list	Original list						Original list		
		Mar	Original list	Original list	Original list	Original list		Original list	Original list	Original list		Original list		
	Q2	Apr	Original list	Original list	Original list	Original list						Original list		
		May	Original list	Original list	Original list	Original list		Original list	Original list	Original list		Original list		
		Jun	Original list	Original list	Original list	Original list						Original list		
	Q3	Jul	Original list	Original list	Original list	Original list [b]						Original list		Original list
		Aug		Reduced list								Reduced list & Cr		
		Sep		Reduced list								Reduced list & Cr		
	Q4	Oct	Reduced list	Reduced list								Reduced list & Cr		
		Nov												
		Dec												
2007	Q1	Jan												
		Feb	Original list	Original list	Original list	Original list [c]								
		Mar												
	Q2	Apr	Original list	Original list	Original list	Original list [c]								
		May	Original list	Original list	Original list	Original list [c]								
		Jun	Original list	Original list	Original list	Original list [c]	Original list							
	Q3	Jul	Original list	Original list	Original list	Original list		Original list	Original list	Original list				
		Aug	Original list	Original list	Original list	Original list		Original list	Original list	Original list				
		Sep	Original list	Original list	Original list	Original list		Original list	Original list	Original list				
	Q4	Oct	Original list	Original list	Original list	Original list								
		Nov	Original list	Original list	Original list	Original list		Original list	Original list	Original list		Original list		
		Dec	Original list	Original list	Original list	Original list						Original list		

Notes:

Water quality parameters included on the reduced analyte list are specified in Tables 2-3 and 2-4.

Cr = chromium
PAG = potentially acid generating

[a] Surface Water station WQ5 (Camp Creek middle reach) was monitored 6 times from 1996 - 2006. No samples have been collected since 2006.
[b] Preliminary Monitoring Wells GW1 and GW2 were also sampled in October and December 2006. The SEEP station was also monitored in August, October, and December 2006.
[c] Monitoring at MW7 only. Completion and monitoring of wells MW8 and MW9 began in July 2007.

Table 3-6. Zinc Concentrations in Field Blanks, 2008–2012

				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 2012	Q4 2012	WQ21	DI blank, GW protocol	0.2	0.6	4.2	3.8	8.3	7.7	20.8	19.2	
July 2012	Q3 2012	WQ21	DI blank, GW protocol	0.23	0.32	4.2	3.9	8.3	7.7	20.8	19.3	
April 2012	Q2 2012	WQ21	DI blank, GW protocol	0.2	0.32	4.2	3.9	8.4	7.7	20.9	19.3	
January 2012	Q1 2012	WQ21	DI blank, GW protocol	0.2	0.39	4.2	3.9	8.4	7.8	21.1	19.4	
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	
September 2011		WQ21	DI blank, GW protocol	3	0.32	4.3	3.9	8.6	7.8	21.4	19.6	
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	
July 2011		WQ21	DI blank, GW protocol	0.2	0.25	4.3	4.0	8.7	7.9	21.7	19.8	
June 2011		WQ21	DI blank, GW protocol	0.2	3.85	4.4	4.0	8.7	8.0	21.8	19.9	
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	
April 2011		WQ21	DI blank, GW protocol	0.2	0.92	4.4	3.9	8.9	7.8	22.1	19.6	
March 2011		WQ21	DI blank, GW protocol	1.15	0.81	4.5	3.9	8.9	7.9	22.3	19.7	
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	
January 2011		WQ21	DI blank, GW protocol	0.4	0.27	4.5	4.0	9.0	8.0	22.6	20.0	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.
December 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.5	4.0	9.1	8.0	22.7	20.1	
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	
October 2010		WQ21	DI blank, GW protocol	0.2	0.2	4.6	4.1	9.2	8.2	23.0	20.4	
September 2010		WQ21	DI blank, GW protocol	1.15	0.88	4.6	4.1	9.3	8.2	23.2	20.5	
August 2010	Q3 2010	WQ21	DI blank, GW protocol	1.95	3.67	4.7	4.2	9.3	8.2	23.2	20.5	
July 2010		WQ21	DI blank, GW protocol	0.23	0.41	4.7	4.1	9.4	8.2	23.5	20.4	
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	
March 2010		WQ21	DI blank, GW protocol	0.2	0.41	4.9	4.2	9.8	8.5	24.5	21.2	
February 2010	Q1 2010	WQ21	DI blank, GW protocol	4.16	0.69	5.0	4.3	9.9	8.5	24.9	21.3	
January 2010		WQ21	DI blank, GW protocol	6.23	1.29	5.0	4.3	10.1	8.5	25.2	21.4	
December 2009		WQ21	DI blank, GW protocol	0.49	0.48	4.2	4.3	8.4	8.6	20.9	21.5	
October/November 2009	Q4 2009	WQ21	DI blank, GW protocol	0.61	0.53	4.2	4.3	8.5	8.6	21.1	21.5	
October 2009		WQ21	DI blank, GW protocol	1.32	0.58	4.3	4.3	8.5	8.6	21.3	21.6	
September 2009		WQ21	DI blank, GW protocol	1.57	2.92	4.3	4.3	8.6	8.7	21.5	21.7	
September 2009	Q3 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	0.9	2.2	4.4	4.4	8.8	8.7	21.9	21.9	
July 2009		WQ21	DI blank, GW protocol	0.94	0.36	4.4	4.4	8.8	8.8	22.1	21.9	
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	
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	

Table 3-6. Zinc Concentrations in Field Blanks, 2008–2012

				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 2008	Q4 2008	WQ21	DI blank, GW protocol	1.17	1.55	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.
September 2008		WQ21	DI blank, GW protocol	2.98	2.7	3.0	3.4	5.9	6.8	14.8	17.1	
August 2008	Q3 2008	WQ21	DI blank, GW protocol	4.75	4.21	3.0	3.4	5.9	6.8	14.8	17.1	
July 2008		WQ21	DI blank, GW protocol	4	0.7	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	
May 2008	Q2 2008	WQ21	DI blank, GW protocol	3.3	0.5	3.0	3.4	5.9	6.8	14.8	17.1	
April 2008		WQ21	DI blank, GW protocol	1	0.5	3.0	3.4	5.9	6.8	14.8	17.1	
March 2008		MW22	DI blank, acid rinse, GW protocol	1	0.8	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.
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		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		WQ21	DI blank, SW protocol	3	1	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008	Q1 2008	WQ23	DI blank, SW protocol	1.8	2.59	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		WQ21	DI blank, SW protocol	2.9	2.49	5.0	6.2	10.0	12.4	25.0	30.9	
February 2008		WQ24	DI blank, GW protocol	2	2.77	5.0	6.2	10.0	12.4	25.0	30.9	
January 2008		WQ21	DI blank, SW protocol	0.7	2.1	5.0	6.2	10.0	12.4	25.0	30.9	

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 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
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	--
		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	--

Table 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ4	7/25/2011	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	--
WQ4	1/9/2012	mg/L	Chloride	10	17.5	98	17.4	97	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.13	103	2.13	102	89-114	<1
		mg/L	Sulfate	10	11.4	96	11.5	96	90-110	<1
		µg/L	Mercury, Total	1	0.97	97	--	--	76-123	--
WQ4	7/21/2012	mg/L	Ammonia as Nitrogen	10	9.86	99	--	--	80-115	--
		mg/L	Chloride	4	5.57	98	5.55	97	90-110	<1
		µg/L	Mercury, Total	1	1.03	103	--	--	76-126	--
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.12	103	2.11	102	89-114	<1
		mg/L	Sulfate	4	6.12	98	6.14	99	90-110	<1
WQ4	10/27/2012	mg/L	Ammonia as Nitrogen	10	9.78	97	--	--	80-115	--
		mg/L	Chloride	10	14	99	14	100	90-110	<1
		µg/L	Mercury, Total	1	0.95	95	--	--	76-126	--
		mg/L	Sulfate	10	16.1	101	15.9	99	90-110	2
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	--

Table 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
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
WQ6	1/8/2012	mg/L	Chloride	10	16.7	97	16.5	95	90-110	1
		mg/L	Sulfate	10	10.5	95	10.5	95	90-110	<1
		µg/L	Mercury, Dissolved	1	0.98	98	--	--	76-126	--
WQ6	4/8/2012	mg/L	Chloride	4	15.3	**114**	15.3	114	90-110	<1
		mg/L	Nitrate+Nitrite as Nitrogen	2	2.15	102	2.15	102	89-114	<1
		mg/L	Sulfate	4	5.05	96	5.05	96	90-110	<1
		µg/L	Mercury, Total	1	0.98	98	--	--	76-126	--
WQ6	7/21/2012	µg/L	Calcium, Total	10000	11600	95.1	--	--	75-125	--
		µg/L	Iron, Total	1000	979	96.4	--	--	75-125	--
		µg/L	Magnesium, Total	10000	9530	92	--	--	75-125	--
		µg/L	Potassium, Total	10000	9580	94.7	--	--	75-125	--
		µg/L	Sodium, Total	10000	11200	97.4	--	--	75-125	--
WQ6	10/27/2012	µg/L	Calcium, Total	10000	16900	107.4	--	--	75-125	--
		µg/L	Iron, Total	1000	1070	105.9	--	--	75-125	--
		µg/L	Magnesium, Total	10000	11100	102.1	--	--	75-125	--
		µg/L	Potassium, Total	10000	10200	100.8	--	--	75-125	--
		µg/L	Sodium, Total	10000	12900	102.9	--	--	75-125	--
WQ10	4/20/2011	mg/L	Orthophosphate as Phosphorus	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	--

Table 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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, 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	--
WQ10	1/8/2012	mg/L	Ammonia as Nitrogen	10	10.2	102	--	--	80-115	--
		µg/L	Calcium, Total	10000	12500	100.1	--	--	75-125	--
		µg/L	Iron, Total	1000	1000	97.2	--	--	75-125	--
		µg/L	Magnesium, Total	10000	10400	98.4	--	--	75-125	--
		µg/L	Potassium, Total	10000	9950	97.9	--	--	75-125	--
		µg/L	Sodium, Total	10000	14000	98.8	--	--	75-125	--
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	--
		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	--

Table 3-7a. Surface Water Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					Matrix Spike		Matrix Spike Duplicate			
Sample	Date Collected	Units	Analyte	Spike Concentration	Sample Result	Percent Recovery	Sample Result	Percent Recovery	Acceptance Limits	RPD
WQ13	7/21/2012	µg/L	Aluminum, Total	100	172.7	102.5	--	--	75-125	--
		µg/L	Arsenic, Total	50	51.2	102.4	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.8	103	--	--	75-125	--
		µg/L	Copper, Total	12.5	14.7	103	--	--	75-125	--
		µg/L	Lead, Total	50	51.9	103.6	--	--	75-125	--
		µg/L	Nickel, Total	25	25.4	100.8	--	--	75-125	--
		µg/L	Selenium, Total	50	49	98	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.2	97.6	--	--	75-125	--
		µg/L	Zinc, Total	25	27.9	106.2	--	--	75-125	--
WQ13	10/27/2012	µg/L	Aluminum, Total	100	114.0	93.1	--	--	75-125	--
		µg/L	Arsenic, Total	50	49.4	98.6	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.9	103.6	--	--	87-113	--
		µg/L	Chromium, Total	10	9.9	97.3	--	--	76-115	--
		µg/L	Copper, Total	12.5	12.6	95.4	--	--	75-125	--
		µg/L	Lead, Total	50	50.5	101	--	--	76-117	--
		µg/L	Nickel, Total	25	23.3	92.5	--	--	78-117	--
		µg/L	Selenium, Total	50	51.5	103	--	--	75-125	--
		µg/L	Silver, Total	12.5	12.3	98.2	--	--	76-114	--
		µg/L	Zinc, Total	25	24.9	94	--	--	75-125	--

Notes:

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

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

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	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	--
		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	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	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	--
EFF1	1/8/2012	µg/L	Calcium, Total	10000	35200	98	--	--	75-125	--
		µg/L	Iron, Total	1000	1050	99.4	--	--	75-125	--
		µg/L	Magnesium, Total	10000	12200	100.9	--	--	75-125	--
		µg/L	Potassium, Total	10000	10600	101.2	--	--	75-125	--
		µg/L	Sodium, Total	10000	15500	105.3	--	--	75-125	--
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	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	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	--
		µg/L	Aluminum, Dissolved	20	131	85	--	--	56-143	--
		µg/L	Antimony, Dissolved	20	21.4	106.6	--	--	66-133	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	21.3	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	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	10/19/2010	µg/L	Calcium, Total	10000	20900	95	--	--	75-125	--
		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	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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
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	--
		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	--
MW2	1/9/2012	µg/L	Aluminum, Total	100	205		82	--	--	75-125	--
		µg/L	Arsenic, Total	50	54.4		107.9	--	--	75-125	--
		µg/L	Cadmium, Total	25	25.8		103.2	--	--	92-111	--
		µg/L	Chromium, Total	10	11.8		97.7	--	--	88-113	--
		µg/L	Copper, Total	12.5	13.3		101.1	--	--	89-113	--
		µg/L	Lead, Total	50	49.8		99.4	--	--	90-112	--
		µg/L	Nickel, Total	25	25.4		99.6	--	--	89-113	--
		µg/L	Selenium, Total	50	50.7		101.4	--	--	87-115	--
		µg/L	Silver, Total	12.5	12.3		98.4	--	--	75-125	--
		µg/L	Zinc, Total	25	25.9		99.1	--	--	86-119	--
MW3	05/13/2009	µg/L	Mercury	1	1.02		100	--	--	78-122	--
		µg/L	Mercury, Dissolved	1	0.99		99	--	--	78-122	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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	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	--
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	4/22/2010	µg/L	Iron, Dissolved	1000	11000	105	--	--	72-131	--

Table 3-7b. Groundwater Matrix Spike/Matrix Spike Duplicate Sample Results, 2009–2012

					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
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	--

Notes:

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

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

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

Table 3-8a. 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	
2012	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	144	144	0	100
		Nutrients	10	10	0	100
	Q3	Anions	12	12	0	100
		Field	16	16	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
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

Table 3-8a. 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	
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
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

Table 3-8a. 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	
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
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

Table 3-8a. 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	
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

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 3-8b. Percent Completeness for Groundwater

Year	Event Quarter	Analyte Group [b]	Groundwater [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
2012	Q1	Anions	18	18	0	100
		Field	25	25	0	100
		Metals	170	170	0	100
		Nutrients	12	12	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	15	15	0	100
		Field	19	19	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q4	Anions	12	12	0	100
		Field	15	15	0	100
		Metals	112	112	0	100
		Nutrients	8	8	0	100
2011	Q1	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	5	5	0	100
	Q2	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	5	5	0	100
	Q3	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100

Table 3-8b. Percent Completeness for Groundwater

Year	Event Quarter	Analyte Group [b]	Groundwater [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
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	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q3	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	5	5	0	100
2009	Q1	Anions	15	15	0	100
		Field	19	19	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	27	27	0	100
		Field	34	34	0	100
		Metals	252	252	0	100
		Nutrients	18	18	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100

Table 3-8b. Percent Completeness for Groundwater

Year	Event Quarter	Analyte Group [b]	Groundwater [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
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	48	48	0	100
		Field	64	64	0	100
		Metals	460	448	12	97
		Nutrients	32	32	0	100
	Q4	Anions	15	15	0	100
		Field	20	20	0	100
		Metals	140	140	0	100
		Nutrients	10	10	0	100

Table 3-8b. Percent Completeness for Groundwater

Year	Event Quarter	Analyte Group [b]	Groundwater [a]			
			Total # of Data Points [c]	Number of Data Points		Completeness (%)
				Accepted	Rejected	
2007	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
		Field	105	105	0	100
		Metals	720	720	0	100
		Nutrients	48	48	0	100

Notes:

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

[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 4-1a. ADEC Criteria Screening Summary (2006-2012) - Permit Stations - Surface Water and Groundwater

			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
Permit Stations - Surface Water															
Aluminum	Total	µg/L	240	240	15.6	2120	--	--	Freshwater chronic AL [c, d]	Yes	87	750	53	22%	WQ-04; WQ-06; WQ-07; WQ-08; WQ-10; WQ-12; WQ-13
Arsenic	Dissolved	µg/L	240	27	0.03	0.2	0.06	0.5	Freshwater chronic AL [c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	240	9	0.004	0.01	0.003	0.033	Freshwater chronic AL [c]	--	0.01	0.17	0	0%	--
Copper	Dissolved	µg/L	240	184	0.34	3.67	0.1	1.77	Freshwater chronic AL [c]	Yes	0.18	6	29	12%	WQ-04; WQ-06; WQ-07; WQ-08; WQ-10; WQ-12; WQ-13
Lead	Dissolved	µg/L	240	34	0.004	0.087	0.002	0.5	Freshwater chronic AL [c]	--	0.01	1	0	0%	--
Mercury	Dissolved	µg/L	240	1	0.101	0.101	0.01	0.05	HH aquatic consumption [c]	Yes	0.05	0.05	1	0%	WQ-12
Nickel	Dissolved	µg/L	240	72	0.08	3.35	0.03	1	Freshwater chronic AL [c]	--	1	34	0	0%	--
Selenium	Dissolved	µg/L	240	17	0.2	0.5	0.2	1	Freshwater chronic AL [c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	233	13	0.005	0.03	0.003	0.05	--	--	--	--	0	0%	--
Zinc	Dissolved	µg/L	240	28	1	31.5	0.22	24.7	Freshwater chronic AL [c]	--	2	78	0	0%	--
Permit Stations - Groundwater															
Aluminum	Total	µg/L	205	202	8	15300	9.7	11.1	Freshwater chronic AL [c, d]	Yes	87	750	181	88%	MW-01; MW-02; MW-03; MW-04; MW-07; MW-08; MW-09
Arsenic	Dissolved	µg/L	205	151	0.07	1.08	0.06	0.6	Freshwater chronic AL [c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	205	43	0.004	0.097	0.003	0.104	Freshwater chronic AL [c]	Yes	0.01	0.41	2	1%	MW-04
Copper	Dissolved	µg/L	205	182	0.21	6.5	0.29	1.64	Freshwater chronic AL [c]	Yes	0.18	17	31	15%	MW-01; MW-02; MW-03; MW-04; MW-07
Lead	Dissolved	µg/L	205	167	0.026	1.9	0.003	0.5	Freshwater chronic AL [c]	Yes	0.01	6	29	14%	MW-01; MW-02; MW-03; MW-04; MW-07
Mercury	Dissolved	µg/L	205	4	0.02	0.12	0.01	0.05	HH aquatic consumption [c]	Yes	0.05	0.05	2	1%	MW-02; MW-03
Nickel	Dissolved	µg/L	205	170	0.33	5.41	0.04	1	Freshwater chronic AL [c]	--	1	96	0	0%	--
Selenium	Dissolved	µg/L	205	68	0.2	1.3	0.2	1	Freshwater chronic AL [c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	198	21	0.005	0.2	0.003	0.08	--	--	--	--	0	0%	--
Zinc	Dissolved	µg/L	205	32	1.2	22.7	0.6	15.8	Freshwater chronic AL [c]	Yes	2	219	6	3%	MW-03; MW-04

Notes:
Summary based on January 2006 - December 2012 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
AL = aquatic life
HH = human health

[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 4-1b. ADEC Criteria Screening Summary - Offsite Surface Water, Effluent, PAG Pond, and Barrels

			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
Offsite Surface Water															
Aluminum	Total	µg/L	113	112	26.8	1670	45.7	45.7	Freshwater chronic AL [c, d]	Yes	87	750	34	30%	WQ-01; WQ-02; WQ-03; WQ-14
Arsenic	Dissolved	µg/L	114	32	0.05	0.55	0.06	0.5	Freshwater chronic AL [c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	114	28	0.003	0.052	0.003	0.045	Freshwater chronic AL [c]	Yes	0.01	0.19	3	3%	WQ-02
Copper	Dissolved	µg/L	114	91	0.26	5.5	0.26	1	Freshwater chronic AL [c]	Yes	0.14	7	27	24%	WQ-01; WQ-02
Lead	Dissolved	µg/L	114	17	0.007	0.146	0.005	0.5	Freshwater chronic AL [c]	--	0.01	2	0	0%	--
Mercury	Dissolved	µg/L	114	2	0.02	0.07	0.01	0.05	HH aquatic consumption [c]	Yes	0.05	0.05	1	1%	WQ-14
Nickel	Dissolved	µg/L	114	59	0.12	1.9	0.03	1	Freshwater chronic AL [c]	--	0.88	38	0	0%	--
Selenium	Dissolved	µg/L	114	6	0.2	0.4	0.2	1	Freshwater chronic AL [c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	114	8	0.01	0.097	0.004	0.078	--	--	--	--	0	0%	--
Zinc	Dissolved	µg/L	114	26	1.1	181	0.2	16.7	Freshwater chronic AL [c]	Yes	2	87	1	1%	WQ-02
Mine Water															
Aluminum	Total	µg/L	130	115	5.6	3580	6.2	84.7	Freshwater chronic AL [c, d]	Yes	87	750	18	14%	EFF-01; PAG
Arsenic	Dissolved	µg/L	134	118	0.14	66.5	0.2	0.56	Freshwater chronic AL [c]	--	150	150	0	0%	--
Cadmium	Dissolved	µg/L	134	95	0.006	2.1	0.005	0.122	Freshwater chronic AL [c]	Yes	0.03	0.63	22	16%	EFF-01; LO-1; LO-2
Copper	Dissolved	µg/L	134	125	0.32	20.1	0.58	1.76	Freshwater chronic AL [c]	Yes	0.81	28	2	1%	EFF-01; LO-2
Lead	Dissolved	µg/L	134	58	0.006	0.985	0.002	0.12	Freshwater chronic AL [c]	Yes	0.11	10	1	1%	LO-2
Mercury	Dissolved	µg/L	134	0	--	--	0.02	0.05	HH aquatic consumption [c]	--	0.05	0.05	0	0%	--
Nickel	Dissolved	µg/L	134	115	0.06	4.81	0.06	1.29	Freshwater chronic AL [c]	--	5	162	0	0%	--
Selenium	Dissolved	µg/L	134	101	0.2	3.6	0.08	1.5	Freshwater chronic AL [c]	--	4.6	4.6	0	0%	--
Silver	Dissolved	µg/L	133	5	0.006	0.045	0.004	0.088	--	--	--	--	0	0%	--
Zinc	Dissolved	µg/L	130	64	0.32	231	0.3	11.9	Freshwater chronic AL [c]	Yes	11	369	7	5%	EFF-01; LO-1

Notes:
Summary based on January 2006 - December 2012 natural samples.
Stations included in the surface water evaluation are WQ1, WQ2, and WQ3.
Stations included in the mine water evaluation are EFF1, PAG, and field barrels LO-1, LO-2, and HW-1.

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

[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 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	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	Field Replicate	Pass	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	4/10/2007	April 2007	Reference	Pass	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	5/14/2007	May 2007	Reference	**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	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
WQ4	7/24/2007	July 2007 II	Reference	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	Pass
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 I	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ4	10/2/2007	September 2007 II	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	Februrary 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 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	9/5/2009	September 2009 I	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	9/12/2009	September 2009 II	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	9/12/2009	September 2009 II	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
WQ4	1/9/2012	January 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ4	4/8/2012	April 2012	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ4	4/8/2012	April 2012	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ4	7/21/2012	July 2012	Compliance	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ4	10/27/2012	October 2012	Compliance	Pass	Pass	ND	Pass	ND	ND	ND	ND	NA	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	Field Replicate	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ6	9/3/1997	September 1997	Historical	--	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	Field Replicate	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	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 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	10/2/2007	September 2007 II	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
WQ6	12/15/2007	December 2007 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	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	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	NA	ND
WQ6	2/14/2008	Februrary 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	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 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ6	9/12/2009	September 2009 II	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
WQ6	1/8/2012	January 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ6	4/8/2012	April 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ6	7/21/2012	July 2012	Compliance	Pass	Pass	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ6	10/27/2012	October 2012	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	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 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	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	Field Replicate	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ7	8/14/2007	August 2007 I	Reference	Pass	ND	ND	Pass	ND	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 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	10/2/2007	September 2007 II	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	Februrary 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	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ7	4/14/2008	April 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	R	ND
WQ7	5/8/2008	May 2008	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ7	5/8/2008	May 2008	Reference	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	Field Replicate	Pass	ND	ND	Pass	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	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 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ8	10/2/2007	September 2007 II	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	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ8	11/13/2007	November 2007	Reference	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
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	Februrary 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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 I	Field Replicate	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ10	9/11/2007	September 2007 I	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ10	10/1/2007	September 2007 II	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	Februrary 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
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 I	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ10	9/12/2009	September 2009 II	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	ND	ND
WQ10	10/17/2009	October 2009	Field Replicate	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
WQ10	1/8/2012	January 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	4/8/2012	April 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ10	7/21/2012	July 2012	Compliance	**Fail**	Pass	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ10	10/27/2012	October 2012	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ10	10/27/2012	October 2012	Field Replicate	Pass	ND	Pass	Pass	Pass	ND	Pass	ND	NA	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	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ12	6/4/2007	June 2007	Reference	**Fail**	ND	ND	Pass	ND	**Fail**	ND	ND	ND	Pass
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 I	Reference	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ12	10/1/2007	September 2007 II	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	Pass	ND	ND
WQ12	10/1/2007	September 2007 II	Reference	**Fail**	ND	ND	Pass	ND	ND	ND	ND	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
WQ12	1/9/2008	January 2008	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ12	2/14/2008	Februrary 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

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ13	4/10/2007	April 2007	Reference	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	Field Replicate	Pass	ND	ND	Pass	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	7/24/2007	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	Field Replicate	Pass	ND	Pass	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	9/11/2007	September 2007 I	Reference	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ13	10/1/2007	September 2007 II	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	Februrary 2008	Compliance	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ13	2/14/2008	Februrary 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
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

Table 4-2a. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
WQ13	1/9/2012	January 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	1/9/2012	January 2012	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	4/8/2012	April 2012	Compliance	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ13	7/21/2012	July 2012	Compliance	Pass	Pass	Pass	Pass	ND	ND	ND	ND	NA	ND
WQ13	10/27/2012	October 2012	Compliance	Pass	ND	ND	Pass	ND	ND	ND	ND	NA	ND
			Count of Exceedances - All Data	**59**	**0**	**1**	**31**	**1**	**1**	**0**	**0**	**0**	**1**
			Count of Exceedances - Compliance Samples Only	**29**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
Shaded cells indicate samples collected in 2012.
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 4-2b. ADEC Chronic Aquatic Life Criteria Screening Results – Offsite Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ-01	10/16/1996	October 1996 II	Historical	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	9/4/1997	September 1997	Historical	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	4/20/2005	April 2005 II	Historical	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	2/16/2006	February 2006 II	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	5/16/2006	May 2006 II	Information only	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	8/30/2006	August 2006 II	Information only	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-01	10/17/2006	October 2006	Information only	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-01	12/8/2006	December 2006	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	2/27/2007	February 2007	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-01	4/11/2007	April 2007	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ-01	5/15/2007	May 2007	Information only	Pass	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-01	7/1/2007	July 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ-01	7/24/2007	July 2007 II	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-01	8/14/2007	August 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	8/27/2007	August 2007 II	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	9/11/2007	September 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-01	10/2/2007	September 2007 II	Information only	**Fail**	ND	ND	Pass	ND	ND	ND	ND	NA	ND
WQ-01	11/13/2007	November 2007	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	3/14/2008	March 2008	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ-01	5/8/2008	May 2008	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	8/20/2008	August 2008	Information only	**Fail**	ND	ND	**Fail**	ND	ND	Pass	ND	NA	ND
WQ-01	3/11/2009	March 2009	Information only	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ-01	5/14/2009	May 2009	Information only	**Fail**	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ-01	7/25/2009	July 2009	Information only	**Fail**	Pass	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ-01	10/19/2009	October 2009	Information only	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	NA	ND
WQ-01	2/13/2010	February 2010	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	7/14/2010	July 2010	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-01	12/27/2010	December 2010	Information only	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-01	3/10/2011	March 2011	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-02	10/16/1996	October 1996 II	Historical	ND	ND	ND	ND	ND	ND	ND	ND	ND	Pass
WQ-02	9/4/1997	September 1997	Historical	--	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	4/20/2005	April 2005 II	Historical	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	2/16/2006	February 2006 II	Field Replicate	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	Pass
WQ-02	2/16/2006	February 2006 II	Information only	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	Pass
WQ-02	5/16/2006	May 2006 II	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	8/30/2006	August 2006 II	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	10/17/2006	October 2006	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	12/8/2006	December 2006	Information only	**Fail**	ND	**Fail**	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	2/27/2007	February 2007	Information only	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	Pass

Table 4-2b. ADEC Chronic Aquatic Life Criteria Screening Results – Offsite Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ-02	4/11/2007	April 2007	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	5/15/2007	May 2007	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	Pass
WQ-02	7/1/2007	July 2007 I	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
WQ-02	7/24/2007	July 2007 II	Information only	Pass	Pass	ND	**Fail**	ND	ND	Pass	Pass	ND	ND
WQ-02	8/14/2007	August 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ-02	8/27/2007	August 2007 II	Information only	**Fail**	ND	Pass	**Fail**	Pass	ND	Pass	ND	ND	ND
WQ-02	9/11/2007	September 2007 I	Information only	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	ND
WQ-02	10/2/2007	September 2007 II	Information only	**Fail**	ND	ND	Pass	Pass	ND	ND	ND	NA	ND
WQ-02	11/13/2007	November 2007	Information only	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	Pass
WQ-02	3/14/2008	March 2008	Information only	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	**Fail**
WQ-02	5/8/2008	May 2008	Information only	Pass	ND	Pass	**Fail**	ND	ND	Pass	ND	ND	Pass
WQ-02	8/20/2008	August 2008	Field Replicate	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ-02	8/20/2008	August 2008	Information only	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	ND
WQ-02	3/9/2009	March 2009	Information only	Pass	ND	Pass	Pass	Pass	ND	ND	ND	ND	ND
WQ-02	5/14/2009	May 2009	Information only	Pass	ND	Pass	**Fail**	ND	ND	Pass	ND	ND	Pass
WQ-02	7/25/2009	July 2009	Information only	Pass	ND	Pass	**Fail**	ND	ND	ND	ND	ND	ND
WQ-02	10/19/2009	October 2009	Information only	**Fail**	ND	Pass	**Fail**	Pass	ND	Pass	ND	NA	ND
WQ-02	2/13/2010	February 2010	Information only	**Fail**	ND	**Fail**	**Fail**	ND	ND	Pass	ND	ND	Pass
WQ-02	4/21/2010	April 2010	Information only	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	Pass
WQ-02	7/14/2010	July 2010	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
WQ-02	10/18/2010	October 2010	Information only	**Fail**	ND	**Fail**	**Fail**	ND	ND	ND	ND	NA	Pass
WQ-02	12/27/2010	December 2010	Information only	**Fail**	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ-02	3/10/2011	March 2011	Information only	**Fail**	ND	Pass	**Fail**	ND	ND	Pass	ND	ND	ND
WQ-02	6/9/2011	June 2011	Information only	Pass	ND	Pass	**Fail**	ND	ND	Pass	ND	ND	ND
WQ-02	7/26/2011	July 2011 II	Information only	Pass	ND	ND	**Fail**	ND	ND	Pass	ND	ND	ND
WQ-02	8/24/2011	August 2011	Information only	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	ND	ND	Pass
WQ-02	4/6/2012	April 2012	Information only	Pass	ND	Pass	**Fail**	ND	Pass	Pass	ND	ND	Pass
WQ-02	7/22/2012	July 2012	Field Replicate	Pass	Pass	Pass	**Fail**	Pass	ND	Pass	ND	NA	ND
WQ-02	7/22/2012	July 2012	Information only	Pass	Pass	Pass	**Fail**	Pass	ND	Pass	ND	NA	ND
WQ-02	10/29/2012	October 2012	Information only	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND	ND
WQ-03	10/16/1996	October 1996 II	Historical	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	9/4/1997	September 1997	Historical	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	4/20/2005	April 2005 II	Historical	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	2/16/2006	February 2006 II	Information only	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	5/16/2006	May 2006 II	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	8/30/2006	August 2006 II	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	10/17/2006	October 2006	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	12/7/2006	December 2006	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	2/27/2007	February 2007	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 4-2b. ADEC Chronic Aquatic Life Criteria Screening Results – Offsite Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ-03	4/11/2007	April 2007	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	5/15/2007	May 2007	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	7/1/2007	July 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ-03	7/24/2007	July 2007 II	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	8/14/2007	August 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ-03	8/27/2007	August 2007 II	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-03	9/11/2007	September 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	11/13/2007	November 2007	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-03	3/14/2008	March 2008	Information only	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND	ND
WQ-03	5/8/2008	May 2008	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-03	8/20/2008	August 2008	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	10/16/2008	October 2008	Information only	Pass	ND	ND	ND	Pass	ND	ND	ND	ND	ND
WQ-03	3/11/2009	March 2009	Information only	Pass	ND	ND	ND	Pass	ND	ND	ND	ND	ND
WQ-03	5/14/2009	May 2009	Information only	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	ND
WQ-03	7/25/2009	July 2009	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	10/20/2009	October 2009	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-03	3/5/2010	March 2010	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-03	4/22/2010	April 2010	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-03	8/15/2010	August 2010	Information only	Pass	ND	ND	Pass	Pass	ND	ND	ND	ND	ND
WQ-03	12/27/2010	December 2010	Information only	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-03	3/10/2011	March 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	3/9/2009	March 2009	Information only	Pass	ND	ND	ND	Pass	ND	ND	ND	ND	ND
WQ-14	5/14/2009	May 2009	Information only	Pass	ND	ND	ND	ND	ND	Pass	ND	ND	ND
WQ-14	7/25/2009	July 2009	Information only	**Fail**	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-14	9/19/2009	September 2009 III	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	ND	ND	ND	Pass
WQ-14	9/19/2009	September 2009 III	Information only	**Fail**	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQ-14	10/18/2009	October 2009	Information only	Pass	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ-14	11/1/2009	November 2009	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	11/1/2009	November 2009	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	12/29/2009	December 2009 II	Field Replicate	Pass	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
WQ-14	12/29/2009	December 2009 II	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	1/17/2010	January 2010	Information only	**Fail**	Pass	Pass	ND	ND	ND	ND	ND	ND	ND
WQ-14	2/12/2010	February 2010	Field Replicate	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	2/12/2010	February 2010	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	3/5/2010	March 2010	Field Replicate	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	3/5/2010	March 2010	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	4/21/2010	April 2010	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	5/18/2010	May 2010	Information only	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	6/29/2010	June 2010	Information only	**Fail**	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND

Table 4-2b. ADEC Chronic Aquatic Life Criteria Screening Results – Offsite Surface Water

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
WQ-14	7/14/2010	July 2010	Information only	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND	ND
WQ-14	8/14/2010	August 2010	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	9/7/2010	September 2010	Field Replicate	R	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	9/7/2010	September 2010	Information only	R	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	10/18/2010	October 2010	Information only	**Fail**	Pass	ND	Pass	ND	ND	ND	ND	NA	ND
WQ-14	12/26/2010	December 2010	Information only	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-14	1/19/2011	January 2011	Information only	Pass	Pass	ND	ND	Pass	ND	Pass	ND	ND	ND
WQ-14	2/8/2011	February 2011	Information only	ND	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	3/9/2011	March 2011	Field Replicate	Pass	Pass	Pass	ND	ND	ND	Pass	ND	ND	ND
WQ-14	3/9/2011	March 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	4/21/2011	April 2011	Information only	Pass	Pass	ND	ND	ND	ND	ND	ND	ND	ND
WQ-14	5/17/2011	May 2011	Information only	Pass	Pass	ND	Pass	ND	ND	ND	ND	ND	ND
WQ-14	6/8/2011	June 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	7/12/2011	July 2011	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
WQ-14	7/12/2011	July 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
WQ-14	8/24/2011	August 2011	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	Pass
WQ-14	4/6/2012	April 2012	Information only	Pass	ND	ND	Pass	ND	**Fail**	Pass	ND	ND	ND
			Count of Exceedances - All Data	**39**	**0**	**3**	**31**	**0**	**1**	**0**	**0**	**0**	**1**
			Count of Exceedances - Compliance Samples Only	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:

Shaded cells indicate samples collected in 2012.

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 4-2c. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Groundwater

Station ID	Sample Event	Date	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	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	Pass
MW1	6/4/2007	June 2007	Reference	**Fail**	Pass	ND	Pass	Pass	ND	ND	ND	ND	ND
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	Field Replicate	ND	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	8/14/2007	August 2007 I	Reference	**Fail**	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	Februrary 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 4-2c. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Groundwater

Station ID	Sample Event	Date	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
MW1	1/9/2012	January 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	1/9/2012	January 2012	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	4/7/2012	April 2012	Compliance	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	4/7/2012	April 2012	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW1	7/21/2012	July 2012	Compliance	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	ND
MW1	10/28/2012	October 2012	Compliance	**Fail**	ND	Pass	Pass	Pass	ND	Pass	ND	NA	ND
MW1	10/28/2012	October 2012	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	NA	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	Februrary 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

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Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
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
MW2	1/9/2012	January 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	4/7/2012	April 2012	Compliance	**Fail**	ND	ND	Pass	Pass	Pass	Pass	Pass	ND	ND
MW2	7/21/2012	July 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW2	10/28/2012	October 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	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	Field Replicate	**Fail**	Pass	ND	**Fail**	**Fail**	ND	Pass	ND	ND	Pass
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	5/14/2007	May 2007	Reference	**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	NA	ND
MW3	1/8/2008	January 2008	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	2/13/2008	Februrary 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

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Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
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
MW3	1/9/2012	January 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	4/7/2012	April 2012	Compliance	**Fail**	ND	ND	Pass	Pass	**Fail**	Pass	ND	ND	ND
MW3	7/21/2012	July 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW3	10/28/2012	October 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	NA	ND
MW4	2/27/2007	February 2007	Field Replicate	**Fail**	ND	ND	**Fail**	ND	ND	ND	ND	ND	Pass
MW4	2/27/2007	February 2007	Reference	**Fail**	ND	ND	**Fail**	ND	ND	Pass	ND	ND	**Fail**
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	7/23/2007	July 2007 II	Reference	**Fail**	Pass	ND	**Fail**	Pass	ND	Pass	Pass	ND	ND
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	Februrary 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

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Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
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
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
MW4	1/9/2012	January 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW4	4/7/2012	April 2012	Compliance	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	7/21/2012	July 2012	Compliance	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
MW4	7/21/2012	July 2012	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	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
MW7	4/10/2007	April 2007	Reference	**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	Field Replicate	**Fail**	Pass	ND	Pass	Pass	ND	ND	Pass	ND	Pass

Table 4-2c. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Groundwater

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW7	9/10/2007	September 2007 I	Reference	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
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	Februrary 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	Field Replicate	**Fail**	ND	ND	Pass	Pass	ND	Pass	ND	R	ND
MW7	4/13/2008	April 2008	Reference	**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	Field Replicate	**Fail**	Pass	ND	ND	Pass	ND	ND	ND	ND	ND
MW7	6/26/2008	June 2008	Reference	**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
MW8	7/2/2007	July 2007 I	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	ND	ND	Pass
MW8	7/23/2007	July 2007 II	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	7/23/2007	July 2007 II	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	8/13/2007	August 2007 I	Information only	Pass	Pass	ND	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	8/28/2007	August 2007 II	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
MW8	9/10/2007	September 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND
MW8	9/30/2007	September 2007 II	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	9/30/2007	September 2007 II	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	10/16/2007	October 2007	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	11/12/2007	November 2007	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	12/14/2007	December 2007 I	Information only	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	1/8/2008	January 2008	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW8	2/13/2008	Februrary 2008	Field Replicate	ND	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW8	2/13/2008	Februrary 2008	Information only	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	3/13/2008	March 2008	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW8	4/14/2008	April 2008	Information only	Pass	ND	ND	Pass	ND	ND	Pass	ND	R	ND
MW8	5/6/2008	May 2008	Information only	ND	ND	Pass	Pass	ND	ND	Pass	Pass	ND	ND
MW8	6/26/2008	June 2008	Information only	Pass	ND	ND	ND	ND	ND	ND	Pass	ND	ND
MW9	7/2/2007	July 2007 I	Field Replicate	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW9	7/2/2007	July 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	ND	ND	ND	ND
MW9	7/23/2007	July 2007 II	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	8/13/2007	August 2007 I	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
MW9	8/28/2007	August 2007 II	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
MW9	9/10/2007	September 2007 I	Information only	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	ND

Table 4-2c. ADEC Chronic Aquatic Life Criteria Screening Results – Permit Stations – Groundwater

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
MW9	9/30/2007	September 2007 II	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	10/16/2007	October 2007	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW9	11/12/2007	November 2007	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	12/14/2007	December 2007 I	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
MW9	1/8/2008	January 2008	Information only	**Fail**	ND	ND	Pass	ND	ND	Pass	ND	ND	ND
MW9	2/13/2008	Februrary 2008	Information only	Pass	ND	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	3/13/2008	March 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
MW9	4/14/2008	April 2008	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	R	ND
MW9	5/6/2008	May 2008	Information only	Pass	Pass	ND	ND	ND	ND	Pass	Pass	ND	ND
MW9	6/26/2008	June 2008	Information only	Pass	ND	ND	ND	ND	ND	ND	ND	ND	ND
			Count of Exceedances - All Data	**213**	**0**	**2**	**35**	**32**	**2**	**0**	**0**	**0**	**6**
			Count of Exceedances - Compliance Samples Only	**121**	**0**	**0**	**16**	**16**	**2**	**0**	**0**	**0**	**3**

Notes:
Shaded cells indicate samples collected in 2012.
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 4-2d. ADEC Chronic Aquatic Life Criteria Screening Results – Effluent, PAG Pond, and Barrels

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
EFF-1	11/13/2007	November 2007	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	12/16/2007	December 2007 I	Information only	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	1/9/2008	January 2008	Information only	Pass	ND	ND	Pass	ND	ND	ND	Pass	NA	ND
EFF-1	2/13/2008	Februrary 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	3/17/2008	March 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	4/15/2008	April 2008	Field Replicate	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	R	ND
EFF-1	4/15/2008	April 2008	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	Pass	R	ND
EFF-1	5/8/2008	May 2008	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	6/27/2008	June 2008	Information only	**Fail**	Pass	ND	ND	ND	ND	ND	Pass	ND	ND
EFF-1	7/25/2008	July 2008	Information only	**Fail**	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	8/19/2008	August 2008	Information only	**Fail**	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
EFF-1	9/9/2008	September 2008	Field Replicate	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	9/9/2008	September 2008	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	10/15/2008	October 2008	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	3/9/2009	March 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	**Fail**
EFF-1	5/14/2009	May 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	**Fail**
EFF-1	7/23/2009	July 2009	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	ND	Pass	ND	**Fail**
EFF-1	10/18/2009	October 2009	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	1/16/2010	January 2010	Information only	**Fail**	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND
EFF-1	4/21/2010	April 2010	Information only	Pass	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	7/14/2010	July 2010	Field Replicate	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	7/14/2010	July 2010	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
EFF-1	8/11/2010	August 2010	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	10/18/2010	October 2010	Information only	**Fail**	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND
EFF-1	1/19/2011	January 2011	Information only	**Fail**	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
EFF-1	4/21/2011	April 2011	Information only	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND
EFF-1	7/24/2011	July 2011 II	Field Replicate	**Fail**	Pass	**Fail**	Pass	ND	ND	Pass	Pass	ND	Pass
EFF-1	7/24/2011	July 2011 II	Information only	**Fail**	Pass	**Fail**	Pass	ND	ND	Pass	Pass	ND	Pass
EFF-1	9/7/2011	September 2011	Field Replicate	**Fail**	Pass	**Fail**	**Fail**	ND	ND	Pass	Pass	ND	Pass
EFF-1	9/7/2011	September 2011	Information only	**Fail**	Pass	**Fail**	**Fail**	ND	ND	Pass	Pass	ND	Pass
EFF-1	10/11/2011	October 2011	Information only	Pass	ND	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
EFF-1	12/21/2011	December 2011	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
EFF-1	1/8/2012	January 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
EFF-1	4/6/2012	April 2012	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
EFF-1	7/22/2012	July 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	ND	Pass
EFF-1	10/28/2012	October 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	NA	Pass
HW-1	7/25/2008	July 2008	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
HW-1	8/19/2008	August 2008	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
HW-1	9/9/2008	September 2008	Information only	ND	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
HW-1	10/15/2008	October 2008	Information only	ND	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND

Table 4-2d. ADEC Chronic Aquatic Life Criteria Screening Results – Effluent, PAG Pond, and Barrels

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
HW-1	7/25/2009	July 2009	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	Pass
HW-1	10/18/2009	October 2009	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
HW-1	10/31/2009	November 2009	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	Pass
HW-1	12/29/2009	December 2009 II	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
HW-1	1/16/2010	January 2010	Information only	Pass	Pass	Pass	ND	ND	ND	Pass	Pass	ND	Pass
HW-1	2/12/2010	February 2010	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
HW-1	5/18/2010	May 2010	Information only	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
HW-1	7/14/2010	July 2010	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
HW-1	9/7/2010	September 2010	Information only	R	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
HW-1	10/18/2010	October 2010	Information only	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND	ND
HW-1	12/27/2010	December 2010	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
HW-1	4/21/2011	April 2011	Information only	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND
HW-1	7/24/2011	July 2011 II	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
HW-1	9/7/2011	September 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
HW-1	11/10/2011	November 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	R
HW-1	1/8/2012	January 2012	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	ND
HW-1	4/6/2012	April 2012	Information only	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
HW-1	7/22/2012	July 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	ND	ND
LO-1	7/25/2008	July 2008	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	8/19/2008	August 2008	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
LO-1	9/9/2008	September 2008	Information only	ND	Pass	ND	Pass	Pass	ND	Pass	ND	ND	ND
LO-1	10/15/2008	October 2008	Information only	ND	Pass	Pass	Pass	ND	ND	Pass	ND	ND	ND
LO-1	5/14/2009	May 2009	Information only	ND	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
LO-1	10/31/2009	November 2009	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	ND	ND	Pass
LO-1	12/29/2009	December 2009 II	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
LO-1	1/16/2010	January 2010	Information only	Pass	Pass	Pass	ND	ND	ND	Pass	Pass	ND	Pass
LO-1	5/18/2010	May 2010	Information only	ND	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
LO-1	7/14/2010	July 2010	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	9/7/2010	September 2010	Information only	R	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	10/18/2010	October 2010	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	ND	ND	ND	Pass
LO-1	12/27/2010	December 2010	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	4/21/2011	April 2011	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	ND	Pass	ND	**Fail**
LO-1	7/24/2011	July 2011 II	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	9/7/2011	September 2011	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-1	11/10/2011	November 2011	Information only	ND	Pass	**Fail**	Pass	Pass	ND	Pass	ND	ND	R
LO-1	1/8/2012	January 2012	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	ND	ND	**Fail**
LO-1	4/6/2012	April 2012	Information only	Pass	ND	**Fail**	Pass	Pass	ND	Pass	Pass	ND	**Fail**
LO-1	7/22/2012	July 2012	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	ND	Pass	ND	**Fail**
LO-2	7/25/2008	July 2008	Information only	Pass	Pass	ND	**Fail**	**Fail**	ND	Pass	Pass	ND	Pass
LO-2	8/19/2008	August 2008	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	Pass

Table 4-2d. ADEC Chronic Aquatic Life Criteria Screening Results – Effluent, PAG Pond, and Barrels

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
LO-2	9/9/2008	September 2008	Information only	ND	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
LO-2	10/15/2008	October 2008	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
LO-2	5/14/2009	May 2009	Information only	ND	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
LO-2	10/31/2009	November 2009	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	ND	ND	Pass
LO-2	12/29/2009	December 2009 II	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
LO-2	5/18/2010	May 2010	Information only	ND	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
LO-2	7/14/2010	July 2010	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
LO-2	9/7/2010	September 2010	Information only	R	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
LO-2	10/18/2010	October 2010	Information only	Pass	Pass	**Fail**	Pass	ND	ND	ND	ND	ND	Pass
LO-2	12/27/2010	December 2010	Information only	Pass	Pass	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-2	4/21/2011	April 2011	Information only	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	Pass
LO-2	7/24/2011	July 2011 II	Information only	Pass	Pass	**Fail**	Pass	ND	ND	Pass	Pass	ND	Pass
LO-2	9/7/2011	September 2011	Information only	Pass	Pass	**Fail**	Pass	ND	ND	Pass	ND	ND	Pass
LO-2	11/10/2011	November 2011	Information only	Pass	Pass	**Fail**	Pass	ND	ND	Pass	ND	ND	R
LO-2	1/8/2012	January 2012	Information only	Pass	Pass	**Fail**	Pass	ND	ND	Pass	ND	ND	Pass
LO-2	4/6/2012	April 2012	Information only	Pass	ND	**Fail**	Pass	Pass	ND	Pass	Pass	ND	Pass
LO-2	7/22/2012	July 2012	Information only	Pass	Pass	**Fail**	Pass	ND	ND	ND	Pass	ND	Pass
PAG	8/19/2008	August 2008	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
PAG	9/9/2008	September 2008	Information only	ND	Pass	ND	Pass	ND	ND	Pass	Pass	ND	ND
PAG	10/15/2008	October 2008	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	4/21/2009	March 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	5/21/2009	May 2009	Information only	ND	Pass	Pass	Pass	ND	ND	Pass	Pass	NA	ND
PAG	6/19/2009	June 2009	Information only	Pass	Pass	ND	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	7/25/2009	July 2009	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	8/31/2009	August 2009	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	9/13/2009	September 2009 II	Information only	Pass	ND	ND	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	10/18/2009	October 2009	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	NA	ND
PAG	10/31/2009	November 2009	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	ND	ND	ND
PAG	12/29/2009	December 2009 II	Information only	Pass	ND	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	1/16/2010	January 2010	Information only	**Fail**	Pass	Pass	ND	ND	ND	Pass	Pass	ND	ND
PAG	2/12/2010	February 2010	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	Pass
PAG	3/5/2010	March 2010	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	4/21/2010	April 2010	Information only	Pass	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
PAG	5/18/2010	May 2010	Field Replicate	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
PAG	5/18/2010	May 2010	Information only	ND	ND	ND	Pass	ND	ND	Pass	Pass	ND	ND
PAG	6/29/2010	June 2010	Field Replicate	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
PAG	6/29/2010	June 2010	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	ND	ND	ND
PAG	7/14/2010	July 2010	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	8/11/2010	August 2010	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	9/7/2010	September 2010	Information only	R	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass

Table 4-2d. ADEC Chronic Aquatic Life Criteria Screening Results – Effluent, PAG Pond, and Barrels

Station ID	Sample Event	Date	Sample Purpose	Aluminum Total	Arsenic Dissolved	Cadmium Dissolved	Copper Dissolved	Lead Dissolved	Mercury Dissolved	Nickel Dissolved	Selenium Dissolved	Silver Dissolved	Zinc Dissolved
PAG	10/18/2010	October 2010	Information only	Pass	Pass	Pass	Pass	Pass	ND	ND	ND	ND	ND
PAG	11/2/2010	November 2010	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	11/2/2010	November 2010	Information only	Pass	Pass	ND	Pass	ND	ND	ND	Pass	ND	Pass
PAG	12/27/2010	December 2010	Field Replicate	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	12/27/2010	December 2010	Information only	**Fail**	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	1/19/2011	January 2011	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	1/20/2011	January 2011	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	ND	ND	ND
PAG	2/9/2011	February 2011	Field Replicate	ND	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	2/9/2011	February 2011	Information only	ND	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	4/21/2011	April 2011	Information only	Pass	Pass	Pass	ND	ND	ND	ND	Pass	ND	ND
PAG	5/17/2011	May 2011	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	5/17/2011	May 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	6/8/2011	June 2011	Field Replicate	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	6/8/2011	June 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	7/12/2011	July 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	8/23/2011	August 2011	Field Replicate	Pass	Pass	ND	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	8/23/2011	August 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	9/7/2011	September 2011	Information only	Pass	Pass	Pass	Pass	ND	ND	ND	Pass	ND	ND
PAG	10/11/2011	October 2011	Information only	Pass	ND	Pass	Pass	Pass	ND	Pass	ND	ND	Pass
PAG	11/10/2011	November 2011	Information only	Pass	Pass	ND	Pass	ND	ND	Pass	ND	ND	R
PAG	12/21/2011	December 2011	Information only	Pass	Pass	Pass	Pass	Pass	ND	Pass	Pass	ND	ND
PAG	1/8/2012	January 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	2/21/2012	February 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	3/27/2012	March 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	4/6/2012	April 2012	Information only	Pass	ND	Pass	Pass	ND	ND	Pass	Pass	ND	ND
PAG	7/22/2012	July 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	ND	Pass
PAG	10/28/2012	October 2012	Information only	Pass	Pass	Pass	Pass	ND	ND	Pass	Pass	NA	ND
			Count of Exceedances - All Data	**23**	**0**	**24**	**3**	**1**	**0**	**0**	**0**	**0**	**7**
			Count of Exceedances - Compliance Samples Only	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Notes:
Shaded cells indicate samples collected in 2012.
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 4-3a. 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, UPL	--
WQ4	10/17/2006	October 2006	Reference	--	--
WQ4	12/7/2006	December 2006	Reference	NC, 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, UPL	--
WQ4	5/14/2007	May 2007	Field Replicate	NC, UPL	--
WQ4	6/4/2007	June 2007	Reference	NC, UPL	NC, 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, UPL	--
WQ4	10/17/2007	October 2007	Compliance	NC, UPL	--
WQ4	11/13/2007	November 2007	Compliance	NC, UPL	--
WQ4	12/15/2007	December 2007 I	Compliance	NC, UPL	--
WQ4	1/9/2008	January 2008	Compliance	NC, UPL	--
WQ4	2/14/2008	February 2008	Compliance	NC, UPL	--
WQ4	3/15/2008	March 2008	Compliance	NC, UPL	--
WQ4	4/14/2008	April 2008	Compliance	NC, UPL	--
WQ4	5/8/2008	May 2008	Compliance	--	--
WQ4	6/28/2008	June 2008	Compliance	NC, 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, UPL
WQ4	7/23/2009	July 2009	Compliance	NC, UPL	NC, 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, UPL	--
WQ4	1/19/2011	January 2011	Compliance	NC, UPL	--
WQ4	1/19/2011	January 2011	Field Replicate	NC, UPL	--

Table 4-3a. 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	--	--
WQ4	1/9/2012	January 2012	Compliance	--	--
WQ4	4/8/2012	April 2012	Compliance	--	--
WQ4	4/8/2012	April 2012	Field Replicate	--	--
WQ4	7/21/2012	July 2012	Compliance	--	--
WQ4	10/27/2012	October 2012	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, 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, UPL	NC, 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, 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, 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, UPL	--
WQ6	7/24/2008	July 2008	Compliance	--	--
WQ6	10/15/2008	October 2008	Compliance	NC, UPL	--
WQ6	10/15/2008	October 2008	Field Replicate	--	--
WQ6	3/9/2009	March 2009	Compliance	--	--
WQ6	5/13/2009	May 2009	Compliance	--	NC, UPL
WQ6	7/23/2009	July 2009	Compliance	NC, UPL	NC, UPL
WQ6	9/5/2009	September 2009 I	Compliance	--	--

Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ6	9/12/2009	September 2009 II	Compliance	--	--
WQ6	10/17/2009	October 2009	Compliance	--	NC, UPL
WQ6	1/15/2010	January 2010	Compliance	--	--
WQ6	4/22/2010	April 2010	Compliance	--	--
WQ6	8/10/2010	August 2010	Compliance	--	--
WQ6	10/19/2010	October 2010	Compliance	--	--
WQ6	1/21/2011	January 2011	Compliance	NC, UPL	--
WQ6	4/20/2011	April 2011	Compliance	--	--
WQ6	7/25/2011	July 2011 II	Compliance	--	NC, UPL
WQ6	12/21/2011	December 2011	Compliance	--	--
WQ6	1/8/2012	January 2012	Compliance	--	--
WQ6	4/8/2012	April 2012	Compliance	--	--
WQ6	7/21/2012	July 2012	Compliance	--	NC, UPL
WQ6	10/27/2012	October 2012	Compliance	--	--
WQ7	2/15/2006	February 2006 II	Reference	--	--
WQ7	5/16/2006	May 2006 II	Reference	NC, UPL	--
WQ7	8/29/2006	August 2006 II	Reference	--	NC, 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, 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, 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	--	--

Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

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

Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ10	6/28/2008	June 2008	Compliance	NC, 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, UPL
WQ10	5/13/2009	May 2009	Field Replicate	--	NC, UPL
WQ10	7/23/2009	July 2009	Compliance	NC, UPL	NC, UPL
WQ10	9/5/2009	September 2009 I	Compliance	--	--
WQ10	9/12/2009	September 2009 II	Compliance	--	--
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, 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	--	--
WQ10	1/8/2012	January 2012	Compliance	--	--
WQ10	4/8/2012	April 2012	Compliance	--	--
WQ10	7/21/2012	July 2012	Compliance	NC, UPL	NC, UPL
WQ10	10/27/2012	October 2012	Compliance	--	--
WQ10	10/27/2012	October 2012	Field Replicate	--	--
WQ12	8/29/2006	August 2006 II	Reference	--	--
WQ12	10/17/2006	October 2006	Reference	NC, UPL	NC, UPL
WQ12	12/7/2006	December 2006	Reference	NC, 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, UPL	--
WQ12	6/4/2007	June 2007	Field Replicate	NC, 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, UPL	--
WQ12	10/1/2007	September 2007 II	Field Replicate	NC, UPL	--
WQ12	10/17/2007	October 2007	Reference	NC, UPL	--
WQ12	11/13/2007	November 2007	Reference	--	--
WQ12	12/15/2007	December 2007 I	Reference	NC, UPL	--

Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ12	1/9/2008	January 2008	Reference	--	--
WQ12	2/14/2008	February 2008	Reference	NC, 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, 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, UPL
WQ13	7/1/2007	July 2007 I	Reference	--	--
WQ13	7/1/2007	July 2007 I	Field Replicate	--	--
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, UPL	--
WQ13	11/13/2007	November 2007	Compliance	--	--
WQ13	12/16/2007	December 2007 I	Compliance	--	--
WQ13	1/9/2008	January 2008	Compliance	NC, 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, UPL
WQ13	7/23/2009	July 2009	Compliance	NC, UPL	NC, 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, UPL	--

Table 4-3a. Summary of Statistical Tests Performed for Surface Water Permit Compliance Stations

Station ID	Sample Date	Sample Event	Sample Purpose	Aluminum Total	Copper Dissolved
WQ13	4/20/2011	April 2011	Compliance	--	--
WQ13	7/25/2011	July 2011 II	Compliance	--	NC, UPL
WQ13	12/21/2011	December 2011	Compliance	--	--
WQ13	12/21/2011	December 2011	Field Replicate	--	--
WQ13	1/9/2012	January 2012	Compliance	--	--
WQ13	1/9/2012	January 2012	Field Replicate	--	--
WQ13	4/8/2012	April 2012	Compliance	--	--
WQ13	7/21/2012	July 2012	Compliance	--	--
WQ13	10/27/2012	October 2012	Compliance	--	--

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
NC = ADEC Natural Conditions Tool
UPL = upper prediction limit screen

Table 4-3b. 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, UPL	--	--	--	--
MW1	4/10/2007	April 2007	Reference	NC, UPL	--	--	--	--
MW1	5/14/2007	May 2007	Reference	NC, UPL	--	--	--	--
MW1	6/4/2007	June 2007	Reference	NC, UPL	--	--	--	--
MW1	6/4/2007	June 2007	Field Replicate	NC, UPL	--	--	--	--
MW1	7/2/2007	July 2007 I	Reference	NC, UPL	--	--	--	--
MW1	7/24/2007	July 2007 II	Reference	NC, UPL	--	--	--	--
MW1	8/14/2007	August 2007 I	Reference	NC, UPL	--	--	--	--
MW1	8/14/2007	August 2007 I	Field Replicate	--	--	--	--	--
MW1	8/28/2007	August 2007 II	Reference	NC, UPL	--	--	--	--
MW1	9/11/2007	September 2007 I	Reference	NC, UPL	--	--	--	--
MW1	9/30/2007	September 2007 II	Compliance	NC, UPL	--	--	--	--
MW1	10/16/2007	October 2007	Compliance	NC, UPL	--	--	--	--
MW1	10/16/2007	October 2007	Field Replicate	NC, UPL	--	--	--	--
MW1	11/12/2007	November 2007	Compliance	NC, UPL	--	--	--	--
MW1	12/14/2007	December 2007 I	Compliance	NC, UPL	--	--	--	--
MW1	12/14/2007	December 2007 I	Field Replicate	NC, UPL	--	--	--	--
MW1	1/9/2008	January 2008	Compliance	NC, UPL	--	--	--	--
MW1	2/14/2008	February 2008	Compliance	NC, UPL	--	--	--	--
MW1	3/14/2008	March 2008	Compliance	NC, UPL	--	--	--	--
MW1	4/15/2008	April 2008	Compliance	NC, UPL	--	--	--	--
MW1	5/7/2008	May 2008	Compliance	NC, UPL	--	--	--	--
MW1	6/26/2008	June 2008	Compliance	NC, UPL	--	--	--	--
MW1	7/24/2008	July 2008	Compliance	NC, UPL	--	--	--	--
MW1	7/24/2008	July 2008	Field Replicate	NC, UPL	--	--	--	--
MW1	8/19/2008	August 2008	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW1	9/9/2008	September 2008	Compliance	NC, UPL	--	--	--	--
MW1	9/9/2008	September 2008	Field Replicate	NC, UPL	--	--	--	--
MW1	10/15/2008	October 2008	Compliance	NC, UPL	--	--	--	--
MW1	10/15/2008	October 2008	Field Replicate	NC, UPL	--	--	--	--
MW1	3/9/2009	March 2009	Compliance	NC, UPL	--	--	--	--

Table 4-3b. 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, UPL	--	--	--	--
MW1	5/13/2009	May 2009	Compliance	NC, UPL	--	--	--	--
MW1	7/24/2009	July 2009	Compliance	NC, UPL	--	NC, UPL	--	--
MW1	10/17/2009	October 2009	Compliance	NC, UPL	--	--	--	--
MW1	10/17/2009	October 2009	Field Replicate	NC, UPL	--	--	--	--
MW1	1/17/2010	January 2010	Compliance	NC, UPL	--	--	--	--
MW1	4/22/2010	April 2010	Compliance	NC, UPL	--	--	--	--
MW1	8/10/2010	August 2010	Compliance	NC, UPL	--	--	--	--
MW1	8/10/2010	August 2010	Field Replicate	NC, UPL	--	--	--	--
MW1	10/19/2010	October 2010	Compliance	NC, UPL	--	--	--	--
MW1	1/20/2011	January 2011	Compliance	NC, UPL	--	--	--	--
MW1	1/20/2011	January 2011	Field Replicate	NC, UPL	--	--	--	--
MW1	4/20/2011	April 2011	Compliance	NC, UPL	--	--	--	--
MW1	7/25/2011	July 2011 II	Compliance	NC, UPL	--	--	--	--
MW1	12/20/2011	December 2011	Compliance	NC, UPL	--	--	--	--
MW1	1/9/2012	January 2012	Compliance	NC, UPL	--	--	--	--
MW1	1/9/2012	January 2012	Field Replicate	NC, UPL	--	--	--	--
MW1	4/7/2012	April 2012	Compliance	NC, UPL	--	--	--	--
MW1	4/7/2012	April 2012	Field Replicate	NC, UPL	--	--	--	--
MW1	7/21/2012	July 2012	Compliance	NC, UPL	--	--	--	--
MW1	10/28/2012	October 2012	Compliance	NC, UPL	--	--	--	--
MW1	10/28/2012	October 2012	Field Replicate	NC, UPL	--	--	--	--
MW2	4/10/2007	April 2007	Reference	NC, UPL	--	--	--	--
MW2	5/14/2007	May 2007	Reference	NC, UPL	--	--	--	--
MW2	6/4/2007	June 2007	Reference	NC, UPL	NC, UPL	--	--	--
MW2	7/2/2007	July 2007 I	Reference	--	--	--	--	--
MW2	7/24/2007	July 2007 II	Reference	NC, UPL	--	--	--	--
MW2	8/14/2007	August 2007 I	Reference	NC, UPL	--	--	--	--
MW2	8/28/2007	August 2007 II	Reference	NC, UPL	--	NC, UPL	--	--
MW2	9/11/2007	September 2007 I	Reference	NC, UPL	--	--	--	--
MW2	9/30/2007	September 2007 II	Compliance	NC, UPL	--	--	--	--

Table 4-3b. 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	10/16/2007	October 2007	Compliance	NC, UPL	--	--	--	--
MW2	11/12/2007	November 2007	Compliance	NC, UPL	--	--	< 5 detected	--
MW2	12/14/2007	December 2007 I	Compliance	NC, UPL	--	--	--	--
MW2	1/8/2008	January 2008	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW2	2/13/2008	February 2008	Compliance	NC, UPL	--	--	--	--
MW2	3/14/2008	March 2008	Compliance	NC, UPL	--	--	--	--
MW2	4/14/2008	April 2008	Compliance	NC, UPL	--	--	--	--
MW2	5/7/2008	May 2008	Compliance	NC, UPL	--	NC, UPL	--	--
MW2	6/26/2008	June 2008	Compliance	NC, UPL	--	--	--	--
MW2	7/24/2008	July 2008	Compliance	NC, UPL	--	--	--	--
MW2	8/19/2008	August 2008	Compliance	NC, UPL	--	--	--	--
MW2	9/9/2008	September 2008	Compliance	NC, UPL	--	--	--	--
MW2	10/15/2008	October 2008	Compliance	NC, UPL	--	--	--	--
MW2	3/8/2009	March 2009	Compliance	NC, UPL	--	--	--	--
MW2	5/13/2009	May 2009	Compliance	NC, UPL	--	--	--	--
MW2	7/24/2009	July 2009	Compliance	NC, UPL	--	--	--	--
MW2	9/12/2009	September 2009 II	Compliance	NC, UPL	--	--	--	--
MW2	10/17/2009	October 2009	Compliance	NC, UPL	--	--	--	--
MW2	1/15/2010	January 2010	Compliance	NC, UPL	--	--	--	--
MW2	4/22/2010	April 2010	Compliance	NC, UPL	--	--	--	--
MW2	8/10/2010	August 2010	Compliance	NC, UPL	--	--	--	--
MW2	10/19/2010	October 2010	Compliance	NC, UPL	--	--	--	--
MW2	1/20/2011	January 2011	Compliance	NC, UPL	--	--	--	--
MW2	4/20/2011	April 2011	Compliance	NC, UPL	--	--	--	--
MW2	7/24/2011	July 2011 II	Compliance	NC, UPL	--	--	--	--
MW2	12/20/2011	December 2011	Compliance	NC, UPL	--	NC, UPL	--	--
MW2	1/9/2012	January 2012	Compliance	NC, UPL	--	--	--	--
MW2	4/7/2012	April 2012	Compliance	NC, UPL	--	--	--	--
MW2	7/21/2012	July 2012	Compliance	NC, UPL	--	--	--	--
MW2	10/28/2012	October 2012	Compliance	NC, UPL	--	--	--	--

Table 4-3b. 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	2/28/2007	February 2007	Reference	NC, UPL	NC, UPL	--	--	--
MW3	4/10/2007	April 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	NC, UPL
MW3	5/14/2007	May 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	5/14/2007	May 2007	Field Replicate	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	6/4/2007	June 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	7/2/2007	July 2007 I	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	7/24/2007	July 2007 II	Reference	NC, UPL	--	--	--	--
MW3	8/14/2007	August 2007 I	Reference	NC, UPL	--	--	--	--
MW3	8/28/2007	August 2007 II	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	9/10/2007	September 2007 I	Reference	NC, UPL	--	--	--	--
MW3	9/30/2007	September 2007 II	Compliance	NC, UPL	--	--	--	--
MW3	10/17/2007	October 2007	Compliance	NC, UPL	--	--	--	--
MW3	11/12/2007	November 2007	Compliance	NC, UPL	--	--	--	--
MW3	12/15/2007	December 2007 I	Compliance	NC, UPL	--	NC, UPL	--	--
MW3	1/8/2008	January 2008	Compliance	NC, UPL	--	--	--	--
MW3	1/8/2008	January 2008	Field Replicate	NC, UPL	--	--	--	--
MW3	2/13/2008	February 2008	Compliance	NC, UPL	--	--	--	--
MW3	3/14/2008	March 2008	Compliance	NC, UPL	--	--	--	--
MW3	4/14/2008	April 2008	Compliance	NC, UPL	--	--	--	--
MW3	5/7/2008	May 2008	Compliance	NC, UPL	--	--	--	--
MW3	6/27/2008	June 2008	Compliance	NC, UPL	--	--	--	--
MW3	7/24/2008	July 2008	Compliance	NC, UPL	--	--	--	--
MW3	8/19/2008	August 2008	Compliance	NC, UPL	NC, UPL	--	--	--
MW3	9/9/2008	September 2008	Compliance	NC, UPL	--	--	--	--
MW3	10/15/2008	October 2008	Compliance	NC, UPL	--	--	--	--
MW3	3/8/2009	March 2009	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	5/13/2009	May 2009	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	7/24/2009	July 2009	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	9/12/2009	September 2009 II	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	10/17/2009	October 2009	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW3	1/15/2010	January 2010	Compliance	NC, UPL	--	--	--	NC, UPL

Table 4-3b. 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	4/22/2010	April 2010	Compliance	NC, UPL	--	--	--	--
MW3	8/10/2010	August 2010	Compliance	NC, UPL	--	--	--	--
MW3	10/19/2010	October 2010	Compliance	NC, UPL	--	--	--	--
MW3	1/20/2011	January 2011	Compliance	NC, UPL	--	--	--	--
MW3	4/20/2011	April 2011	Compliance	NC, UPL	--	--	--	--
MW3	7/24/2011	July 2011 II	Compliance	NC, UPL	--	--	--	--
MW3	12/20/2011	December 2011	Compliance	NC, UPL	--	--	--	--
MW3	1/9/2012	January 2012	Compliance	NC, UPL	--	--	--	--
MW3	4/7/2012	April 2012	Compliance	NC, UPL	--	--	NC, UPL	--
MW3	7/21/2012	July 2012	Compliance	NC, UPL	--	--	--	--
MW3	10/28/2012	October 2012	Compliance	NC, UPL	--	--	--	--
MW4	2/27/2007	February 2007	Reference	NC, UPL	NC, UPL	--	--	NC, UPL
MW4	2/27/2007	February 2007	Field Replicate	NC, UPL	NC, UPL	--	--	--
MW4	4/10/2007	April 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	NC, UPL
MW4	5/14/2007	May 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	6/4/2007	June 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	7/2/2007	July 2007 I	Reference	--	--	--	--	--
MW4	7/23/2007	July 2007 II	Reference	NC, UPL	NC, UPL	--	--	--
MW4	8/14/2007	August 2007 I	Reference	--	--	--	--	--
MW4	8/27/2007	August 2007 II	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	9/10/2007	September 2007 I	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	9/30/2007	September 2007 II	Compliance	NC, UPL	NC, UPL	--	--	--
MW4	10/16/2007	October 2007	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	11/12/2007	November 2007	Compliance	NC, UPL	--	--	--	--
MW4	11/12/2007	November 2007	Field Replicate	NC, UPL	--	--	--	--
MW4	12/15/2007	December 2007 I	Compliance	NC, UPL	--	NC, UPL	--	--
MW4	1/8/2008	January 2008	Compliance	NC, UPL	--	--	--	--
MW4	2/13/2008	February 2008	Compliance	NC, UPL	--	--	--	--
MW4	3/15/2008	March 2008	Compliance	NC, UPL	--	--	--	--
MW4	4/14/2008	April 2008	Compliance	NC, UPL	--	--	--	--
MW4	5/8/2008	May 2008	Compliance	NC, UPL	--	--	--	--

Table 4-3b. 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	5/8/2008	May 2008	Field Replicate	NC, UPL	--	--	--	--
MW4	6/27/2008	June 2008	Compliance	NC, UPL	NC, UPL	--	--	--
MW4	7/24/2008	July 2008	Compliance	NC, UPL	--	--	--	--
MW4	8/19/2008	August 2008	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	8/19/2008	August 2008	Field Replicate	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	9/9/2008	September 2008	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	10/15/2008	October 2008	Compliance	NC, UPL	--	--	--	--
MW4	3/8/2009	March 2009	Compliance	NC, UPL	NC, UPL	--	--	NC, UPL
MW4	5/13/2009	May 2009	Compliance	NC, UPL	--	--	--	NC, UPL
MW4	5/13/2009	May 2009	Field Replicate	NC, UPL	--	--	--	--
MW4	7/23/2009	July 2009	Compliance	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	7/23/2009	July 2009	Field Replicate	NC, UPL	NC, UPL	NC, UPL	--	--
MW4	9/13/2009	September 2009 II	Compliance	NC, UPL	NC, UPL	--	--	--
MW4	9/13/2009	September 2009 II	Field Replicate	NC, UPL	--	--	--	--
MW4	10/17/2009	October 2009	Compliance	NC, UPL	--	--	--	--
MW4	1/15/2010	January 2010	Compliance	NC, UPL	--	--	--	--
MW4	1/15/2010	January 2010	Field Replicate	NC, UPL	--	--	--	--
MW4	4/22/2010	April 2010	Compliance	NC, UPL	--	--	--	--
MW4	4/22/2010	April 2010	Field Replicate	NC, UPL	--	--	--	--
MW4	8/10/2010	August 2010	Compliance	NC, UPL	--	--	--	--
MW4	10/19/2010	October 2010	Compliance	NC, UPL	--	--	--	--
MW4	10/19/2010	October 2010	Field Replicate	NC, UPL	--	--	--	--
MW4	1/20/2011	January 2011	Compliance	NC, UPL	--	--	--	--
MW4	4/20/2011	April 2011	Compliance	NC, UPL	--	--	--	--
MW4	4/20/2011	April 2011	Field Replicate	NC, 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, UPL	--	--	--	--
MW4	12/20/2011	December 2011	Field Replicate	NC, UPL	--	--	--	--
MW4	1/9/2012	January 2012	Compliance	NC, UPL	--	--	--	--
MW4	4/7/2012	April 2012	Compliance	NC, UPL	--	--	--	--

Table 4-3b. 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	7/21/2012	July 2012	Compliance	NC, UPL	--	--	--	--
MW4	7/21/2012	July 2012	Field Replicate	NC, UPL	--	--	--	--
MW7	2/28/2007	February 2007	Reference	NC, UPL	NC, UPL	NC, UPL	--	--
MW7	4/10/2007	April 2007	Reference	NC, UPL	--	--	--	--
MW7	4/10/2007	April 2007	Field Replicate	NC, UPL	--	--	--	--
MW7	5/15/2007	May 2007	Reference	NC, UPL	--	NC, UPL	--	--
MW7	6/5/2007	June 2007	Reference	NC, UPL	--	--	--	--
MW7	7/1/2007	July 2007 I	Reference	NC, UPL	--	--	--	--
MW7	7/23/2007	July 2007 II	Reference	NC, UPL	--	--	--	--
MW7	8/13/2007	August 2007 I	Reference	NC, UPL	--	--	--	--
MW7	8/28/2007	August 2007 II	Reference	NC, UPL	--	--	--	--
MW7	9/10/2007	September 2007 I	Reference	NC, UPL	--	--	--	--
MW7	9/10/2007	September 2007 I	Field Replicate	NC, UPL	--	--	--	--
MW7	9/30/2007	September 2007 II	Reference	NC, UPL	--	--	--	--
MW7	10/16/2007	October 2007	Reference	NC, UPL	--	--	--	--
MW7	11/13/2007	November 2007	Reference	NC, UPL	--	--	--	--
MW7	12/15/2007	December 2007 I	Reference	NC, UPL	--	--	--	--
MW7	1/9/2008	January 2008	Reference	NC, UPL	--	--	--	--
MW7	2/14/2008	February 2008	Reference	NC, UPL	--	--	--	--
MW7	3/13/2008	March 2008	Reference	NC, UPL	--	--	--	--
MW7	4/13/2008	April 2008	Reference	NC, UPL	--	--	--	--
MW7	4/13/2008	April 2008	Field Replicate	NC, UPL	--	--	--	--
MW7	5/6/2008	May 2008	Reference	NC, UPL	--	--	--	--
MW7	6/26/2008	June 2008	Reference	NC, UPL	--	--	--	--
MW7	6/26/2008	June 2008	Field Replicate	NC, UPL	--	--	--	--
MW7	7/25/2008	July 2008	Reference	NC, UPL	--	--	--	--

Table 4-3b. 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
MW8	7/2/2007	July 2007 I	Reference - Information only	NC, 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, UPL	--	--	--	--
MW9	8/13/2007	August 2007 I	Reference - Information only	NC, UPL	--	--	--	--
MW9	8/28/2007	August 2007 II	Reference - Information only	NC, UPL	--	--	--	--
MW9	9/10/2007	September 2007 I	Reference - Information only	--	--	--	--	--
MW9	9/30/2007	September 2007 II	Reference - Information only	--	--	--	--	--
MW9	10/16/2007	October 2007	Reference - Information only	NC, UPL	--	--	--	--
MW9	11/12/2007	November 2007	Reference - Information only	--	--	--	--	--
MW9	12/14/2007	December 2007 I	Reference - Information only	NC, UPL	--	--	--	--
MW9	1/8/2008	January 2008	Reference - Information only	NC, UPL	--	--	--	--
MW9	2/13/2008	February 2008	Reference - Information only	--	--	--	--	--

Table 4-3b. 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	3/13/2008	March 2008	Reference - Information only	NC, 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	--	--	--	--	--

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
NC = ADEC Natural Conditions Tool
UPL = upper prediction limit screen

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

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (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 4-4a. Results of Natural Condition Criteria Comparisons for Surface Water

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (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)
				January 2012		--	NA	--	NA	--	NA	NA
				April 2012		--	NA	--	NA	--	NA	NA
				July 2012		--	NA	--	NA	--	NA	NA
				October 2012		--	NA	--	NA	--	NA	NA
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

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

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (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)
				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
				January 2012		--	NA	--	NA	--	NA	NA
				April 2012		--	NA	--	NA	--	NA	NA
				July 2012		--	NA	--	NA	--	NA	NA
				October 2012		--	NA	--	NA	--	NA	NA
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**	--

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

Analyte	Fraction	NC Criteria (All ND Included)[a] (µg/L)	NC Criteria (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)
				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**
				April 2011		--	ND	--	ND	--	ND	ND
				July 2011 II		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
				December 2011		--	Pass	--	Pass	--	Pass	Pass
				January 2012		--	Pass	--	Pass	--	Pass	Pass
				April 2012		--	Pass	--	Pass	--	Pass	Pass
				July 2012		--	**Fail**	--	**Fail**	--	**Fail**	**Fail**
				October 2012		--	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 4-4b. 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**
				January 2012		--	Pass	Pass	Pass	Pass

Table 4-4b. 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)
				April 2012		--	Pass	Pass	Pass	Pass
				July 2012		--	Pass	Pass	**Fail**	Pass
				October 2012		--	Pass	Pass	**Fail**	--
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

Table 4-4b. 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)
				July 2011 II		--	Pass	**Fail**	**Fail**	Pass
				December 2011		--	Pass	Pass	**Fail**	Pass
				January 2012		--	Pass	Pass	Pass	Pass
				April 2012		--	Pass	Pass	Pass	Pass
				July 2012		--	Pass	**Fail**	**Fail**	Pass
				October 2012		--	Pass	**Fail**	**Fail**	--
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

Table 4-4b. 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)
				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
				January 2012		--	Pass	Pass	Pass	Pass
				April 2012		--	Pass	Pass	Pass	Pass
				July 2012		--	Pass	Pass	Pass	Pass
				October 2012		--	Pass	Pass	Pass	--
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

Table 4-4b. 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 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
				January 2012		--	Pass	Pass	Pass	Pass
				April 2012		--	Pass	Pass	Pass	Pass
				July 2012		--	**Fail**	Pass	Pass	Pass
				October 2012		--	Pass	Pass	Pass	--
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**

Table 4-4b. 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)
				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
				April 2011		--	ND	ND	ND	ND
				July 2011 II		--	ND	ND	ND	ND
				December 2011		--	ND	ND	ND	ND
				January 2012		--	ND	ND	ND	ND
				April 2012		--	ND	ND	ND	ND
				July 2012		--	ND	ND	ND	ND
				October 2012		--	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 4-5a. 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
			January 2012		--	Pass	--	Pass	--	Pass	Pass

Table 4-5a. 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 2012		--	Pass	--	Pass	--	Pass	Pass
			July 2012		--	Pass	--	Pass	--	Pass	Pass
			October 2012		--	Pass	--	Pass	--	Pass	Pass
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

Table 4-5a. 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)
			July 2011 II		--	Pass	--	Pass	--	Pass	Pass
			December 2011		--	Pass	--	Pass	--	Pass	Pass
			January 2012		--	Pass	--	Pass	--	Pass	Pass
			April 2012		--	Pass	--	Pass	--	Pass	Pass
			July 2012		--	Pass	--	Pass	--	**Fail**	Pass
			October 2012		--	Pass	--	Pass	--	Pass	Pass
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

Table 4-5a. 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)
			October 2010		--	Pass	--	Pass	--	Pass	Pass
			January 2011		--	Pass	--	Pass	--	Pass	**Fail**
			April 2011		--	ND	--	ND	--	ND	ND
			July 2011 II		--	**Fail**	--	Pass	--	Pass	**Fail**
			December 2011		--	Pass	--	Pass	--	Pass	Pass
			January 2012		--	Pass	--	Pass	--	Pass	Pass
			April 2012		--	Pass	--	Pass	--	Pass	Pass
			July 2012		--	Pass	--	Pass	--	**Fail**	**Fail**
			October 2012		--	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 4-5b. 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
			January 2012		--	Pass	Pass	Pass	Pass
			April 2012		--	Pass	Pass	Pass	Pass
			July 2012		--	Pass	Pass	Pass	Pass
			October 2012		--	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	--

Table 4-5b. 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)
			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**
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
			January 2012		--	Pass	Pass	Pass	Pass
			April 2012		--	Pass	Pass	Pass	Pass
			July 2012		--	Pass	Pass	Pass	Pass
			October 2012		--	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**

Table 4-5b. 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)
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
			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
			January 2012		--	Pass	Pass	Pass	Pass
			April 2012		--	Pass	Pass	Pass	Pass
			July 2012		--	Pass	Pass	Pass	Pass
			October 2012		--	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

Table 4-5b. 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)
			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
			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
			January 2012		--	Pass	Pass	Pass	Pass
			April 2012		--	Pass	Pass	Pass	Pass
			July 2012		--	Pass	Pass	Pass	Pass
			October 2012		--	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

Table 4-5b. 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)
			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
			April 2011		--	ND	ND	ND	ND
			July 2011 II		--	ND	ND	ND	ND
			December 2011		--	ND	ND	ND	ND
			January 2012		--	ND	ND	ND	ND
			April 2012		--	ND	ND	ND	ND
			July 2012		--	ND	ND	ND	ND
			October 2012		--	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

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 AND GEOCHEMICAL ANALYSIS OF WASTE ROCK

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 WQ8, Waterfall Creek upstream location (looking downstream; April 2008).

Photo 28. Surface water monitoring station WQ8, Waterfall Creek upstream location (looking upstream; April 2008).

Photo 29. Surface water monitoring station WQ6, Camp Creek downstream location (September 2009).

Photo 30. Sampling at WQ6—very high flow (January 2011).

Photo 31. Surface water monitoring station WQ7, Camp Creek upstream location (looking downstream; April 2008).

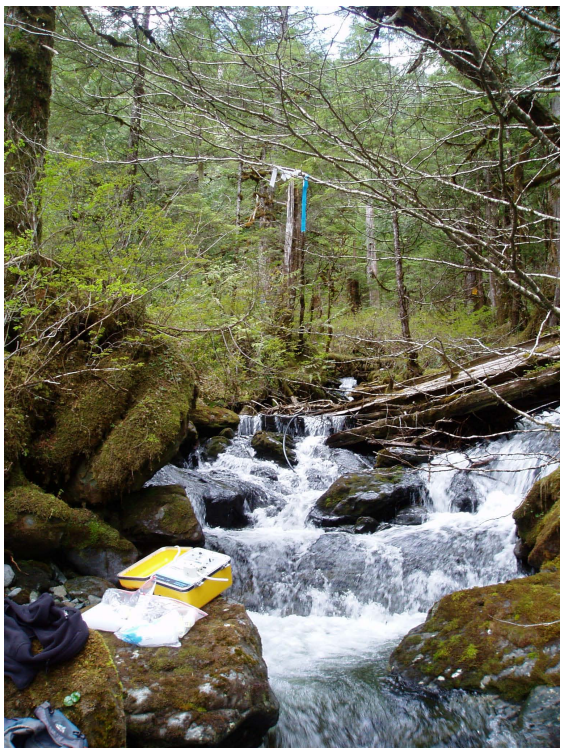


Photo 32. Surface water monitoring station WQ7, Camp Creek upstream location (looking upstream; April 2008)

Photo 33. Surface water monitoring station WQ10, Unnamed Creek 1 downstream location (April 2011).

Photo 34. Sampling WQ10 (September 2009).

Photo 35. Surface water monitoring station WQ12, Unnamed Creek 1 upstream location (looking upstream; April 2008).

Photo 36. Surface water monitoring station WQ13, Unnamed Creek 2 downstream location (low flow, August 2010).

Photo 37. Sampling at WQ13 (April 2011).

GROUNDWATER MONITORING WELLS

Photo 38. Groundwater monitoring well MW1, wetlands below NAG storage site; photo shows purging prior to sample collection (December 2011).

Photo 39. Groundwater monitoring well MW2, wetlands below settling/treatment ponds (January 2010).

Photo 40. Groundwater monitoring well MW3, wetlands below PAG storage site (October 2010).

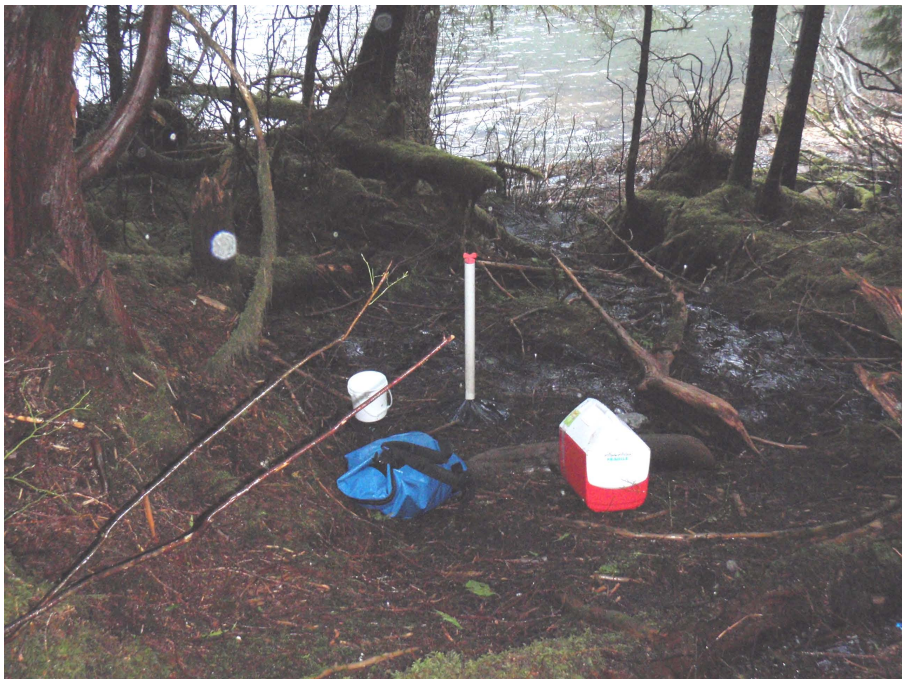


Photo 41. Groundwater monitoring well MW4, wetlands below LAD infiltration system area (January 2010).

Photo 42. Groundwater monitoring well MW7, wetlands offsite and east of the project area (April 2008).

Photo 43. Sampling at groundwater monitoring well MW8, located upgradient of monitoring well MW3 and the LAD application area (April 2008).

Photo 44. Construction of groundwater monitoring well MW8 (June 2007).

NOTE: Photos were not available for groundwater reference monitoring well MW9 (upgradient of LAD application area and MW3).

APPENDIX B

WATER QUALITY MONITORING RESULTS FOR SURFACE WATER AND GROUNDWATER

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ4	WQ4	X2213	Knight Piesold	February 2006 II	2/15/2006		32	21	22.1	3 *U*	18	5.41	2.83	0.005 *U*	--	0.0743	0.001 *U*
WQ4	WQ4	X5977	Knight Piesold	May 2006 II	5/16/2006	08:08	13	15	6.7	3 *U*	7.1	2.64	1.02	0.02 *U*	--	0.0215	0.001 *U*
WQ4	WQ4	Z2004	Knight Piesold	August 2006 II	8/29/2006	11:05	24	26	16	3 *U*	16.5	2.22	1.81	0.005 *U*	--	0.0926	0.001 *U*
WQ4	WQ4	Z3908	Knight Piesold	October 2006	10/17/2006	13:30	34	36	26.2	3 *U*	23.4	2.83	2.78	0.005 *U*	--	0.101	0.001 *U*
WQ4	WQ4	Z6128	Knight Piesold	December 2006	12/7/2006	09:25	13	19	6.68	51.4	3.4	4.4	0.83	--	--	0.0784	0.001 *U*
WQ4	WQ4	L482967	Knight Piesold	February 2007	2/26/2007	08:41	34	29	24.6	3 *U*	20.3	4.23	3.18	0.005 *U*	--	0.097	0.001 *U*
WQ4	WQ4	L495369	Knight Piesold	April 2007	4/10/2007	09:26	21	22	10.8	3 *U*	8.6	4.24	1.62	0.005 *U*	--	0.0406	0.001 *U*
WQ4	WQ4	L507191	Knight Piesold	May 2007	5/14/2007	14:05	18	21	10.6	3 *U*	9.2	2.45	1.45	0.005 *U*	--	0.0264	0.001 *U*
WQ4	WQ4	L515743	Knight Piesold	June 2007	6/4/2007	16:13	12	10 *U*	6.94	3.8	5.7	1.07	1.14	0.005 *U*	--	0.0128	0.001 *U*
WQ4	WQ4	L526591	Knight Piesold	July 2007 I	7/1/2007	13:35	26	21	19.6	3 *U*	16.1	1.85	2.04	0.005 *U*	--	0.075	0.001 *U*
WQ4	WQ4	K0706569	Integral	July 2007 II	7/24/2007	14:12	38 *J*	43	26	5 *U*	26	2.2	2.8	0.03 *U*	0.12	--	--
WQ4	WQ4	K0707317	Integral	August 2007 I	8/14/2007	13:25	51	54	38	5 *U*	35	3.1	4.4	0.006 *U*	0.18	--	--
WQ4	WQ4	K0707782	Integral	August 2007 II	8/27/2007	10:00	36	46 *U*	38	5 *U*	26	2	2.7	0.02 *UJ*	0.17	--	--
WQ4	WQ4	K0708240	Integral	September 2007 I	9/11/2007	11:25	46 *J*	44	35	5 *U*	31	2.5	3.4	0.01 *UJ*	0.47	--	--
WQ4	WQ4	K0709126	Integral	September 2007 II	10/2/2007	11:35	21	23	13 *U*	5 *U*	12	2.5	1.7	0.02 *U*	0.11	--	--
WQ4	WQ4	K0709804	Integral	October 2007	10/17/2007	10:30	14 *J*	8	16 *U*	7	5 *UJ*	3	1.1	0.01 *U*	0.1	--	0.004 *UJ*
WQ4	WQ4	K0710773	Integral	November 2007	11/13/2007	11:30	31	22	26	5 *U*	15	4.8	2.6	0.022 *UJ*	0.27	--	--
WQ4	WQ4	K0711891	Integral	December 2007 I	12/15/2007	14:10	23 *J*	26 *U*	22 *U*	12	8	5.5	1.5	0.06 *UJ*	0.37	--	--
WQ4	WQ4	K0800335	Integral	January 2008	1/9/2008	11:40	43 *J*	64	35 *U*	5 *U*	20	9.1	3	0.03 *UJ*	0.3	--	--
WQ4	WQ4	K0801400	Integral	Februrary 2008	2/14/2008	13:55	35 *J*	38 *UJ*	29	63	12	7.7	1.8	0.17	1.29	--	--
WQ4	WQ4	K0802328	Integral	March 2008	3/15/2008	11:30	24 *J*	76 *U*	31 *U*	5 *U*	8 *U*	6.1	2.1	0.05 *UJ*	0.44 *U*	--	--
WQ4	WQ4	K0803239	Integral	April 2008	4/14/2008	15:50	32 *J*	14	32 *U*	5 *U*	15	7.9	1.9	0.02 *UJ*	0.24 *U*	--	--
WQ4	WQ4	K0804080	Integral	May 2008	5/8/2008	9:40	29 *J*	22	20 *U*	5 *U*	14	5.2	2.1	0.03 *UJ*	0.22	--	--
WQ4	WQ4	K0805877	Integral	June 2008	6/28/2008	9:05	15 *J*	9 *U*	11 *U*	7	8	1.6	1.3	0.03 *UJ*	0.22	--	--
WQ4	WQ4	K0806880	Integral	July 2008	7/24/2008	15:45	32 *J*	43	20	5 *U*	22	2.4	2.7	0.04 *UJ*	0.28	--	--
WQ4	WQ4	K0810253	Integral	October 2008	10/15/2008	14:10	23 *J*	31	18	5 *U*	15	2.8	1.9	0.03 *UJ*	0.2	--	--
WQ4	WQ4	K0902142	Integral	March 2009	3/9/2009	12:05	38 *J*	39	28	5 *U*	26	3.5	3.6	0.02 *U*	0.34	--	--
WQ4	WQ4	K0904395	Integral	May 2009	5/13/2009	13:50	13 *J*	17	6	5 *U*	7	1.9	1.6	0.025 *UJ*	0.08	--	--
WQ4	WQ4	K0906701	Integral	July 2009	7/23/2009	14:00	11 *J*	19	6	15	6	1.1	1	0.016 *UJ*	0.08 *UJ*	--	--
WQ4	WQ4	K0908299	Integral	September 2009 I	9/5/2009	11:25	27 *J*	24	17.6	5 *U*	19	2.35	2.81	0.067 *U*	0.17	--	--
WQ4	WQ4	K0908619	Integral	September 2009 II	9/12/2009	16:25	28 *J*	34 *U*	16.8	5 *U*	18.4	2.98	2.8	0.061 *UJ*	0.179	--	--
WQ4	WQ4	K0910115	Integral	October 2009	10/17/2009	13:50	26 *J*	32	15.2	5 *U*	18.3	3.37	1.88	0.009 *UJ*	0.155	--	--
WQ4	WQ4	K1000512	Integral	January 2010	1/15/2010	16:05	16 *J*	16 *UJ*	6.4	5 *U*	5.9	4.22	1.35	0.009 *UJ*	0.083	--	--
WQ4	WQ4	K1004032	Integral	April 2010	4/22/2010	13:35	28 *J*	33	15.2	5 *U*	11.8	7.83	2.41	0.022 *J*	0.104 *UJ*	--	--
WQ4	WQ4	K1008751	Integral	August 2010	8/10/2010	15:00	44 *J*	44	39.2	5 *U*	30.9	3.66	5.43	0.026 *UJ*	0.196 *UJ*	--	--
WQ4	WQ4	K1011739	Integral	October 2010	10/18/2010	16:30	22 *J*	17	12	5 *U*	8.9	6.5	1.69	--	0.077	--	--
WQ4	WQ4	K1100726	Integral	January 2011	1/19/2011	15:15	17 *J*	66	22	5 *U*	9.1 *UJ*	3.78	1.48	0.05 *UJ*	0.162	--	--
WQ4	WQ4	K1103541	Integral	April 2011	4/20/2011	17:10	39 *J*	55	34.8	5 *U*	26.6	4.23	4.32	--	0.15	--	--
WQ4	WQ4	K1106865	Integral	July 2011 II	7/25/2011	15:55	26 *J*	34	22	5 *U*	14.6	2.08	3.85	0.009 *UJ*	0.109 *UJ*	--	--
WQ4	WQ4	K1112358	Integral	December 2011	12/21/2011	8:50	23 *J*	17	13.6	5 *U*	12.3	3.93	2.31 *J*	0.088 *U*	0.137	--	--
WQ4	WQ4	K1200245	Integral	January 2012	1/9/2012	8:45	25 *J*	23 *U*	11.2	5 *U*	9.7	7.76	1.86	0.014 *UJ*	0.078	--	--
WQ4	WQ4	K1203282	Integral	April 2012	4/8/2012	10:20	35 *J*	45	22	2.9 *U*	15	8.36	2.78	0.024 *UJ*	0.143	--	--
WQ4	WQ4	K1207121	Integral	July 2012	7/21/2012	14:35	24 *J*	13.5	17.2	5 *U*	20.4	1.66	2.19	0.01 *UJ*	0.071	--	--
WQ4	WQ4	K1210890	Integral	October 2012	10/27/2012	16:40	42 *J*	44 *J*	35.6 *J*	5 *U*	26.2	4.06	6.02	0.083	0.168	--	--
WQ6	WQ6	X2213	Knight Piesold	February 2006 II	2/15/2006		23	21	13.1	3 *U*	10.8	5.47	1.27	0.005 *U*	--	0.067	0.001 *U*
WQ6	WQ6	X5977	Knight Piesold	May 2006 II	5/16/2006	09:44	19	17	8.53	3 *U*	9	4.84	1.61	0.02 *U*	--	0.0399	0.001 *U*
WQ6	WQ6	Z2004	Knight Piesold	August 2006 II	8/29/2006	10:45	14	10	9.54	3 *U*	9.3	1.63	0.81	0.005 *U*	--	0.066	0.001 *U*
WQ6	WQ6	Z3908	Knight Piesold	October 2006	10/17/2006	14:50	19	22	13.1	3 *U*	12	2.36	0.99	0.005 *U*	--	0.107	0.001 *U*
WQ6	WQ6	Z6128	Knight Piesold	December 2006	12/7/2006	09:00	9	15	5.22	3 *U*	2 *U*	4.02	0.59	--	--	0.0564	0.001 *U*
WQ6	WQ6	L482967	Knight Piesold	February 2007	2/26/2007	09:46	21	18	13.5	3 *U*	11.1	4.04	1.34	0.005 *U*	--	0.0904	0.001 *U*
WQ6	WQ6	L495369	Knight Piesold	April 2007	4/10/2007	10:38	15	14	6.39	3 *U*	5	3.98	0.94	0.005 *U*	--	0.0327	0.001 *U*
WQ6	WQ6	L507191	Knight Piesold	May 2007	5/14/2007	14:45	13	16	7.1	3 *U*	5.8	2.29	0.78	0.005 *U*	--	0.0273	0.001 *U*
WQ6	WQ6	L515743	Knight Piesold	June 2007	6/4/2007	16:45	8	10 *U*	4.28	3 *U*	3.2	0.79	0.54	0.005 *U*	--	0.0104	0.001 *U*
WQ6	WQ6	L526591	Knight Piesold	July 2007 I	7/1/2007	14:15	13	10 *U*	8.64	3 *U*	7.8	1.03	0.56	0.005 *U*	--	0.0221	0.001 *U*
WQ6	WQ6	K0706569	Integral	July 2007 II	7/24/2007	14:47	18	27 *U*	13	5 *U*	11	1.4	0.8	0.05 *U*	0.11	--	--
WQ6	WQ6	K0707317	Integral	August 2007 I	8/14/2007	14:00	31	36	18	5 *U*	22	2.5	1.4	0.006 *U*	0.24	--	--
WQ6	WQ6	K0707782	Integral	August 2007 II	8/27/2007	10:45	26	37 *U*	24	5 *U*	17	1.8	1.1	0.02 *UJ*	0.19	--	--
WQ6	WQ6	K0708240	Integral	September 2007 I	9/11/2007	12:15	25 *J*	19	26	5 *U*	16	1.9	1.1	0.02 *UJ*	0.29	--	--
WQ6	WQ6	K0709126	Integral	September 2007 II	10/2/2007	12:00	17	14	9 *U*	5 *U*	13	2.3	0.6	0.02 *U*	0.05	--	--
WQ6	WQ6	K0709804	Integral	October 2007	10/17/2007	09:40	10 *J*	7	14 *U*	5 *U*	1 *U*	3.1	0.6	0.05 *UJ*	0.032 *J*	--	--
WQ6	WQ6	K0710773	Integral	November 2007	11/13/2007	11:00	17 *J*	8	15	5 *U*	6 *UJ*	4.8	1	0.019 *UJ*	0.13	--	--
WQ6	WQ6	K0711891	Integral	December 2007 I	12/15/2007	13:20	16 *J*	18 *U*	13 *U*	5 *U*	5	4.5	0.8	0.03 *UJ*	0.34	--	--

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ6	WQ6	K0800335	Integral	January 2008	1/9/2008	11:05	26 *J*	12	23 *U*	5 *U*	9	7.3	1.4	0.02 *UJ*	0.15	--	--
WQ6	WQ6	K0801400	Integral	Februrary 2008	2/14/2008	9:45	20 *J*	34 *UJ*	18 *U*	5 *U*	6	6.3	1.1	0.03 *J*	0.12	--	--
WQ6	WQ6	K0802328	Integral	March 2008	3/15/2008	10:40	18 *J*	23 *U*	36 *U*	5 *U*	7 *U*	5.8	1.1	0.05 *UJ*	0.29 *U*	--	--
WQ6	WQ6	K0803239	Integral	April 2008	4/14/2008	14:40	20 *J*	16	30 *U*	16	6 *UJ*	7.9	1.1	0.04 *UJ*	0.09 *U*	--	--
WQ6	WQ6	K0804080	Integral	May 2008	5/8/2008	8:45	16 *J*	11	20 *U*	5 *U*	7 *UJ*	4.4	1.1	0.02 *UJ*	0.07	--	--
WQ6	WQ6	K0805877	Integral	June 2008	6/28/2008	9:10	9 *J*	12 *U*	8 *U*	5 *U*	5	1	0.5	0.06 *UJ*	0.09	--	--
WQ6	WQ6	K0806880	Integral	July 2008	7/24/2008	15:00	14 *J*	21	12	5 *U*	10	1.4	0.8	0.02 *UJ*	0.09	--	--
WQ6	WQ6	K0810253	Integral	October 2008	10/15/2008	10:40	12 *J*	20	14	5 *U*	6	2.3	0.8	0.04 *UJ*	0.07	--	--
WQ6	WQ6	K0902142	Integral	March 2009	3/9/2009	11:30	28 *J*	23	18	5 *U*	23	3	1.5	0.02 *U*	0.2	--	--
WQ6	WQ6	K0904395	Integral	May 2009	5/13/2009	15:00	10 *J*	12	1 *J*	5 *U*	5	1.7	1.1	0.017 *UJ*	0.06	--	--
WQ6	WQ6	K0906701	Integral	July 2009	7/23/2009	13:00	9 *J*	33	3	5 *U*	5	1	0.6	0.009 *U*	0.042 *UJ*	--	--
WQ6	WQ6	K0908299	Integral	September 2009 I	9/5/2009	10:25	15 *J*	16	10	5 *U*	11	1.95	0.95	0.042 *UJ*	0.055 *UJ*	--	--
WQ6	WQ6	K0908619	Integral	September 2009 II	9/12/2009	15:10	16 *J*	21.5 *U*	8	5 *U*	10.2	2.44	0.96	0.025 *UJ*	0.058	--	--
WQ6	WQ6	K0910115	Integral	October 2009	10/17/2009	12:00	16 *J*	21.5	6.4	5 *U*	10.3	3.35	0.77	0.009 *UJ*	0.057	--	--
WQ6	WQ6	K1000512	Integral	January 2010	1/15/2010	15:10	13 *J*	18.5 *UJ*	2.8	5 *U*	4.8	3.53	0.9	0.016 *UJ*	0.041 *J*	--	--
WQ6	WQ6	K1004032	Integral	April 2010	4/22/2010	13:15	19 *J*	17	8.4	5 *U*	6	6.64	1.62	0.016 *J*	0.051 *UJ*	--	--
WQ6	WQ6	K1008751	Integral	August 2010	8/10/2010	14:00	21 *J*	47	19.6	5 *U*	21.1 *UJ*	2.94	1.73	0.013 *UJ*	0.135 *UJ*	--	--
WQ6	WQ6	K1011739	Integral	October 2010	10/19/2010	15:30	16 *J*	19	8.8	5 *U*	6.1	5.68	0.99	--	0.012 *J*	--	--
WQ6	WQ6	K1100642	Integral	January 2011	1/21/2011	8:30	10 *J*	18.5	14	5 *U*	3.4 *UJ*	3.53	0.84	--	0.07	--	--
WQ6	WQ6	K1103541	Integral	April 2011	4/20/2011	16:50	19 *J*	20.5	27.6	5 *U*	11.9	3.67	1.16	--	0.07 *UJ*	--	--
WQ6	WQ6	K1106865	Integral	July 2011 II	7/25/2011	15:35	14 *J*	32.5	10	5 *U*	9.1	1.4	1.03	0.009 *UJ*	0.05 *UJ*	--	--
WQ6	WQ6	K1112358	Integral	December 2011	12/21/2011	8:30	15 *J*	10	7.6	5 *U*	7.1 *J*	3.59	0.96 *J*	0.065 *U*	0.1 *UJ*	--	--
WQ6	WQ6	K1200245	Integral	January 2012	1/8/2012	15:00	15 *J*	6.5 *U*	6.4	5 *U*	3 *U*	7.01	1	0.009 *U*	0.044 *J*	--	--
WQ6	WQ6	K1203283	Integral	April 2012	4/8/2012	9:55	27 *J*	48	15.2	2.9 *U*	8	10.7	1.2	0.02 *UJ*	0.1	--	--
WQ6	WQ6	K1207121	Integral	July 2012	7/21/2012	11:40	12 *J*	7	9.2	5 *U*	9.4	1.09	0.68	0.017 *UJ*	0.038 *J*	--	--
WQ6	WQ6	K1210890	Integral	October 2012	10/27/2012	16:15	27 *J*	35 *J*	21.6 *J*	5 *U*	19.8 *J*	3.48	1.92	0.01 *J*	0.137	--	--
WQ7	WQ7	X2213	Knight Piesold	February 2006 II	2/15/2006		22	22	13	3 *U*	9.3	5.45	1.2	0.005 *U*	--	0.0678	0.001 *U*
WQ7	WQ7	X5977	Knight Piesold	May 2006 II	5/16/2006	14:38	10	15	4.6	3 *U*	5.5	2.07	0.91	0.024	--	0.0107	0.001 *U*
WQ7	WQ7	Z2004	Knight Piesold	August 2006 II	8/29/2006	13:30	15	14	10.1	3 *U*	10.6	1.65	0.75	0.005 *U*	--	0.0632	0.001 *U*
WQ7	WQ7	Z3908	Knight Piesold	October 2006	10/17/2006	16:00	19	19	13.4	3 *U*	12.5	2.28	0.95	0.005 *U*	--	0.0857	0.001 *U*
WQ7	WQ7	Z6128	Knight Piesold	December 2006	12/7/2006	12:45	9	16	4.24	4.4	2 *U*	3.72	0.55	--	--	0.043	0.001 *U*
WQ7	WQ7	L482967	Knight Piesold	February 2007	2/26/2007	11:20	20	17	14.3	3 *U*	8.7	4.09	1.36	0.0058	--	0.0815	0.001 *U*
WQ7	WQ7	L495369	Knight Piesold	April 2007	4/10/2007	16:22	15	14	6.48	30.5	5	3.93	0.94	0.005 *U*	--	0.031	0.001 *U*
WQ7	WQ7	L507191	Knight Piesold	May 2007	5/14/2007	15:15	12	17	6.92	3 *U*	5.7	2.24	0.78	0.005 *U*	--	0.0243	0.001 *U*
WQ7	WQ7	L515743	Knight Piesold	June 2007	6/4/2007	17:41	8	10 *U*	4.23	3 *U*	4.2	0.79	0.54	0.005 *U*	--	0.0091	0.001 *U*
WQ7	WQ7	L526591	Knight Piesold	July 2007 I	7/1/2007	15:10	13	10 *U*	8.5	3 *U*	7.9	1.03	0.57	0.005 *U*	--	0.0171	0.001 *U*
WQ7	WQ7	K0706569	Integral	July 2007 II	7/24/2007	15:31	17 *J*	22 *U*	21	5 *U*	10	1.3	0.8	0.03 *U*	0.09	--	--
WQ7	WQ7	K0707317	Integral	August 2007 I	8/14/2007	14:50	31	29	16	5 *U*	22	2.5	1.3	0.006 *U*	0.13	--	--
WQ7	WQ7	K0707782	Integral	August 2007 II	8/27/2007	12:00	25	33 *U*	27	5 *U*	17	1.9	1.1	0.02 *UJ*	0.12	--	--
WQ7	WQ7	K0708240	Integral	September 2007 I	9/11/2007	13:15	25 *J*	19	31	5 *U*	16	1.9	1.1	0.01 *UJ*	0.12	--	--
WQ7	WQ7	K0709126	Integral	September 2007 II	10/2/2007	12:30	12 *J*	10	8 *U*	5 *U*	4	2.1	0.6	0.03 *U*	0.025 *J*	--	--
WQ7	WQ7	K0709804	Integral	October 2007	10/17/2007	11:35	10 *J*	5 *U*	14 *U*	5 *U*	1 *U*	3.1	0.6	0.02 *UJ*	0.07	--	0.004 *U*
WQ7	WQ7	K0710773	Integral	November 2007	11/13/2007	12:10	17 *J*	11	16	5 *U*	8 *UJ*	4.8	0.9	0.023 *UJ*	0.06	--	--
WQ7	WQ7	K0711891	Integral	December 2007 I	12/15/2007	14:50	14 *J*	15 *U*	8 *U*	5 *U*	2	4.2	0.7	0.02 *UJ*	0.32	--	--
WQ7	WQ7	K0800335	Integral	January 2008	1/9/2008	12:30	27 *J*	17	29 *U*	5 *U*	11	7.1	1.4	0.02 *UJ*	0.048 *J*	--	--
WQ7	WQ7	K0801400	Integral	Februrary 2008	2/14/2008	10:25	17 *J*	27 *UJ*	15 *U*	5 *U*	1 *U*	6.5	1	0.05	0.12	--	--
WQ7	WQ7	K0802328	Integral	March 2008	3/15/2008	12:40	17 *J*	13 *U*	41 *U*	5 *U*	5 *U*	5.8	1	0.03 *UJ*	0.14 *U*	--	--
WQ7	WQ7	K0803239	Integral	April 2008	4/14/2008	17:00	20 *J*	61	25 *U*	5 *U*	7 *UJ*	7.8	1.1	0.06 *UJ*	0.06 *U*	--	--
WQ7	WQ7	K0804080	Integral	May 2008	5/8/2008	10:30	16 *J*	21	16 *U*	5 *U*	7 *UJ*	4.5	1.1	0.03 *UJ*	0.05	--	--
WQ7	WQ7	K0805877	Integral	June 2008	6/28/2008	10:30	8 *J*	15 *U*	9 *U*	5 *U*	4	1	0.5	0.02 *UJ*	0.14	--	--
WQ7	WQ7	K0806880	Integral	July 2008	7/24/2008	16:15	14 *J*	20	12	5 *U*	10	1.4	0.8	0.02 *UJ*	0.03 *J*	--	--
WQ8	WQ8	X2213	Knight Piesold	February 2006 II	2/15/2006		32	31	22.6	3 *U*	18.1	5.25	2.81	0.005 *U*	--	0.0736	0.001 *U*
WQ8	WQ8	X5977	Knight Piesold	May 2006 II	5/17/2006	07:42	11	15	5.5	3 *U*	6.3	2.37	0.92	0.02 *U*	--	0.0183	0.001 *U*
WQ8	WQ8	Z2004	Knight Piesold	August 2006 II	8/29/2006	14:40	22	16	15	3 *U*	14.4	2.32	1.48	0.005 *U*	--	0.104	0.001 *U*
WQ8	WQ8	Z3908	Knight Piesold	October 2006	10/17/2006	16:20	27	25	18.7	3 *U*	17.2	3.06	1.88	0.005 *U*	--	0.0867	0.001 *U*
WQ8	WQ8	Z6128	Knight Piesold	December 2006	12/7/2006	13:00	12	19	5.44	4.9	2 *U*	4.73	0.71	--	--	0.0847	0.001 *U*
WQ8	WQ8	L482967	Knight Piesold	February 2007	2/26/2007	11:35	26	18	17.6	3 *U*	14.4	4.33	2.21	0.005 *U*	--	0.0871	0.001 *U*
WQ8	WQ8	L495369	Knight Piesold	April 2007	4/10/2007	16:31	21	22	10.5	3 *U*	8.9	4.51	1.48	0.005 *U*	--	0.0533	0.001 *U*
WQ8	WQ8	L507191	Knight Piesold	May 2007	5/14/2007	15:50	22	18	13.4	3	11.4	3.14	1.49	0.005 *U*	--	0.0419	0.001 *U*
WQ8	WQ8	L515743	Knight Piesold	June 2007	6/4/2007	17:19	11	13	5.84	3 *U*	5	1.04	1.03	0.005 *U*	--	0.0052	0.001 *U*
WQ8	WQ8	L526591	Knight Piesold	July 2007 I	7/1/2007	15:25	22	17	15.8	3 *U*	13.2	2.12	1.8	0.005 *U*	--	0.0457	0.001 *U*
WQ8	WQ8	K0706569	Integral	July 2007 II	7/24/2007	15:16	27 *J*	44	19	5	14	2.3	2.1	0.02 *U*	0.08	--	--

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ8	WQ8	K0707317	Integral	August 2007 I	8/14/2007	14:30	36	70	28	5 *U*	22	3.2	2.6	0.006 *U*	0.08	--	--
WQ8	WQ8	K0707782	Integral	August 2007 II	8/27/2007	11:35	29	44 *U*	31	5 *U*	21	2	1.7	0.01 *UJ*	0.13	--	--
WQ8	WQ8	K0708240	Integral	September 2007 I	9/11/2007	13:35	32 *J*	22	32	5 *U*	21	2.6	1.9	0.02 *UJ*	0.11	--	--
WQ8	WQ8	K0709126	Integral	September 2007 II	10/2/2007	12:50	15 *J*	9	8 *U*	5 *U*	7	2.3	0.9	0.02 *U*	0.026 *J*	--	--
WQ8	WQ8	K0709804	Integral	October 2007	10/17/2007	11:20	11 *J*	5 *U*	11 *U*	5 *U*	2 *UJ*	3.1	0.8	0.02 *UJ*	0.013 *J*	--	--
WQ8	WQ8	K0710773	Integral	November 2007	11/13/2007	13:00	19 *J*	25	16	5 *U*	8 *UJ*	4.7	1.6	0.02 *UJ*	0.07	--	--
WQ8	WQ8	K0711891	Integral	December 2007 I	12/15/2007		13 *J*	16 *U*	11 *U*	5 *U*	2 *J*	4.4	0.8	0.04 *UJ*	0.09 *UJ*	--	--
WQ8	WQ8	K0800335	Integral	January 2008	1/9/2008	12:45	27 *J*	28	32 *U*	5 *U*	10	7.4	1.7	0.01 *UJ*	0.034 *J*	--	--
WQ8	WQ8	K0801400	Integral	Februrary 2008	2/14/2008	15:10	19 *J*	19 *UJ*	19 *U*	5 *U*	4	6.3	1.1	0.03 *J*	0.39	--	--
WQ8	WQ8	K0802328	Integral	March 2008	3/15/2008	13:00	20 *J*	39 *U*	34 *U*	5 *U*	13 *U*	5.3	1.3	0.02 *UJ*	0.41 *U*	--	--
WQ8	WQ8	K0803239	Integral	April 2008	4/14/2008	17:30	21 *J*	19	27 *U*	5 *U*	9 *UJ*	7.2	1.3	0.03 *UJ*	0.08 *U*	--	--
WQ8	WQ8	K0804080	Integral	May 2008	5/8/2008	11:30	17 *J*	12	15 *U*	5 *U*	8 *UJ*	4.4	1.4	0.04 *UJ*	0.05	--	--
WQ8	WQ8	K0805877	Integral	June 2008	6/28/2008	11:10	11 *J*	17 *U*	11 *U*	5 *U*	5	1.2	0.9	0.02 *UJ*	0.18	--	--
WQ8	WQ8	K0806880	Integral	July 2008	7/24/2008	17:00	23 *J*	31	19	5 *U*	15	2.5	1.8	0.02 *UJ*	0.048 *J*	--	--
WQ10	WQ10	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:45	14	11	7.57	3 *U*	4.6	3.37	1.36	0.005 *U*	--	0.0558	0.001 *U*
WQ10	WQ10	Z3908	Knight Piesold	October 2006	10/17/2006	13:05	18	24	9.65	3 *U*	8.1	3.55	1.41	0.005 *U*	--	0.0523	0.001 *U*
WQ10	WQ10	Z6128	Knight Piesold	December 2006	12/7/2006	10:30	13	21	5.39	30.9	2.5	5.08	0.85	--	--	0.051	0.001 *U*
WQ10	WQ10	L482967	Knight Piesold	February 2007	2/26/2007	10:00	18	14	8.39	3 *U*	5.9	5.28	1.58	0.005 *U*	--	0.0488	0.001 *U*
WQ10	WQ10	L495369	Knight Piesold	April 2007	4/10/2007	11:11	17	16	6.69	3 *U*	5.3	4.73	1.29	0.005 *U*	--	0.0217	0.001 *U*
WQ10	WQ10	L507191	Knight Piesold	May 2007	5/14/2007	14:20	20	19	9.26	13	7.4	4.24	1.29	0.005 *U*	--	0.0421	0.001 *U*
WQ10	WQ10	L515743	Knight Piesold	June 2007	6/4/2007	16:33	20	15	10.9	3 *U*	8.6	3.11	1.62	0.005 *U*	--	0.0938	0.001 *U*
WQ10	WQ10	L526591	Knight Piesold	July 2007 I	7/1/2007	14:00	34	50	15.7	3 *U*	2 *U*	4.01	1.8	0.005 *U*	--	3.51	0.001 *U*
WQ10	WQ10	K0706569	Integral	July 2007 II	7/24/2007	14:37	23	27 *U*	14	5 *U*	11	3.3	1.5	0.03 *U*	0.07	--	--
WQ10	WQ10	K0707317	Integral	August 2007 I	8/14/2007	13:40	24	67	13	5 *U*	11	3.8	1.8	0.015 *J*	0.09	--	--
WQ10	WQ10	K0707782	Integral	August 2007 II	8/27/2007	10:15	24	31 *U*	24	5 *U*	13	3.3	1.7	0.02 *UJ*	0.15	--	--
WQ10	WQ10	K0708240	Integral	September 2007 I	9/11/2007	11:50	24 *J*	18	27	5 *U*	12	3.3	1.5	0.02 *UJ*	0.07	--	--
WQ10	WQ10	K0709126	Integral	September 2007 II	10/1/2007	07:55	18 *J*	16	9 *U*	5 *U*	5	3.7	1.2	0.02 *U*	0.035 *J*	--	--
WQ10	WQ10	K0709804	Integral	October 2007	10/17/2007	10:00	12 *J*	7	14 *U*	5 *U*	1 *UJ*	3.4	0.9	0.01 *UJ*	0.06	--	--
WQ10	WQ10	K0710773	Integral	November 2007	11/13/2007	11:15	18 *J*	14	14	5 *U*	7 *UJ*	5.8	1.2	0.022 *UJ*	0.031 *J*	--	--
WQ10	WQ10	K0711891	Integral	December 2007 I	12/15/2007	13:50	17 *J*	24 *U*	13 *U*	5 *U*	2	6.4	1	0.01 *U*	0.08 *UJ*	--	--
WQ10	WQ10	K0800335	Integral	January 2008	1/9/2008	11:20	25 *J*	12	16 *U*	5 *U*	6	9.3	1.3	0.01 *UJ*	0.006 *U*	--	--
WQ10	WQ10	K0801400	Integral	Februrary 2008	2/14/2008	13:35	17 *J*	18 *UJ*	16 *U*	5 *U*	3	6.2	1.2	0.07	0.08	--	--
WQ10	WQ10	K0802328	Integral	March 2008	3/15/2008	11:00	17 *J*	41 *U*	36 *U*	5	5 *U*	5.8	1.3	0.03 *UJ*	0.1 *U*	--	--
WQ10	WQ10	K0803239	Integral	April 2008	4/14/2008	15:05	21 *J*	5 *U*	24 *U*	5 *U*	4 *UJ*	7.4	1.5	0.19	0.9 *U*	--	--
WQ10	WQ10	K0804080	Integral	May 2008	5/8/2008	9:10	20 *J*	19	20 *U*	5 *U*	9 *UJ*	4.9	1.6	0.07 *UJ*	0.28	--	--
WQ10	WQ10	K0805877	Integral	June 2008	6/28/2008	9:35	30 *J*	27 *U*	13 *U*	5 *U*	8	3.4	2.6	0.33	1.81	--	--
WQ10	WQ10	K0806880	Integral	July 2008	7/24/2008	15:25	35 *J*	50	21	5 *U*	14	3.9	3.6	0.07 *UJ*	1.49	--	--
WQ10	WQ10	K0810253	Integral	October 2008	10/15/2008	13:30	19 *J*	28	9	5 *U*	10	3.5	2.2	0.04 *UJ*	0.018 *J*	--	--
WQ10	WQ10	K0902142	Integral	March 2009	3/9/2009	11:45	26 *J*	21	13	5 *U*	21	3.2	1.9	0.02 *J*	0.19	--	--
WQ10	WQ10	K0904395	Integral	May 2009	5/13/2009	14:30	16 *J*	20	5	5 *U*	10	2.1	1.6	0.031 *UJ*	0.06	--	--
WQ10	WQ10	K0906701	Integral	July 2009	7/23/2009	13:30	19 *J*	22	10	5 *U*	10	2.3	2.5	0.009 *U*	0.1	--	--
WQ10	WQ10	K0908299	Integral	September 2009 I	9/5/2009	11:00	22 *J*	17	11.2	5 *U*	12	3.22	2.88	0.047 *UJ*	0.082	--	--
WQ10	WQ10	K0908619	Integral	September 2009 II	9/12/2009	15:35	21 *J*	34.5 *U*	9.6	5 *U*	11.1	3.79	2.56	0.025 *UJ*	0.067	--	--
WQ10	WQ10	K0910115	Integral	October 2009	10/17/2009	12:40	33 *J*	39	21.6	5 *U*	22.2	3.67	3.82	0.011 *UJ*	0.084	--	--
WQ10	WQ10	K1000512	Integral	January 2010	1/15/2010	14:30	18 *J*	19.5 *UJ*	10	5 *U*	5.5	5.93	1.53	0.009 *UJ*	0.05	--	--
WQ10	WQ10	K1004032	Integral	April 2010	4/22/2010	11:00	33 *J*	32	17.2	5 *U*	11.2	10.5	3.63	0.011 *J*	0.08 *UJ*	--	--
WQ10	WQ10	K1008752	Integral	August 2010	8/10/2010	13:30	44 *J*	27	30.4	5 *U*	23	5.23	5.76	0.041 *UJ*	0.162 *UJ*	--	--
WQ10	WQ10	K1011739	Integral	October 2010	10/19/2010	16:00	25 *J*	32	12	5 *U*	8	9.12	2.15	--	0.023 *J*	--	--
WQ10	WQ10	K1100642	Integral	January 2011	1/21/2011	9:00	13 *J*	10	22.8	5 *U*	5 *UJ*	4.01	1.3	--	0.058	--	--
WQ10	WQ10	K1103545	Integral	April 2011	4/20/2011	16:10	21 *J*	28.5	12.8	5 *U*	8.7	4.35	1.86	0.028 *U*	0.084	--	--
WQ10	WQ10	K1106865	Integral	July 2011 II	7/25/2011	15:15	21 *J*	23	14	5 *U*	10.5	3.27	2.96	0.009 *UJ*	0.101 *UJ*	--	--
WQ10	WQ10	K1112358	Integral	December 2011	12/21/2011	8:10	17 *J*	29.5	8.4	5 *U*	7.5 *J*	4	1.85 *J*	0.035 *UJ*	0.076 *UJ*	--	--
WQ10	WQ10	K1200245	Integral	January 2012	1/8/2012	14:10	18 *J*	5 *U*	7.2	5 *U*	4.1 *U*	8.05	1.52	0.009 *U*	0.029 *J*	--	--
WQ10	WQ10	K1203283	Integral	April 2012	4/8/2012	9:25	25 *J*	53.5	15.2	2.9 *U*	6.1	10.6	1.67	0.023 *UJ*	0.067	--	--
WQ10	WQ10	K1207121	Integral	July 2012	7/21/2012	13:50	20 *J*	22.5	13.2	5 *U*	11.2	2.62	2.22	0.009 *U*	0.062	--	--
WQ10	WQ10	K1210890	Integral	October 2012	10/27/2012	15:45	32 *J*	29.5 *J*	22 *J*	5 *U*	19.9 *J*	4.7	3.65	0.019 *J*	0.128	--	--
WQ12	WQ12	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:00	35	34	24.9	3 *U*	24	4.25	2.16	0.005 *U*	--	0.0931	0.001 *U*
WQ12	WQ12	Z3908	Knight Piesold	October 2006	10/17/2006	09:40	14	28	7.11	3 *U*	6.6	2.01	1.06	0.005 *U*	--	0.0299	0.001 *U*
WQ12	WQ12	Z6128	Knight Piesold	December 2006	12/7/2006	12:30	12	19	4.84	12.9	2 *U*	4.82	0.9	--	--	0.0446	0.001 *U*
WQ12	WQ12	L482967	Knight Piesold	February 2007	2/26/2007	11:01	24	22	15.2	3 *U*	11.7	4.95	1.88	0.005 *U*	--	0.0429	0.001 *U*
WQ12	WQ12	L495369	Knight Piesold	April 2007	4/10/2007	16:06	24	24	12.4	3 *U*	10.6	4.99	1.62	0.005 *U*	--	0.0288	0.001 *U*
WQ12	WQ12	L507191	Knight Piesold	May 2007	5/14/2007	15:35	80	72	61.2	3 *U*	62.7	4.45	3.4	0.005 *U*	--	0.0462	0.001 *U*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ12	WQ12	L515743	Knight Piesold	June 2007	6/4/2007	18:07	63	60	44.1	3 *U*	37.1	4.9	3.99	0.36	--	1.17	0.0235
WQ12	WQ12	L526591	Knight Piesold	July 2007 I	7/1/2007	14:45	57	51	44.1	3 *U*	39.8	4.75	2.94	0.0109	--	0.0147	0.001 *U*
WQ12	WQ12	K0706569	Integral	July 2007 II	7/24/2007	15:56	53 *J*	69	39	5 *U*	39	4.2	2.4	0.006 *U*	0.036 *J*	--	--
WQ12	WQ12	K0707317	Integral	August 2007 I	8/14/2007	15:50	59	61	42	5 *U*	44	4.3	2.7	0.006 *U*	0.08	--	--
WQ12	WQ12	K0707782	Integral	August 2007 II	8/27/2007	12:20	62 *J*	83	52	5 *U*	47	4.5	3.2	0.01 *UJ*	0.034 *J*	--	--
WQ12	WQ12	K0708240	Integral	September 2007 I	9/11/2007	12:50	54 *J*	57	48	5 *U*	39	4	2.7	0.01 *UJ*	0.049 *J*	--	--
WQ12	WQ12	K0709126	Integral	September 2007 II	10/1/2007	09:15	26 *J*	23	17 *U*	5 *U*	14	3.5	1.4	0.03 *U*	0.012 *J*	--	--
WQ12	WQ12	K0709804	Integral	October 2007	10/17/2007	12:00	13 *J*	24	12 *U*	5 *U*	3 *UJ*	3.4	0.9	0.01 *UJ*	0.006 *U*	--	--
WQ12	WQ12	K0710773	Integral	November 2007	11/13/2007	12:40	31 *J*	32	24	5 *U*	17	5.2	1.9	0.006 *U*	0.03 *J*	--	--
WQ12	WQ12	K0711891	Integral	December 2007 I	12/15/2007	15:10	17 *J*	21 *U*	17 *U*	5 *U*	4	5.3	0.9	0.03 *UJ*	0.06 *UJ*	--	--
WQ12	WQ12	K0800335	Integral	January 2008	1/9/2008	12:15	31 *J*	25	32 *U*	5 *U*	12	8.3	1.6	0.02 *UJ*	0.006 *U*	--	--
WQ12	WQ12	K0801400	Integral	Februrary 2008	2/14/2008	14:50	16 *J*	14 *UJ*	20 *U*	5 *U*	4	5.3	1.1	0.03 *J*	0.047 *UJ*	--	--
WQ12	WQ12	K0802328	Integral	March 2008	3/15/2008	12:10	31 *J*	31 *U*	46 *U*	5 *U*	16	5.4	1.7	0.03 *UJ*	0.1 *U*	--	--
WQ12	WQ12	K0803239	Integral	April 2008	4/14/2008	16:35	32 *J*	10	34 *U*	5 *U*	18	6.4	1.6	0.04 *UJ*	0.028 *U*	--	--
WQ12	WQ12	K0804080	Integral	May 2008	5/8/2008	11:00	38 *J*	27	28 *U*	5 *U*	24	5.4	2	0.04 *UJ*	0.05	--	--
WQ12	WQ12	K0805877	Integral	June 2008	6/28/2008	10:45	17 *J*	7 *U*	13 *U*	5 *U*	7	2.8	1.2	0.02 *UJ*	0.14	--	--
WQ12	WQ12	K0806880	Integral	July 2008	7/24/2008	16:35	41 *J*	40	39	5 *U*	30	4	2.3	0.02 *UJ*	0.07	--	--
WQ13	WQ13	L482967	Knight Piesold	February 2007	2/26/2007	08:19	28	22	18.7	3 *U*	13.1	4.61	3.42	0.005 *U*	--	0.129	0.001 *U*
WQ13	WQ13	L495369	Knight Piesold	April 2007	4/10/2007	08:52	19	18	9.34	3 *U*	7.1	4.17	1.82	0.005 *U*	--	0.0655	0.001 *U*
WQ13	WQ13	L507191	Knight Piesold	May 2007	5/14/2007	13:50	21	21	12.4	3 *U*	10.1	2.89	1.92	0.005 *U*	--	0.0485	0.001 *U*
WQ13	WQ13	L515743	Knight Piesold	June 2007	6/4/2007	15:53	17	10 *U*	10.8	3 *U*	9.5	1.57	1.7	0.005 *U*	--	0.0357	0.001 *U*
WQ13	WQ13	L526591	Knight Piesold	July 2007 I	7/1/2007	13:05	28	21	20.9	3 *U*	16.6	2.06	2.92	0.005 *U*	--	0.0749	0.001 *U*
WQ13	WQ13	K0706569	Integral	July 2007 II	7/24/2007	14:00	35	43	20	5 *U*	24	2.2	3.3	0.03 *U*	0.09	--	--
WQ13	WQ13	K0707317	Integral	August 2007 I	8/14/2007	13:10	43	52	34	14	28	3	4.7	0.006 *U*	0.11	--	--
WQ13	WQ13	K0707782	Integral	August 2007 II	8/27/2007	09:10	33 *J*	59 *U*	36	5 *U*	21	2	3	0.006 *U*	0.16	--	--
WQ13	WQ13	K0708240	Integral	September 2007 I	9/11/2007	10:45	35 *J*	32	39	5 *U*	22	2.4	3.3	0.02 *UJ*	0.12	--	--
WQ13	WQ13	K0709126	Integral	September 2007 II	10/1/2007	08:15	23	16	15 *U*	5 *U*	12	2.5	2.2	0.02 *U*	0.09	--	--
WQ13	WQ13	K0709804	Integral	October 2007	10/17/2007	10:50	18	12	18 *U*	5 *U*	7	2.8	1.4	0.01 *UJ*	0.2	--	--
WQ13	WQ13	K0710773	Integral	November 2007	11/13/2007	10:35	26 *J*	15	21	5 *U*	11	4.6	2.6	0.008 *UJ*	0.16	--	--
WQ13	WQ13	K0711891	Integral	December 2007 I	12/16/2007	09:45	21 *J*	21 *U*	19 *U*	5 *U*	6	4.4	2.2	0.04 *UJ*	0.39	--	--
WQ13	WQ13	K0800335	Integral	January 2008	1/9/2008	10:40	35 *J*	22	28 *U*	5 *U*	14	7.1	3.6	0.01 *UJ*	0.21	--	--
WQ13	WQ13	K0801400	Integral	Februrary 2008	2/14/2008	15:50	24 *J*	36 *UJ*	17 *U*	5 *U*	5	6.7	1.9	0.07	0.46	--	--
WQ13	WQ13	K0802328	Integral	March 2008	3/15/2008	10:20	20 *J*	33 *U*	32 *U*	5 *U*	5 *U*	5.4	2.2	0.01 *UJ*	0.22 *U*	--	--
WQ13	WQ13	K0803239	Integral	April 2008	4/15/2008	5:45	27 *J*	5 *U*	38 *U*	5 *U*	11	7.1	2.3	0.02 *UJ*	0.19 *U*	--	--
WQ13	WQ13	K0804080	Integral	May 2008	5/8/2008	8:00	27 *J*	21	17 *U*	5 *U*	15	4.7	2.3	0.03 *UJ*	0.15	--	--
WQ13	WQ13	K0805877	Integral	June 2008	6/27/2008	8:50	18 *J*	28 *U*	19 *U*	5 *U*	11	1.9	1.9	0.02 *UJ*	0.12	--	--
WQ13	WQ13	K0806880	Integral	July 2008	7/25/2008	8:00	26 *J*	19	19	5 *U*	15	2.2	3.3	0.02 *UJ*	0.17	--	--
WQ13	WQ13	K0810253	Integral	October 2008	10/15/2008	14:30	21 *J*	19	19	5 *U*	13	2.6	2.3	0.03 *UJ*	0.17	--	--
WQ13	WQ13	K0902142	Integral	March 2009	3/8/2009	10:57	30 *J*	29	21	8	20	3.2	3.6	0.02 *U*	0.28	--	--
WQ13	WQ13	K0904395	Integral	May 2009	5/13/2009	13:30	16 *J*	25	8	5 *U*	10	2.1	2	0.036 *UJ*	0.1	--	--
WQ13	WQ13	K0906701	Integral	July 2009	7/23/2009	14:20	13 *J*	22	6	9	7	1.1	1.3	0.009 *UJ*	0.14	--	--
WQ13	WQ13	K0910115	Integral	October 2009	10/17/2009	15:15	22 *J*	22	10	5 *U*	13.4	3.35	2.19	0.013 *UJ*	0.181	--	--
WQ13	WQ13	K1000512	Integral	January 2010	1/17/2010	08:50	20 *J*	17.5 *UJ*	9.6	5 *U*	4.5	7.7	1.52	0.009 *UJ*	0.138	--	--
WQ13	WQ13	K1004032	Integral	April 2010	4/22/2010	14:10	22 *J*	23.5	10.4	5 *U*	5.3	7.76	2.4	0.009 *U*	0.122	--	--
WQ13	WQ13	K1008751	Integral	August 2010	8/10/2010	15:20	27 *J*	38	23.6	5 *U*	14.2	3.91	3.88	0.03 *UJ*	0.163 *UJ*	--	--
WQ13	WQ13	K1011737	Integral	October 2010	10/18/2010	16:50	22 *J*	19	10.4	5 *U*	6 *J*	7.12	1.71	0.049 *J*	0.11	--	--
WQ13	WQ13	K1100642	Integral	January 2011	1/19/2011	15:50	19 *J*	20	14.4	5 *U*	9.5 *UJ*	4.14	2.71	--	0.189	--	--
WQ13	WQ13	K1103541	Integral	April 2011	4/20/2011	17:30	31 *J*	33.5	19.2	5 *U*	9	4.38	9.11	--	0.149	--	--
WQ13	WQ13	K1106865	Integral	July 2011 II	7/25/2011	16:15	22 *J*	35.5	15.2	5 *U*	10.6	2.22	5.73	0.009 *UJ*	0.136 *UJ*	--	--
WQ13	WQ13	K1112358	Integral	December 2011	12/21/2011	9:10	24 *J*	41.5	13.6	5 *U*	9	4.32	4.85 *J*	0.033 *UJ*	0.181	--	--
WQ13	WQ13	K1200245	Integral	January 2012	1/9/2012	8:30	24 *J*	18.5 *UJ*	12	5 *U*	5.8	7.82	3.41	0.009 *U*	0.117	--	--
WQ13	WQ13	K1203283	Integral	April 2012	4/8/2012	10:50	31 *J*	63.5	21.2	2.9 *U*	9.2	8.58	5.35	0.009 *U*	0.157	--	--
WQ13	WQ13	K1207121	Integral	July 2012	7/21/2012	16:00	23 *J*	22.5	16.4	5 *U*	12.4	1.87	4.48	0.014 *UJ*	0.12	--	--
WQ13	WQ13	K1210890	Integral	October 2012	10/27/2012	17:00	41 *J*	40 *J*	26.8 *J*	5 *U*	17.4 *J*	4.31	11.9	0.01 *J*	0.187	--	--

Notes:

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

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 = Rejected.

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ4	WQ4	X2213	Knight Piesold	February 2006 II	2/15/2006		17.7	17.6	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	7020	7150	1 *U*	1 *U*	1 *U*
WQ4	WQ4	X5977	Knight Piesold	May 2006 II	5/16/2006	08:08	57.4	55.4	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2100	2110	1 *U*	1 *U*	1 *U*
WQ4	WQ4	Z2004	Knight Piesold	August 2006 II	8/29/2006	11:05	106	75.2	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5410	5320	1 *U*	1 *U*	1.9
WQ4	WQ4	Z3908	Knight Piesold	October 2006	10/17/2006	13:30	49.9	38.8	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	8870	8880	1 *U*	1 *U*	1 *U*
WQ4	WQ4	Z6128	Knight Piesold	December 2006	12/7/2006	09:25	1470	60.8	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2030	1980	3.8	1 *U*	9.2
WQ4	WQ4	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	1 *U*	1 *U*	1 *U*
WQ4	WQ4	L495369	Knight Piesold	April 2007	4/10/2007	09:26	51.6	44	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3460	3450	0.5 *U*	0.5 *U*	0.85
WQ4	WQ4	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	0.5 *U*	0.5 *U*	1.43
WQ4	WQ4	L515743	Knight Piesold	June 2007	6/4/2007	16:13	111	87	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2290	2250	0.5 *U*	0.5 *U*	1.53
WQ4	WQ4	L526591	Knight Piesold	July 2007 I	7/1/2007	13:35	67.2	46.9	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	6460	6610	0.5 *U*	0.5 *U*	1.23
WQ4	WQ4	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	0.34 *U*	0.33 *U*	0.92
WQ4	WQ4	K0707317	Integral	August 2007 I	8/14/2007	13:25	25.8	24.2	0.06 *U*	0.06 *U*	0.008 *U*	0.014 *U*	12700	12500	0.28 *U*	0.33 *U*	0.63 *UJ*
WQ4	WQ4	K0707782	Integral	August 2007 II	8/27/2007	10:00	52.2 *J*	43	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	8310	8130	0.33 *U*	0.37 *U*	1.14
WQ4	WQ4	K0708240	Integral	September 2007 I	9/11/2007	11:25	45.7 *J*	27.2 *J*	0.11 *J*	0.08 *J*	0.008 *UJ*	0.007 *U*	10600	10600	0.45 *U*	0.32 *U*	0.83
WQ4	WQ4	K0709126	Integral	September 2007 II	10/2/2007	11:35	110	69.4	0.07 *J*	0.06 *U*	0.037 *U*	0.007 *U*	3970	3970	0.58 *U*	0.39 *U*	1.64
WQ4	WQ4	K0709804	Integral	October 2007	10/17/2007	10:30	260	93.8	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2670	2630	0.82 *U*	0.43 *U*	3.15
WQ4	WQ4	K0710773	Integral	November 2007	11/13/2007	11:30	121	34.9	0.06 *J*	0.06 *U*	0.015 *UJ*	0.008 *U*	6590	6700	0.79 *U*	0.55 *U*	1.32
WQ4	WQ4	K0711891	Integral	December 2007 I	12/15/2007	14:10	622 *J*	42 *J*	0.07 *UJ*	0.06 *U*	0.018 *U*	0.013 *U*	3910	3830	1.76	0.59 *U*	4.59 *J*
WQ4	WQ4	K0800335	Integral	January 2008	1/9/2008	11:40	309	24	0.32 *J*	0.16 *UJ*	0.022 *UJ*	0.007 *UJ*	8280	8460	0.86 *U*	0.4 *U*	3.32
WQ4	WQ4	K0801400	Integral	Februrary 2008	2/14/2008	13:55	2120 *J*	42.7 *J*	0.63	0.06 *UJ*	0.016 *UJ*	0.007 *UJ*	4610	4440	3.13	0.43 *U*	15.9
WQ4	WQ4	K0802328	Integral	March 2008	3/15/2008	11:30	101 *J*	30.2 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.006 *UJ*	6130	5940	0.59 *U*	0.42 *U*	1.32
WQ4	WQ4	K0803239	Integral	April 2008	4/14/2008	15:50	118	24.8	0.07 *J*	0.06 *U*	0.008 *UJ*	0.007 *UJ*	5580	5630	0.88 *U*	0.38 *U*	1.09
WQ4	WQ4	K0804080	Integral	May 2008	5/8/2008	9:40	79.6 *J*	39.8 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	4960	4970	0.69 *U*	0.52 *U*	1.03 *U*
WQ4	WQ4	K0805877	Integral	June 2008	6/28/2008	9:05	215 *J*	89.1	0.2 *U*	0.2 *U*	0.009 *UJ*	0.005 *UJ*	2780	2660	1.01 *U*	0.65 *U*	2.49 *U*
WQ4	WQ4	K0806880	Integral	July 2008	7/24/2008	15:45	38.8 *J*	32 *J*	0.2 *U*	0.2 *U*	0.01 *UJ*	0.005 *UJ*	7310	7350	0.56 *U*	0.42 *U*	1.29
WQ4	WQ4	K0810253	Integral	October 2008	10/15/2008	14:10	55.7 *J*	40.2 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4690	5290	--	--	1.21
WQ4	WQ4	K0902142	Integral	March 2009	3/9/2009	12:05	19.2	15.1	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	9540	9460	--	--	0.53 *U*
WQ4	WQ4	K0904395	Integral	May 2009	5/13/2009	13:50	74.8	61.1	0.2 *U*	0.2 *U*	0.005 *U*	0.006 *J*	2640	2600	--	--	1.19
WQ4	WQ4	K0906701	Integral	July 2009	7/23/2009	14:00	650 *J*	153 *J*	0.16 *J*	0.13 *J*	0.013 *UJ*	0.003 *UJ*	2810	2580	--	--	4.89
WQ4	WQ4	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	--	--	1.38
WQ4	WQ4	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*	--	--	1.1
WQ4	WQ4	K0910115	Integral	October 2009	10/17/2009	13:50	40.9	64.4	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	5390	5450	--	--	0.9
WQ4	WQ4	K1000512	Integral	January 2010	1/15/2010	16:05	82.3	63.6	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	3010	3170	--	--	1.14
WQ4	WQ4	K1004032	Integral	April 2010	4/22/2010	13:35	42.4	37.8	0.07 *UJ*	0.07 *UJ*	0.003 *UJ*	0.003 *UJ*	4500 *J*	4670 *J*	--	--	0.77 *J*
WQ4	WQ4	K1008751	Integral	August 2010	8/10/2010	15:00	35.2	31.9	0.1 *J*	0.07 *U*	0.011 *UJ*	0.004 *UJ*	10700	11100	--	--	0.99
WQ4	WQ4	K1011739	Integral	October 2010	10/18/2010	16:30	125	42	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	3360	3370	--	--	1.35
WQ4	WQ4	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	1.07 *U*	0.3 *U*	3.66
WQ4	WQ4	K1103541	Integral	April 2011	4/20/2011	17:10	46.9	28.6	0.12 *J*	0.15 *J*	0.004 *J*	0.004 *J*	9390	9300	--	--	0.85
WQ4	WQ4	K1106865	Integral	July 2011 II	7/25/2011	15:55	78.8	69.7	0.1 *U*	0.1 *U*	0.016 *UJ*	0.012 *UJ*	7320	7200	--	--	1.81
WQ4	WQ4	K1112358	Integral	December 2011	12/21/2011	8:50	32.6	29.2	0.12 *J*	0.11 *J*	0.005 *UJ*	0.003 *UJ*	5070	5070	--	--	0.63
WQ4	WQ4	K1200245	Integral	January 2012	1/9/2012	8:45	30.7	26.2	0.07 *U*	0.07 *U*	0.006 *UJ*	0.014 *UJ*	3730	3860	--	--	0.56
WQ4	WQ4	K1203282	Integral	April 2012	4/8/2012	10:20	20.5	15.9	0.11 *UJ*	0.17 *UJ*	0.003 *U*	0.014 *UJ*	6560	6520	0.26	0.35	0.39
WQ4	WQ4	K1207121	Integral	July 2012	7/21/2012	14:35	60.6	55.6	0.04 *J*	0.05 *J*	0.01 *U*	0.01 *U*	4740	4870	--	--	1.34
WQ4	WQ4	K1210890	Integral	October 2012	10/27/2012	16:40	19.5 *J*	20.1 *J*	0.1 *U*	0.2 *J*	0.073	0.005 *U*	11600	10500	--	--	0.41
WQ6	WQ6	X2213	Knight Piesold	February 2006 II	2/15/2006		20	18.5	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3880	3910	1 *U*	1 *U*	1 *U*
WQ6	WQ6	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	1 *U*	1 *U*	1 *U*
WQ6	WQ6	Z2004	Knight Piesold	August 2006 II	8/29/2006	10:45	91.1	89.6	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3030	3040	1 *U*	1 *U*	1.7
WQ6	WQ6	Z3908	Knight Piesold	October 2006	10/17/2006	14:50	43.9	40.2	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4120	4120	1 *U*	1 *U*	1 *U*
WQ6	WQ6	Z6128	Knight Piesold	December 2006	12/7/2006	09:00	59	46.1	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1410	1470	1 *U*	1 *U*	1 *U*
WQ6	WQ6	L482967	Knight Piesold	February 2007	2/26/2007	09:46	30.2	30.2	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4260	4190	1 *U*	1 *U*	1 *U*
WQ6	WQ6	L495369	Knight Piesold	April 2007	4/10/2007	10:38	48.1	46	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1870	1880	0.5 *U*	0.5 *U*	0.74
WQ6	WQ6	L507191	Knight Piesold	May 2007	5/14/2007	14:45	48.1	46.6	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2120	2190	0.5 *U*	0.5 *U*	0.83
WQ6	WQ6	L515743	Knight Piesold	June 2007	6/4/2007	16:45	66.6	63.3	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1310	1330	0.5 *U*	0.5 *U*	1.01
WQ6	WQ6	L526591	Knight Piesold	July 2007 I	7/1/2007	14:15	41.8	39.5	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2720	2760	0.5 *U*	0.5 *U*	0.97
WQ6	WQ6	K0706569	Integral	July 2007 II	7/24/2007	14:47	40.6	37.9	0.06 *U*	0.06 *U*	0.01 *J*	0.007 *U*	3710	3940	0.39 *U*	0.33 *U*	0.88
WQ6	WQ6	K0707317	Integral	August 2007 I	8/14/2007	14:00	23.3	24	0.06 *U*	0.06 *U*	0.008 *U*	0.011 *U*	6640	6340	0.24 *U*	0.33 *U*	0.45 *UJ*
WQ6	WQ6	K0707782	Integral	August 2007 II	8/27/2007	10:45	34.5 *J*	33	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	5740	5720	0.26 *U*	0.37 *U*	0.78
WQ6	WQ6	K0708240	Integral	September 2007 I	9/11/2007	12:15	38.7 *J*	30.4 *J*	0.06 *J*	0.06 *U*	0.008 *UJ*	0.007 *U*	5480	5350	0.35 *U*	0.23 *U*	0.73
WQ6	WQ6	K0709126	Integral	September 2007 II	10/2/2007	12:00	76.3	68.2	0.06 *U*	0.06 *U*	0.012 *U*	0.007 *U*	2160	2100	0.36 *U*	0.41 *U*	1.16
WQ6	WQ6	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	0.46 *U*	0.45 *U*	1.09
WQ6	WQ6	K0710773	Integral	November 2007	11/13/2007	11:00	33.5	29.8	0.06 *U*	0.06 *U*	0.016 *UJ*	0.008 *U*	2980	3000	0.51 *U*	0.43 *U*	0.63
WQ6	WQ6	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	0.37 *U*	0.36 *U*	0.84 *J*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ6	WQ6	K0800335	Integral	January 2008	1/9/2008	11:05	32.8	26.4	0.17 *J*	0.08 *U*	0.01 *UJ*	0.005 *U*	4550	4300	0.33 *U*	0.63 *U*	0.58
WQ6	WQ6	K0801400	Integral	Februrary 2008	2/14/2008	9:45	52.2 *J*	47.6 *J*	0.15 *UJ*	0.06 *UJ*	0.005 *UJ*	0.03 *UJ*	2340	2250	0.52 *U*	0.58 *U*	0.58
WQ6	WQ6	K0802328	Integral	March 2008	3/15/2008	10:40	32.4 *J*	29.4 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	3270	3240	0.31 *U*	0.31 *U*	0.53
WQ6	WQ6	K0803239	Integral	April 2008	4/14/2008	14:40	36.4	21.7	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	3060	2970	0.34 *U*	0.61 *U*	0.47
WQ6	WQ6	K0804080	Integral	May 2008	5/8/2008	8:45	37.4 *J*	38.3 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2480	2530	0.73 *U*	0.38 *U*	0.73 *U*
WQ6	WQ6	K0805877	Integral	June 2008	6/28/2008	9:10	93.3 *J*	74	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1070	1070	0.56 *U*	0.42 *U*	1.25 *U*
WQ6	WQ6	K0806880	Integral	July 2008	7/24/2008	15:00	29.2 *J*	27.3 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2800	2810	0.5 *U*	0.42 *U*	0.67
WQ6	WQ6	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	--	--	1.16
WQ6	WQ6	K0902142	Integral	March 2009	3/9/2009	11:30	20.8	18.9	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	5590	5540	--	--	1.8
WQ6	WQ6	K0904395	Integral	May 2009	5/13/2009	15:00	53.5	48	0.2 *U*	0.2 *U*	0.008 *J*	0.005 *U*	1950	1790	--	--	1.29
WQ6	WQ6	K0906701	Integral	July 2009	7/23/2009	13:00	171 *J*	134 *J*	0.1 *J*	0.07 *U*	0.006 *UJ*	0.004 *UJ*	1900	1940	--	--	3.33
WQ6	WQ6	K0908299	Integral	September 2009 I	9/5/2009	10:25	50.2	46.6	0.07 *U*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	3020	2920	--	--	0.99
WQ6	WQ6	K0908619	Integral	September 2009 II	9/12/2009	15:10	41.3	36.3	0.1 *UJ*	0.1 *UJ*	0.005 *UJ*	0.005 *UJ*	2970 *J*	2990 *J*	--	--	0.89
WQ6	WQ6	K0910115	Integral	October 2009	10/17/2009	12:00	43.7	40.8	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	2750	2810	--	--	0.86
WQ6	WQ6	K1000512	Integral	January 2010	1/15/2010	15:10	65.9	60.7	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2020	1950	--	--	0.98
WQ6	WQ6	K1004032	Integral	April 2010	4/22/2010	13:15	44.3	36.3	0.07 *UJ*	0.07 *UJ*	0.003 *UJ*	0.003 *UJ*	2720 *J*	2690 *J*	--	--	0.74 *J*
WQ6	WQ6	K1008751	Integral	August 2010	8/10/2010	14:00	30	28.6	0.07 *U*	0.08 *J*	0.006 *UJ*	0.004 *UJ*	5880	5880	--	--	0.84
WQ6	WQ6	K1011739	Integral	October 2010	10/19/2010	15:30	46.9	44.5	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	2120	2190	--	--	0.83
WQ6	WQ6	K1100642	Integral	January 2011	1/21/2011	8:30	98.1	68.4	0.07 *U*	0.07 *U*	0.006 *UJ*	0.003 *UJ*	1520	1550	--	--	1.07
WQ6	WQ6	K1103541	Integral	April 2011	4/20/2011	16:50	30.2	28.8	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	3830	3880	--	--	0.58
WQ6	WQ6	K1106865	Integral	July 2011 II	7/25/2011	15:35	67.9	59.4	0.1 *U*	0.1 *U*	0.009 *UJ*	0.018 *UJ*	3370	3280	--	--	1.49
WQ6	WQ6	K1112358	Integral	December 2011	12/21/2011	8:30	40.5	37.9	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2920	2980	--	--	0.65
WQ6	WQ6	K1200245	Integral	January 2012	1/8/2012	15:00	39.6	36.3	0.07 *U*	0.07 *U*	0.004 *UJ*	0.004 *UJ*	1990	1970	--	--	0.64
WQ6	WQ6	K1203283	Integral	April 2012	4/8/2012	9:55	19.8	17.6	0.12 *UJ*	0.19 *UJ*	0.003 *U*	0.003 *U*	3810	3890	--	--	0.37
WQ6	WQ6	K1207121	Integral	July 2012	7/21/2012	11:40	78.9	68.1	0.03 *J*	0.03 *J*	0.01 *U*	0.01 *U*	2090	2160	--	--	1.34
WQ6	WQ6	K1210890	Integral	October 2012	10/27/2012	16:15	18.1 *J*	18.5 *J*	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	6160	5870	--	--	0.4
WQ7	WQ7	X2213	Knight Piesold	February 2006 II	2/15/2006		25.1	23.1	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3830	3870	1 *U*	1 *U*	1 *U*
WQ7	WQ7	X5977	Knight Piesold	May 2006 II	5/16/2006	14:38	89.2	86.9	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1470	1440	1 *U*	1 *U*	1 *U*
WQ7	WQ7	Z2004	Knight Piesold	August 2006 II	8/29/2006	13:30	83.9	79.3	0.5 *U*	0.5 *U*	0.024	0.017 *U*	3170	3210	1 *U*	1 *U*	1.6
WQ7	WQ7	Z3908	Knight Piesold	October 2006	10/17/2006	16:00	37.9	35.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4190	4210	1 *U*	1 *U*	1 *U*
WQ7	WQ7	Z6128	Knight Piesold	December 2006	12/7/2006	12:45	77.2	47.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1140	1160	1 *U*	1 *U*	1 *U*
WQ7	WQ7	L482967	Knight Piesold	February 2007	2/26/2007	11:20	24.1	24.4	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4490	4460	1 *U*	1 *U*	1 *U*
WQ7	WQ7	L495369	Knight Piesold	April 2007	4/10/2007	16:22	49.5	47	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1870	1910	0.5 *U*	0.5 *U*	0.73
WQ7	WQ7	L507191	Knight Piesold	May 2007	5/14/2007	15:15	52.8	51	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2090	2140	0.5 *U*	0.5 *U*	0.8
WQ7	WQ7	L515743	Knight Piesold	June 2007	6/4/2007	17:41	68.6	65.3	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1320	1310	0.5 *U*	0.5 *U*	1.04
WQ7	WQ7	L526591	Knight Piesold	July 2007 I	7/1/2007	15:10	41.1	39.4	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2810	2730	0.5 *U*	0.5 *U*	1.13
WQ7	WQ7	K0706569	Integral	July 2007 II	7/24/2007	15:31	39	35.7	0.06 *U*	0.06 *U*	0.03 *U*	0.012 *U*	3830	3900	0.36 *U*	0.32 *U*	0.85
WQ7	WQ7	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	0.24 *U*	0.34 *U*	0.44 *UJ*
WQ7	WQ7	K0707782	Integral	August 2007 II	8/27/2007	12:00	28.4 *J*	31.6	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	5830	5830	0.48 *U*	0.36 *U*	0.69
WQ7	WQ7	K0708240	Integral	September 2007 I	9/11/2007	13:15	29.7 *J*	29.2 *J*	0.06 *J*	0.06 *U*	0.008 *UJ*	0.007 *U*	5060	5190	0.4 *U*	0.2 *U*	0.63
WQ7	WQ7	K0709126	Integral	September 2007 II	10/2/2007	12:30	74.8	65.1	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2170	2220	0.37 *U*	0.49 *U*	1.17
WQ7	WQ7	K0709804	Integral	October 2007	10/17/2007	11:35	74.7	76.2	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1640	1700	0.47 *U*	0.38 *U*	1.02
WQ7	WQ7	K0710773	Integral	November 2007	11/13/2007	12:10	32.6	28.3	0.06 *U*	0.06 *U*	0.018 *UJ*	0.008 *U*	2880	2930	0.47 *U*	0.5 *U*	0.59
WQ7	WQ7	K0711891	Integral	December 2007 I	12/15/2007	14:50	41.4 *J*	44.9 *J*	0.06 *U*	0.06 *U*	0.011 *U*	0.013 *U*	1780	1790	0.37 *U*	0.38 *U*	0.68 *J*
WQ7	WQ7	K0800335	Integral	January 2008	1/9/2008	12:30	25.1	19.1	0.13 *J*	0.09 *UJ*	0.013 *UJ*	0.006 *UJ*	4680	4570	0.33 *U*	0.42 *U*	0.44
WQ7	WQ7	K0801400	Integral	Februrary 2008	2/14/2008	10:25	46.2 *J*	65.2 *J*	0.11 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	2470	2400	0.45 *U*	0.3 *U*	0.57
WQ7	WQ7	K0802328	Integral	March 2008	3/15/2008	12:40	29.6 *J*	32.3 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	3120	3070	0.3 *U*	0.37 *U*	0.45
WQ7	WQ7	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	0.58 *U*	0.45 *U*	0.4
WQ7	WQ7	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	0.91 *U*	0.23 *U*	0.79 *U*
WQ7	WQ7	K0805877	Integral	June 2008	6/28/2008	10:30	86.6 *J*	73.1	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1090	1060	0.89 *U*	0.57 *U*	1.21 *U*
WQ7	WQ7	K0806880	Integral	July 2008	7/24/2008	16:15	25.9 *J*	25.3 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2790	2800	0.44 *U*	0.44 *U*	0.63
WQ8	WQ8	X2213	Knight Piesold	February 2006 II	2/15/2006		17.2	16.6	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	7400	7220	1 *U*	1 *U*	1 *U*
WQ8	WQ8	X5977	Knight Piesold	May 2006 II	5/17/2006	07:42	68	60.3	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1680	1710	1 *U*	1 *U*	1.1
WQ8	WQ8	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	1 *U*	1 *U*	1.3
WQ8	WQ8	Z3908	Knight Piesold	October 2006	10/17/2006	16:20	28.6	27.3	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5980	5960	1 *U*	1 *U*	1 *U*
WQ8	WQ8	Z6128	Knight Piesold	December 2006	12/7/2006	13:00	111	63	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1450	1460	1 *U*	1 *U*	1.2
WQ8	WQ8	L482967	Knight Piesold	February 2007	2/26/2007	11:35	23.9	22.9	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	5400	5550	1 *U*	1 *U*	1 *U*
WQ8	WQ8	L495369	Knight Piesold	April 2007	4/10/2007	16:31	33	35.6	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3210	3190	0.5 *U*	0.5 *U*	0.63
WQ8	WQ8	L507191	Knight Piesold	May 2007	5/14/2007	15:50	50.7	32.2	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4260	4250	0.5 *U*	0.5 *U*	0.83
WQ8	WQ8	L515743	Knight Piesold	June 2007	6/4/2007	17:19	87.3	80.7	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1710	1720	0.5 *U*	0.5 *U*	1.54
WQ8	WQ8	L526591	Knight Piesold	July 2007 I	7/1/2007	15:25	24.5	28.8	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	5130	4990	0.5 *U*	0.5 *U*	0.55
WQ8	WQ8	K0706569	Integral	July 2007 II	7/24/2007	15:16	63.5	26.7	0.06 *U*	0.06 *U*	0.013 *U*	0.012 *U*	6090	6440	0.42 *U*	0.54 *U*	0.96

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ8	WQ8	K0707317	Integral	August 2007 I	8/14/2007	14:30	18.3	16.3	0.06 *U*	0.06 *J*	0.008 *U*	0.014 *U*	8440	8130	0.24 *U*	0.3 *U*	0.44 *UJ*
WQ8	WQ8	K0707782	Integral	August 2007 II	8/27/2007	11:35	29.7 *J*	32.2	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	6010	5910	0.34 *U*	0.33 *U*	0.84
WQ8	WQ8	K0708240	Integral	September 2007 I	9/11/2007	13:35	24.9 *J*	22.1 *J*	0.07 *J*	0.06 *U*	0.011 *UJ*	0.007 *U*	6920	6760	0.38 *U*	0.27 *U*	0.52
WQ8	WQ8	K0709126	Integral	September 2007 II	10/2/2007	12:50	88.6	66.6	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	2390	2360	0.39 *U*	0.32 *U*	1.4
WQ8	WQ8	K0709804	Integral	October 2007	10/17/2007	11:20	87.3	85.3	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1720	1750	0.48 *U*	0.4 *U*	1.5
WQ8	WQ8	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	0.48 *U*	0.49 *U*	0.61
WQ8	WQ8	K0711891	Integral	December 2007 I	12/15/2007		50 *J*	45.3 *J*	0.06 *U*	0.06 *U*	0.008 *U*	0.01 *U*	1760	1870	0.58 *U*	0.57 *U*	0.96 *J*
WQ8	WQ8	K0800335	Integral	January 2008	1/9/2008	12:45	22.4	21.4	0.12 *J*	0.11 *UJ*	0.017 *UJ*	0.005 *U*	4600	4420	0.44 *U*	0.37 *U*	0.74
WQ8	WQ8	K0801400	Integral	Februrary 2008	2/14/2008	15:10	56.8 *J*	46.8 *J*	0.18 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	2040	1950	0.83 *U*	0.39 *U*	0.8
WQ8	WQ8	K0802328	Integral	March 2008	3/15/2008	13:00	68.3 *J*	66.8 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	2990	2940	0.29 *U*	0.4 *U*	0.5
WQ8	WQ8	K0803239	Integral	April 2008	4/14/2008	17:30	24.7	24.6	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	2980	2980	0.35 *U*	0.45 *U*	0.51
WQ8	WQ8	K0804080	Integral	May 2008	5/8/2008	11:30	36.2 *J*	34.6 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2590	2650	0.33 *U*	0.39 *U*	0.8 *U*
WQ8	WQ8	K0805877	Integral	June 2008	6/28/2008	11:10	106 *J*	93.1	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	1530	1480	0.57 *U*	0.64 *U*	1.7 *U*
WQ8	WQ8	K0806880	Integral	July 2008	7/24/2008	17:00	23.7 *J*	20.4 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4480	4540	0.45 *U*	0.4 *U*	0.56
WQ10	WQ10	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:45	116	88.5	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2200	2140	1 *U*	1 *U*	2
WQ10	WQ10	Z3908	Knight Piesold	October 2006	10/17/2006	13:05	574	93.9	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2910	2800	1 *U*	1 *U*	3.9
WQ10	WQ10	Z6128	Knight Piesold	December 2006	12/7/2006	10:30	209	76.2	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1350	1360	1 *U*	1 *U*	1.9
WQ10	WQ10	L482967	Knight Piesold	February 2007	2/26/2007	10:00	52.2	50.6	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2420	2400	1 *U*	1 *U*	1 *U*
WQ10	WQ10	L495369	Knight Piesold	April 2007	4/10/2007	11:11	56.2	52.7	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	1880	1850	0.5 *U*	0.5 *U*	0.83
WQ10	WQ10	L507191	Knight Piesold	May 2007	5/14/2007	14:20	119	62.6	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2730	2700	0.5 *U*	0.5 *U*	1.22
WQ10	WQ10	L515743	Knight Piesold	June 2007	6/4/2007	16:33	111	85.1	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3290	3310	0.5 *U*	0.5 *U*	1.57
WQ10	WQ10	L526591	Knight Piesold	July 2007 I	7/1/2007	14:00	43.2	35.8	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4890	4900	0.5 *U*	0.5 *U*	1.67
WQ10	WQ10	K0706569	Integral	July 2007 II	7/24/2007	14:37	71.2	59.4	0.11 *J*	0.08 *J*	0.015 *U*	0.013 *U*	3200	3260	0.34 *U*	0.39 *U*	1.19
WQ10	WQ10	K0707317	Integral	August 2007 I	8/14/2007	13:40	43.5	38.7	0.09 *J*	0.1 *J*	0.008 *U*	0.014 *U*	4300	4060	0.27 *U*	0.36 *U*	0.93
WQ10	WQ10	K0707782	Integral	August 2007 II	8/27/2007	10:15	54.4 *J*	53.6	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	3940	3780	0.37 *U*	0.36 *U*	1.09
WQ10	WQ10	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	0.41 *U*	0.28 *U*	1.07
WQ10	WQ10	K0709126	Integral	September 2007 II	10/1/2007	07:55	111	75.6	0.08 *J*	0.06 *U*	0.012 *U*	0.01 *U*	2440	2600	0.46 *U*	0.36 *U*	1.44
WQ10	WQ10	K0709804	Integral	October 2007	10/17/2007	10:00	142	132	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1510	1490	0.51 *U*	0.44 *U*	1.58
WQ10	WQ10	K0710773	Integral	November 2007	11/13/2007	11:15	60.3	45.3	0.06 *U*	0.06 *U*	0.026 *UJ*	0.009 *UJ*	2490	2550	0.47 *U*	1.03 *U*	1.01
WQ10	WQ10	K0711891	Integral	December 2007 I	12/15/2007	13:50	111 *J*	63.5 *J*	0.06 *U*	0.06 *U*	0.008 *U*	0.019 *U*	1660	1810	0.94 *U*	0.49 *U*	1.32 *J*
WQ10	WQ10	K0800335	Integral	January 2008	1/9/2008	11:20	48.9	35.9	0.18 *J*	0.08 *U*	0.02 *UJ*	0.005 *U*	3190	3020	0.43 *U*	0.34 *U*	0.75
WQ10	WQ10	K0801400	Integral	Februrary 2008	2/14/2008	13:35	109 *J*	64.5 *J*	0.17 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	1630	1600	0.68 *U*	0.42 *U*	1.06
WQ10	WQ10	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	0.55 *U*	0.48 *U*	2.33
WQ10	WQ10	K0803239	Integral	April 2008	4/14/2008	15:05	54.7	37.1	0.06 *U*	0.06 *U*	0.011 *UJ*	0.007 *UJ*	3200	3190	0.45 *U*	0.48 *U*	0.71
WQ10	WQ10	K0804080	Integral	May 2008	5/8/2008	9:10	55.7 *J*	49.8 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.008 *J*	3070	2940	0.57 *U*	0.43 *U*	0.94 *U*
WQ10	WQ10	K0805877	Integral	June 2008	6/28/2008	9:35	167 *J*	119	0.2 *U*	0.2 *U*	0.005 *UJ*	0.006 *UJ*	2730	2730	0.73 *U*	0.48 *U*	1.93 *U*
WQ10	WQ10	K0806880	Integral	July 2008	7/24/2008	15:25	46.1 *J*	40.4 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	4730	4600	0.54 *U*	0.5 *U*	0.99
WQ10	WQ10	K0810253	Integral	October 2008	10/15/2008	13:30	58.5 *J*	56.8 *J*	0.2 *U*	0.2 *U*	0.006 *UJ*	0.005 *UJ*	3030	3180	--	--	0.99
WQ10	WQ10	K0902142	Integral	March 2009	3/9/2009	11:45	35.7	31.8	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3900	3950	--	--	0.73 *U*
WQ10	WQ10	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	--	--	1.16
WQ10	WQ10	K0906701	Integral	July 2009	7/23/2009	13:30	263 *J*	148 *J*	0.08 *J*	0.12 *J*	0.01 *UJ*	0.008 *UJ*	3640	3660	--	--	2.82
WQ10	WQ10	K0908299	Integral	September 2009 I	9/5/2009	11:00	59.8	55.1	0.09 *J*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	3790	3720	--	--	1.09
WQ10	WQ10	K0908619	Integral	September 2009 II	9/12/2009	15:35	64.3	51.7	0.1 *UJ*	0.1 *UJ*	0.005 *UJ*	0.005 *UJ*	3810 *J*	3780 *J*	--	--	1.01
WQ10	WQ10	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	--	--	1.07
WQ10	WQ10	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	--	--	0.94
WQ10	WQ10	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*	--	--	0.76 *J*
WQ10	WQ10	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	0.25 *UJ*	0.26 *UJ*	0.81
WQ10	WQ10	K1011739	Integral	October 2010	10/19/2010	16:00	53.3	45.9	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	3440	3400	--	--	0.81
WQ10	WQ10	K1100642	Integral	January 2011	1/21/2011	9:00	216	101	0.08 *J*	0.07 *U*	0.01 *UJ*	0.004 *UJ*	1800	1720	--	--	1.71
WQ10	WQ10	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	0.49 *UJ*	0.23 *U*	0.93
WQ10	WQ10	K1106865	Integral	July 2011 II	7/25/2011	15:15	72.5	67.5	0.1 *U*	0.1 *U*	0.005 *UJ*	0.005 *UJ*	4390	4300	--	--	1.45
WQ10	WQ10	K1112358	Integral	December 2011	12/21/2011	8:10	56.3	52.2	0.09 *J*	0.09 *J*	0.003 *U*	0.003 *U*	2910	2940	--	--	0.81
WQ10	WQ10	K1200245	Integral	January 2012	1/8/2012	14:10	50.3	44.8	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	2540	2500	--	--	0.62
WQ10	WQ10	K1203283	Integral	April 2012	4/8/2012	9:25	36.3	24.7	0.12 *UJ*	0.15 *UJ*	0.003 *U*	0.003 *U*	3580	3640	--	--	0.88
WQ10	WQ10	K1207121	Integral	July 2012	7/21/2012	13:50	123	95.3	0.05 *J*	0.03 *J*	0.01 *U*	0.01 *U*	3800	3890	--	--	1.81
WQ10	WQ10	K1210890	Integral	October 2012	10/27/2012	15:45	28.5 *J*	26.8 *J*	0.1 *U*	0.1 *U*	0.005 *U*	0.005 *U*	6710	6540	--	--	0.6
WQ12	WQ12	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:00	48	39.5	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	8640	8580	1 *U*	1 *U*	1 *U*
WQ12	WQ12	Z3908	Knight Piesold	October 2006	10/17/2006	09:40	163	161	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2150	2190	1 *U*	1 *U*	1.5
WQ12	WQ12	Z6128	Knight Piesold	December 2006	12/7/2006	12:30	130	78.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1240	1210	1 *U*	1 *U*	1
WQ12	WQ12	L482967	Knight Piesold	February 2007	2/26/2007	11:01	37.4	35.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4960	4950	1 *U*	1 *U*	1 *U*
WQ12	WQ12	L495369	Knight Piesold	April 2007	4/10/2007	16:06	31.3	30.9	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3890	3820	0.5 *U*	0.5 *U*	0.37
WQ12	WQ12	L507191	Knight Piesold	May 2007	5/14/2007	15:35	15.6	16.8	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	22500	22500	0.5 *U*	0.5 *U*	0.1 *U*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ12	WQ12	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	0.5 *U*	0.5 *U*	1.89
WQ12	WQ12	L526591	Knight Piesold	July 2007 I	7/1/2007	14:45	24.1	20.6	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	15500	15200	0.5 *U*	0.5 *U*	0.39
WQ12	WQ12	K0706569	Integral	July 2007 II	7/24/2007	15:56	35.2	28.1	0.15 *J*	0.11 *J*	0.007 *U*	0.02 *U*	12800	12800	0.37 *U*	0.4 *U*	0.57
WQ12	WQ12	K0707317	Integral	August 2007 I	8/14/2007	15:50	19.3	18.6	0.15 *J*	0.16 *J*	0.013 *U*	0.017 *U*	15200	14900	0.31 *U*	0.4 *U*	0.58 *UJ*
WQ12	WQ12	K0707782	Integral	August 2007 II	8/27/2007	12:20	17.3 *J*	24.8	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	15500	15300	0.42 *U*	0.38 *U*	0.5
WQ12	WQ12	K0708240	Integral	September 2007 I	9/11/2007	12:50	25.3 *J*	18.1 *J*	0.1 *J*	0.13 *J*	0.007 *UJ*	0.007 *U*	13700	13200	0.3 *U*	0.32 *U*	0.51
WQ12	WQ12	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	0.44 *U*	0.39 *U*	0.99
WQ12	WQ12	K0709804	Integral	October 2007	10/17/2007	12:00	114	117	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	1750	1760	0.48 *U*	0.44 *U*	1.14
WQ12	WQ12	K0710773	Integral	November 2007	11/13/2007	12:40	38.1	31.4	0.06 *U*	0.08 *J*	0.012 *UJ*	0.008 *U*	5550	5730	0.52 *U*	0.52 *U*	0.48
WQ12	WQ12	K0711891	Integral	December 2007 I	12/15/2007	15:10	102 *J*	71.9 *J*	0.06 *U*	0.06 *U*	0.014 *U*	0.018 *U*	2140	2230	0.51 *U*	0.43 *U*	0.96 *J*
WQ12	WQ12	K0800335	Integral	January 2008	1/9/2008	12:15	37.6	27.9	0.22 *J*	0.09 *UJ*	0.021 *UJ*	0.005 *U*	5820	5830	0.42 *U*	0.38 *U*	0.45
WQ12	WQ12	K0801400	Integral	Februrary 2008	2/14/2008	14:50	91 *J*	76.9 *J*	0.2 *UJ*	0.06 *UJ*	0.005 *UJ*	0.007 *UJ*	1640	1760	1.04 *U*	0.44 *U*	0.67
WQ12	WQ12	K0802328	Integral	March 2008	3/15/2008	12:10	27.8 *J*	28.2 *J*	0.13 *J*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	6290	6260	0.33 *U*	0.46 *U*	0.35
WQ12	WQ12	K0803239	Integral	April 2008	4/14/2008	16:35	41.5	21.5	0.06 *U*	0.06 *U*	0.007 *UJ*	0.007 *UJ*	5910	5720	0.39 *U*	0.47 *U*	0.39
WQ12	WQ12	K0804080	Integral	May 2008	5/8/2008	11:00	35.8 *J*	21.4 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	7380	7640	0.26 *U*	0.47 *U*	0.42 *U*
WQ12	WQ12	K0805877	Integral	June 2008	6/28/2008	10:45	141 *J*	114	0.21 *J*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2590	2530	0.65 *U*	0.88 *U*	1.5 *U*
WQ12	WQ12	K0806880	Integral	July 2008	7/24/2008	16:35	26.7 *J*	16.2 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	9560	9720	0.52 *U*	0.51 *U*	0.43
WQ13	WQ13	L482967	Knight Piesold	February 2007	2/26/2007	08:19	21.9	20.8	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	6160	6210	1 *U*	1 *U*	1 *U*
WQ13	WQ13	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	0.5 *U*	0.5 *U*	1.36
WQ13	WQ13	L507191	Knight Piesold	May 2007	5/14/2007	13:50	41.9	40	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	4190	4130	0.5 *U*	0.5 *U*	1.08
WQ13	WQ13	L515743	Knight Piesold	June 2007	6/4/2007	15:53	74.4	65.3	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	3650	3630	0.5 *U*	0.5 *U*	1.84
WQ13	WQ13	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	0.5 *U*	0.5 *U*	1.07
WQ13	WQ13	K0706569	Integral	July 2007 II	7/24/2007	14:00	32.8	30.9	0.1 *J*	0.07 *J*	0.014 *U*	0.033 *U*	7510	7600	0.29 *U*	0.42 *U*	1.1
WQ13	WQ13	K0707317	Integral	August 2007 I	8/14/2007	13:10	39.8	20.4	0.06 *U*	0.06 *U*	0.011 *U*	0.016 *U*	10700	9990	0.22 *U*	0.34 *U*	3.74
WQ13	WQ13	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	0.4 *U*	0.43 *U*	1.45
WQ13	WQ13	K0708240	Integral	September 2007 I	9/11/2007	10:45	32.5 *J*	26.6 *J*	0.11 *J*	0.06 *U*	0.015 *UJ*	0.007 *U*	8290	8040	0.35 *U*	0.21 *U*	0.96
WQ13	WQ13	K0709126	Integral	September 2007 II	10/1/2007	08:15	68.8	46.1	0.06 *U*	0.06 *U*	0.018 *U*	0.015 *U*	4800	4580	0.48 *U*	0.36 *U*	1.44
WQ13	WQ13	K0709804	Integral	October 2007	10/17/2007	10:50	144	78.1	0.06 *U*	0.06 *U*	0.007 *U*	0.007 *U*	3240	3300	0.61 *U*	0.43 *U*	2.47
WQ13	WQ13	K0710773	Integral	November 2007	11/13/2007	10:35	33.5	25.1	0.06 *U*	0.06 *U*	0.022 *UJ*	0.011 *UJ*	4710	4910	0.52 *U*	0.43 *U*	0.85
WQ13	WQ13	K0711891	Integral	December 2007 I	12/16/2007	09:45	54.1 *J*	43.1 *J*	0.06 *U*	0.06 *U*	0.016 *U*	0.026 *U*	3560	3700	0.61 *U*	0.43 *U*	1.43 *J*
WQ13	WQ13	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	0.49 *U*	0.36 *U*	1.3
WQ13	WQ13	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	0.66 *U*	0.37 *U*	1.17
WQ13	WQ13	K0802328	Integral	March 2008	3/15/2008	10:20	29.6 *J*	24.1 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	4410	4360	0.39 *U*	0.33 *U*	0.69
WQ13	WQ13	K0803239	Integral	April 2008	4/15/2008	5:45	28.9	21.5	0.06 *U*	0.06 *U*	0.009 *UJ*	0.009 *UJ*	4700	4530	0.82 *U*	0.74 *U*	0.74
WQ13	WQ13	K0804080	Integral	May 2008	5/8/2008	8:00	36.5 *J*	32.1 *J*	0.08 *U*	0.08 *U*	0.014 *J*	0.005 *U*	4130	4080	0.31 *U*	0.45 *U*	1.04 *U*
WQ13	WQ13	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	0.63 *U*	0.53 *U*	1.84 *U*
WQ13	WQ13	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	0.48 *U*	0.55 *U*	0.96
WQ13	WQ13	K0810253	Integral	October 2008	10/15/2008	14:30	42.6 *J*	36.5 *J*	0.2 *U*	0.2 *U*	0.008 *UJ*	0.009 *UJ*	4260	4360	--	--	1.24
WQ13	WQ13	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	--	--	0.92 *U*
WQ13	WQ13	K0904395	Integral	May 2009	5/13/2009	13:30	59.2	50.4	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3240	3070	--	--	1.44
WQ13	WQ13	K0906701	Integral	July 2009	7/23/2009	14:20	401 *J*	133 *J*	0.11 *J*	0.09 *J*	0.014 *UJ*	0.007 *UJ*	3110	3020	--	--	4
WQ13	WQ13	K0910115	Integral	October 2009	10/17/2009	15:15	42.2	34.7	0.07 *U*	0.07 *U*	0.008 *UJ*	0.006 *UJ*	4480	4720	--	--	1.2
WQ13	WQ13	K1000512	Integral	January 2010	1/17/2010	08:50	77.3	39.6	0.07 *U*	0.07 *U*	0.006 *J*	0.005 *J*	3350	3340	--	--	1.27
WQ13	WQ13	K1004032	Integral	April 2010	4/22/2010	14:10	69.6	40.2	0.07 *UJ*	0.07 *UJ*	0.007 *UJ*	0.003 *UJ*	3180 *J*	3160 *J*	--	--	1.26 *J*
WQ13	WQ13	K1008751	Integral	August 2010	8/10/2010	15:20	37.2	33.6	0.07 *U*	0.07 *U*	0.011 *UJ*	0.011 *UJ*	6280	6330	--	--	1.43
WQ13	WQ13	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*	0.77 *U*	0.49 *U*	1.35
WQ13	WQ13	K1100642	Integral	January 2011	1/19/2011	15:50	157	102	0.07 *U*	0.07 *U*	0.016 *UJ*	0.015 *UJ*	4180	4000	--	--	1.98
WQ13	WQ13	K1103541	Integral	April 2011	4/20/2011	17:30	35.2	30.9	0.07 *J*	0.07 *U*	0.008 *J*	0.006 *J*	6670	6780	--	--	1.01
WQ13	WQ13	K1106865	Integral	July 2011 II	7/25/2011	16:15	78.4	70.4	0.1 *U*	0.1 *U*	0.022 *UJ*	0.01 *UJ*	4890	4750	--	--	2.05
WQ13	WQ13	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	--	--	0.95
WQ13	WQ13	K1200245	Integral	January 2012	1/9/2012	8:30	29.8	26.5	0.07 *U*	0.07 *U*	0.008 *UJ*	0.011 *UJ*	3820	3870	--	--	0.8
WQ13	WQ13	K1203283	Integral	April 2012	4/8/2012	10:50	28.3	15.6	0.1 *UJ*	0.16 *UJ*	0.004 *UJ*	0.003 *U*	7710	5830	--	--	0.59
WQ13	WQ13	K1207121	Integral	July 2012	7/21/2012	16:00	70.2	58.2	0.03 *J*	0.03 *J*	0.01 *U*	0.01 *J*	4910	5070	--	--	1.79
WQ13	WQ13	K1210890	Integral	October 2012	10/27/2012	17:00	20.9 *J*	19.5 *J*	0.1 *J*	0.1 *U*	0.012 *UJ*	0.005 *U*	8900	8530	--	--	0.68

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ4	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*	1 *U*	1 *U*
WQ4	WQ4	X5977	Knight Piesold	May 2006 II	5/16/2006	08:08	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	350	350	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ4	WQ4	Z2004	Knight Piesold	August 2006 II	8/29/2006	11:05	1.6	76	36	0.5 *U*	0.5 *U*	680	670	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ4	WQ4	Z3908	Knight Piesold	October 2006	10/17/2006	13:30	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	980	970	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ4	WQ4	Z6128	Knight Piesold	December 2006	12/7/2006	09:25	1 *U*	1940	31	0.5 *U*	0.5 *U*	1120	420	0.02 *U*	0.02 *U*	1.2	1 *U*
WQ4	WQ4	L482967	Knight Piesold	February 2007	2/26/2007	08:41	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	1010	980	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ4	WQ4	L495369	Knight Piesold	April 2007	4/10/2007	09:26	0.7	30 *U*	30 *U*	0.05 *U*	0.05 *U*	530	530	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ4	WQ4	L507191	Knight Piesold	May 2007	5/14/2007	14:05	0.95	125	30 *U*	0.05 *U*	0.05 *U*	510	480	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ4	WQ4	L515743	Knight Piesold	June 2007	6/4/2007	16:13	1.18	58	30 *U*	0.05 *U*	0.05 *U*	340	320	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ4	WQ4	L526591	Knight Piesold	July 2007 I	7/1/2007	13:35	1.01	38	30 *U*	0.05 *U*	0.05 *U*	730	740	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ4	WQ4	K0706569	Integral	July 2007 II	7/24/2007	14:12	0.79	25	11 *J*	0.014 *U*	0.015 *U*	949	951	0.03 *U*	0.03 *U*	0.42 *U*	0.46
WQ4	WQ4	K0707317	Integral	August 2007 I	8/14/2007	13:25	0.58	10.6 *U*	5.6 *U*	0.011 *UJ*	0.009 *U*	1260	1220	0.03 *U*	0.03 *U*	2.68 *UJ*	2.5 *J*
WQ4	WQ4	K0707782	Integral	August 2007 II	8/27/2007	10:00	1.07 *J*	31 *J*	20 *U*	0.009 *U*	0.015 *U*	870	842	0.03 *U*	0.03 *U*	0.31	0.12 *J*
WQ4	WQ4	K0708240	Integral	September 2007 I	9/11/2007	11:25	0.73	37.8	21.3 *UJ*	0.014 *UJ*	0.007 *UJ*	1080	1060	0.03 *U*	0.03 *U*	0.31	0.38 *UJ*
WQ4	WQ4	K0709126	Integral	September 2007 II	10/2/2007	11:35	1.21	116	30 *U*	0.019 *U*	0.011 *U*	573	523	0.03 *U*	0.03 *U*	0.21 *U*	0.25 *U*
WQ4	WQ4	K0709804	Integral	October 2007	10/17/2007	10:30	1.44	396	46	0.057	0.009 *J*	552	418	0.03 *U*	0.03 *U*	0.32	0.17 *UJ*
WQ4	WQ4	K0710773	Integral	November 2007	11/13/2007	11:30	0.92	235	21.1	0.044	0.018 *UJ*	895	810	0.03 *U*	0.03 *U*	0.56	0.42
WQ4	WQ4	K0711891	Integral	December 2007 I	12/15/2007	14:10	1.95 *J*	805	18 *J*	0.21	0.023 *UJ*	933	533	0.03 *U*	0.03 *U*	0.67	0.21 *UJ*
WQ4	WQ4	K0800335	Integral	January 2008	1/9/2008	11:40	0.63	464	14.6 *UJ*	0.049	0.011 *UJ*	1280 *J*	1120 *J*	0.03 *U*	0.03 *U*	0.95	0.18 *UJ*
WQ4	WQ4	K0801400	Integral	Februrary 2008	2/14/2008	13:55	0.93	3110	18.6 *UJ*	0.535	0.01 *J*	2130	641	0.03 *U*	0.03 *U*	2.39	0.27 *UJ*
WQ4	WQ4	K0802328	Integral	March 2008	3/15/2008	11:30	0.64	140	5.6 *UJ*	0.028 *J*	0.009 *U*	808 *J*	733 *J*	0.03 *U*	0.03 *U*	0.5	0.43
WQ4	WQ4	K0803239	Integral	April 2008	4/14/2008	15:50	0.55	245	12.3 *UJ*	0.088	0.026 *UJ*	818	730	0.03 *U*	0.03 *U*	0.39 *UJ*	0.26
WQ4	WQ4	K0804080	Integral	May 2008	5/8/2008	9:40	0.8	108	19 *UJ*	0.049 *U*	0.017 *UJ*	726	682	0.03 *UJ*	0.03 *UJ*	0.45	0.4
WQ4	WQ4	K0805877	Integral	June 2008	6/28/2008	9:05	1.51 *U*	292	31.7	0.088	0.033 *UJ*	470	350	0.05 *U*	0.05 *U*	0.56 *UJ*	0.12 *UJ*
WQ4	WQ4	K0806880	Integral	July 2008	7/24/2008	15:45	0.92	27.3 *UJ*	7.5 *UJ*	0.032	0.013 *J*	735 *R*	737 *R*	0.05 *U*	0.05 *U*	0.61	0.57
WQ4	WQ4	K0810253	Integral	October 2008	10/15/2008	14:10	0.81 *U*	51.4 *UJ*	17 *UJ*	0.016 *UJ*	0.012 *UJ*	569	635	0.05 *U*	0.05 *U*	0.04 *UJ*	0.04 *UJ*
WQ4	WQ4	K0902142	Integral	March 2009	3/9/2009	12:05	0.39 *U*	17.1 *UJ*	6 *UJ*	0.007 *J*	0.006 *U*	1040	1020	0.05 *U*	0.05 *U*	0.22 *U*	0.27 *UJ*
WQ4	WQ4	K0904395	Integral	May 2009	5/13/2009	13:50	1.02	35.7	11.1 *UJ*	0.006 *UJ*	0.006 *UJ*	374	362	0.02 *U*	0.02 *U*	0.16 *J*	0.16 *J*
WQ4	WQ4	K0906701	Integral	July 2009	7/23/2009	14:00	2.01	669	62	0.11	0.027 *UJ*	549	323	0.02 *U*	0.02 *U*	0.2 *UJ*	0.22 *UJ*
WQ4	WQ4	K0908299	Integral	September 2009 I	9/5/2009	11:25	0.93	81.2	13.9 *J*	0.014 *J*	0.005 *U*	802	801	0.02 *U*	0.02 *U*	0.3 *J*	0.29 *UJ*
WQ4	WQ4	K0908619	Integral	September 2009 II	9/12/2009	16:25	0.87	74.2	25.3 *UJ*	0.009 *UJ*	0.005 *UJ*	805	815	0.02 *U*	0.02 *U*	0.23	0.25
WQ4	WQ4	K0910115	Integral	October 2009	10/17/2009	13:50	0.84	27.5 *UJ*	15.6 *UJ*	0.009 *UJ*	0.009 *J*	641	641	0.02 *U*	0.02 *U*	0.17 *UJ*	0.12 *J*
WQ4	WQ4	K1000512	Integral	January 2010	1/15/2010	16:05	0.93 *U*	62.3	23.2 *UJ*	0.014 *U*	0.005 *U*	483 *J*	504 *J*	0.02 *U*	0.02 *U*	0.25 *UJ*	0.23 *UJ*
WQ4	WQ4	K1004032	Integral	April 2010	4/22/2010	13:35	0.71 *J*	24.8	17.2 *J*	0.005 *UJ*	0.01 *UJ*	699 *J*	725 *J*	0.02 *U*	0.02 *U*	0.17 *J*	0.18 *J*
WQ4	WQ4	K1008751	Integral	August 2010	8/10/2010	15:00	0.94	39.3	29.2	0.012 *J*	0.016 *UJ*	1310	1330	0.02 *U*	0.02 *U*	0.48 *UJ*	0.41 *UJ*
WQ4	WQ4	K1011739	Integral	October 2010	10/18/2010	16:30	0.84	194 *J*	11 *UJ*	0.045	0.007 *UJ*	647	579	0.02 *U*	0.02 *U*	0.23 *U*	0.26 *U*
WQ4	WQ4	K1100726	Integral	January 2011	1/19/2011	15:15	0.91	568	20.9 *UJ*	0.075	0.009 *J*	707	495	0.02 *U*	0.02 *U*	0.34 *UJ*	0.13 *J*
WQ4	WQ4	K1103541	Integral	April 2011	4/20/2011	17:10	0.69 *U*	49.7 *UJ*	15.7 *UJ*	0.022 *UJ*	0.012 *UJ*	1040	1030	0.02 *U*	0.02 *U*	0.22 *UJ*	0.29 *U*
WQ4	WQ4	K1106865	Integral	July 2011 II	7/25/2011	15:55	1.57	34.1 *UJ*	18.7 *UJ*	0.008 *UJ*	0.011 *UJ*	718	704	0.02 *UJ*	0.02 *UJ*	0.16 *UJ*	0.16 *UJ*
WQ4	WQ4	K1112358	Integral	December 2011	12/21/2011	8:50	0.6	19.3 *J*	16.2 *UJ*	0.006 *UJ*	0.005 *J*	758	743	0.02 *U*	0.02 *U*	0.22	0.28
WQ4	WQ4	K1200245	Integral	January 2012	1/9/2012	8:45	0.55	20.5 *U*	14.1 *UJ*	0.011 *UJ*	0.029 *U*	659	666	0.02 *U*	0.02 *U*	0.2	0.21
WQ4	WQ4	K1203282	Integral	April 2012	4/8/2012	10:20	0.42 *J*	9.1 *UJ*	7.3 *UJ*	0.005 *U*	0.026	936	930	0.02 *U*	0.02 *U*	0.31	0.55
WQ4	WQ4	K1207121	Integral	July 2012	7/21/2012	14:35	1.14	26.5	20	0.013 *UJ*	0.002 *UJ*	562	576	0.02 *U*	0.02 *U*	0.12 *UJ*	0.13 *UJ*
WQ4	WQ4	K1210890	Integral	October 2012	10/27/2012	16:40	0.43 *J*	21.6	17.9 *UJ*	0.005 *U*	0.005 *U*	1230	1130	0.02 *U*	0.02 *U*	0.14 *UJ*	0.11 *UJ*
WQ6	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*	1 *U*	1 *U*
WQ6	WQ6	X5977	Knight Piesold	May 2006 II	5/16/2006	09:44	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	540	560	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ6	WQ6	Z2004	Knight Piesold	August 2006 II	8/29/2006	10:45	1.7	30 *U*	30 *U*	0.5 *U*	0.5 *U*	470	470	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ6	WQ6	Z3908	Knight Piesold	October 2006	10/17/2006	14:50	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	680	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ6	WQ6	Z6128	Knight Piesold	December 2006	12/7/2006	09:00	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	390	380	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ6	WQ6	L482967	Knight Piesold	February 2007	2/26/2007	09:46	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	750	740	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ6	WQ6	L495369	Knight Piesold	April 2007	4/10/2007	10:38	0.69	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	410	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ6	WQ6	L507191	Knight Piesold	May 2007	5/14/2007	14:45	0.81	30 *U*	30 *U*	0.05 *U*	0.05 *U*	400	400	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ6	WQ6	L515743	Knight Piesold	June 2007	6/4/2007	16:45	1.04	30 *U*	30 *U*	0.05 *U*	0.05 *U*	230	230	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ6	WQ6	L526591	Knight Piesold	July 2007 I	7/1/2007	14:15	0.9	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	420	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ6	WQ6	K0706569	Integral	July 2007 II	7/24/2007	14:47	0.81	17 *J*	23	0.011 *U*	0.007 *U*	546	579	0.03 *U*	0.03 *U*	0.29 *U*	0.29 *U*
WQ6	WQ6	K0707317	Integral	August 2007 I	8/14/2007	14:00	0.52	3 *U*	5 *U*	0.005 *UJ*	0.011 *U*	940	882	0.03 *U*	0.03 *U*	1.4 *UJ*	1.34 *J*
WQ6	WQ6	K0707782	Integral	August 2007 II	8/27/2007	10:45	0.79 *J*	13 *U*	8.7 *U*	0.009 *U*	0.017 *U*	792	777	0.03 *U*	0.03 *U*	0.15 *J*	0.09 *J*
WQ6	WQ6	K0708240	Integral	September 2007 I	9/11/2007	12:15	0.67	7.3 *UJ*	7.2 *UJ*	0.008 *UJ*	0.003 *U*	766	740	0.03 *U*	0.03 *U*	0.18 *J*	0.23 *UJ*
WQ6	WQ6	K0709126	Integral	September 2007 II	10/2/2007	12:00	1.08	27.7 *U*	21.5 *U*	0.007 *U*	0.004 *J*	395	382	0.03 *U*	0.03 *U*	0.09 *U*	0.3 *U*
WQ6	WQ6	K0709804	Integral	October 2007	10/17/2007	09:40	1.13	43.4	25.1 *UJ*	0.018 *J*	0.007 *J*	335	340	0.03 *U*	0.03 *U*	0.16 *J*	0.13 *UJ*
WQ6	WQ6	K0710773	Integral	November 2007	11/13/2007	11:00	0.58	14.6 *UJ*	8.8 *UJ*	0.008 *UJ*	0.012 *UJ*	591	595	0.03 *U*	0.03 *U*	0.26	0.25
WQ6	WQ6	K0711891	Integral	December 2007 I	12/15/2007	13:20	0.7 *J*	49.2	16.5 *J*	0.016 *UJ*	0.012 *UJ*	451	445	0.03 *U*	0.03 *U*	0.15 *UJ*	0.13 *UJ*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ6	WQ6	K0800335	Integral	January 2008	1/9/2008	11:05	0.45	18.8 *UJ*	12.3 *UJ*	0.011 *UJ*	0.024 *UJ*	872 *J*	855 *J*	0.03 *U*	0.03 *U*	0.4 *UJ*	0.29 *UJ*
WQ6	WQ6	K0801400	Integral	Februrary 2008	2/14/2008	9:45	0.7	20.9 *UJ*	17 *UJ*	0.009 *U*	0.014 *J*	545	510	0.03 *U*	0.03 *U*	0.57	0.38
WQ6	WQ6	K0802328	Integral	March 2008	3/15/2008	10:40	0.45 *UJ*	6 *UJ*	4.4 *UJ*	0.009 *U*	0.009 *U*	610 *J*	595 *J*	0.03 *U*	0.03 *U*	0.24	0.24
WQ6	WQ6	K0803239	Integral	April 2008	4/14/2008	14:40	0.37	26.5 *UJ*	9.2 *UJ*	0.005 *UJ*	0.017 *UJ*	602	597	0.03 *U*	0.03 *U*	0.17 *UJ*	0.25 *UJ*
WQ6	WQ6	K0804080	Integral	May 2008	5/8/2008	8:45	0.86	20.5	25.4 *UJ*	0.009 *U*	0.015 *UJ*	514	523	0.03 *UJ*	0.03 *UJ*	0.24	0.26 *UJ*
WQ6	WQ6	K0805877	Integral	June 2008	6/28/2008	9:10	1.11 *U*	50.9	21.4 *UJ*	0.014 *J*	0.062 *UJ*	236	226	0.05 *U*	0.05 *U*	0.36 *UJ*	0.29 *UJ*
WQ6	WQ6	K0806880	Integral	July 2008	7/24/2008	15:00	0.6	17.5 *UJ*	4 *UJ*	0.009 *J*	0.006 *U*	420 *R*	420 *R*	0.05 *U*	0.05 *U*	0.09 *UJ*	0.18 *UJ*
WQ6	WQ6	K0810253	Integral	October 2008	10/15/2008	10:40	0.81 *U*	58	8.5 *UJ*	0.043 *UJ*	0.01 *UJ*	440	409	0.05 *U*	0.05 *U*	0.04 *UJ*	0.04 *UJ*
WQ6	WQ6	K0902142	Integral	March 2009	3/9/2009	11:30	0.43 *U*	12 *UJ*	8 *UJ*	0.067	0.006 *U*	784	777	0.05 *U*	0.05 *U*	0.21 *U*	0.24 *UJ*
WQ6	WQ6	K0904395	Integral	May 2009	5/13/2009	15:00	0.93	14.4 *UJ*	6.8 *UJ*	0.019 *UJ*	0.006 *UJ*	320	299	0.02 *U*	0.02 *U*	0.13 *J*	0.12 *J*
WQ6	WQ6	K0906701	Integral	July 2009	7/23/2009	13:00	1.82	84.2	50.7	0.045 *UJ*	0.044	302	295	0.02 *U*	0.02 *U*	0.03 *UJ*	0.03 *UJ*
WQ6	WQ6	K0908299	Integral	September 2009 I	9/5/2009	10:25	1.04	14.1 *J*	9.7 *UJ*	0.005 *U*	0.005 *U*	462	459	0.02 *U*	0.02 *U*	0.16 *J*	0.22 *UJ*
WQ6	WQ6	K0908619	Integral	September 2009 II	9/12/2009	15:10	0.84	16.8 *UJ*	10.1 *UJ*	0.005 *UJ*	0.005 *UJ*	470	473	0.02 *U*	0.02 *U*	0.13 *J*	0.14 *J*
WQ6	WQ6	K0910115	Integral	October 2009	10/17/2009	12:00	0.89	13.9 *UJ*	18.2 *UJ*	0.005 *UJ*	0.006 *J*	474	477	0.02 *U*	0.02 *U*	0.08 *UJ*	0.16 *J*
WQ6	WQ6	K1000512	Integral	January 2010	1/15/2010	15:10	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*	0.18 *UJ*	0.26 *UJ*
WQ6	WQ6	K1004032	Integral	April 2010	4/22/2010	13:15	0.77 *J*	19 *J*	18.4 *J*	0.044 *UJ*	0.005 *UJ*	576 *J*	571 *J*	0.02 *U*	0.02 *U*	0.13 *J*	0.23
WQ6	WQ6	K1008751	Integral	August 2010	8/10/2010	14:00	0.82	13.1 *UJ*	15.6 *UJ*	0.006 *J*	0.028 *UJ*	839	858	0.02 *U*	0.02 *U*	0.25 *UJ*	0.28 *UJ*
WQ6	WQ6	K1011739	Integral	October 2010	10/19/2010	15:30	0.79	14.6 *UJ*	16.1 *UJ*	0.007 *J*	0.016 *UJ*	484	494	0.02 *U*	0.02 *U*	0.55 *U*	0.56 *U*
WQ6	WQ6	K1100642	Integral	January 2011	1/21/2011	8:30	0.87	42.6	18.1 *UJ*	0.017 *UJ*	0.014 *UJ*	320	315	0.02 *U*	0.02 *U*	0.44 *UJ*	0.31 *J*
WQ6	WQ6	K1103541	Integral	April 2011	4/20/2011	16:50	0.6 *U*	6 *UJ*	10.9 *UJ*	0.005 *UJ*	0.012 *UJ*	603	608	0.02 *U*	0.02 *U*	0.15 *UJ*	0.57 *U*
WQ6	WQ6	K1106865	Integral	July 2011 II	7/25/2011	15:35	1.27	14.8 *UJ*	20.8	0.008 *UJ*	0.019 *UJ*	446	433	0.02 *UJ*	0.02 *UJ*	0.12 *UJ*	0.45
WQ6	WQ6	K1112358	Integral	December 2011	12/21/2011	8:30	0.66	16.1 *J*	9.2 *UJ*	0.006 *UJ*	0.005 *U*	572	578	0.02 *U*	0.02 *U*	0.18 *J*	0.19 *UJ*
WQ6	WQ6	K1200245	Integral	January 2012	1/8/2012	15:00	0.57	15.7 *UJ*	15.6 *UJ*	0.008 *UJ*	0.01 *UJ*	483	474	0.02 *U*	0.02 *U*	0.16 *J*	0.18 *J*
WQ6	WQ6	K1203283	Integral	April 2012	4/8/2012	9:55	0.41	10 *UJ*	3 *U*	0.005 *U*	0.007 *UJ*	829	838	0.02 *U*	0.02 *U*	0.31	0.25
WQ6	WQ6	K1207121	Integral	July 2012	7/21/2012	11:40	1.25	14.9 *J*	15.3 *UJ*	0.006 *UJ*	0.002 *UJ*	331	343	0.02 *U*	0.02 *U*	0.13 *UJ*	0.18 *UJ*
WQ6	WQ6	K1210890	Integral	October 2012	10/27/2012	16:15	0.39 *J*	10.7 *UJ*	8.4 *UJ*	0.005 *U*	0.005 *U*	892	858	0.02 *U*	0.02 *U*	0.11 *UJ*	0.13 *UJ*
WQ7	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*	1 *U*	1 *U*
WQ7	WQ7	X5977	Knight Piesold	May 2006 II	5/16/2006	14:38	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	230	240	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ7	WQ7	Z2004	Knight Piesold	August 2006 II	8/29/2006	13:30	1.6	30 *U*	30 *U*	0.5 *U*	0.5 *U*	490	490	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ7	WQ7	Z3908	Knight Piesold	October 2006	10/17/2006	16:00	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	700	700	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ7	WQ7	Z6128	Knight Piesold	December 2006	12/7/2006	12:45	1 *U*	39	30 *U*	0.5 *U*	0.5 *U*	330	330	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ7	WQ7	L482967	Knight Piesold	February 2007	2/26/2007	11:20	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	790	780	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ7	WQ7	L495369	Knight Piesold	April 2007	4/10/2007	16:22	0.73	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	420	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ7	WQ7	L507191	Knight Piesold	May 2007	5/14/2007	15:15	0.8	30 *U*	30 *U*	0.05 *U*	0.05 *U*	380	380	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ7	WQ7	L515743	Knight Piesold	June 2007	6/4/2007	17:41	0.99	30 *U*	30 *U*	0.05 *U*	0.05 *U*	230	230	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ7	WQ7	L526591	Knight Piesold	July 2007 I	7/1/2007	15:10	0.87	30 *U*	30 *U*	0.05 *U*	0.05 *U*	430	410	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ7	WQ7	K0706569	Integral	July 2007 II	7/24/2007	15:31	0.79	11 *J*	9.1 *J*	0.013 *U*	0.007 *U*	577	588	0.03 *U*	0.03 *U*	0.22 *U*	0.25 *U*
WQ7	WQ7	K0707317	Integral	August 2007 I	8/14/2007	14:50	0.44	8.4 *U*	3.6 *U*	0.01 *UJ*	0.006 *U*	1030	911	0.03 *U*	0.03 *U*	1.42 *UJ*	1.32 *J*
WQ7	WQ7	K0707782	Integral	August 2007 II	8/27/2007	12:00	0.74 *J*	10 *U*	8.2 *U*	0.009 *U*	0.015 *U*	814	792	0.03 *U*	0.03 *U*	0.21	0.08 *J*
WQ7	WQ7	K0708240	Integral	September 2007 I	9/11/2007	13:15	0.65	3.5 *UJ*	4 *UJ*	0.015 *UJ*	0.003 *U*	743	757	0.03 *U*	0.03 *U*	0.18 *J*	0.19 *UJ*
WQ7	WQ7	K0709126	Integral	September 2007 II	10/2/2007	12:30	1.06	19.4 *U*	15.9 *U*	0.008 *U*	0.006 *U*	394	387	0.03 *U*	0.03 *U*	0.14 *U*	0.19 *U*
WQ7	WQ7	K0709804	Integral	October 2007	10/17/2007	11:35	1.01	26.3 *UJ*	25.1 *UJ*	0.01 *J*	0.005 *J*	355	365	0.03 *U*	0.03 *U*	0.17 *J*	0.13 *UJ*
WQ7	WQ7	K0710773	Integral	November 2007	11/13/2007	12:10	0.69	6.8 *UJ*	10.1 *UJ*	0.005 *UJ*	0.003 *UJ*	592	606	0.03 *U*	0.03 *U*	0.22	0.26
WQ7	WQ7	K0711891	Integral	December 2007 I	12/15/2007	14:50	0.98 *J*	16.7 *J*	12.7 *J*	0.008 *UJ*	0.029 *UJ*	412	411	0.03 *U*	0.03 *U*	0.14 *UJ*	0.15 *UJ*
WQ7	WQ7	K0800335	Integral	January 2008	1/9/2008	12:30	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*	0.44 *UJ*	0.16 *UJ*
WQ7	WQ7	K0801400	Integral	Februrary 2008	2/14/2008	10:25	0.64	17.5 *UJ*	11.4 *UJ*	0.009 *U*	0.035	572	554	0.03 *U*	0.03 *U*	0.5	0.19 *UJ*
WQ7	WQ7	K0802328	Integral	March 2008	3/15/2008	12:40	0.45 *UJ*	4.3 *UJ*	3 *UJ*	0.009 *U*	0.009 *U*	614 *J*	601 *J*	0.03 *U*	0.03 *U*	0.23	0.27
WQ7	WQ7	K0803239	Integral	April 2008	4/14/2008	17:00	0.42	10.3 *UJ*	6.3 *UJ*	0.003 *UJ*	0.027 *UJ*	621	616	0.03 *U*	0.03 *U*	0.18 *UJ*	0.2 *UJ*
WQ7	WQ7	K0804080	Integral	May 2008	5/8/2008	10:30	0.97	16.8 *J*	6.8 *UJ*	0.022 *U*	0.018 *UJ*	517	511	0.03 *UJ*	0.03 *UJ*	0.35	0.2 *UJ*
WQ7	WQ7	K0805877	Integral	June 2008	6/28/2008	10:30	1.14 *U*	31.5	14.7 *UJ*	0.015 *J*	0.01 *UJ*	226	218	0.05 *U*	0.05 *U*	0.04 *UJ*	0.06 *UJ*
WQ7	WQ7	K0806880	Integral	July 2008	7/24/2008	16:15	0.63	4 *UJ*	18.1 *UJ*	0.006 *J*	0.007 *J*	433 *R*	421 *R*	0.05 *U*	0.05 *U*	0.09 *UJ*	0.19 *UJ*
WQ8	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*	1 *U*	1 *U*
WQ8	WQ8	X5977	Knight Piesold	May 2006 II	5/17/2006	07:42	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	300	300	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ8	WQ8	Z2004	Knight Piesold	August 2006 II	8/29/2006	14:40	1.3	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	690	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ8	WQ8	Z3908	Knight Piesold	October 2006	10/17/2006	16:20	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	930	930	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ8	WQ8	Z6128	Knight Piesold	December 2006	12/7/2006	13:00	1 *U*	83	30 *U*	0.5 *U*	0.5 *U*	440	430	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ8	WQ8	L482967	Knight Piesold	February 2007	2/26/2007	11:35	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	900	920	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ8	WQ8	L495369	Knight Piesold	April 2007	4/10/2007	16:31	0.61	30 *U*	30 *U*	0.05 *U*	0.05 *U*	620	610	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ8	WQ8	L507191	Knight Piesold	May 2007	5/14/2007	15:50	0.68	33	30 *U*	0.05 *U*	0.05 *U*	690	680	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ8	WQ8	L515743	Knight Piesold	June 2007	6/4/2007	17:19	1.48	38	30 *U*	0.05 *U*	0.05 *U*	370	380	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ8	WQ8	L526591	Knight Piesold	July 2007 I	7/1/2007	15:25	3.67	30 *U*	30 *U*	0.05 *U*	0.087	820	800	0.01 *U*	0.01 *U*	0.5 *U*	1.95
WQ8	WQ8	K0706569	Integral	July 2007 II	7/24/2007	15:16	0.7	72	16 *J*	0.019 *U*	0.008 *U*	908	944	0.03 *U*	0.03 *U*	0.35 *U*	0.46

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ8	WQ8	K0707317	Integral	August 2007 I	8/14/2007	14:30	0.45	16.6 *U*	7.9 *U*	0.007 *UJ*	0.009 *U*	1170	1120	0.03 *U*	0.03 *U*	1.86 *UJ*	3.35 *J*
WQ8	WQ8	K0707782	Integral	August 2007 II	8/27/2007	11:35	0.9 *J*	19 *U*	15 *U*	0.009 *U*	0.008 *U*	815	798	0.03 *U*	0.03 *U*	0.15 *J*	0.11 *J*
WQ8	WQ8	K0708240	Integral	September 2007 I	9/11/2007	13:35	0.53	12.5 *UJ*	13.9 *UJ*	0.007 *UJ*	0.003 *U*	1010	973	0.03 *U*	0.03 *U*	0.23	0.32 *UJ*
WQ8	WQ8	K0709126	Integral	September 2007 II	10/2/2007	12:50	1.35	30.2 *U*	26.5 *U*	0.006 *U*	0.006 *U*	443	423	0.03 *U*	0.03 *U*	0.12 *U*	0.11 *U*
WQ8	WQ8	K0709804	Integral	October 2007	10/17/2007	11:20	1.4	35.3	22.3 *UJ*	0.004 *J*	0.005 *J*	370	376	0.03 *U*	0.03 *U*	0.21	0.13 *UJ*
WQ8	WQ8	K0710773	Integral	November 2007	11/13/2007	13:00	0.59	10.5 *UJ*	3.8 *UJ*	0.003 *U*	0.003 *U*	681	714	0.03 *U*	0.03 *U*	0.3	0.27
WQ8	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*	0.16 *UJ*	0.2 *UJ*
WQ8	WQ8	K0800335	Integral	January 2008	1/9/2008	12:45	0.44	8 *UJ*	9.4 *UJ*	0.004 *UJ*	0.009 *U*	905 *J*	872 *J*	0.03 *U*	0.03 *U*	0.43 *UJ*	0.22 *UJ*
WQ8	WQ8	K0801400	Integral	Februrary 2008	2/14/2008	15:10	0.68	34.7 *UJ*	12.7 *UJ*	0.009 *U*	0.003 *U*	509	486	0.03 *U*	0.03 *U*	0.75	0.18 *UJ*
WQ8	WQ8	K0802328	Integral	March 2008	3/15/2008	13:00	0.55	3.9 *UJ*	3.2 *UJ*	0.009 *U*	0.009 *U*	600 *J*	587 *J*	0.03 *U*	0.03 *U*	0.22	0.29
WQ8	WQ8	K0803239	Integral	April 2008	4/14/2008	17:30	0.48	8.1 *UJ*	9.7 *UJ*	0.003 *UJ*	0.019 *UJ*	582	594	0.03 *U*	0.03 *U*	0.13 *UJ*	0.19 *UJ*
WQ8	WQ8	K0804080	Integral	May 2008	5/8/2008	11:30	1.32	14.2 *J*	14.5 *UJ*	0.009 *U*	0.046 *UJ*	562	579	0.03 *UJ*	0.03 *UJ*	0.16 *J*	0.23 *UJ*
WQ8	WQ8	K0805877	Integral	June 2008	6/28/2008	11:10	1.6 *U*	41.5	24.9	0.006 *J*	0.009 *UJ*	317	301	0.05 *U*	0.05 *U*	0.04 *UJ*	0.13 *UJ*
WQ8	WQ8	K0806880	Integral	July 2008	7/24/2008	17:00	0.54	18 *UJ*	7 *UJ*	0.006 *U*	0.006 *U*	739 *R*	751 *R*	0.05 *U*	0.05 *U*	0.2 *UJ*	0.26 *UJ*
WQ10	WQ10	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:45	1.8	86	44	0.5 *U*	0.5 *U*	550	540	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ10	WQ10	Z3908	Knight Piesold	October 2006	10/17/2006	13:05	1.4	541	88	0.5 *U*	0.5 *U*	720	650	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ10	WQ10	Z6128	Knight Piesold	December 2006	12/7/2006	10:30	1 *U*	212	30 *U*	0.5 *U*	0.5 *U*	490	480	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ10	WQ10	L482967	Knight Piesold	February 2007	2/26/2007	10:00	1 *U*	55	30 *U*	0.5 *U*	0.5 *U*	590	580	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ10	WQ10	L495369	Knight Piesold	April 2007	4/10/2007	11:11	0.81	30 *U*	30 *U*	0.05 *U*	0.05 *U*	510	500	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ10	WQ10	L507191	Knight Piesold	May 2007	5/14/2007	14:20	0.88	102	36	0.05 *U*	0.05 *U*	620	610	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ10	WQ10	L515743	Knight Piesold	June 2007	6/4/2007	16:33	1.42	85	52	0.171	0.082	650	650	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ10	WQ10	L526591	Knight Piesold	July 2007 I	7/1/2007	14:00	0.73	32	30 *U*	0.05 *U*	0.05 *U*	850	840	0.01 *U*	0.01 *U*	0.63	0.5 *U*
WQ10	WQ10	K0706569	Integral	July 2007 II	7/24/2007	14:37	1.1	61	40	0.018 *U*	0.015 *U*	697	702	0.03 *U*	0.04 *U*	0.38 *U*	0.25 *U*
WQ10	WQ10	K0707317	Integral	August 2007 I	8/14/2007	13:40	0.98	37.5 *U*	22.8	0.06	0.006 *U*	846	789	0.03 *U*	0.03 *U*	0.97 *UJ*	0.92 *J*
WQ10	WQ10	K0707782	Integral	August 2007 II	8/27/2007	10:15	1.09 *J*	56	43	0.009 *U*	0.008 *U*	777	740	0.03 *U*	0.03 *U*	0.12 *J*	0.1 *J*
WQ10	WQ10	K0708240	Integral	September 2007 I	9/11/2007	11:50	1	52.1	37.2	0.008 *UJ*	0.003 *UJ*	774	764	0.03 *U*	0.03 *U*	0.31	0.38 *UJ*
WQ10	WQ10	K0709126	Integral	September 2007 II	10/1/2007	07:55	1.23	104	71 *U*	0.025 *U*	0.016 *U*	589	595	0.03 *U*	0.03 *U*	0.1 *U*	0.14 *U*
WQ10	WQ10	K0709804	Integral	October 2007	10/17/2007	10:00	1.55	113	50.2	0.019 *J*	0.02	411	403	0.03 *U*	0.03 *U*	0.16 *J*	0.14 *UJ*
WQ10	WQ10	K0710773	Integral	November 2007	11/13/2007	11:15	0.74	62.1	45.4	0.017 *UJ*	0.003 *U*	631	635	0.03 *U*	0.03 *U*	0.22	0.37
WQ10	WQ10	K0711891	Integral	December 2007 I	12/15/2007	13:50	0.89 *J*	107	29.5	0.029 *UJ*	0.03 *UJ*	522	546	0.03 *U*	0.03 *U*	0.35 *J*	0.16 *UJ*
WQ10	WQ10	K0800335	Integral	January 2008	1/9/2008	11:20	1.23	37.4 *UJ*	22.6 *UJ*	0.006 *UJ*	0.018 *UJ*	778 *J*	768 *J*	0.03 *U*	0.03 *U*	0.37 *UJ*	0.14 *UJ*
WQ10	WQ10	K0801400	Integral	Februrary 2008	2/14/2008	13:35	0.82	107	23.4 *UJ*	0.033 *J*	0.01 *J*	500	466	0.03 *U*	0.03 *U*	0.43	0.14 *UJ*
WQ10	WQ10	K0802328	Integral	March 2008	3/15/2008	11:00	0.94	293	21 *UJ*	0.051	0.009 *U*	659 *J*	525 *J*	0.03 *U*	0.03 *U*	0.31	0.24
WQ10	WQ10	K0803239	Integral	April 2008	4/14/2008	15:05	0.63	53.3	14.1 *UJ*	0.025 *UJ*	0.024 *UJ*	674	667	0.03 *U*	0.03 *U*	0.22 *UJ*	0.24 *UJ*
WQ10	WQ10	K0804080	Integral	May 2008	5/8/2008	9:10	0.94	35.6	15.6 *UJ*	0.019 *U*	0.025 *UJ*	644	615	0.03 *UJ*	0.03 *UJ*	0.21	0.32 *UJ*
WQ10	WQ10	K0805877	Integral	June 2008	6/28/2008	9:35	1.77 *U*	104	31.9	0.054	0.028 *UJ*	632	602	0.05 *U*	0.05 *U*	0.23 *UJ*	0.08 *UJ*
WQ10	WQ10	K0806880	Integral	July 2008	7/24/2008	15:25	1.08	22.1 *UJ*	16.4 *UJ*	0.019 *J*	0.012 *J*	792 *R*	758 *R*	0.05 *U*	0.05 *U*	0.24 *UJ*	0.27 *UJ*
WQ10	WQ10	K0810253	Integral	October 2008	10/15/2008	13:30	0.93 *U*	30.1 *UJ*	23.2 *UJ*	0.019 *UJ*	0.015 *UJ*	584	623	0.05 *U*	0.05 *U*	0.04 *UJ*	0.04 *UJ*
WQ10	WQ10	K0902142	Integral	March 2009	3/9/2009	11:45	0.65 *U*	23.3 *UJ*	13.4 *UJ*	0.006 *U*	0.006 *U*	672	683	0.05 *U*	0.05 *U*	0.44 *U*	0.19 *UJ*
WQ10	WQ10	K0904395	Integral	May 2009	5/13/2009	14:30	1.11	32.3 *UJ*	19 *UJ*	0.014 *UJ*	0.006 *UJ*	489	471	0.02 *U*	0.02 *U*	0.27	0.12 *J*
WQ10	WQ10	K0906701	Integral	July 2009	7/23/2009	13:30	1.91	297	68.3	0.118	0.063	646	576	0.02 *U*	0.02 *U*	0.09 *UJ*	0.3 *UJ*
WQ10	WQ10	K0908299	Integral	September 2009 I	9/5/2009	11:00	1.04	45.6	34.1	0.008 *J*	0.008 *U*	647	696	0.02 *U*	0.02 *U*	0.18 *J*	0.26 *UJ*
WQ10	WQ10	K0908619	Integral	September 2009 II	9/12/2009	15:35	1.04	61.7	39.6	0.008 *UJ*	0.005 *UJ*	669	651	0.02 *U*	0.02 *U*	0.16 *J*	0.17 *J*
WQ10	WQ10	K0910115	Integral	October 2009	10/17/2009	12:40	0.89	61.7	26.9 *UJ*	0.055	0.008 *J*	1080	1090	0.02 *U*	0.02 *U*	0.16 *UJ*	0.18 *J*
WQ10	WQ10	K1000512	Integral	January 2010	1/15/2010	14:30	0.82 *U*	58.2	29.6 *UJ*	0.011 *U*	0.005 *U*	562 *J*	582 *J*	0.02 *U*	0.02 *U*	0.21 *UJ*	0.2 *UJ*
WQ10	WQ10	K1004032	Integral	April 2010	4/22/2010	11:00	0.7 *J*	36.3	36.1	0.014 *UJ*	0.013 *UJ*	1090 *J*	1090 *J*	0.02 *U*	0.02 *U*	0.17 *J*	0.25
WQ10	WQ10	K1008752	Integral	August 2010	8/10/2010	13:30	0.81	67.5 *UJ*	57.4 *UJ*	0.005 *UJ*	0.016 *UJ*	1360	1380	0.02 *U*	0.02 *U*	0.37	0.5
WQ10	WQ10	K1011739	Integral	October 2010	10/19/2010	16:00	0.76	39.3 *J*	21.6 *UJ*	0.014 *J*	0.017 *UJ*	717	708	0.02 *U*	0.02 *U*	0.18 *U*	0.26 *U*
WQ10	WQ10	K1100642	Integral	January 2011	1/21/2011	9:00	1.08	196	29 *UJ*	0.062	0.016 *UJ*	421	369	0.02 *U*	0.02 *U*	0.26 *UJ*	0.23 *J*
WQ10	WQ10	K1103545	Integral	April 2011	4/20/2011	16:10	0.79 *U*	46.4 *UJ*	20.7 *UJ*	0.013 *UJ*	0.009 *UJ*	602	600	0.02 *U*	0.02 *U*	0.34 *UJ*	0.19 *U*
WQ10	WQ10	K1106865	Integral	July 2011 II	7/25/2011	15:15	1.31	34.6 *UJ*	27.3	0.014 *UJ*	0.008 *UJ*	620	613	0.02 *UJ*	0.02 *UJ*	0.17 *UJ*	0.12 *UJ*
WQ10	WQ10	K1112358	Integral	December 2011	12/21/2011	8:10	0.74	29.8	25.9	0.005 *U*	0.007 *J*	567	567	0.02 *U*	0.02 *U*	0.17 *J*	0.2 *UJ*
WQ10	WQ10	K1200245	Integral	January 2012	1/8/2012	14:10	0.66	28.1	26.1	0.007 *UJ*	0.01 *UJ*	572	565	0.02 *U*	0.02 *U*	0.19 *J*	0.22
WQ10	WQ10	K1203283	Integral	April 2012	4/8/2012	9:25	0.5	28.5	16.7 *UJ*	0.04	0.015 *UJ*	799	773	0.02 *U*	0.02 *U*	0.31	0.24
WQ10	WQ10	K1207121	Integral	July 2012	7/21/2012	13:50	1.71	91.3	33.9	0.03	0.012 *UJ*	544	544	0.02 *U*	0.02 *U*	0.14 *UJ*	0.24
WQ10	WQ10	K1210890	Integral	October 2012	10/27/2012	15:45	0.56 *J*	56.3	35.2	0.007 *J*	0.005 *U*	935	915	0.02 *U*	0.02 *U*	0.16 *UJ*	0.12 *UJ*
WQ12	WQ12	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:00	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	860	850	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ12	WQ12	Z3908	Knight Piesold	October 2006	10/17/2006	09:40	1.4	32	31	0.5 *U*	0.5 *U*	400	400	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ12	WQ12	Z6128	Knight Piesold	December 2006	12/7/2006	12:30	1 *U*	94	41	0.5 *U*	0.5 *U*	450	440	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ12	WQ12	L482967	Knight Piesold	February 2007	2/26/2007	11:01	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	690	700	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ12	WQ12	L495369	Knight Piesold	April 2007	4/10/2007	16:06	0.35	30 *U*	30 *U*	0.05 *U*	0.05 *U*	720	700	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ12	WQ12	L507191	Knight Piesold	May 2007	5/14/2007	15:35	0.1 *U*	30 *U*	30 *U*	0.05 *U*	0.05 *U*	1210	1200	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ12	WQ12	L515743	Knight Piesold	June 2007	6/4/2007	18:07	1.17	243	135	0.053	0.05 *U*	1790	1770	0.01 *U*	0.101	0.5 *U*	0.5 *U*
WQ12	WQ12	L526591	Knight Piesold	July 2007 I	7/1/2007	14:45	0.51	35	30 *U*	0.05 *U*	0.05 *U*	1540	1510	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ12	WQ12	K0706569	Integral	July 2007 II	7/24/2007	15:56	0.56 *U*	67	42	0.021 *U*	0.01 *U*	1380	1380	0.03 *U*	0.04 *U*	0.71	0.7
WQ12	WQ12	K0707317	Integral	August 2007 I	8/14/2007	15:50	0.58	36.8 *U*	28.6	0.014 *UJ*	0.012 *U*	1470	1420	0.03 *U*	0.03 *U*	3.1 *UJ*	2.88 *J*
WQ12	WQ12	K0707782	Integral	August 2007 II	8/27/2007	12:20	0.49 *J*	23 *J*	19 *U*	0.009 *U*	0.016 *U*	1520	1510	0.03 *U*	0.03 *U*	0.32	0.14 *J*
WQ12	WQ12	K0708240	Integral	September 2007 I	9/11/2007	12:50	0.46	35.4	26.5 *UJ*	0.013 *UJ*	0.003 *U*	1450	1390	0.03 *U*	0.03 *U*	0.4	0.53 *UJ*
WQ12	WQ12	K0709126	Integral	September 2007 II	10/1/2007	09:15	0.82	99.7	59.6 *U*	0.017 *U*	0.014 *U*	703	762	0.03 *U*	0.03 *U*	0.17 *U*	0.3 *U*
WQ12	WQ12	K0709804	Integral	October 2007	10/17/2007	12:00	1.27	84.1	35.9	0.007 *J*	0.005 *J*	385	383	0.03 *U*	0.03 *U*	0.16 *J*	0.15 *UJ*
WQ12	WQ12	K0710773	Integral	November 2007	11/13/2007	12:40	0.5	74.5	57.5	0.02 *UJ*	0.042	874	906	0.03 *U*	0.03 *U*	0.38	0.39
WQ12	WQ12	K0711891	Integral	December 2007 I	12/15/2007	15:10	0.7 *J*	92.3	37.2	0.025 *UJ*	0.013 *UJ*	493	494	0.03 *U*	0.03 *U*	0.17 *UJ*	0.19 *UJ*
WQ12	WQ12	K0800335	Integral	January 2008	1/9/2008	12:15	0.41	61.2 *UJ*	46.6 *UJ*	0.004 *UJ*	0.009 *U*	869 *J*	890 *J*	0.03 *U*	0.03 *U*	0.56	0.2 *UJ*
WQ12	WQ12	K0801400	Integral	Februrary 2008	2/14/2008	14:50	0.58	67.2	30.7 *UJ*	0.009 *U*	0.016 *J*	410	426	0.03 *U*	0.03 *U*	0.53	0.15 *UJ*
WQ12	WQ12	K0802328	Integral	March 2008	3/15/2008	12:10	0.34 *UJ*	48.9	37.9	0.009 *U*	0.009 *U*	933 *J*	910 *J*	0.03 *U*	0.03 *U*	0.4	0.47
WQ12	WQ12	K0803239	Integral	April 2008	4/14/2008	16:35	0.43	71.8	35.2 *UJ*	0.003 *UJ*	0.016 *UJ*	916	898	0.03 *U*	0.03 *U*	0.23 *UJ*	0.23 *UJ*
WQ12	WQ12	K0804080	Integral	May 2008	5/8/2008	11:00	0.44 *U*	89.6	32.4 *UJ*	0.009 *U*	0.022 *UJ*	1120	1140	0.03 *UJ*	0.03 *UJ*	0.4	0.64
WQ12	WQ12	K0805877	Integral	June 2008	6/28/2008	10:45	1.3 *U*	76.1	38.1	0.018 *J*	0.012 *UJ*	455	446	0.05 *U*	0.05 *U*	0.19 *UJ*	0.16 *UJ*
WQ12	WQ12	K0806880	Integral	July 2008	7/24/2008	16:35	0.34	68.4	31.4 *UJ*	0.012 *J*	0.006 *U*	1000 *R*	1010 *R*	0.05 *U*	0.05 *U*	0.53 *UJ*	0.5 *UJ*
WQ13	WQ13	L482967	Knight Piesold	February 2007	2/26/2007	08:19	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	780	790	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ13	WQ13	L495369	Knight Piesold	April 2007	4/10/2007	08:52	1.09	30 *U*	30 *U*	0.05	0.05 *U*	430	450	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ13	WQ13	L507191	Knight Piesold	May 2007	5/14/2007	13:50	1.09	30 *U*	30 *U*	0.05 *U*	0.05 *U*	520	520	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ13	WQ13	L515743	Knight Piesold	June 2007	6/4/2007	15:53	1.83	33	30 *U*	0.05 *U*	0.05 *U*	420	420	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ13	WQ13	L526591	Knight Piesold	July 2007 I	7/1/2007	13:05	0.99	30 *U*	30 *U*	0.05 *U*	0.05 *U*	700	710	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ13	WQ13	K0706569	Integral	July 2007 II	7/24/2007	14:00	1.03	38	22	0.012 *U*	0.009 *U*	741	748	0.03 *U*	0.03 *U*	0.46	0.51
WQ13	WQ13	K0707317	Integral	August 2007 I	8/14/2007	13:10	0.75	72.8 *U*	15.6 *U*	0.183	0.006 *U*	997	917	0.03 *U*	0.03 *U*	2.04 *UJ*	1.92 *J*
WQ13	WQ13	K0707782	Integral	August 2007 II	8/27/2007	09:10	1.27 *J*	64	28 *J*	0.018 *U*	0.009 *U*	688	678	0.03 *U*	0.03 *U*	0.22	0.16 *J*
WQ13	WQ13	K0708240	Integral	September 2007 I	9/11/2007	10:45	0.96	34.8	24.8 *UJ*	0.011 *UJ*	0.003 *U*	782	752	0.03 *U*	0.03 *U*	1.02	0.41 *UJ*
WQ13	WQ13	K0709126	Integral	September 2007 II	10/1/2007	08:15	1.24	67.8	26.8	0.015 *U*	0.007 *U*	555	522	0.03 *U*	0.03 *U*	0.21 *U*	0.26 *U*
WQ13	WQ13	K0709804	Integral	October 2007	10/17/2007	10:50	1.83	170	37.6	0.029	0.009 *J*	431	413	0.03 *U*	0.03 *U*	0.26	0.19 *UJ*
WQ13	WQ13	K0710773	Integral	November 2007	11/13/2007	10:35	0.73	34.1	19.2 *UJ*	0.004 *UJ*	0.004 *UJ*	594	621	0.03 *U*	0.03 *U*	0.4	0.37
WQ13	WQ13	K0711891	Integral	December 2007 I	12/16/2007	09:45	1.18 *J*	51.4	22.7	0.013 *UJ*	0.035 *UJ*	513	523	0.03 *U*	0.03 *U*	0.24 *UJ*	0.22 *UJ*
WQ13	WQ13	K0800335	Integral	January 2008	1/9/2008	10:40	0.61	158	19.9 *UJ*	0.03 *UJ*	0.009 *U*	940 *J*	919 *J*	0.03 *U*	0.03 *U*	0.73	0.21 *UJ*
WQ13	WQ13	K0801400	Integral	Februrary 2008	2/14/2008	15:50	0.91	60.4	13.8 *UJ*	0.019 *J*	0.029	569	581	0.03 *U*	0.03 *U*	1.04	0.25 *UJ*
WQ13	WQ13	K0802328	Integral	March 2008	3/15/2008	10:20	0.68	15.2 *UJ*	8.2 *UJ*	0.009 *U*	0.009 *U*	613 *J*	598 *J*	0.03 *U*	0.03 *U*	0.34	0.38
WQ13	WQ13	K0803239	Integral	April 2008	4/15/2008	5:45	0.64	32.6 *UJ*	15.8 *UJ*	0.003 *UJ*	0.017 *UJ*	604	592	0.03 *U*	0.03 *U*	0.26 *UJ*	0.3
WQ13	WQ13	K0804080	Integral	May 2008	5/8/2008	8:00	1.08	25.4	13.9 *UJ*	0.009 *U*	0.009 *UJ*	611	599	0.03 *UJ*	0.03 *UJ*	0.25	0.56
WQ13	WQ13	K0805877	Integral	June 2008	6/27/2008	8:50	1.6 *U*	39.4	24.5	0.026	0.008 *UJ*	409	398	0.05 *U*	0.05 *U*	0.27 *UJ*	0.04 *UJ*
WQ13	WQ13	K0806880	Integral	July 2008	7/25/2008	8:00	0.87	35.2 *UJ*	22.7 *UJ*	0.013 *J*	0.009 *J*	582 *R*	579 *R*	0.05 *U*	0.05 *U*	0.29 *UJ*	0.29 *UJ*
WQ13	WQ13	K0810253	Integral	October 2008	10/15/2008	14:30	1.01 *U*	31.8 *UJ*	21.8 *UJ*	0.013 *UJ*	0.019 *UJ*	491	505	0.05 *U*	0.05 *U*	0.04 *UJ*	0.04 *UJ*
WQ13	WQ13	K0902142	Integral	March 2009	3/8/2009	10:57	0.71 *U*	30.7 *UJ*	17.1 *UJ*	0.022 *J*	0.012 *J*	773	741	0.05 *U*	0.05 *U*	0.24 *U*	0.32 *UJ*
WQ13	WQ13	K0904395	Integral	May 2009	5/13/2009	13:30	1.31	24.1 *UJ*	12.5 *UJ*	0.006 *UJ*	0.006 *UJ*	403	379	0.02 *U*	0.02 *U*	0.21	0.19 *J*
WQ13	WQ13	K0906701	Integral	July 2009	7/23/2009	14:20	2.5	525	62	0.111	0.034 *UJ*	444	336	0.02 *U*	0.02 *U*	0.11 *UJ*	0.27 *UJ*
WQ13	WQ13	K0910115	Integral	October 2009	10/17/2009	15:15	1.08	35.8 *UJ*	25.6 *UJ*	0.005 *UJ*	0.005 *U*	508	527	0.02 *U*	0.02 *U*	0.11 *UJ*	0.14 *J*
WQ13	WQ13	K1000512	Integral	January 2010	1/17/2010	08:50	0.96 *U*	85.5	14.8 *UJ*	0.015 *U*	0.005 *U*	569 *J*	559 *J*	0.02 *U*	0.02 *U*	0.36 *UJ*	0.27 *UJ*
WQ13	WQ13	K1004032	Integral	April 2010	4/22/2010	14:10	1.02 *J*	34.8	25.2	0.008 *UJ*	0.008 *UJ*	545 *J*	548 *J*	0.02 *U*	0.02 *U*	0.15 *J*	0.17 *J*
WQ13	WQ13	K1008751	Integral	August 2010	8/10/2010	15:20	1.32	44.5	36.5	0.005 *J*	0.042	750	742	0.02 *U*	0.02 *U*	0.34 *UJ*	0.25 *UJ*
WQ13	WQ13	K1011737	Integral	October 2010	10/18/2010	16:50	1.04	70.6	19.9 *UJ*	0.018 *J*	0.005 *UJ*	521	489	0.02 *U*	0.02 *U*	0.39 *U*	0.29 *U*
WQ13	WQ13	K1100642	Integral	January 2011	1/19/2011	15:50	1.51	187	116	0.062	0.044	589	560	0.02 *U*	0.02 *U*	0.4 *UJ*	0.45
WQ13	WQ13	K1103541	Integral	April 2011	4/20/2011	17:30	0.96 *U*	23.6 *UJ*	13.9 *UJ*	0.005 *UJ*	0.005 *UJ*	775	785	0.02 *U*	0.02 *U*	0.35 *UJ*	0.74 *U*
WQ13	WQ13	K1106865	Integral	July 2011 II	7/25/2011	16:15	1.88	34.2 *UJ*	24.2	0.015 *UJ*	0.011 *UJ*	535	528	0.02 *UJ*	0.02 *UJ*	0.21 *UJ*	0.18 *UJ*
WQ13	WQ13	K1112358	Integral	December 2011	12/21/2011	9:10	0.74	47.4	21.4	0.012 *UJ*	0.009 *J*	684	682	0.02 *U*	0.02 *U*	0.27	0.3
WQ13	WQ13	K1200245	Integral	January 2012	1/9/2012	8:30	0.77	22.4 *U*	13.7 *UJ*	0.012 *UJ*	0.013 *UJ*	594	606	0.02 *U*	0.02 *U*	0.25	0.25
WQ13	WQ13	K1203283	Integral	April 2012	4/8/2012	10:50	0.57	26.4	11.8 *UJ*	0.006 *UJ*	0.009 *UJ*	881	810	0.02 *U*	0.02 *U*	0.27	0.29
WQ13	WQ13	K1207121	Integral	July 2012	7/21/2012	16:00	1.64	38.7	25.3	0.117	0.003 *UJ*	537	551	0.02 *U*	0.02 *U*	0.15 *UJ*	0.15 *UJ*
WQ13	WQ13	K1210890	Integral	October 2012	10/27/2012	17:00	0.67 *J*	36.1	21.9	0.006 *J*	0.005 *U*	1010	968	0.02 *U*	0.02 *U*	0.18 *UJ*	0.17 *UJ*

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
WQ4	WQ4	X2213	Knight Piesold	February 2006 II	2/15/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3400	3500	5 *U*	5 *U*
WQ4	WQ4	X5977	Knight Piesold	May 2006 II	5/16/2006	08:08	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ4	WQ4	Z2004	Knight Piesold	August 2006 II	8/29/2006	11:05	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000	2700	5 *U*	5 *U*
WQ4	WQ4	Z3908	Knight Piesold	October 2006	10/17/2006	13:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3000	3000	5 *U*	5 *U*
WQ4	WQ4	Z6128	Knight Piesold	December 2006	12/7/2006	09:25	2000 *U*	2000 *U*	1 *U*	1 *U*	0.044	0.02 *U*	2100	2100	5 *U*	5 *U*
WQ4	WQ4	L482967	Knight Piesold	February 2007	2/26/2007	08:41	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3600	3300	5 *U*	5 *U*
WQ4	WQ4	L495369	Knight Piesold	April 2007	4/10/2007	09:26	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2900	2900	1 *U*	1 *U*
WQ4	WQ4	L507191	Knight Piesold	May 2007	5/14/2007	14:05	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2200	2200	1 *U*	1 *U*
WQ4	WQ4	L515743	Knight Piesold	June 2007	6/4/2007	16:13	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*
WQ4	WQ4	L526591	Knight Piesold	July 2007 I	7/1/2007	13:35	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.7
WQ4	WQ4	K0706569	Integral	July 2007 II	7/24/2007	14:12	900 *U*	900 *U*	0.2 *U*	0.2 *J*	0.009 *U*	0.017 *U*	2810	2860	2.67 *U*	16.7 *J*
WQ4	WQ4	K0707317	Integral	August 2007 I	8/14/2007	13:25	900 *U*	900 *U*	0.5 *U*	0.4 *U*	0.009 *U*	0.009 *U*	3320	3240	1.78 *U*	5.46 *J*
WQ4	WQ4	K0707782	Integral	August 2007 II	8/27/2007	10:00	900 *U*	1090 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*	2440	2470	12.3 *U*	10.7 *U*
WQ4	WQ4	K0708240	Integral	September 2007 I	9/11/2007	11:25	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*	2950	2940	3 *U*	18.3 *U*
WQ4	WQ4	K0709126	Integral	September 2007 II	10/2/2007	11:35	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2200	2170	3.13 *U*	1.58 *U*
WQ4	WQ4	K0709804	Integral	October 2007	10/17/2007	10:30	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2160	2160	3.14 *U*	3.65 *U*
WQ4	WQ4	K0710773	Integral	November 2007	11/13/2007	11:30	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *UJ*	0.009 *U*	3090	3010	7.26 *U*	5.85 *U*
WQ4	WQ4	K0711891	Integral	December 2007 I	12/15/2007	14:10	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.01 *UJ*	0.009 *U*	3330	3280	5.33 *J*	6.21 *U*
WQ4	WQ4	K0800335	Integral	January 2008	1/9/2008	11:40	408 *UJ*	313 *UJ*	0.4 *J*	0.5 *J*	0.052	0.006 *J*	4600	4710	2.7 *U*	2.9 *U*
WQ4	WQ4	K0801400	Integral	Februrary 2008	2/14/2008	13:55	900 *U*	900 *U*	0.5 *J*	0.2 *U*	0.037 *UJ*	0.009 *UJ*	4410	4720	13 *U*	4.62 *U*
WQ4	WQ4	K0802328	Integral	March 2008	3/15/2008	11:30	304 *J*	272 *J*	0.4 *U*	0.4 *U*	0.024 *UJ*	0.05 *UJ*	3970	3700	9 *U*	7.9 *U*
WQ4	WQ4	K0803239	Integral	April 2008	4/14/2008	15:50	332 *J*	316 *J*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	4230	4310	1.09 *U*	0.85 *U*
WQ4	WQ4	K0804080	Integral	May 2008	5/8/2008	9:40	316 *J*	303 *J*	0.4 *U*	0.4 *U*	0.017 *UJ*	0.005 *UJ*	3950	3930	3.6 *U*	6.4 *U*
WQ4	WQ4	K0805877	Integral	June 2008	6/28/2008	9:05	196 *J*	208 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	1900	1890	5.4 *U*	11.8 *U*
WQ4	WQ4	K0806880	Integral	July 2008	7/24/2008	15:45	152 *J*	144 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2480	2480	1.5 *U*	1.2 *U*
WQ4	WQ4	K0810253	Integral	October 2008	10/15/2008	14:10	187 *J*	134 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	2160	2440	1.2 *U*	1.38 *U*
WQ4	WQ4	K0902142	Integral	March 2009	3/9/2009	12:05	236 *J*	219 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	3190	3190	3.01 *U*	1.68 *U*
WQ4	WQ4	K0904395	Integral	May 2009	5/13/2009	13:50	154 *J*	151 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1740	1700	3.79 *U*	2.75 *U*
WQ4	WQ4	K0906701	Integral	July 2009	7/23/2009	14:00	168 *J*	175 *J*	0.2 *U*	0.2 *U*	0.006 *UJ*	0.01 *UJ*	1600	1530	2.63 *U*	2.47 *U*
WQ4	WQ4	K0908299	Integral	September 2009 I	9/5/2009	11:25	234 *J*	281 *J*	0.3 *U*	0.3 *U*	0.031 *UJ*	0.004 *UJ*	2400	2510	2.96 *U*	1.98 *U*
WQ4	WQ4	K0908619	Integral	September 2009 II	9/12/2009	16:25	243 *J*	270 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	2610	2750	1 *U*	0.6 *U*
WQ4	WQ4	K0910115	Integral	October 2009	10/17/2009	13:50	218 *J*	209 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2440	2370	0.26 *UJ*	1.07 *U*
WQ4	WQ4	K1000512	Integral	January 2010	1/15/2010	16:05	163 *J*	195 *J*	0.3 *U*	0.3 *U*	0.011 *UJ*	0.004 *UJ*	2710	2880	0.74 *U*	1.05 *U*
WQ4	WQ4	K1004032	Integral	April 2010	4/22/2010	13:35	211 *J*	236 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	4270	4480	0.76 *U*	0.79 *U*
WQ4	WQ4	K1008751	Integral	August 2010	8/10/2010	15:00	260 *J*	268 *J*	0.3 *U*	0.3 *U*	0.02 *UJ*	0.004 *UJ*	3510	3620	2.23 *U*	3.03 *U*
WQ4	WQ4	K1011739	Integral	October 2010	10/18/2010	16:30	174 *J*	187 *J*	0.3 *UJ*	0.3 *UJ*	0.026	0.006 *UJ*	3400	3400	0.7 *U*	0.7 *U*
WQ4	WQ4	K1100726	Integral	January 2011	1/19/2011	15:15	198 *J*	190 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*	2930	2870	1.22 *U*	0.42 *UJ*
WQ4	WQ4	K1103541	Integral	April 2011	4/20/2011	17:10	248 *J*	238 *J*	0.3 *U*	0.4 *J*	0.006 *UJ*	0.004 *UJ*	3380	3480	0.41 *U*	0.47 *U*
WQ4	WQ4	K1106865	Integral	July 2011 II	7/25/2011	15:55	231 *UJ*	228 *UJ*	0.3 *U*	0.3 *U*	0.012 *UJ*	0.004 *UJ*	2680	2610	1.1 *U*	0.9 *U*
WQ4	WQ4	K1112358	Integral	December 2011	12/21/2011	8:50	118 *UJ*	65.6 *UJ*	0.4 *J*	0.3 *J*	0.004 *U*	0.004 *U*	3110	3080	1.53 *U*	0.44 *UJ*
WQ4	WQ4	K1200245	Integral	January 2012	1/9/2012	8:45	200 *J*	167 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	3850	4100	5.03 *U*	1.35 *U*
WQ4	WQ4	K1203282	Integral	April 2012	4/8/2012	10:20	211 *J*	210 *J*	0.3 *U*	0.3 *U*	0.009 *UJ*	0.004 *U*	4240	4240	0.45 *UJ*	1.27 *U*
WQ4	WQ4	K1207121	Integral	July 2012	7/21/2012	14:35	105 *UJ*	155 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	2170	2210	0.45 *UJ*	0.48 *UJ*
WQ4	WQ4	K1210890	Integral	October 2012	10/27/2012	16:40	190 *J*	224 *J*	0.2 *J*	0.2 *U*	0.026 *J*	0.026 *J*	3480	3220	0.7 *U*	0.4 *UJ*
WQ6	WQ6	X2213	Knight Piesold	February 2006 II	2/15/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3200	3200	5 *U*	5 *U*
WQ6	WQ6	X5977	Knight Piesold	May 2006 II	5/16/2006	09:44	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2700	2800	5 *U*	5 *U*
WQ6	WQ6	Z2004	Knight Piesold	August 2006 II	8/29/2006	10:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ6	WQ6	Z3908	Knight Piesold	October 2006	10/17/2006	14:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2400	2400	5 *U*	5 *U*
WQ6	WQ6	Z6128	Knight Piesold	December 2006	12/7/2006	09:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ6	WQ6	L482967	Knight Piesold	February 2007	2/26/2007	09:46	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2900	2900	5 *U*	5 *U*
WQ6	WQ6	L495369	Knight Piesold	April 2007	4/10/2007	10:38	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2500	2500	1 *U*	1 *U*
WQ6	WQ6	L507191	Knight Piesold	May 2007	5/14/2007	14:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.5
WQ6	WQ6	L515743	Knight Piesold	June 2007	6/4/2007	16:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.4
WQ6	WQ6	L526591	Knight Piesold	July 2007 I	7/1/2007	14:15	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.3
WQ6	WQ6	K0706569	Integral	July 2007 II	7/24/2007	14:47	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1790	1920	7.06 *U*	5.99 *U*
WQ6	WQ6	K0707317	Integral	August 2007 I	8/14/2007	14:00	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*	2570	2450	0.6 *U*	1.7 *U*
WQ6	WQ6	K0707782	Integral	August 2007 II	8/27/2007	10:45	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.012 *U*	2140	2140	5.2 *U*	6.99 *U*
WQ6	WQ6	K0708240	Integral	September 2007 I	9/11/2007	12:15	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2280	2200	5.8 *U*	7.6 *U*
WQ6	WQ6	K0709126	Integral	September 2007 II	10/2/2007	12:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1820	1790	4.57 *U*	1.73 *U*
WQ6	WQ6	K0709804	Integral	October 2007	10/17/2007	09:40	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1840	1870	2.67 *U*	4.67 *U*
WQ6	WQ6	K0710773	Integral	November 2007	11/13/2007	11:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2550	2490	4.77 *U*	7.08 *U*
WQ6	WQ6	K0711891	Integral	December 2007 I	12/15/2007	13:20	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.016 *UJ*	0.018 *UJ*	2630	2600	8.66 *J*	11.2 *J*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
WQ6	WQ6	K0800335	Integral	January 2008	1/9/2008	11:05	240 *UJ*	146 *UJ*	0.3 *J*	0.4 *U*	0.009 *U*	0.01 *J*	3690	3680	7 *U*	9 *U*
WQ6	WQ6	K0801400	Integral	Februrary 2008	2/14/2008	9:45	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3600	3450	3.7 *U*	5.05 *U*
WQ6	WQ6	K0802328	Integral	March 2008	3/15/2008	10:40	172 *J*	181 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.018 *UJ*	3360	3330	23.4 *J*	23.1 *J*
WQ6	WQ6	K0803239	Integral	April 2008	4/14/2008	14:40	198 *J*	189 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	3930	3830	1.55 *U*	1.87 *U*
WQ6	WQ6	K0804080	Integral	May 2008	5/8/2008	8:45	186 *J*	157 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3180	3230	5.2 *U*	6.9 *U*
WQ6	WQ6	K0805877	Integral	June 2008	6/28/2008	9:10	102 *J*	114 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	1310	1310	2.2 *U*	1.5 *U*
WQ6	WQ6	K0806880	Integral	July 2008	7/24/2008	15:00	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1470	1480	2.2 *U*	1.3 *U*
WQ6	WQ6	K0810253	Integral	October 2008	10/15/2008	10:40	115 *UJ*	52 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	1730	1690	1.57 *U*	0.68 *U*
WQ6	WQ6	K0902142	Integral	March 2009	3/9/2009	11:30	101 *J*	146 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2480	2520	4.68 *U*	2.73 *U*
WQ6	WQ6	K0904395	Integral	May 2009	5/13/2009	15:00	92 *J*	74 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1450	1340	3.96 *U*	2.8 *U*
WQ6	WQ6	K0906701	Integral	July 2009	7/23/2009	13:00	83 *J*	81 *J*	0.2 *U*	0.2 *U*	0.004 *U*	0.008 *UJ*	1380	1410	2.63 *U*	0.65 *U*
WQ6	WQ6	K0908299	Integral	September 2009 I	9/5/2009	10:25	126 *J*	142 *J*	0.3 *U*	0.3 *U*	0.014 *UJ*	0.004 *UJ*	1790	1820	2.71 *U*	5.06 *U*
WQ6	WQ6	K0908619	Integral	September 2009 II	9/12/2009	15:10	133 *J*	136 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	2020	2130	1.3 *U*	0.5 *U*
WQ6	WQ6	K0910115	Integral	October 2009	10/17/2009	12:00	131 *J*	124 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	1970	1920	0.28 *UJ*	0.46 *UJ*
WQ6	WQ6	K1000512	Integral	January 2010	1/15/2010	15:10	97 *J*	131 *J*	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *UJ*	2510	2400	0.97 *U*	2 *U*
WQ6	WQ6	K1004032	Integral	April 2010	4/22/2010	13:15	150 *J*	132 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3770	3730	0.43 *UJ*	1.54 *U*
WQ6	WQ6	K1008751	Integral	August 2010	8/10/2010	14:00	129 *J*	157 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*	2600	2740	1.03 *U*	0.86 *U*
WQ6	WQ6	K1011739	Integral	October 2010	10/19/2010	15:30	65 *J*	94 *J*	0.3 *UJ*	0.3 *UJ*	0.011 *UJ*	0.009 *UJ*	3000	3090	0.4 *U*	0.4 *U*
WQ6	WQ6	K1100642	Integral	January 2011	1/21/2011	8:30	96 *J*	78 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*	2480	2550	0.48 *UJ*	0.48 *UJ*
WQ6	WQ6	K1103541	Integral	April 2011	4/20/2011	16:50	138 *UJ*	150 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2510	2530	0.2 *U*	0.29 *U*
WQ6	WQ6	K1106865	Integral	July 2011 II	7/25/2011	15:35	96 *UJ*	92 *UJ*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*	1930	1810	0.6 *U*	0.6 *U*
WQ6	WQ6	K1112358	Integral	December 2011	12/21/2011	8:30	72.1 *UJ*	50 *U*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	2680	2730	0.24 *UJ*	0.71 *U*
WQ6	WQ6	K1200245	Integral	January 2012	1/8/2012	15:00	137 *J*	110 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	3640	3520	0.56 *U*	0.48 *UJ*
WQ6	WQ6	K1203283	Integral	April 2012	4/8/2012	9:55	154 *J*	194 *J*	0.3 *U*	0.4 *J*	0.004 *U*	0.004 *U*	4610	4670	0.27 *UJ*	0.22 *UJ*
WQ6	WQ6	K1207121	Integral	July 2012	7/21/2012	11:40	107 *UJ*	75 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	1460	1540	0.4 *UJ*	0.6 *U*
WQ6	WQ6	K1210890	Integral	October 2012	10/27/2012	16:15	120 *J*	97.8 *J*	0.2 *U*	0.2 *U*	0.024 *J*	0.029 *J*	2610	2550	0.4 *UJ*	0.4 *UJ*
WQ7	WQ7	X2213	Knight Piesold	February 2006 II	2/15/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3200	3200	5 *U*	5 *U*
WQ7	WQ7	X5977	Knight Piesold	May 2006 II	5/16/2006	14:38	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7	WQ7	Z2004	Knight Piesold	August 2006 II	8/29/2006	13:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7	WQ7	Z3908	Knight Piesold	October 2006	10/17/2006	16:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2300	2300	5 *U*	5 *U*
WQ7	WQ7	Z6128	Knight Piesold	December 2006	12/7/2006	12:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ7	WQ7	L482967	Knight Piesold	February 2007	2/26/2007	11:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2900	2900	5 *U*	5 *U*
WQ7	WQ7	L495369	Knight Piesold	April 2007	4/10/2007	16:22	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2500	2600	1 *U*	1 *U*
WQ7	WQ7	L507191	Knight Piesold	May 2007	5/14/2007	15:15	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*
WQ7	WQ7	L515743	Knight Piesold	June 2007	6/4/2007	17:41	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.1
WQ7	WQ7	L526591	Knight Piesold	July 2007 I	7/1/2007	15:10	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1 *U*
WQ7	WQ7	K0706569	Integral	July 2007 II	7/24/2007	15:31	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1840	1890	7.7 *U*	9.64 *U*
WQ7	WQ7	K0707317	Integral	August 2007 I	8/14/2007	14:50	900 *U*	900 *U*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2760	2460	0.62 *U*	1.78 *U*
WQ7	WQ7	K0707782	Integral	August 2007 II	8/27/2007	12:00	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.006 *U*	2140	2120	4.5 *U*	24.7 *U*
WQ7	WQ7	K0708240	Integral	September 2007 I	9/11/2007	13:15	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*	2110	2180	4.9 *U*	4.5 *U*
WQ7	WQ7	K0709126	Integral	September 2007 II	10/2/2007	12:30	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1800	1780	4.91 *U*	4.94 *U*
WQ7	WQ7	K0709804	Integral	October 2007	10/17/2007	11:35	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	1930	1930	3.81 *U*	3.59 *U*
WQ7	WQ7	K0710773	Integral	November 2007	11/13/2007	12:10	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2480	2410	5.95 *U*	7.39 *U*
WQ7	WQ7	K0711891	Integral	December 2007 I	12/15/2007	14:50	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2430	2390	4.5 *U*	11 *J*
WQ7	WQ7	K0800335	Integral	January 2008	1/9/2008	12:30	217 *UJ*	130 *UJ*	0.2 *J*	0.4 *U*	0.009 *U*	0.006 *J*	3580	3640	19 *J*	14 *J*
WQ7	WQ7	K0801400	Integral	Februrary 2008	2/14/2008	10:25	900 *U*	900 *U*	0.4 *J*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3680	3650	6.5 *U*	18.3 *J*
WQ7	WQ7	K0802328	Integral	March 2008	3/15/2008	12:40	178 *J*	149 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.008 *UJ*	3340	3230	4.1 *U*	8.3 *U*
WQ7	WQ7	K0803239	Integral	April 2008	4/14/2008	17:00	188 *J*	175 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.099 *R*	3940	3830	0.63 *U*	1.68 *U*
WQ7	WQ7	K0804080	Integral	May 2008	5/8/2008	10:30	156 *J*	151 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3200	3170	4.6 *U*	3.3 *U*
WQ7	WQ7	K0805877	Integral	June 2008	6/28/2008	10:30	100 *U*	132 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	1230	1210	7.7 *U*	4.2 *U*
WQ7	WQ7	K0806880	Integral	July 2008	7/24/2008	16:15	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.021 *UJ*	0.009 *UJ*	1450	1400	1 *U*	1.3 *U*
WQ8	WQ8	X2213	Knight Piesold	February 2006 II	2/15/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3500	3500	5 *U*	5 *U*
WQ8	WQ8	X5977	Knight Piesold	May 2006 II	5/17/2006	07:42	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ8	WQ8	Z2004	Knight Piesold	August 2006 II	8/29/2006	14:40	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000	5 *U*	5 *U*
WQ8	WQ8	Z3908	Knight Piesold	October 2006	10/17/2006	16:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3000	3000	5 *U*	5 *U*
WQ8	WQ8	Z6128	Knight Piesold	December 2006	12/7/2006	13:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2300	2200	5 *U*	5 *U*
WQ8	WQ8	L482967	Knight Piesold	February 2007	2/26/2007	11:35	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3200	3200	5 *U*	5 *U*
WQ8	WQ8	L495369	Knight Piesold	April 2007	4/10/2007	16:31	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3100	3100	1 *U*	1 *U*
WQ8	WQ8	L507191	Knight Piesold	May 2007	5/14/2007	15:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2600	2600	1 *U*	1.3
WQ8	WQ8	L515743	Knight Piesold	June 2007	6/4/2007	17:19	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	2 *U*	1 *U*
WQ8	WQ8	L526591	Knight Piesold	July 2007 I	7/1/2007	15:25	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	4.9
WQ8	WQ8	K0706569	Integral	July 2007 II	7/24/2007	15:16	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2780	2930	2.43 *U*	8.72 *U*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
WQ8	WQ8	K0707317	Integral	August 2007 I	8/14/2007	14:30	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*	3190	3040	1.04 *U*	3.63 *U*
WQ8	WQ8	K0707782	Integral	August 2007 II	8/27/2007	11:35	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.004 *U*	2370	2350	2.1 *U*	9.24 *U*
WQ8	WQ8	K0708240	Integral	September 2007 I	9/11/2007	13:35	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*	2940	2850	5.2 *U*	4.9 *U*
WQ8	WQ8	K0709126	Integral	September 2007 II	10/2/2007	12:50	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2140	2070	6.76 *U*	2.51 *U*
WQ8	WQ8	K0709804	Integral	October 2007	10/17/2007	11:20	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2030	2040	3.78 *U*	2.61 *U*
WQ8	WQ8	K0710773	Integral	November 2007	11/13/2007	13:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2770	2760	3.49 *U*	2.59 *U*
WQ8	WQ8	K0711891	Integral	December 2007 I	12/15/2007		900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2500	2530	1.84 *U*	3.77 *U*
WQ8	WQ8	K0800335	Integral	January 2008	1/9/2008	12:45	237 *UJ*	159 *UJ*	0.2 *J*	0.4 *U*	0.009 *U*	0.009 *J*	3740	3660	3.3 *U*	13.1 *J*
WQ8	WQ8	K0801400	Integral	Februrary 2008	2/14/2008	15:10	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3550	3480	6.9 *U*	5.95 *U*
WQ8	WQ8	K0802328	Integral	March 2008	3/15/2008	13:00	187 *J*	332 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3280	3290	5.7 *U*	31.5
WQ8	WQ8	K0803239	Integral	April 2008	4/14/2008	17:30	228 *J*	207 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.036 *R*	3810	3820	2.34 *U*	0.69 *U*
WQ8	WQ8	K0804080	Integral	May 2008	5/8/2008	11:30	236 *J*	181 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3310	3420	2.6 *U*	2.2 *U*
WQ8	WQ8	K0805877	Integral	June 2008	6/28/2008	11:10	136 *J*	148 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	1620	1620	2.8 *U*	1.1 *U*
WQ8	WQ8	K0806880	Integral	July 2008	7/24/2008	17:00	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2340	2350	1 *U*	0.8 *U*
WQ10	WQ10	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2800	2600	5 *U*	5 *U*
WQ10	WQ10	Z3908	Knight Piesold	October 2006	10/17/2006	13:05	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3400	3400	9.7	5 *U*
WQ10	WQ10	Z6128	Knight Piesold	December 2006	12/7/2006	10:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2500	2600	5 *U*	5 *U*
WQ10	WQ10	L482967	Knight Piesold	February 2007	2/26/2007	10:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3400	3400	5 *U*	5 *U*
WQ10	WQ10	L495369	Knight Piesold	April 2007	4/10/2007	11:11	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3100	3100	1 *U*	1
WQ10	WQ10	L507191	Knight Piesold	May 2007	5/14/2007	14:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3100	3200	1 *U*	1.1
WQ10	WQ10	L515743	Knight Piesold	June 2007	6/4/2007	16:33	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2300	2300	1 *U*	1.6
WQ10	WQ10	L526591	Knight Piesold	July 2007 I	7/1/2007	14:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2800	2800	1.5	1.5
WQ10	WQ10	K0706569	Integral	July 2007 II	7/24/2007	14:37	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*	3370	3490	4.1 *U*	6.22 *U*
WQ10	WQ10	K0707317	Integral	August 2007 I	8/14/2007	13:40	900 *U*	900 *U*	0.4 *U*	0.3 *U*	0.009 *U*	0.009 *U*	3560	3320	1.46 *U*	2.23 *U*
WQ10	WQ10	K0707782	Integral	August 2007 II	8/27/2007	10:15	1080 *U*	977 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.004 *U*	3220	3100	3.8 *U*	3.8 *U*
WQ10	WQ10	K0708240	Integral	September 2007 I	9/11/2007	11:50	900 *U*	900 *U*	0.2 *J*	0.3 *J*	0.009 *U*	0.009 *U*	3310	3280	2.8 *U*	6.3 *U*
WQ10	WQ10	K0709126	Integral	September 2007 II	10/1/2007	07:55	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	3030	3110	2.98 *U*	2.49 *U*
WQ10	WQ10	K0709804	Integral	October 2007	10/17/2007	10:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2600	2600	4.22 *U*	3.97 *U*
WQ10	WQ10	K0710773	Integral	November 2007	11/13/2007	11:15	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*	3240	3110	5.9 *U*	3 *U*
WQ10	WQ10	K0711891	Integral	December 2007 I	12/15/2007	13:50	905 *J*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	3440	3600	3.94 *U*	7.63 *U*
WQ10	WQ10	K0800335	Integral	January 2008	1/9/2008	11:20	305 *UJ*	234 *UJ*	0.3 *J*	0.4 *U*	0.009 *U*	0.006 *J*	4450	4450	5.5 *U*	4.6 *U*
WQ10	WQ10	K0801400	Integral	Februrary 2008	2/14/2008	13:35	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3570	3620	4 *U*	4.43 *U*
WQ10	WQ10	K0802328	Integral	March 2008	3/15/2008	11:00	232 *J*	209 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3590	3470	3.8 *U*	6 *U*
WQ10	WQ10	K0803239	Integral	April 2008	4/14/2008	15:05	301 *J*	307 *J*	0.2 *U*	0.2 *U*	0.009 *R*	0.022 *R*	4840	4830	1.71 *U*	2.47 *U*
WQ10	WQ10	K0804080	Integral	May 2008	5/8/2008	9:10	275 *J*	255 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	4180	4000	4.1 *U*	5.4 *U*
WQ10	WQ10	K0805877	Integral	June 2008	6/28/2008	9:35	366 *J*	333 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	5180	5130	1.5 *U*	2.5 *U*
WQ10	WQ10	K0806880	Integral	July 2008	7/24/2008	15:25	267 *J*	265 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	5080	4820	2.9 *U*	1.6 *U*
WQ10	WQ10	K0810253	Integral	October 2008	10/15/2008	13:30	208 *J*	141 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	3090	3230	1.7 *U*	1.29 *U*
WQ10	WQ10	K0902142	Integral	March 2009	3/9/2009	11:45	170 *J*	186 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2860	2930	2.81 *U*	2.04 *U*
WQ10	WQ10	K0904395	Integral	May 2009	5/13/2009	14:30	160 *J*	148 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2250	2160	1.6 *U*	2.29 *U*
WQ10	WQ10	K0906701	Integral	July 2009	7/23/2009	13:30	260 *J*	253 *J*	0.2 *U*	0.2 *U*	0.009 *UJ*	0.009 *UJ*	2800	2820	3.29 *U*	5.05 *U*
WQ10	WQ10	K0908299	Integral	September 2009 I	9/5/2009	11:00	300 *J*	287 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*	2890	2950	0.74 *UJ*	3.54 *U*
WQ10	WQ10	K0908619	Integral	September 2009 II	9/12/2009	15:35	306 *J*	294 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	3110	3090	1.7 *U*	1.2 *U*
WQ10	WQ10	K0910115	Integral	October 2009	10/17/2009	12:40	284 *J*	258 *J*	0.3 *U*	0.3 *U*	0.053	0.004 *UJ*	2980	2860	1.18 *U*	0.86 *UJ*
WQ10	WQ10	K1000512	Integral	January 2010	1/15/2010	14:30	200 *J*	185 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3410	3560	0.85 *U*	1.09 *U*
WQ10	WQ10	K1004032	Integral	April 2010	4/22/2010	11:00	293 *J*	299 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	5500	5550	0.75 *U*	1.22 *U*
WQ10	WQ10	K1008752	Integral	August 2010	8/10/2010	13:30	278 *J*	269 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	5100	5190	0.63 *U*	0.74 *U*
WQ10	WQ10	K1011739	Integral	October 2010	10/19/2010	16:00	223 *J*	221 *J*	0.3 *UJ*	0.3 *UJ*	0.02 *UJ*	0.006 *UJ*	4690	4590	0.4 *U*	0.5 *U*
WQ10	WQ10	K1100642	Integral	January 2011	1/21/2011	9:00	175 *J*	155 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*	3250	3130	3.91 *U*	1.14 *U*
WQ10	WQ10	K1103545	Integral	April 2011	4/20/2011	16:10	220 *UJ*	208 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3280	3160	0.4 *U*	0.28 *U*
WQ10	WQ10	K1106865	Integral	July 2011 II	7/25/2011	15:15	211 *UJ*	220 *UJ*	0.3 *U*	0.3 *U*	0.01 *UJ*	0.006 *UJ*	3430	3240	0.7 *U*	0.3 *UJ*
WQ10	WQ10	K1112358	Integral	December 2011	12/21/2011	8:10	118 *UJ*	125 *UJ*	0.3 *U*	0.3 *J*	0.004 *U*	0.004 *U*	3190	3180	0.43 *UJ*	0.5 *UJ*
WQ10	WQ10	K1200245	Integral	January 2012	1/8/2012	14:10	164 *J*	168 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4120	3910	0.46 *UJ*	0.74 *U*
WQ10	WQ10	K1203283	Integral	April 2012	4/8/2012	9:25	189 *J*	144 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4720	4630	2.41 *U*	0.56 *U*
WQ10	WQ10	K1207121	Integral	July 2012	7/21/2012	13:50	264 *UJ*	210 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3090	3200	0.64 *U*	0.54 *U*
WQ10	WQ10	K1210890	Integral	October 2012	10/27/2012	15:45	220 *J*	204 *J*	0.2 *U*	0.2 *U*	0.033 *J*	0.03 *J*	3480	3420	0.4 *UJ*	0.4 *UJ*
WQ12	WQ12	Z2004	Knight Piesold	August 2006 II	8/29/2006	16:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3000	3000	5 *U*	5 *U*
WQ12	WQ12	Z3908	Knight Piesold	October 2006	10/17/2006	09:40	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2500	2400	5 *U*	5 *U*
WQ12	WQ12	Z6128	Knight Piesold	December 2006	12/7/2006	12:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2400	2400	5 *U*	5 *U*
WQ12	WQ12	L482967	Knight Piesold	February 2007	2/26/2007	11:01	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3300	3300	5 *U*	5 *U*
WQ12	WQ12	L495369	Knight Piesold	April 2007	4/10/2007	16:06	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3300	3200	1 *U*	1 *U*
WQ12	WQ12	L507191	Knight Piesold	May 2007	5/14/2007	15:35	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3900	3800	1 *U*	1 *U*

Table B-1a. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Surface Wa

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
WQ12	WQ12	L515743	Knight Piesold	June 2007	6/4/2007	18:07	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3900	3900	1 *U*	1.1
WQ12	WQ12	L526591	Knight Piesold	July 2007 I	7/1/2007	14:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3500	3400	1 *U*	1.3
WQ12	WQ12	K0706569	Integral	July 2007 II	7/24/2007	15:56	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.023 *U*	4070	4070	6.2 *U*	5 *U*
WQ12	WQ12	K0707317	Integral	August 2007 I	8/14/2007	15:50	900 *U*	900 *U*	0.5 *U*	0.3 *U*	0.009 *U*	0.009 *U*	3940	3800	1.11 *U*	1.76 *U*
WQ12	WQ12	K0707782	Integral	August 2007 II	8/27/2007	12:20	900 *U*	1010 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*	3800	3820	4.1 *U*	18.3 *U*
WQ12	WQ12	K0708240	Integral	September 2007 I	9/11/2007	12:50	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*	3950	3770	3.9 *U*	3.4 *U*
WQ12	WQ12	K0709126	Integral	September 2007 II	10/1/2007	09:15	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*	2980	3060	3.13 *U*	2.37 *U*
WQ12	WQ12	K0709804	Integral	October 2007	10/17/2007	12:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2490	2510	3.09 *U*	2.78 *U*
WQ12	WQ12	K0710773	Integral	November 2007	11/13/2007	12:40	900 *U*	900 *U*	0.2 *J*	0.3 *J*	0.009 *U*	0.009 *U*	3360	3290	3.66 *U*	15.1 *U*
WQ12	WQ12	K0711891	Integral	December 2007 I	12/15/2007	15:10	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	3020	3070	7 *J*	8.17 *U*
WQ12	WQ12	K0800335	Integral	January 2008	1/9/2008	12:15	315 *UJ*	242 *UJ*	0.4 *J*	0.4 *U*	0.012 *J*	0.006 *J*	4000	4210	5.6 *U*	5.5 *U*
WQ12	WQ12	K0801400	Integral	Februrary 2008	2/14/2008	14:50	900 *U*	900 *U*	0.5 *J*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3140	3370	3.3 *U*	3.39 *U*
WQ12	WQ12	K0802328	Integral	March 2008	3/15/2008	12:10	280 *J*	255 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3640	3580	4.7 *U*	9.9 *U*
WQ12	WQ12	K0803239	Integral	April 2008	4/14/2008	16:35	264 *J*	268 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.014 *R*	4010	3850	0.92 *U*	8.99 *U*
WQ12	WQ12	K0804080	Integral	May 2008	5/8/2008	11:00	317 *J*	275 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	4080	4150	3 *U*	5.2 *U*
WQ12	WQ12	K0805877	Integral	June 2008	6/28/2008	10:45	206 *J*	168 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	2680	2680	10.6 *U*	3.1 *U*
WQ12	WQ12	K0806880	Integral	July 2008	7/24/2008	16:35	112 *J*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	3320	3320	2.5 *U*	2.1 *U*
WQ13	WQ13	L482967	Knight Piesold	February 2007	2/26/2007	08:19	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3300	3300	5 *U*	5 *U*
WQ13	WQ13	L495369	Knight Piesold	April 2007	4/10/2007	08:52	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2700	2800	3 *U*	1.7
WQ13	WQ13	L507191	Knight Piesold	May 2007	5/14/2007	13:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2500	2500	1 *U*	1.5
WQ13	WQ13	L515743	Knight Piesold	June 2007	6/4/2007	15:53	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1 *U*	1.4
WQ13	WQ13	L526591	Knight Piesold	July 2007 I	7/1/2007	13:05	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2000 *U*	2000 *U*	1	1.3
WQ13	WQ13	K0706569	Integral	July 2007 II	7/24/2007	14:00	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.009 *U*	2750	2800	4.75 *U*	4.92 *U*
WQ13	WQ13	K0707317	Integral	August 2007 I	8/14/2007	13:10	900 *U*	900 *U*	0.6 *U*	0.4 *U*	0.009 *U*	0.009 *U*	3260	3040	2.6 *U*	3.68 *U*
WQ13	WQ13	K0707782	Integral	August 2007 II	8/27/2007	09:10	1630 *U*	1070 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.003 *U*	2410	2380	5.1 *U*	10.9 *U*
WQ13	WQ13	K0708240	Integral	September 2007 I	9/11/2007	10:45	900 *U*	900 *U*	0.3 *J*	0.2 *U*	0.009 *U*	0.009 *U*	2770	2660	4.6 *U*	8 *U*
WQ13	WQ13	K0709126	Integral	September 2007 II	10/1/2007	08:15	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2480	2380	3.61 *U*	4.03 *U*
WQ13	WQ13	K0709804	Integral	October 2007	10/17/2007	10:50	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2110	2170	3.93 *U*	2.58 *U*
WQ13	WQ13	K0710773	Integral	November 2007	11/13/2007	10:35	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2750	2730	2.18 *U*	6.7 *U*
WQ13	WQ13	K0711891	Integral	December 2007 I	12/16/2007	09:45	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2810	2880	4.18 *U*	12.8 *J*
WQ13	WQ13	K0800335	Integral	January 2008	1/9/2008	10:40	240 *UJ*	160 *UJ*	0.3 *J*	0.4 *J*	0.009 *J*	0.01 *J*	3870	3990	7.9 *U*	9.1 *U*
WQ13	WQ13	K0801400	Integral	Februrary 2008	2/14/2008	15:50	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.005 *UJ*	0.009 *UJ*	3960	4180	4 *U*	4.08 *U*
WQ13	WQ13	K0802328	Integral	March 2008	3/15/2008	10:20	166 *J*	149 *J*	0.4 *U*	0.4 *U*	0.13	0.005 *UJ*	3370	3320	2.2 *U*	2.1 *U*
WQ13	WQ13	K0803239	Integral	April 2008	4/15/2008	5:45	194 *J*	211 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.014 *R*	3910	3760	1.95 *U*	4 *U*
WQ13	WQ13	K0804080	Integral	May 2008	5/8/2008	8:00	216 *J*	201 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3500	3430	2.6 *U*	1.6 *U*
WQ13	WQ13	K0805877	Integral	June 2008	6/27/2008	8:50	133 *J*	113 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	2090	2070	9.2 *U*	1.9 *U*
WQ13	WQ13	K0806880	Integral	July 2008	7/25/2008	8:00	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2240	2190	1.5 *U*	6.2 *U*
WQ13	WQ13	K0810253	Integral	October 2008	10/15/2008	14:30	115 *UJ*	88 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	2130	2230	1.43 *U*	2.14 *U*
WQ13	WQ13	K0902142	Integral	March 2009	3/8/2009	10:57	174 *J*	150 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.013 *UJ*	2870	2730	7.25 *U*	9.06 *J*
WQ13	WQ13	K0904395	Integral	May 2009	5/13/2009	13:30	121 *J*	128 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1990	1820	1.44 *U*	3.48 *U*
WQ13	WQ13	K0906701	Integral	July 2009	7/23/2009	14:20	139 *J*	153 *J*	0.2 *U*	0.2 *U*	0.025 *UJ*	0.007 *UJ*	1600	1640	7.95 *U*	2.63 *U*
WQ13	WQ13	K0910115	Integral	October 2009	10/17/2009	15:15	143 *J*	138 *J*	0.3 *U*	0.3 *U*	0.017 *UJ*	0.004 *UJ*	2350	2350	0.92 *UJ*	1.22 *U*
WQ13	WQ13	K1000512	Integral	January 2010	1/17/2010	08:50	215 *J*	236 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.009 *UJ*	3610	3620	1.47 *U*	1.95 *U*
WQ13	WQ13	K1004032	Integral	April 2010	4/22/2010	14:10	186 *J*	163 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	4100	4200	1.14 *U*	1.32 *U*
WQ13	WQ13	K1008751	Integral	August 2010	8/10/2010	15:20	115 *J*	125 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.006 *UJ*	3280	3220	5.2 *U*	4.84 *U*
WQ13	WQ13	K1011737	Integral	October 2010	10/18/2010	16:50	200 *J*	151 *J*	0.4 *J*	0.4 *J*	0.028	0.007 *J*	3730	3650	3.4 *U*	1.9 *U*
WQ13	WQ13	K1100642	Integral	January 2011	1/19/2011	15:50	186 *J*	181 *J*	0.3 *UJ*	0.3 *UJ*	0.005 *UJ*	0.004 *UJ*	3360	3220	2.04 *U*	1.31 *U*
WQ13	WQ13	K1103541	Integral	April 2011	4/20/2011	17:30	197 *UJ*	176 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3350	3420	1.26 *U*	1.51 *U*
WQ13	WQ13	K1106865	Integral	July 2011 II	7/25/2011	16:15	125 *UJ*	128 *UJ*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.004 *UJ*	2660	2500	1.2 *U*	1.2 *U*
WQ13	WQ13	K1112358	Integral	December 2011	12/21/2011	9:10	82.7 *UJ*	84 *UJ*	0.3 *U*	0.3 *J*	0.004 *U*	0.004 *U*	3290	3290	1.16 *UJ*	1.08 *U*
WQ13	WQ13	K1200245	Integral	January 2012	1/9/2012	8:30	147 *J*	140 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	3860	3780	1.02 *U*	1.15 *U*
WQ13	WQ13	K1203283	Integral	April 2012	4/8/2012	10:50	151 *J*	185 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4410	4460	1.04 *U*	1.16 *U*
WQ13	WQ13	K1207121	Integral	July 2012	7/21/2012	16:00	112 *UJ*	111 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *J*	2460	2530	1.36 *U*	1.47 *U*
WQ13	WQ13	K1210890	Integral	October 2012	10/27/2012	17:00	147 *J*	133 *J*	0.2 *U*	0.2 *U*	0.028 *J*	0.025 *J*	4170	4030	1.4 *U*	1.3 *UJ*

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwater

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW1	MW1	L482967	Knight Piesold	February 2007	2/28/2007	08:45	43	60	29.4	17.7	25.3	4.18	4.73	0.007	--	0.0062	0.001 *U*
MW1	MW1	L495369	Knight Piesold	April 2007	4/10/2007	08:25	70	82	41.3	33	37.2	7.99	6.35	0.005 *U*	--	0.005 *U*	0.001 *U*
MW1	MW1	L507191	Knight Piesold	May 2007	5/14/2007	10:49	64	71	41.7	12.5	40.3	5.53	3.11	0.005 *U*	--	0.005 *U*	0.001 *U*
MW1	MW1	L515743	Knight Piesold	June 2007	6/4/2007	13:06	71	85	51.2	3 *U*	45.6	4.9	3.97	0.02 *U*	--	0.005 *U*	0.001 *U*
MW1	MW1	L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	70	104	50.5	12	44.6	4.17	4.48	0.02 *U*	--	0.005 *U*	0.001 *U*
MW1	MW1	K0706569	Integral	July 2007 II	7/24/2007	11:44	70 *J*	102	52	8	51	3	2.3	0.08 *U*	0.022 *J*	--	--
MW1	MW1	K0707317	Integral	August 2007 I	8/14/2007	11:05	72 *J*	75	49	5 *U*	46	3.7	8.2	0.028 *J*	0.039 *J*	--	--
MW1	MW1	K0707782	Integral	August 2007 II	8/28/2007	17:40	71	100	63	6	51	2.9	3.4	0.05 *U*	0.006 *U*	--	--
MW1	MW1	K0708240	Integral	September 2007 I	9/11/2007	10:20	64 *J*	94	60	6	48	2.2	1.3	0.09 *UJ*	0.02 *J*	--	--
MW1	MW1	K0709126	Integral	September 2007 II	9/30/2007	15:45	59 *J*	102	60	9	37	3.4	2.7	0.04 *U*	0.014 *J*	--	--
MW1	MW1	K0709804	Integral	October 2007	10/16/2007	12:25	58	42	84	6	36	5	1.5	0.07 *UJ*	0.006 *U*	--	--
MW1	MW1	K0710773	Integral	November 2007	11/12/2007	14:05	59 *J*	61	36	35	34	6.7	3.2	0.05 *UJ*	0.033 *J*	--	--
MW1	MW1	K0711891	Integral	December 2007 I	12/14/2007	13:00	48 *J*	47 *U*	104	40	22	4.3	8.3	0.1 *UJ*	0.026 *UJ*	--	--
MW1	MW1	K0800335	Integral	January 2008	1/9/2008	10:00	55 *J*	65	45	13	26	7.7	6.8	0.01 *U*	0.006 *U*	--	--
MW1	MW1	K0801400	Integral	Februrary 2008	2/14/2008	8:30	58 *J*	55 *U*	48	65	30	5.3	7.7	0.04 *J*	0.036 *UJ*	--	--
MW1	MW1	K0802328	Integral	March 2008	3/14/2008	10:10	61 *J*	72 *U*	49 *U*	6	43	6	5.2	0.08 *UJ*	0.048 *U*	--	--
MW1	MW1	K0803239	Integral	April 2008	4/15/2008	6:30	58 *J*	48	51 *U*	5 *U*	30	9	5	0.02 *UJ*	0.005 *U*	--	--
MW1	MW1	K0804080	Integral	May 2008	5/7/2008	17:15	56 *J*	27	40 *U*	21	30	7.2	4.8	0.03 *UJ*	0.004 *UJ*	--	--
MW1	MW1	K0805877	Integral	June 2008	6/26/2008	17:15	55 *J*	86	45	26	33	4.2	4.2	0.52	0.031 *UJ*	--	--
MW1	MW1	K0806880	Integral	July 2008	7/24/2008	13:35	55 *J*	79	56	6	38	2.9	3.5	0.04 *UJ*	0.029 *J*	--	--
MW1	MW1	K0807975	Integral	August 2008	8/19/2008	11:45	50 *J*	47	10	6	36	3.4	2.6	0.06 *UJ*	0.006 *UJ*	--	--
MW1	MW1	K0808787	Integral	September 2008	9/9/2008	13:30	44 *J*	66	46	5 *U*	25	2.6	2.4	0.02 *U*	0.035 *UJ*	--	--
MW1	MW1	K0810253	Integral	October 2008	10/15/2008	15:00	40 *J*	60	59	6	28	2	1.9	0.09 *UJ*	0.019 *J*	--	--
MW1	MW1	K0902142	Integral	March 2009	3/9/2009	10:10	41	46	31	10	23	2.1	8	0.03 *J*	0.009 *U*	--	--
MW1	MW1	K0904395	Integral	May 2009	5/13/2009	12:45	51 *J*	59	41	5 *U*	30	3.3	9	0.041 *UJ*	0.011 *J*	--	--
MW1	MW1	K0906701	Integral	July 2009	7/24/2009	15:15	47 *J*	76	33	17	32	3	5.6	0.037 *UJ*	0.021 *UJ*	--	--
MW1	MW1	K0910115	Integral	October 2009	10/17/2009	16:02	49 *J*	59	35.6	6	27.4	5.47	6.91	0.018 *UJ*	0.024 *J*	--	--
MW1	MW1	K1000512	Integral	January 2010	1/17/2010	09:37	45 *J*	51 *UJ*	26	5 *U*	17.3	10.1	6.67	0.028 *UJ*	0.041 *J*	--	--
MW1	MW1	K1004032	Integral	April 2010	4/22/2010	15:00	58 *J*	61	30.4	6	23	14.1	7.46	0.044 *J*	0.04 *UJ*	--	--
MW1	MW1	K1008751	Integral	August 2010	8/10/2010	16:00	61 *J*	77	49.2	5 *U*	36.6	4.26	10.8	0.041 *UJ*	0.061 *UJ*	--	--
MW1	MW1	K1011739	Integral	October 2010	10/19/2010	13:40	56 *J*	75	33.6	18	19.2	17.5	4.43	--	0.009 *U*	--	--
MW1	MW1	K1100642	Integral	January 2011	1/20/2011	15:15	41 *J*	83	37.6	6	23.7 *UJ*	4.43	11.1	--	0.009 *U*	--	--
MW1	MW1	K1103541	Integral	April 2011	4/20/2011	14:40	53 *J*	57	42.4	16.5	31.5	3.73	9.55	--	0.026 *UJ*	--	--
MW1	MW1	K1106862	Integral	July 2011 II	7/25/2011	14:10	63 *J*	71	50	5 *U*	42	3.93	9.01	0.069	0.016 *UJ*	--	--
MW1	MW1	K1112358	Integral	December 2011	12/20/2011	15:10	53 *J*	78	41.2	5 *U*	26.4	3.63	13 *J*	0.045 *UJ*	0.017 *UJ*	--	--
MW1	MW1	K1200245	Integral	January 2012	1/9/2012	14:30	60 *J*	91	39.2	5 *U*	20.6	13.7	10.6	0.009 *U*	0.009 *U*	--	--
MW1	MW1	K1203283	Integral	April 2012	4/7/2012	15:53	68 *J*	96	45.6	2.9 *U*	29.8	10.7	16.1	0.014 *UJ*	0.018 *J*	--	--
MW1	MW1	K1207121	Integral	July 2012	7/21/2012	16:40	68 *J*	76	52.8	5 *U*	38	3.71	15	0.014 *UJ*	0.01 *J*	--	--
MW1	MW1	K1210890	Integral	October 2012	10/28/2012	13:30	69 *J*	87 *J*	53.6	5 *U*	30.8	4.8	19	0.016 *J*	0.009 *U*	--	--
MW2	MW2	L495369	Knight Piesold	April 2007	4/10/2007	15:10	42	46	8.01	109	10.6	6.89	2.79	0.0574	--	0.005 *U*	0.001 *U*
MW2	MW2	L507191	Knight Piesold	May 2007	5/14/2007	11:20	60	103	10.4	100	27.9	7.03	0.6	0.424	--	0.005 *U*	0.001 *U*
MW2	MW2	L515743	Knight Piesold	June 2007	6/4/2007	13:58	53	82	13.4	4.3	14.8	6.11	0.5 *U*	0.024	--	0.005 *U*	0.001 *U*
MW2	MW2	L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	37	120	27.9	37.5	22.1	5.75	0.5 *U*	0.051	--	0.005 *U*	0.001 *U*
MW2	MW2	K0706569	Integral	July 2007 II	7/24/2007	12:10	59	104	28	131	27	5.5	0.02 *U*	1.73	0.08	--	--
MW2	MW2	K0707317	Integral	August 2007 I	8/14/2007	11:40	45	80	22	155	20	4.8	0.2	0.93	0.06	--	--
MW2	MW2	K0707782	Integral	August 2007 II	8/28/2007	16:20	49 *J*	167	29	520	20	5	0.6	1.09	0.028 *J*	--	--
MW2	MW2	K0708240	Integral	September 2007 I	9/11/2007	11:00	39 *J*	102	41	285	16	4	0.136 *UJ*	0.76	0.1	--	--
MW2	MW2	K0709126	Integral	September 2007 II	9/30/2007	16:15	40 *J*	104	24 *U*	610	20	3.5	0.3	0.46	0.049 *J*	--	--
MW2	MW2	K0709804	Integral	October 2007	10/16/2007	13:30	35 *J*	64	138	373	15	3.6	0.172 *J*	0.71	0.03 *J*	--	--
MW2	MW2	K0710773	Integral	November 2007	11/12/2007	14:30	40 *J*	82	152	360	16	4.9	0.7	0.47	0.035 *J*	--	--
MW2	MW2	K0711891	Integral	December 2007 I	12/14/2007	14:30	29 *J*	47 *U*	49	415	8	4.6	0.9	0.53	0.13	--	--
MW2	MW2	K0800335	Integral	January 2008	1/8/2008	12:49	29 *J*	48	6 *U*	260	8	6.4	0.3	0.43	0.006 *U*	--	--
MW2	MW2	K0801400	Integral	Februrary 2008	2/13/2008	15:30	28 *J*	50 *U*	19 *U*	200	8	6.5	0.2	0.41	0.022 *UJ*	--	--
MW2	MW2	K0802328	Integral	March 2008	3/14/2008	13:00	22 *J*	14 *U*	15 *U*	158	5 *U*	5.3	0.151 *J*	0.38	0.06 *U*	--	--
MW2	MW2	K0803239	Integral	April 2008	4/14/2008	13:00	23 *J*	75	13 *U*	112	8 *UJ*	6.1	0.117 *J*	0.26	0.041 *U*	--	--
MW2	MW2	K0804080	Integral	May 2008	5/7/2008	16:20	27 *J*	28	12 *U*	80	6 *UJ*	6.5	0.18 *J*	0.29	0.004 *UJ*	--	--
MW2	MW2	K0805877	Integral	June 2008	6/26/2008	16:10	25 *J*	27 *U*	28	69	4	5.3	0.11 *UJ*	0.39	0.045 *UJ*	--	--
MW2	MW2	K0806880	Integral	July 2008	7/24/2008	12:15	78 *J*	18	169	75	97	3.8	0.178 *J*	0.43	0.039 *J*	--	--
MW2	MW2	K0807975	Integral	August 2008	8/19/2008	11:00	20 *J*	16 *U*	13	48	5	3.6	0.146 *UJ*	0.37	0.024 *UJ*	--	--
MW2	MW2	K0808787	Integral	September 2008	9/9/2008	14:00	19 *J*	47	20	53	4	3.5	0.128 *J*	0.45	0.043 *UJ*	--	--
MW2	MW2	K0810253	Integral	October 2008	10/15/2008	13:45	19 *J*	24	27	56	4	3.7	0.148 *J*	0.46	0.032 *J*	--	--
MW2	MW2	K0902142	Integral	March 2009	3/8/2009	15:35	20 *J*	27	7	58	4	3.3	2.9	0.25	0.019 *J*	--	--

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwater

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW2	MW2	K0904395	Integral	May 2009	5/13/2009	11:45	20 *J*	40	1 *J*	64	4	3.4	2	0.25	0.29	--	--
MW2	MW2	K0906701	Integral	July 2009	7/24/2009	15:45	24 *J*	71	13	98	10	3.6	0.7	0.4	0.031 *UJ*	--	--
MW2	MW2	K0908619	Integral	September 2009 II	9/12/2009	17:00	26 *J*	68.5	8	32	10.2	4.09	0.28	0.455	0.013 *J*	--	--
MW2	MW2	K0910115	Integral	October 2009	10/17/2009	08:52	25 *J*	53.5	13.6	28	10.2	3.99	0.19 *J*	0.527	0.009 *U*	--	--
MW2	MW2	K1000512	Integral	January 2010	1/15/2010	11:49	23 *J*	44 *UJ*	5.6	136	3.8	5.78	2.37	0.375	0.022 *J*	--	--
MW2	MW2	K1004032	Integral	April 2010	4/22/2010	11:40	23 *J*	37	7.6	47.1	2.4	6.55	3.42	0.244	0.05 *UJ*	--	--
MW2	MW2	K1008751	Integral	August 2010	8/10/2010	14:15	27 *J*	45	12.4	50	8.1	4.39	2.9	0.391	0.062 *UJ*	--	--
MW2	MW2	K1011739	Integral	October 2010	10/19/2010	14:25	26 *J*	37	8	15	8.5	6.65	1.29	--	0.009 *U*	--	--
MW2	MW2	K1100642	Integral	January 2011	1/20/2011	12:10	24 *J*	26	11.6	32.7	6.5 *UJ*	5.4	2.85	--	0.112	--	--
MW2	MW2	K1103541	Integral	April 2011	4/20/2011	13:20	25 *J*	38.5	14.8	31	8 *J*	5.28	2.75	--	0.037 *UJ*	--	--
MW2	MW2	K1106862	Integral	July 2011 II	7/24/2011	17:10	29	42	13	21	16.2	4.16	1.57	0.347	0.112	--	--
MW2	MW2	K1112358	Integral	December 2011	12/20/2011	14:10	22 *J*	38 *J*	4.8	23	12	4.09	0.65 *J*	2.31	0.013 *UJ*	--	--
MW2	MW2	K1200245	Integral	January 2012	1/9/2012	12:55	27 *J*	22 *U*	5.6	13.5	7.7	9.07	1.04	1.06	0.015 *J*	--	--
MW2	MW2	K1203283	Integral	April 2012	4/7/2012	9:34	25 *J*	38.5	10	24.7	3.2	7.48	3.48	1.06	0.035 *J*	--	--
MW2	MW2	K1207121	Integral	July 2012	7/21/2012	7:30	21 *J*	27	6.8	14	8	3.24	1.69	0.467	0.017 *J*	--	--
MW2	MW2	K1210890	Integral	October 2012	10/28/2012	10:45	23 *J*	40 *J*	8.4 *J*	10	15.3 *J*	3.64	0.77	0.712	0.025 *J*	--	--
MW3	MW3	L482967	Knight Piesold	February 2007	2/28/2007	11:12	18	63	4.91	40.7	2	6	2.5 *U*	0.005 *U*	--	0.025 *U*	0.0087
MW3	MW3	L495369	Knight Piesold	April 2007	4/10/2007	12:35	27	121	2.06	384	4.4	6.95	1.6	0.0079	--	0.005 *U*	0.001 *U*
MW3	MW3	L507191	Knight Piesold	May 2007	5/14/2007	11:57	40	113	5.03	444	9.9	6.2	5 *U*	0.0069	--	0.05 *U*	0.01 *U*
MW3	MW3	L515743	Knight Piesold	June 2007	6/4/2007	14:54	36	68	6.51	279	5.4	5.37	1.55	0.02 *U*	--	0.005 *U*	0.001 *U*
MW3	MW3	L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	30	99	8.09	70.5	5.5	4.44	0.5 *U*	0.02 *U*	--	0.005 *U*	0.001 *U*
MW3	MW3	K0706569	Integral	July 2007 II	7/24/2007	13:20	35	76	48	88	6	3.5	0.5	0.33	0.06	--	--
MW3	MW3	K0707317	Integral	August 2007 I	8/14/2007	12:20	29 *J*	94	23	86	4	3.4	0.4	0.22	0.048 *J*	--	--
MW3	MW3	K0707782	Integral	August 2007 II	8/28/2007	16:55	21	54 *U*	15	55	0.8 *U*	3	1.3	0.05 *U*	0.06	--	--
MW3	MW3	K0708240	Integral	September 2007 I	9/10/2007	16:20	31 *J*	98	35	43	4	2.7	0.156 *UJ*	0.14	0.05	--	--
MW3	MW3	K0709126	Integral	September 2007 II	9/30/2007	16:55	28	83	30 *U*	316	4	3	0.2	0.03 *U*	0.06	--	--
MW3	MW3	K0709804	Integral	October 2007	10/17/2007	09:10	24 *J*	70	31	204	1 *UJ*	3.6	0.141 *J*	0.12 *UJ*	0.023 *J*	--	--
MW3	MW3	K0710773	Integral	November 2007	11/12/2007	13:20	27 *J*	27	152	126	4 *UJ*	6.5	0.185 *J*	0.1 *UJ*	0.06	--	--
MW3	MW3	K0711891	Integral	December 2007 I	12/15/2007	09:00	20 *J*	51 *U*	11 *U*	39	1 *U*	6.6	1.6	0.07 *UJ*	0.025 *UJ*	--	--
MW3	MW3	K0800335	Integral	January 2008	1/8/2008	13:18	22 *J*	31	15 *U*	17 *J*	1 *U*	10.1	1.3	0.04 *UJ*	0.006 *U*	--	--
MW3	MW3	K0801400	Integral	Februrary 2008	2/13/2008	15:40	20 *J*	26 *U*	13 *U*	18	1 *U*	7.4	0.9	0.05	0.013 *UJ*	--	--
MW3	MW3	K0802328	Integral	March 2008	3/14/2008	14:20	20 *J*	54 *U*	20 *U*	7	1 *U*	7	0.9	0.08 *UJ*	0.05 *U*	--	--
MW3	MW3	K0803239	Integral	April 2008	4/14/2008	13:35	28 *J*	35	17 *U*	23	3 *UJ*	10.1	1.3	0.08 *UJ*	0.021 *U*	--	--
MW3	MW3	K0804080	Integral	May 2008	5/7/2008	15:45	27 *J*	37	20 *U*	13	1 *UJ*	9.4	1.1	0.05 *UJ*	0.004 *UJ*	--	--
MW3	MW3	K0805877	Integral	June 2008	6/27/2008	10:15	30 *J*	47	47	31	1 *U*	5	2.5	0.07 *UJ*	0.047 *UJ*	--	--
MW3	MW3	K0806880	Integral	July 2008	7/24/2008	12:40	32 *J*	29	207	14	3	3.7	0.3	0.14 *UJ*	0.06	--	--
MW3	MW3	K0807975	Integral	August 2008	8/19/2008	9:30	32 *J*	143	25	20	4	3.9	0.175 *UJ*	0.19	0.05 *UJ*	--	--
MW3	MW3	K0808787	Integral	September 2008	9/9/2008	11:30	29 *J*	49	50	18	4	3.5	0.081 *J*	0.22	0.08 *UJ*	--	--
MW3	MW3	K0810253	Integral	October 2008	10/15/2008	10:20	25 *J*	31	154	16	3	3.9	0.119 *J*	0.27	0.06	--	--
MW3	MW3	K0902142	Integral	March 2009	3/8/2009	15:10	12 *J*	19	5	8	1 *U*	2.6	1.5	0.26	0.022 *J*	--	--
MW3	MW3	K0904395	Integral	May 2009	5/13/2009	10:00	20 *J*	64	1.2 *J*	9	4	3.7	0.9	0.2 *UJ*	0.016 *J*	--	--
MW3	MW3	K0906701	Integral	July 2009	7/24/2009	14:15	15 *J*	72	6	5 *U*	1 *U*	2.8	1.9	0.07 *UJ*	0.022 *UJ*	--	--
MW3	MW3	K0908619	Integral	September 2009 II	9/12/2009	14:35	21 *J*	79.5	6.4	5.5	1 *U*	5	0.54	0.09 *UJ*	0.027 *J*	--	--
MW3	MW3	K0910115	Integral	October 2009	10/17/2009	09:44	15 *J*	28	6.8	5 *U*	1 *U*	4.76	1.3	0.091	0.009 *U*	--	--
MW3	MW3	K1000512	Integral	January 2010	1/15/2010	12:36	23 *J*	34 *UJ*	6.8	5 *U*	1 *U*	9.1	2.86	0.109 *UJ*	0.02 *J*	--	--
MW3	MW3	K1004032	Integral	April 2010	4/22/2010	8:45	41 *J*	44	20.8	11	1 *U*	20.8	1.13	0.099	0.051 *UJ*	--	--
MW3	MW3	K1008751	Integral	August 2010	8/10/2010	10:05	25 *J*	10	14.8	67	1 *U*	6.98	3.49	0.139 *UJ*	0.162 *UJ*	--	--
MW3	MW3	K1011739	Integral	October 2010	10/19/2010	09:55	28 *J*	38	9.2	5 *U*	3 *U*	14	1.02	--	0.009 *U*	--	--
MW3	MW3	K1100642	Integral	January 2011	1/20/2011	10:40	17 *J*	29	21.2	13.5	1 *UJ*	6.67	0.78	--	0.02 *J*	--	--
MW3	MW3	K1103541	Integral	April 2011	4/20/2011	13:00	14 *J*	30	13.6	8.5	3 *U*	4.1	0.85	--	0.032 *UJ*	--	--
MW3	MW3	K1106862	Integral	July 2011 II	7/24/2011	15:00	17 *J*	36.5	12	5 *U*	2.9 *J*	3.5	0.76	0.112	0.029 *UJ*	--	--
MW3	MW3	K1112358	Integral	December 2011	12/20/2011	11:45	21 *J*	9.5	7.6	35	6 *J*	5.46	0.02 *U*	0.192	0.027 *UJ*	--	--
MW3	MW3	K1200245	Integral	January 2012	1/9/2012	11:00	29 *J*	30 *U*	7.2	5 *U*	1.6 *UJ*	15.1	0.24 *J*	0.202	0.018 *J*	--	--
MW3	MW3	K1203283	Integral	April 2012	4/7/2012	10:57	22 *J*	38.5	8	6.3	1 *U*	10.6	0.91	0.138	0.017 *J*	--	--
MW3	MW3	K1207121	Integral	July 2012	7/21/2012	9:15	19 *J*	64.5	10	7.5	3	3.27	0.12 *J*	0.116	0.019 *J*	--	--
MW3	MW3	K1210890	Integral	October 2012	10/28/2012	11:00	20 *J*	64.5 *J*	13.6 *J*	40.5	3.8 *J*	3.68	0.69	0.22	0.017 *J*	--	--
MW4	MW4	L482967	Knight Piesold	February 2007	2/27/2007	08:39	16	102	3.28	175	3.4	3.4	2.5 *U*	0.0065	--	0.025 *U*	0.0076
MW4	MW4	L495369	Knight Piesold	April 2007	4/10/2007	13:23	21	62	3.36	108	3.7	5.65	1.94	0.0069	--	0.005 *U*	0.001 *U*
MW4	MW4	L507191	Knight Piesold	May 2007	5/14/2007	13:13	23	49	6.59	51	5.6	4.96	0.85	0.021	--	0.005 *U*	0.001 *U*
MW4	MW4	L515743	Knight Piesold	June 2007	6/4/2007	11:02	20	48	5.69	11.3	3.6	4.53	1.29	0.02 *U*	--	0.005 *U*	0.001 *U*
MW4	MW4	K0706569	Integral	July 2007 II	7/23/2007	17:00	36	20 *U*	29	21	8	2.3	0.9	0.19 *U*	0.83	--	--
MW4	MW4	K0707782	Integral	August 2007 II	8/27/2007	16:20	25	68	12	38	5	2.5	2.4	0.09 *U*	0.006 *U*	--	--

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwater

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW4	MW4	K0708240	Integral	September 2007 I	9/10/2007	17:00	33 *J*	65	23 *U*	66	9	1.9	0.6	0.12	0.16	--	--
MW4	MW4	K0709126	Integral	September 2007 II	9/30/2007	17:30	37 *J*	96	45	23	8	3.2	0.4	0.13 *U*	0.07	--	--
MW4	MW4	K0709804	Integral	October 2007	10/16/2007	16:40	44 *J*	80	41	19	10	3.3	0.3	0.16	0.045 *J*	--	--
MW4	MW4	K0710773	Integral	November 2007	11/12/2007	11:50	37 *J*	41	51	10	9 *UJ*	5.3	0.4	0.18	0.06	--	--
MW4	MW4	K0711891	Integral	December 2007 I	12/15/2007	09:45	19 *J*	25 *U*	10 *U*	92	2 *J*	6.1	1.7	0.06 *UJ*	0.011 *UJ*	--	--
MW4	MW4	K0800335	Integral	January 2008	1/8/2008	14:48	21 *J*	38 *J*	18 *U*	5 *J*	2 *UJ*	8.6	2	0.04 *UJ*	0.006 *U*	--	--
MW4	MW4	K0801400	Integral	Februrary 2008	2/13/2008	11:30	15 *J*	10 *U*	17 *U*	8	1 *U*	5.6	2	0.03 *J*	0.005 *UJ*	--	--
MW4	MW4	K0802328	Integral	March 2008	3/15/2008	8:15	18 *J*	36 *U*	26 *U*	8	1 *U*	7	1.3	0.05 *UJ*	0.049 *U*	--	--
MW4	MW4	K0803239	Integral	April 2008	4/14/2008	10:00	24 *J*	5 *U*	24 *U*	12	7 *UJ*	9.7	2	0.05 *UJ*	0.005 *U*	--	--
MW4	MW4	K0804080	Integral	May 2008	5/8/2008	15:50	24 *J*	28	17 *U*	13	2 *UJ*	8.5	1.8	0.09 *UJ*	0.004 *UJ*	--	--
MW4	MW4	K0805877	Integral	June 2008	6/27/2008	11:15	21 *J*	29 *U*	22 *U*	13	3	3.9	1.6	0.09 *UJ*	0.043 *UJ*	--	--
MW4	MW4	K0806880	Integral	July 2008	7/24/2008	10:15	35 *J*	28	21	5 *U*	4	2.8	9.8	0.12 *UJ*	0.036 *J*	--	--
MW4	MW4	K0807975	Integral	August 2008	8/19/2008	10:15	45 *J*	59	11	19	5	2.8	20.7	0.19	0.11	--	--
MW4	MW4	K0808787	Integral	September 2008	9/9/2008	14:45	61 *J*	68	20	7	2 *J*	2.8	28.9	0.23	0.11 *UJ*	--	--
MW4	MW4	K0810253	Integral	October 2008	10/15/2008	11:40	40 *J*	47	39	7	10	3.1	10.2	0.26	0.06	--	--
MW4	MW4	K0902142	Integral	March 2009	3/8/2009	14:12	13 *J*	19	6	9	1 *U*	2	4.3	0.2	0.14	--	--
MW4	MW4	K0904395	Integral	May 2009	5/13/2009	11:00	29 *J*	46	9	8	1 *J*	3.3	15.3	0.18 *UJ*	0.06	--	--
MW4	MW4	K0906701	Integral	July 2009	7/23/2009	9:20	37 *J*	75	12	48	7	3	10.5	0.23	0.044 *UJ*	--	--
MW4	MW4	K0908619	Integral	September 2009 II	9/13/2009	07:50	48 *J*	74.5	9.6	9	16.2	4.76	3.36	0.575	0.052	--	--
MW4	MW4	K0910115	Integral	October 2009	10/17/2009	11:00	42 *J*	69.5	16.8	8	14.1	4.2	3.7	0.46	0.02 *J*	--	--
MW4	MW4	K1000512	Integral	January 2010	1/15/2010	13:34	29 *J*	36 *UJ*	12.4	12	2.9	7.27	4.8	0.303	0.075	--	--
MW4	MW4	K1004032	Integral	April 2010	4/22/2010	10:00	53 *J*	55	14	8.1	13.4	5.7	10.1	0.213	0.074 *UJ*	--	--
MW4	MW4	K1008751	Integral	August 2010	8/10/2010	11:45	67 *J*	67	37	8.5	15.3	3.98	21.7	0.431	0.101 *UJ*	--	--
MW4	MW4	K1011739	Integral	October 2010	10/19/2010	10:50	54 *J*	118	24	10.5	15.5	10.4	3.96	--	0.014 *J*	--	--
MW4	MW4	K1100642	Integral	January 2011	1/20/2011	11:45	55 *J*	59	36	7	21.8 *UJ*	5.26	13.1	--	0.032 *J*	--	--
MW4	MW4	K1103541	Integral	April 2011	4/20/2011	11:15	62 *J*	90	44.4	5 *U*	28.2	5.17	12.2	--	0.045 *UJ*	--	--
MW4	MW4	K1106862	Integral	July 2011 II	7/24/2011	16:10	76 *J*	81	50	5 *U*	39.9	3.87	16.8	0.291	0.043 *UJ*	--	--
MW4	MW4	K1112358	Integral	December 2011	12/20/2011	13:00	43 *J*	75	24.8	16 *J*	26	3.65	1.71 *J*	0.327	0.046 *UJ*	--	--
MW4	MW4	K1200245	Integral	January 2012	1/9/2012	12:15	54 *J*	114	25.2	5 *U*	20.2	12.6	3.7	0.335	0.023 *J*	--	--
MW4	MW4	K1203283	Integral	April 2012	4/7/2012	13:54	54 *J*	70.5	36	2.9 *U*	23.6	7.36	8.43	0.342	0.038 *J*	--	--
MW4	MW4	K1207121	Integral	July 2012	7/21/2012	10:15	62 *J*	55	45.6	5 *U*	32.6	3.18	7.51	0.349	0.027 *J*	--	--
MW7	MW7	L482967	Knight Piesold	February 2007	2/28/2007	13:00	29	67	16.3	173	12.4	5.4	2.5 *U*	0.0764	--	0.025 *U*	0.0094
MW7	MW7	L495369	Knight Piesold	April 2007	4/10/2007	14:24	53	61	22	32.5	23.8	9.59	2.1	0.216	--	0.005 *U*	0.001 *U*
MW7	MW7	L507191	Knight Piesold	May 2007	5/15/2007	08:40	63	76	26.1	28	35.7	6.37	1.54	0.349	--	0.005 *U*	0.001 *U*
MW7	MW7	L515743	Knight Piesold	June 2007	6/5/2007	09:00	60	62	28.2	9.8	37.1	4.39	0.68	0.338	--	0.005 *U*	0.001 *U*
MW7	MW7	L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	53	75	26.3	7	34.1	3.18	0.77	0.297	--	0.005 *U*	0.001 *U*
MW7	MW7	K0706569	Integral	July 2007 II	7/23/2007	13:47	52 *J*	71	27	12	35	2.6	0.3	0.44	0.044 *J*	--	--
MW7	MW7	K0707317	Integral	August 2007 I	8/13/2007	12:55	53 *J*	71	32	6	35	2.4	0.14 *J*	0.39	0.037 *J*	--	--
MW7	MW7	K0707782	Integral	August 2007 II	8/28/2007	14:35	50 *J*	90	36	6	35	2.6	0.085 *UJ*	0.35	0.017 *J*	--	--
MW7	MW7	K0708240	Integral	September 2007 I	9/10/2007	12:25	52 *J*	55	41	5 *U*	36	2	0.091 *UJ*	0.3	0.031 *J*	--	--
MW7	MW7	K0709126	Integral	September 2007 II	9/30/2007	13:40	49 *J*	59	48	48	32	2.5	0.105 *J*	0.26	0.09	--	--
MW7	MW7	K0709804	Integral	October 2007	10/16/2007	10:35	35 *J*	48	30 *U*	85	12	3.4	0.191 *J*	0.27	0.009 *J*	--	--
MW7	MW7	K0710773	Integral	November 2007	11/13/2007	07:45	42 *J*	43	25	13	23	6.8	0.064 *J*	0.23	0.019 *J*	--	--
MW7	MW7	K0711891	Integral	December 2007 I	12/15/2007	11:20	40 *J*	54 *U*	23 *U*	40	14	6.1	0.6	0.07 *UJ*	0.045 *UJ*	--	--
MW7	MW7	K0800335	Integral	January 2008	1/9/2008	09:18	39 *J*	37	28 *U*	17	11	11.1	1	0.15	0.024 *J*	--	--
MW7	MW7	K0801400	Integral	Februrary 2008	2/14/2008	12:05	34 *J*	51 *U*	23 *U*	16	13	8	1.1	0.14	0.014 *UJ*	--	--
MW7	MW7	K0802328	Integral	March 2008	3/13/2008	15:10	28 *J*	39 *U*	35 *U*	22	12 *U*	7	0.7	0.1 *UJ*	0.07 *U*	--	--
MW7	MW7	K0803239	Integral	April 2008	4/13/2008	15:45	36 *J*	24	34 *U*	14	11	10.4	0.9	0.12	0.014 *U*	--	--
MW7	MW7	K0804080	Integral	May 2008	5/6/2008	10:45	38 *J*	38	24 *U*	11	14	10.3	0.9	0.12 *UJ*	0.004 *UJ*	--	--
MW7	MW7	K0805877	Integral	June 2008	6/26/2008	13:30	35 *J*	33 *U*	30	43	18	4.7	0.6	0.04 *UJ*	0.025 *UJ*	--	--
MW7	MW7	K0806880	Integral	July 2008	7/25/2008	9:30	34 *J*	39	28	6	22	2.9	0.3	0.14 *UJ*	0.033 *J*	--	--
MW8	MW8	L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	75	76	40.1	9.1	49.7	5.48	2.35	0.0469	--	0.0237	0.001 *U*
MW8	MW8	K0706569	Integral	July 2007 II	7/23/2007	12:00	63	96	40	5 *U*	43	5	1.7	0.05 *U*	0.06	--	--
MW8	MW8	K0707317	Integral	August 2007 I	8/13/2007	12:00	65 *J*	66	43	5 *U*	45	5.4	1.9	0.006 *U*	0.021 *J*	--	--
MW8	MW8	K0707782	Integral	August 2007 II	8/28/2007	10:00	63 *J*	71	47	5 *U*	45	5.5	1.6	0.03 *UJ*	0.006 *J*	--	--
MW8	MW8	K0708240	Integral	September 2007 I	9/10/2007	11:20	66 *J*	59	50	5 *U*	46	4.8	2.3	0.02 *UJ*	0.028 *J*	--	--
MW8	MW8	K0709126	Integral	September 2007 II	9/30/2007	10:45	66	96	56	5 *U*	45	4.5	2.3	0.1 *U*	0.006 *U*	--	--
MW8	MW8	K0709804	Integral	October 2007	10/16/2007	15:50	63 *J*	59	52	5	28	2.8	14.6	0.02 *UJ*	0.22	--	--
MW8	MW8	K0710773	Integral	November 2007	11/12/2007	16:15	60 *J*	65	46	5 *U*	38	5.6	2.4	0.032 *UJ*	0.015 *J*	--	--
MW8	MW8	K0711891	Integral	December 2007 I	12/14/2007	10:50	67 *J*	71	49	5 *U*	48	4.5	2	0.02 *UJ*	0.042 *UJ*	--	--
MW8	MW8	K0800335	Integral	January 2008	1/8/2008	09:41	60 *J*	46	46	5 *U*	35	6.9	3	0.02 *UJ*	0.006 *U*	--	--
MW8	MW8	K0801400	Integral	Februrary 2008	2/13/2008	10:00	69 *J*	59	52	5 *U*	45	5.7	3.7	0.04 *J*	0.01 *UJ*	--	--

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwater

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW8	MW8	K0802328	Integral	March 2008	3/13/2008	12:45	60 *J*	54 *U*	52 *U*	5 *U*	40	5.7	2.5	0.02 *UJ*	0.06 *U*	--	--
MW8	MW8	K0803239	Integral	April 2008	4/14/2008	9:00	73 *J*	46	50 *U*	5 *U*	57	7.1	2.7	0.02 *UJ*	0.018 *U*	--	--
MW8	MW8	K0804080	Integral	May 2008	5/6/2008	15:15	67 *J*	40	49 *U*	5 *U*	46	5.8	2.7	0.02 *UJ*	0.037 *UJ*	--	--
MW8	MW8	K0805877	Integral	June 2008	6/26/2008	10:45	67 *J*	53	60	5 *U*	44	6.7	3.4	0.02 *UJ*	0.05 *UJ*	--	--
MW9	MW9	L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	92	94	71.6	53.1	77.7	5.36	2.15	0.0078	--	0.0172	0.001 *U*
MW9	MW9	K0706569	Integral	July 2007 II	7/23/2007	16:07	97 *J*	111	76	92	86	5.1	2.7	0.01 *U*	0.011 *J*	--	--
MW9	MW9	K0707317	Integral	August 2007 I	8/13/2007	15:20	98 *J*	96	79	810	89	4.8	2.1	0.039 *J*	0.046 *J*	--	--
MW9	MW9	K0707782	Integral	August 2007 II	8/28/2007	15:00	86 *J*	101	76	31	73	4.8	2.1	0.006 *U*	0.036 *J*	--	--
MW9	MW9	K0708240	Integral	September 2007 I	9/10/2007	13:20	90 *J*	72	75	48	77	4.3	2.2	0.02 *UJ*	0.015 *J*	--	--
MW9	MW9	K0709126	Integral	September 2007 II	9/30/2007	14:30	94 *J*	100	83	26	80	4.2	2.3	0.11 *U*	0.006 *U*	--	--
MW9	MW9	K0709804	Integral	October 2007	10/16/2007	16:55	66 *J*	49	93	5 *U*	35	4.5	2.4	0.04 *UJ*	0.014 *J*	--	--
MW9	MW9	K0710773	Integral	November 2007	11/12/2007	15:00	92 *J*	83	78	15	76	4.6	2.2	0.017 *UJ*	0.007 *J*	--	--
MW9	MW9	K0711891	Integral	December 2007 I	12/14/2007	11:15	86 *J*	84	85	5 *U*	74	3.9	2.1	0.05 *UJ*	0.018 *UJ*	--	--
MW9	MW9	K0800335	Integral	January 2008	1/8/2008	08:35	86 *J*	89	72	10	69	5	3.7	0.01 *UJ*	0.006 *U*	--	--
MW9	MW9	K0801400	Integral	Februrary 2008	2/13/2008	12:00	88 *J*	123	72	5 *U*	73	5.7	3.9	0.03 *J*	0.018 *UJ*	--	--
MW9	MW9	K0802328	Integral	March 2008	3/13/2008	16:15	81 *J*	89 *U*	80	68	68	5.4	2.3	0.16 *UJ*	0.048 *U*	--	--
MW9	MW9	K0803239	Integral	April 2008	4/14/2008	10:40	84 *J*	71	84	48	70	5.6	2.3	0.02 *UJ*	0.019 *U*	--	--
MW9	MW9	K0804080	Integral	May 2008	5/6/2008	17:45	84 *J*	58	74	24	66	5.9	2.2	0.01 *UJ*	0.013 *UJ*	--	--
MW9	MW9	K0805877	Integral	June 2008	6/26/2008	15:15	85 *J*	108	68	18	68	6.8	2.6	0.03 *UJ*	0.028 *UJ*	--	--

Notes:

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

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 = Rejected.

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
MW1	MW1	L482967	Knight Piesold	February 2007	2/28/2007	08:45	603	169	1.14	0.75	0.091	0.017 *U*	9940	10100	1.1	1 *U*	18.1
MW1	MW1	L495369	Knight Piesold	April 2007	4/10/2007	08:25	742	169	0.34	0.21	0.032	0.017 *U*	14400	14200	0.5 *U*	0.5 *U*	2.69
MW1	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	0.5 *U*	0.5 *U*	1.49
MW1	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	0.5 *U*	0.5 *U*	2.71
MW1	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	0.5 *U*	0.5 *U*	3.85
MW1	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	0.64 *U*	0.95 *U*	2.46
MW1	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	0.37 *U*	0.35 *U*	1.52
MW1	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	0.63 *U*	0.69 *U*	1.83
MW1	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	0.83 *U*	0.68 *U*	2.53
MW1	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	0.81 *U*	0.78 *U*	2.87
MW1	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	0.78 *U*	0.86 *U*	2.57
MW1	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	0.85 *U*	0.7 *U*	2.82
MW1	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	3.44	0.56 *U*	38.5 *J*
MW1	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	0.47 *U*	0.58 *U*	2.56
MW1	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	1.26 *U*	0.43 *U*	6.08
MW1	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	0.56 *U*	0.63 *U*	0.94
MW1	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	0.44 *U*	0.56 *U*	0.73
MW1	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	0.58 *U*	0.39 *U*	2.49 *U*
MW1	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	0.72 *U*	0.68 *U*	2.1 *U*
MW1	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	0.72 *U*	0.66 *U*	2.23
MW1	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	--	--	3.09
MW1	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	--	--	2.51 *J*
MW1	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	--	--	2.12
MW1	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	--	--	1.64
MW1	MW1	K0904395	Integral	May 2009	5/13/2009	12:45	1950	120	0.9	0.2 *U*	0.119	0.013 *J*	14600	12200	--	--	25.7
MW1	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	--	--	2.74
MW1	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	--	--	1.32
MW1	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	--	--	0.96
MW1	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*	--	--	1.17 *J*
MW1	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	--	--	1.77
MW1	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	--	--	2.87
MW1	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	--	--	1.65
MW1	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	--	--	1.91
MW1	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	--	--	2.2
MW1	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	--	--	1.39
MW1	MW1	K1200245	Integral	January 2012	1/9/2012	14:30	102	114	0.1 *J*	0.1 *J*	0.008 *UJ*	0.008 *UJ*	12900	13500	--	--	1.16
MW1	MW1	K1203283	Integral	April 2012	4/7/2012	15:53	94.4	80.5	0.24 *UJ*	0.19 *UJ*	0.007 *UJ*	0.005 *UJ*	15100	14700	--	--	0.98
MW1	MW1	K1207121	Integral	July 2012	7/21/2012	16:40	208	187	0.13 *J*	0.14 *J*	0.01 *J*	0.01 *J*	16700	17500	--	--	2.07
MW1	MW1	K1210890	Integral	October 2012	10/28/2012	13:30	168 *J*	126 *J*	0.1 *U*	0.1 *U*	0.012 *J*	0.021 *J*	17200	17800	--	--	1.01
MW2	MW2	L495369	Knight Piesold	April 2007	4/10/2007	15:10	3400	519	0.81	0.48	0.036	0.017 *U*	1090	1160	7.36	0.5 *U*	10.3
MW2	MW2	L507191	Knight Piesold	May 2007	5/14/2007	11:20	2960	561	0.84	0.41	0.03	0.017 *U*	1260	1360	7.16	1.3	10.2
MW2	MW2	L515743	Knight Piesold	June 2007	6/4/2007	13:58	1970	702	0.87	0.7	0.024	0.017 *U*	1870	1920	4.72	1.45	7.59
MW2	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	0.5 *U*	0.5 *U*	1.49
MW2	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	4.07	1.73	8.12
MW2	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	3.35 *U*	2.4 *U*	7.07
MW2	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	7.99	2.6	16.6
MW2	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	5.64	2.03 *U*	12.6
MW2	MW2	K0709126	Integral	September 2007 II	9/30/2007	16:15	4190	946	1.07	0.62	0.079	0.018 *U*	1570	835	7.09	2.24	13.3
MW2	MW2	K0709804	Integral	October 2007	10/16/2007	13:30	3070	838	0.78	0.43 *J*	0.045	0.016 *J*	1210	731	5.18	2.23	10.4
MW2	MW2	K0710773	Integral	November 2007	11/12/2007	14:30	4000	719	1.09	0.64	0.092	0.018 *UJ*	1200	637	7.99	1.88	13.7
MW2	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	13.6	1.75	19.2 *J*
MW2	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	7.61	1.3	13.4
MW2	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	3.66	1.17 *U*	6.89
MW2	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	3.96	1.2 *U*	6.64
MW2	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	3.69	1.18 *U*	5.59
MW2	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	3.68	1.13 *U*	6.42
MW2	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	2.62	1.25	4.5 *J*
MW2	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	2.9	1.28 *U*	4.75
MW2	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	--	--	4.87
MW2	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	--	--	4.65 *J*
MW2	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	--	--	2.93
MW2	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	--	--	2.84

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
MW2	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*	--	--	3.42
MW2	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	--	--	3.48
MW2	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*	--	--	2.86
MW2	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	--	--	2.95
MW2	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	--	--	3.12
MW2	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*	--	--	2.59 *J*
MW2	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	--	--	1.85
MW2	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	--	--	1.53
MW2	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	--	--	1.34
MW2	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	--	--	1.2
MW2	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	--	--	1.3
MW2	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	--	--	1.03
MW2	MW2	K1200245	Integral	January 2012	1/9/2012	12:55	221	179	0.15 *J*	0.18 *J*	0.012 *UJ*	0.008 *UJ*	655	696	--	--	0.96
MW2	MW2	K1203283	Integral	April 2012	4/7/2012	9:34	380	141	0.38 *UJ*	0.28 *UJ*	0.012 *UJ*	0.003 *U*	683	810	--	--	1.3
MW2	MW2	K1207121	Integral	July 2012	7/21/2012	7:30	330	240	0.21 *J*	0.18 *J*	0.01 *J*	0.01 *U*	751	829	--	--	0.87
MW2	MW2	K1210890	Integral	October 2012	10/28/2012	10:45	327 *J*	261 *J*	0.3 *J*	0.3 *J*	0.005 *U*	0.014 *UJ*	883	624	--	--	1.03
MW3	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	2.9	1 *U*	7.6
MW3	MW3	L495369	Knight Piesold	April 2007	4/10/2007	12:35	7770	583	0.98	0.38	0.065	0.017 *U*	2550	501	3.58	0.5 *U*	10.6
MW3	MW3	L507191	Knight Piesold	May 2007	5/14/2007	11:57	15300	903	1.34	0.87	0.07	0.017 *U*	2720	1200	4.75	1.19	18.5
MW3	MW3	L515743	Knight Piesold	June 2007	6/4/2007	14:54	9560	1100	1.12	0.62	0.048	0.017 *U*	3520	1520	3.52	1.26	10.9
MW3	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	2.56	1.29	5.57
MW3	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	2.67	2.1	5.51
MW3	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	3.08 *U*	1.79	5.27
MW3	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	1.45 *U*	0.96 *U*	7.85 *J*
MW3	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	2.64	1.91 *U*	7.06
MW3	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	6.3	1.63	9.95
MW3	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	2.2	2.37	4.6
MW3	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	2.81	1.52	4.49
MW3	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	0.68 *U*	0.46 *U*	1.84 *J*
MW3	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	0.65 *U*	0.61 *U*	1.12
MW3	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	1.58 *U*	0.75 *U*	1.84
MW3	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	0.87 *U*	1.01 *U*	0.88
MW3	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	1.46	1.36 *U*	1.35
MW3	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	0.84 *U*	2.3 *U*	0.93 *U*
MW3	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	2.27	1.6	2.57 *U*
MW3	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	2.67	2.41	3.63
MW3	MW3	K0807975	Integral	August 2008	8/19/2008	9:30	1770	1550	0.66	1.01	0.019 *UJ*	0.015 *UJ*	2360	2320	--	--	3.53
MW3	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	--	--	3.62 *J*
MW3	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	--	--	2.67
MW3	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	--	--	2
MW3	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	--	--	2.54
MW3	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	--	--	3.62
MW3	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*	--	--	1.42
MW3	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	--	--	1.38
MW3	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	--	--	0.8
MW3	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*	--	--	0.26 *J*
MW3	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	--	--	1.83
MW3	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	--	--	0.95
MW3	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	--	--	0.86
MW3	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	--	--	0.88
MW3	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	--	--	1.59
MW3	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	--	--	0.95
MW3	MW3	K1200245	Integral	January 2012	1/9/2012	11:00	249	190	0.3 *J*	0.12 *J*	0.057 *UJ*	0.007 *UJ*	1210	1220	--	--	0.49
MW3	MW3	K1203283	Integral	April 2012	4/7/2012	10:57	216	170	0.31 *UJ*	0.18 *UJ*	0.005 *UJ*	0.003 *U*	921	934	--	--	0.47
MW3	MW3	K1207121	Integral	July 2012	7/21/2012	9:15	740	631	0.29 *J*	0.25 *J*	0.01 *U*	0.01 *U*	1120	1150	--	--	1.11
MW3	MW3	K1210890	Integral	October 2012	10/28/2012	11:00	768 *J*	701 *J*	0.3 *J*	0.2 *J*	0.005 *U*	0.017 *UJ*	1210	1180	--	--	1.04
MW4	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	71.5	1.9	7.6
MW4	MW4	L495369	Knight Piesold	April 2007	4/10/2007	13:23	1960	433	0.29	0.1 *U*	0.053	0.028	1050	702	14.9	2.03	8.97
MW4	MW4	L507191	Knight Piesold	May 2007	5/14/2007	13:13	1650	518	0.37	0.19	0.082	0.038	1360	1340	18.2	3.56	6.15
MW4	MW4	L515743	Knight Piesold	June 2007	6/4/2007	11:02	837	475	0.17	0.11	0.05	0.028	1220	1140	2.39	1.2	3.67
MW4	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	7.1	5.38	5.75
MW4	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	3.49	2.44	6.81 *J*

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
MW4	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	7.84	7.04	10.6
MW4	MW4	K0709126	Integral	September 2007 II	9/30/2007	17:30	1130	1080	0.82	0.78	0.128	0.097	2570	2250	8.49	7.27	9.05
MW4	MW4	K0709804	Integral	October 2007	10/16/2007	16:40	1250	1090	0.79	0.74	0.084	0.056	2420	2490	9.88	8.23	7.08
MW4	MW4	K0710773	Integral	November 2007	11/12/2007	11:50	653	611	0.7	0.7	0.113	0.042 *UJ*	1670	1620	6.16	5.86	5.2
MW4	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	1.16 *U*	0.76 *U*	2.14 *J*
MW4	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	1.09	0.96 *U*	1.3
MW4	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	0.96 *U*	0.7 *U*	1.08
MW4	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	1.88	1.46	2.12
MW4	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	1.81	1.23 *U*	1.35
MW4	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	1.67	1.36 *U*	1.56 *U*
MW4	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	2.68	2.11	5.12 *J*
MW4	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	3.18	2.9	2.29
MW4	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	--	--	5.01
MW4	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	--	--	4.73 *J*
MW4	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	--	--	2.96
MW4	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	--	--	1.35
MW4	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	--	--	1.59
MW4	MW4	K0906701	Integral	July 2009	7/23/2009	9:20	743 *J*	341 *J*	0.71	0.58	0.168	0.027	3310	3040	--	--	7.92
MW4	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*	--	--	1.88
MW4	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	--	--	1.57
MW4	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	--	--	2.2
MW4	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*	--	--	1.75 *J*
MW4	MW4	K1008751	Integral	August 2010	8/10/2010	11:45	185	160	0.78	0.75	0.043	0.016 *UJ*	7520	7710	--	--	1.37
MW4	MW4	K1011739	Integral	October 2010	10/19/2010	10:50	231	177	0.6	0.6	0.029	0.005 *U*	6030	5990	--	--	1.9
MW4	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	--	--	0.52
MW4	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	--	--	0.5
MW4	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	--	--	0.81
MW4	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	--	--	2.43
MW4	MW4	K1200245	Integral	January 2012	1/9/2012	12:15	123	130	0.45 *J*	0.4 *J*	0.012 *UJ*	0.012 *UJ*	8730	8240	--	--	0.66
MW4	MW4	K1203283	Integral	April 2012	4/7/2012	13:54	173	105	0.8	0.73	0.016 *UJ*	0.01 *UJ*	9230	9310	--	--	0.76
MW4	MW4	K1207121	Integral	July 2012	7/21/2012	10:15	146	127	0.77	0.75	0.02	0.01 *J*	11900	12000	--	--	0.79
MW7	MW7	L482967	Knight Piesold	February 2007	2/28/2007	13:00	4970	246	2.36	0.74	0.518	0.051	6040	5390	12.8	1 *U*	44.7
MW7	MW7	L495369	Knight Piesold	April 2007	4/10/2007	14:24	845	217	0.76	0.53	0.152	0.017 *U*	7330	7260	1.9	0.5 *U*	7.9
MW7	MW7	L507191	Knight Piesold	May 2007	5/15/2007	08:40	746	460	0.78	0.67	0.114	0.045	8400	8610	1.93	1.02	4.81
MW7	MW7	L515743	Knight Piesold	June 2007	6/5/2007	09:00	348	243	0.68	0.76	0.092	0.019	8760	9330	0.94	0.74	2.95
MW7	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	0.93	0.77	2.7
MW7	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	1.32 *U*	1.12 *U*	2.9
MW7	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	1.41 *U*	1.15 *U*	2.91
MW7	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	1.32 *U*	1.14 *U*	2.03 *J*
MW7	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	1.24 *U*	1.04 *U*	2.6
MW7	MW7	K0709126	Integral	September 2007 II	9/30/2007	13:40	657	251	0.89	0.75	0.076	0.015 *U*	8270	7580	1.54 *U*	0.99 *U*	3.28
MW7	MW7	K0709804	Integral	October 2007	10/16/2007	10:35	448	245	0.62	0.54	0.059	0.007 *U*	7000	7020	1.44	1.4 *U*	3.04
MW7	MW7	K0710773	Integral	November 2007	11/13/2007	07:45	282	193	0.59	0.53	0.075 *UJ*	0.033 *UJ*	6690	6640	1.41 *U*	1.04 *U*	2.32
MW7	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	1.12 *U*	0.91 *U*	2.89 *J*
MW7	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	0.92 *U*	0.76 *U*	2.07
MW7	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	0.99 *U*	0.7 *U*	1.42
MW7	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	0.93 *U*	0.82 *U*	1.83
MW7	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	0.83 *U*	0.66 *U*	1.72
MW7	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	0.56 *U*	0.57 *U*	1.52 *U*
MW7	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	1.73	0.9 *U*	5.61 *J*
MW7	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	1.16 *U*	0.94 *U*	1.79
MW8	MW8	L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	617	137	0.32	0.31	0.034	0.031	14600	14000	0.5 *U*	0.5 *U*	3.79
MW8	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	0.4 *U*	0.36 *U*	1.49
MW8	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	0.31 *U*	0.21 *U*	3
MW8	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	0.38 *U*	0.43 *U*	1.48 *J*
MW8	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	0.27 *U*	0.11 *U*	1.37
MW8	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	0.31 *U*	0.25 *U*	1.23
MW8	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	0.35 *U*	0.51 *U*	2.22
MW8	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	0.38 *U*	0.56 *U*	1.9
MW8	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	0.34 *U*	0.29 *U*	1.21 *J*
MW8	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	0.34 *U*	0.35 *U*	1.76
MW8	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	0.59 *U*	0.48 *U*	1.59

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
MW8	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	0.36 *U*	0.25 *U*	1.63
MW8	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	0.38 *U*	0.44 *U*	1.84
MW8	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	0.4 *U*	0.64 *U*	2.01 *U*
MW8	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	0.48 *U*	0.38 *U*	1.77 *U*
MW9	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	1.54	0.5 *U*	5.22
MW9	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	2.02	0.41 *U*	10.1
MW9	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	1.94 *U*	0.4 *U*	10.3
MW9	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	0.9 *U*	0.34 *U*	3.15 *J*
MW9	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	0.9 *U*	0.41 *U*	3.85
MW9	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	1.33 *U*	0.41 *U*	3.76
MW9	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	2.5	0.49 *U*	14
MW9	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	0.9 *U*	0.55 *U*	2.32
MW9	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	2.67	0.57 *U*	13.8 *J*
MW9	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	1.12	0.39 *U*	4.63
MW9	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	1.24 *U*	0.56 *U*	4
MW9	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	2.38	0.51 *U*	9.94
MW9	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	1.29 *U*	0.63 *U*	3.91
MW9	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	0.95 *U*	0.39 *U*	4.04
MW9	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	0.58 *U*	0.45 *U*	2 *U*

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
MW1	MW1	L482967	Knight Piesold	February 2007	2/28/2007	08:45	1.8	1150	686	3.33	0.59	1040	990	0.02 *U*	0.02 *U*	1.5	1 *U*
MW1	MW1	L495369	Knight Piesold	April 2007	4/10/2007	08:25	0.66	2050	1890	1.18	0.253	1460	1380	0.05 *U*	0.05 *U*	1.81	0.86
MW1	MW1	L507191	Knight Piesold	May 2007	5/14/2007	10:49	0.7	1950	1940	0.847	0.293	1350	1340	0.05 *U*	0.05 *U*	0.5 *U*	0.57
MW1	MW1	L515743	Knight Piesold	June 2007	6/4/2007	13:06	0.86	2190	2280	0.789	0.301	1580	1630	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
MW1	MW1	L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	0.6	2160	2230	0.556	0.263	1520	1610	0.01 *U*	0.01 *U*	0.76	0.5 *U*
MW1	MW1	K0706569	Integral	July 2007 II	7/24/2007	11:44	1.55	2520	2520	0.944	0.544	1540	1530	0.03 *U*	0.05 *U*	1.03	1.64
MW1	MW1	K0707317	Integral	August 2007 I	8/14/2007	11:05	0.81	1760	1730	0.467	0.218	1440	1400	0.03 *U*	0.03 *U*	4.03 *UJ*	4.18 *J*
MW1	MW1	K0707782	Integral	August 2007 II	8/28/2007	17:40	1.1 *J*	2230	2210	0.603	0.348 *J*	1420	1460	0.03 *U*	0.03 *U*	0.54	1.02
MW1	MW1	K0708240	Integral	September 2007 I	9/11/2007	10:20	1.83	2180	2200	0.954	0.617	1310	1320	0.03 *U*	0.03 *U*	0.79	1.19
MW1	MW1	K0709126	Integral	September 2007 II	9/30/2007	15:45	1.77	2480	2280	1.16	0.814	1220	1160	0.03 *U*	0.03 *U*	0.76	1.59
MW1	MW1	K0709804	Integral	October 2007	10/16/2007	12:25	1.78	2400	2530	1.35	1.04	1060	1100	0.03 *U*	0.03 *U*	0.47	1.21
MW1	MW1	K0710773	Integral	November 2007	11/12/2007	14:05	1.37	3350	3030	1.42	0.759	1010	1040	0.03 *U*	0.03 *U*	0.91	1.14
MW1	MW1	K0711891	Integral	December 2007 I	12/14/2007	13:00	1.1 *J*	4670	1120	11.6	0.398	1630	909	0.03 *J*	0.03 *U*	3.3	0.73
MW1	MW1	K0800335	Integral	January 2008	1/9/2008	10:00	0.7	1860	1630	0.549	0.231	1050 *J*	1000 *J*	0.03 *U*	0.03 *U*	1.04	0.73
MW1	MW1	K0801400	Integral	Februrary 2008	2/14/2008	8:30	0.78	2580	1690	2.22	0.247	1200	1070	0.03 *U*	0.03 *U*	3.46	0.76
MW1	MW1	K0802328	Integral	March 2008	3/14/2008	10:10	0.54	1920	1730	0.352	0.199	1030 *J*	984 *J*	0.03 *U*	0.03 *U*	0.87	1
MW1	MW1	K0803239	Integral	April 2008	4/15/2008	6:30	0.51	2080	2030	0.278	0.196	1020	1010	0.03 *J*	0.03 *U*	0.43 *UJ*	0.56
MW1	MW1	K0804080	Integral	May 2008	5/7/2008	17:15	0.76	2030	1840	0.83	0.285	1110	1080	0.03 *UJ*	0.03 *UJ*	0.9	1.01
MW1	MW1	K0805877	Integral	June 2008	6/26/2008	17:15	1.38 *U*	2120	1920	0.877	0.485	1140	1110	0.05 *U*	0.05 *U*	1.1 *UJ*	0.63 *UJ*
MW1	MW1	K0806880	Integral	July 2008	7/24/2008	13:35	1.2	2150	2110	0.822	0.394	1120 *R*	1090 *R*	0.05 *U*	0.05 *U*	0.87	1.05
MW1	MW1	K0807975	Integral	August 2008	8/19/2008	11:45	1.7	2210	2110	1.09	0.573	1120	1110	0.05 *U*	0.05 *U*	0.57	0.57
MW1	MW1	K0808787	Integral	September 2008	9/9/2008	13:30	1.43 *J*	2260	2290	0.897	0.603	1030	1190	0.05 *U*	0.05 *U*	0.66	0.4 *UJ*
MW1	MW1	K0810253	Integral	October 2008	10/15/2008	15:00	0.98 *U*	1920	1880	0.768	0.344	974	994	0.05 *U*	0.05 *U*	0.79	0.04 *UJ*
MW1	MW1	K0902142	Integral	March 2009	3/9/2009	10:10	0.85 *U*	1120	993	0.542	0.282	915	929	0.05 *U*	0.05 *U*	0.44 *U*	0.42 *UJ*
MW1	MW1	K0904395	Integral	May 2009	5/13/2009	12:45	0.92	3430	1400	7.24	0.386	1590	1150	0.02 *J*	0.02 *U*	1.88	0.71
MW1	MW1	K0906701	Integral	July 2009	7/24/2009	15:15	1.74	1250	1030	1.22	0.774	1200	1150	0.02 *U*	0.02 *U*	0.54	0.6
MW1	MW1	K0910115	Integral	October 2009	10/17/2009	16:02	0.9	1210	1210	0.465	0.314	1090	1110	0.02 *U*	0.02 *U*	0.35 *UJ*	0.4
MW1	MW1	K1000512	Integral	January 2010	1/17/2010	09:37	0.64 *U*	1050	988	0.479	0.336	1030 *J*	1030 *J*	0.02 *U*	0.02 *U*	0.72	0.8
MW1	MW1	K1004032	Integral	April 2010	4/22/2010	15:00	0.78 *J*	1270	1220	0.438	0.274	1190 *J*	1200 *J*	0.02 *U*	0.02 *U*	0.34	0.46
MW1	MW1	K1008751	Integral	August 2010	8/10/2010	16:00	1.24	709	668	0.453	0.334	1510	1480	0.02 *U*	0.02 *U*	0.6 *UJ*	0.54 *UJ*
MW1	MW1	K1011739	Integral	October 2010	10/19/2010	13:40	1.88	978 *J*	786 *J*	1.09	0.69	1310	1310	0.02 *U*	0.02 *U*	0.51 *U*	0.47 *U*
MW1	MW1	K1100642	Integral	January 2011	1/20/2011	15:15	0.91	386	320	0.462	0.218	1160	1140	0.02 *U*	0.02 *U*	0.33 *UJ*	0.41
MW1	MW1	K1103541	Integral	April 2011	4/20/2011	14:40	1.03 *U*	672 *J*	507 *J*	0.614	0.274	1320	1300	0.02 *U*	0.02 *U*	0.47 *UJ*	0.55 *U*
MW1	MW1	K1106862	Integral	July 2011 II	7/25/2011	14:10	1.65	954	931	0.712	0.58	1430	1400	0.02 *UJ*	0.02 *UJ*	0.4 *UJ*	0.44
MW1	MW1	K1112358	Integral	December 2011	12/20/2011	15:10	0.95	922	798	0.532	0.301	1320	1320	0.02 *U*	0.02 *U*	0.61	0.58
MW1	MW1	K1200245	Integral	January 2012	1/9/2012	14:30	0.86	720	711	0.374	0.275	1300	1350	0.02 *U*	0.02 *U*	0.57	0.6
MW1	MW1	K1203283	Integral	April 2012	4/7/2012	15:53	1.05	620	581	0.295	0.219	1460	1410	0.02 *U*	0.02 *U*	0.82	0.88
MW1	MW1	K1207121	Integral	July 2012	7/21/2012	16:40	1.3	848	866	0.702	0.535	1440	1510	0.02 *U*	0.02 *U*	0.28	0.33
MW1	MW1	K1210890	Integral	October 2012	10/28/2012	13:30	0.65 *J*	951	856	0.331 *J*	0.2 *J*	1570	1620	0.02 *U*	0.02 *U*	0.4	0.38 *J*
MW2	MW2	L495369	Knight Piesold	April 2007	4/10/2007	15:10	0.83	4610	2970	1.45	0.137	1950	1240	0.05 *U*	0.05 *U*	4.66	1.88
MW2	MW2	L507191	Knight Piesold	May 2007	5/14/2007	11:20	0.84	6590	8430	1.26	0.111	1990	1700	0.05 *U*	0.05 *U*	2.27	1.94
MW2	MW2	L515743	Knight Piesold	June 2007	6/4/2007	13:58	1.78	7640	8650	1.03	0.171	2280	2100	0.032	0.01 *U*	1.95	2.12
MW2	MW2	L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	1.5	33	30 *U*	0.05 *U*	0.05 *U*	1240	1210	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
MW2	MW2	K0706569	Integral	July 2007 II	7/24/2007	12:10	1.88	10500	7210	1.52	0.266	2240	1580	0.07 *U*	0.03 *U*	1.92	2.08
MW2	MW2	K0707317	Integral	August 2007 I	8/14/2007	11:40	1.32	7730	5660	1.01	0.15	1630	1020	0.03 *U*	0.03 *U*	1.68 *UJ*	1.82 *J*
MW2	MW2	K0707782	Integral	August 2007 II	8/28/2007	16:20	3.01 *J*	11100	1560	14.3	1.9 *J*	3660	375	0.1 *J*	0.03 *U*	5.27	1.17
MW2	MW2	K0708240	Integral	September 2007 I	9/11/2007	11:00	2.34	8320	3450	3.06	0.399	2460	742	0.07 *J*	0.03 *U*	2.13	1.25
MW2	MW2	K0709126	Integral	September 2007 II	9/30/2007	16:15	2.53	8110	2750	2.96	0.481	2050	584	0.07 *U*	0.03 *U*	2.34	1.37
MW2	MW2	K0709804	Integral	October 2007	10/16/2007	13:30	2.51	5750	2500	2.81	0.576	1420	513	0.06 *J*	0.03 *U*	1.62	1.32
MW2	MW2	K0710773	Integral	November 2007	11/12/2007	14:30	1.76	8420	2190	3.65	0.493	2320	456	0.05 *J*	0.09 *J*	2.65	1.71
MW2	MW2	K0711891	Integral	December 2007 I	12/14/2007	14:30	1.83 *J*	10500	1950	5.96	0.354	3660	427	0.07 *J*	0.03 *U*	4.2	1.03
MW2	MW2	K0800335	Integral	January 2008	1/8/2008	12:49	1.47	8320	2660	3.03	0.248	2010 *J*	434 *J*	0.05 *J*	0.03 *U*	2.24	1.19
MW2	MW2	K0801400	Integral	Februrary 2008	2/13/2008	15:30	1.32	4180	2720	1.26	0.211	926	490	0.03 *U*	0.03 *U*	1.1	0.6
MW2	MW2	K0802328	Integral	March 2008	3/14/2008	13:00	0.98	4020	2460	1.15	0.155	832 *J*	372 *J*	0.03 *U*	0.03 *U*	1.16	0.6
MW2	MW2	K0803239	Integral	April 2008	4/14/2008	13:00	0.91	4120	2120	0.931	0.161	788	353	0.03 *J*	0.03 *U*	1.05	0.56
MW2	MW2	K0804080	Integral	May 2008	5/7/2008	16:20	1.16	4670	2580	1.19	0.339	1010	400	0.03 *UJ*	0.03 *UJ*	1.18	0.6
MW2	MW2	K0805877	Integral	June 2008	6/26/2008	16:10	1.1 *U*	4070	3250	0.72	0.124	858	531	0.05 *U*	0.05 *U*	0.7 *UJ*	0.52 *UJ*
MW2	MW2	K0806880	Integral	July 2008	7/24/2008	12:15	1.04	3880	3180	0.754	0.17	764 *R*	471 *R*	0.05 *U*	0.05 *U*	0.82	0.78
MW2	MW2	K0807975	Integral	August 2008	8/19/2008	11:00	1 *U*	4400	3420	0.89	0.177	904	460	0.05 *U*	0.05 *U*	0.93	0.49
MW2	MW2	K0808787	Integral	September 2008	9/9/2008	14:00	0.72 *J*	4700	3640	0.91	0.258	907	481	0.05 *U*	0.05 *U*	1.2	0.59
MW2	MW2	K0810253	Integral	October 2008	10/15/2008	13:45	0.79 *U*	4000	3740	0.496	0.143	759	500	0.05 *U*	0.05 *U*	0.38	0.43
MW2	MW2	K0902142	Integral	March 2009	3/8/2009	15:35	0.98 *U*	3710	2680	0.42	0.104	700	390	0.05 *U*	0.05 *U*	0.65 *U*	1.78

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
MW2	MW2	K0904395	Integral	May 2009	5/13/2009	11:45	0.53 *U*	3600	3100	0.52	0.074 *UJ*	692	401	0.02 *J*	0.02 *U*	0.96	0.66
MW2	MW2	K0906701	Integral	July 2009	7/24/2009	15:45	0.86	4180	3710	0.591	0.128	733	380	0.02 *U*	0.02 *U*	0.61	1.01
MW2	MW2	K0908619	Integral	September 2009 II	9/12/2009	17:00	0.86	4420	4670	0.386	0.124	600	478	0.02 *U*	0.02 *U*	0.79	0.88
MW2	MW2	K0910115	Integral	October 2009	10/17/2009	08:52	1	3960	4240	0.474	0.175	526	441	0.02 *U*	0.02 *U*	0.63	0.6
MW2	MW2	K1000512	Integral	January 2010	1/15/2010	11:49	0.6 *U*	4340	3050	0.789	0.134 *U*	764 *J*	402 *J*	0.02 *U*	0.02 *U*	0.84	0.73
MW2	MW2	K1004032	Integral	April 2010	4/22/2010	11:40	0.35 *J*	3520	2670	0.654	0.115	577 *J*	353 *J*	0.02 *U*	0.02 *U*	1.58	0.6
MW2	MW2	K1008751	Integral	August 2010	8/10/2010	14:15	0.45	3620	3410	0.442	0.111	799	717	0.02 *J*	0.02 *U*	0.78	0.74
MW2	MW2	K1011739	Integral	October 2010	10/19/2010	14:25	0.42	3420 *J*	3570 *J*	0.298	0.111	651	561	0.02 *U*	0.02 *U*	0.52 *U*	0.6 *U*
MW2	MW2	K1100642	Integral	January 2011	1/20/2011	12:10	0.36	3870	3690	0.247	0.098	689	607	0.02 *U*	0.02 *U*	0.64	0.61
MW2	MW2	K1103541	Integral	April 2011	4/20/2011	13:20	0.29 *U*	3140 *J*	2940 *J*	0.323	0.08	702	589	0.02 *U*	0.02 *U*	0.51 *UJ*	0.72 *U*
MW2	MW2	K1106862	Integral	July 2011 II	7/24/2011	17:10	0.51	2720	2810	0.318	0.1	808	683	0.02 *UJ*	0.02 *UJ*	0.5 *UJ*	0.41
MW2	MW2	K1112358	Integral	December 2011	12/20/2011	14:10	0.54	2590	1890	0.221	0.115	486	520	0.02 *U*	0.02 *U*	0.38	0.5
MW2	MW2	K1200245	Integral	January 2012	1/9/2012	12:55	0.42	2390	2770	0.173	0.08	552	539	0.02 *U*	0.02 *U*	0.44	0.47
MW2	MW2	K1203283	Integral	April 2012	4/7/2012	9:34	0.27	3530	2730	0.271	0.044	750	645	0.03 *J*	0.02 *J*	0.48	0.47
MW2	MW2	K1207121	Integral	July 2012	7/21/2012	7:30	0.34	2450	2480	0.205	0.095	550	550	0.02 *U*	0.02 *U*	0.36	0.4
MW2	MW2	K1210890	Integral	October 2012	10/28/2012	10:45	0.51 *J*	3510	2480	0.175 *J*	0.1 *J*	701	485	0.02 *U*	0.02 *U*	0.42	0.39 *J*
MW3	MW3	L482967	Knight Piesold	February 2007	2/28/2007	11:12	4.6	1460	1100	0.64	0.5 *U*	630	520	0.02 *U*	0.02 *U*	1.5	1 *U*
MW3	MW3	L495369	Knight Piesold	April 2007	4/10/2007	12:35	2.78	5350	620	6.63	1.32	2470	200	0.05 *U*	0.05 *U*	4.05	1.12
MW3	MW3	L507191	Knight Piesold	May 2007	5/14/2007	11:57	2.98	10900	3210	5.61	1.59	3510	490	0.05 *U*	0.05 *U*	3.79	1.88
MW3	MW3	L515743	Knight Piesold	June 2007	6/4/2007	14:54	2.21	9870	3770	5.03	1.07	2670	660	0.04	0.01 *U*	3.78	1.09
MW3	MW3	L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	1.3	4810	4410	1.35	0.43	1020	810	0.017	0.01 *U*	5.48	1.61
MW3	MW3	K0706569	Integral	July 2007 II	7/24/2007	13:20	2.7	7360	5760	1.72	0.887	1280	868	0.03 *U*	0.03 *U*	1.35	1.51
MW3	MW3	K0707317	Integral	August 2007 I	8/14/2007	12:20	1.43	7770	3970	2.13	0.377	1750	702	0.03 *U*	0.03 *U*	2.42 *UJ*	1.23 *J*
MW3	MW3	K0707782	Integral	August 2007 II	8/28/2007	16:55	2.72 *J*	2760	2130	1.06	0.539 *J*	697	425	0.03 *J*	0.03 *U*	0.61	1.36
MW3	MW3	K0708240	Integral	September 2007 I	9/10/2007	16:20	2.77	6660	5340	1.24	0.57	1150	745	0.04 *J*	0.03 *U*	1.8	1.48
MW3	MW3	K0709126	Integral	September 2007 II	9/30/2007	16:55	1.76	8610	4260	3.37	0.437	1730	605	0.09 *U*	0.03 *U*	1.79	1.52
MW3	MW3	K0709804	Integral	October 2007	10/17/2007	09:10	1.92	5240	4150	1.39	0.534	814	573	0.03 *J*	0.03 *U*	0.96	1.14
MW3	MW3	K0710773	Integral	November 2007	11/12/2007	13:20	1.5	5100	3750	1.3	0.354	926	618	0.03 *U*	0.03 *U*	1.04	1.32
MW3	MW3	K0711891	Integral	December 2007 I	12/15/2007	09:00	1.28 *J*	1040	523	0.59	0.257	677	400	0.03 *U*	0.03 *U*	0.39 *J*	0.75
MW3	MW3	K0800335	Integral	January 2008	1/8/2008	13:18	0.88	1020	833	0.266	0.129	643 *J*	559 *J*	0.03 *U*	0.03 *U*	0.36 *UJ*	0.86
MW3	MW3	K0801400	Integral	Februrary 2008	2/13/2008	15:40	0.66	2600	1800	0.444	0.092	519	415	0.03 *U*	0.03 *U*	0.5	0.45
MW3	MW3	K0802328	Integral	March 2008	3/14/2008	14:20	0.58	2330	2340	0.132	0.091	353 *J*	340 *J*	0.03 *U*	0.03 *U*	0.26	0.45
MW3	MW3	K0803239	Integral	April 2008	4/14/2008	13:35	0.45	4040	3670	0.27	0.125	610	517	0.03 *U*	0.03 *U*	0.48 *UJ*	0.53
MW3	MW3	K0804080	Integral	May 2008	5/7/2008	15:45	0.52 *U*	3350	3160	0.161 *U*	0.093 *UJ*	605	572	0.03 *UJ*	0.03 *UJ*	0.42	0.76
MW3	MW3	K0805877	Integral	June 2008	6/27/2008	10:15	1.23 *U*	4140	3640	0.542	0.204	768	605	0.05 *U*	0.05 *U*	0.55 *UJ*	0.42 *UJ*
MW3	MW3	K0806880	Integral	July 2008	7/24/2008	12:40	2.48	5600	5320	0.624	0.41	756 *R*	702 *R*	0.05 *U*	0.05 *U*	0.99	1.23
MW3	MW3	K0807975	Integral	August 2008	8/19/2008	9:30	2.75	7420	7360	0.7	0.508	974	936	0.05 *U*	0.05 *U*	1.12	1.24
MW3	MW3	K0808787	Integral	September 2008	9/9/2008	11:30	2.37 *J*	7380	6470	0.737	0.554	1020	871	0.05 *U*	0.05 *U*	1.23	1.13
MW3	MW3	K0810253	Integral	October 2008	10/15/2008	10:20	1.91	5860	5010	0.627	0.342	746	679	0.05 *U*	0.05 *U*	0.69	0.66
MW3	MW3	K0902142	Integral	March 2009	3/8/2009	15:10	1.32	1350	1250	0.222	0.139	382	339	0.05 *U*	0.05 *U*	0.32 *U*	0.42 *UJ*
MW3	MW3	K0904395	Integral	May 2009	5/13/2009	10:00	1.01	3900	3680	0.378	0.163	590	505	0.02 *J*	0.02 *U*	0.62	0.83
MW3	MW3	K0906701	Integral	July 2009	7/24/2009	14:15	1.79	2960	2170	0.739	0.257	709	445	0.02 *U*	0.02 *U*	0.45 *UJ*	0.46
MW3	MW3	K0908619	Integral	September 2009 II	9/12/2009	14:35	1.29	3930	4070	0.244	0.232	579	588	0.02 *U*	0.02 *U*	0.54	0.84
MW3	MW3	K0910115	Integral	October 2009	10/17/2009	09:44	1.26	1720	1710	0.18	0.163	512	512	0.02 *U*	0.02 *U*	0.27 *UJ*	0.45
MW3	MW3	K1000512	Integral	January 2010	1/15/2010	12:36	0.64 *U*	2440	2150	0.105 *U*	0.11 *U*	544 *J*	525 *J*	0.02 *U*	0.02 *U*	0.33 *UJ*	0.5 *UJ*
MW3	MW3	K1004032	Integral	April 2010	4/22/2010	8:45	0.21 *J*	4460	4520	0.034 *UJ*	0.038 *UJ*	1060 *J*	1080 *J*	0.02 *U*	0.02 *U*	0.37	0.36
MW3	MW3	K1008751	Integral	August 2010	8/10/2010	10:05	0.65	3490	3300	0.384	0.093	839	699	0.02 *J*	0.02 *J*	0.67 *UJ*	0.55 *UJ*
MW3	MW3	K1011739	Integral	October 2010	10/19/2010	09:55	0.69	1890 *J*	1890 *J*	0.079	0.058	819	786	0.02 *U*	0.02 *U*	0.38 *U*	0.43 *U*
MW3	MW3	K1100642	Integral	January 2011	1/20/2011	10:40	0.51	1660	1560	0.09	0.055	450	434	0.02 *U*	0.02 *U*	0.37 *UJ*	0.4
MW3	MW3	K1103541	Integral	April 2011	4/20/2011	13:00	0.71 *U*	1740 *J*	1520 *J*	0.072	0.06 *UJ*	376	375	0.02 *U*	0.02 *U*	0.43 *UJ*	0.4 *U*
MW3	MW3	K1106862	Integral	July 2011 II	7/24/2011	15:00	1.07	2170	2190	0.127	0.089	543	538	0.02 *UJ*	0.02 *UJ*	0.35 *UJ*	0.38
MW3	MW3	K1112358	Integral	December 2011	12/20/2011	11:45	0.73	3050	3070	0.171 *J*	0.076 *J*	540	532	0.02 *U*	0.02 *U*	0.52	0.93
MW3	MW3	K1200245	Integral	January 2012	1/9/2012	11:00	0.35	3450	3450	0.137	0.046	693	678	0.02 *U*	0.02 *U*	0.41	0.44
MW3	MW3	K1203283	Integral	April 2012	4/7/2012	10:57	0.29	1890	1860	0.072	0.037	605	572	0.02 *U*	0.12 *J*	0.3	0.37
MW3	MW3	K1207121	Integral	July 2012	7/21/2012	9:15	0.79	3440	3460	0.169	0.126	559	555	0.02 *U*	0.02 *U*	0.46	0.47
MW3	MW3	K1210890	Integral	October 2012	10/28/2012	11:00	0.67 *J*	3070	3200	0.174 *J*	0.134 *J*	632	603	0.02 *U*	0.02 *U*	0.52	0.57 *J*
MW4	MW4	L482967	Knight Piesold	February 2007	2/27/2007	08:39	2.6	6000	699	2.24	0.5 *U*	3800	370	0.025	0.02 *U*	9.7	1.6
MW4	MW4	L495369	Knight Piesold	April 2007	4/10/2007	13:23	5.14	1810	380	2.54	0.404	1390	390	0.05 *U*	0.05 *U*	5.69	1.02
MW4	MW4	L507191	Knight Piesold	May 2007	5/14/2007	13:13	2.99	2780	1500	0.942	0.331	1490	790	0.05 *U*	0.05 *U*	2.65	1.14
MW4	MW4	L515743	Knight Piesold	June 2007	6/4/2007	11:02	3.45	962	654	0.538	0.212	850	690	0.015	0.01 *U*	0.63	0.87
MW4	MW4	K0706569	Integral	July 2007 II	7/23/2007	17:00	3.74	7120	6590	0.592	0.277	1260	964	0.03 *U*	0.03 *U*	1.77	1.97
MW4	MW4	K0707782	Integral	August 2007 II	8/27/2007	16:20	5.35 *J*	1760	916	0.62	0.297 *J*	741	502	0.03 *U*	0.03 *U*	1.16	1.81

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
MW4	MW4	K0708240	Integral	September 2007 I	9/10/2007	17:00	6.5	6280	4340	1.55	0.713	1400	864	0.04 *J*	0.03 *U*	2.62	2.52
MW4	MW4	K0709126	Integral	September 2007 II	9/30/2007	17:30	6.49	8720	7240	1.17	0.903	1230	1010	0.05 *U*	0.03 *U*	1.76	2.32
MW4	MW4	K0709804	Integral	October 2007	10/16/2007	16:40	5.38	11400	11400	1.28	0.967	1340	1190	0.03 *J*	0.03 *U*	1.75	1.98
MW4	MW4	K0710773	Integral	November 2007	11/12/2007	11:50	3.54	11500	10600	0.91	0.601	1030	989	0.03 *J*	0.03 *U*	1.22	1.2
MW4	MW4	K0711891	Integral	December 2007 I	12/15/2007	09:45	1.06 *J*	1000	311	0.87	0.206	676	334	0.03 *U*	0.03 *U*	0.86	0.76
MW4	MW4	K0800335	Integral	January 2008	1/8/2008	14:48	1.33	757	598	0.184	0.128	596 *J*	554 *J*	0.03 *U*	0.03 *U*	0.6	0.86
MW4	MW4	K0801400	Integral	Februrary 2008	2/13/2008	11:30	0.84	342	232	0.153	0.071	423	401	0.03 *U*	0.03 *U*	0.34	0.35 *UJ*
MW4	MW4	K0802328	Integral	March 2008	3/15/2008	8:15	1.37	1180	971	0.232	0.094	628 *J*	540 *J*	0.03 *U*	0.03 *U*	0.68	0.77
MW4	MW4	K0803239	Integral	April 2008	4/14/2008	10:00	1	1080	654	0.207	0.079	793	693	0.03 *U*	0.03 *U*	0.7 *UJ*	0.77
MW4	MW4	K0804080	Integral	May 2008	5/8/2008	15:50	0.89	1830	1730	0.13 *U*	0.072 *UJ*	833	769	0.03 *UJ*	0.03 *UJ*	0.7	0.82
MW4	MW4	K0805877	Integral	June 2008	6/27/2008	11:15	3.66 *J*	1640	1490	0.381	0.208	586	564	0.05 *U*	0.05 *U*	0.5 *UJ*	0.77 *UJ*
MW4	MW4	K0806880	Integral	July 2008	7/24/2008	10:15	1.55	2810	2730	0.149	0.117	690 *R*	661 *R*	0.05 *U*	0.05 *U*	0.67	0.76
MW4	MW4	K0807975	Integral	August 2008	8/19/2008	10:15	2.89	2790	1850	0.75	0.287	1430	1090	0.05 *U*	0.05 *U*	1.02	0.73
MW4	MW4	K0808787	Integral	September 2008	9/9/2008	14:45	2.52 *J*	9950	7550	0.877	0.55	2130	2060	0.05 *U*	0.05 *U*	1.54	0.87
MW4	MW4	K0810253	Integral	October 2008	10/15/2008	11:40	2.07	9170	7240	0.527	0.362	1780	1330	0.05 *U*	0.05 *U*	0.43	0.37
MW4	MW4	K0902142	Integral	March 2009	3/8/2009	14:12	1.25	882	631	0.146	0.06	706	602	0.05 *U*	0.05 *U*	0.44 *U*	0.43 *UJ*
MW4	MW4	K0904395	Integral	May 2009	5/13/2009	11:00	0.94	808	620	0.253	0.067 *UJ*	1320	1250	0.02 *U*	0.02 *U*	0.86	1.06
MW4	MW4	K0906701	Integral	July 2009	7/23/2009	9:20	2.29	6950	5280	1.34	0.304	1490	1230	0.02 *U*	0.02 *U*	1.04	1.14
MW4	MW4	K0908619	Integral	September 2009 II	9/13/2009	07:50	1.46	10500	10900	0.228	0.156	1700	1780	0.02 *U*	0.02 *U*	0.81	1.2
MW4	MW4	K0910115	Integral	October 2009	10/17/2009	11:00	1.15	9880	9970	0.151	0.105	1490	1520	0.02 *U*	0.02 *U*	0.64	0.95
MW4	MW4	K1000512	Integral	January 2010	1/15/2010	13:34	1.41 *U*	3600	3490	0.223 *U*	0.111 *U*	1050 *J*	995 *J*	0.02 *U*	0.02 *U*	0.67	0.82
MW4	MW4	K1004032	Integral	April 2010	4/22/2010	10:00	0.79 *J*	9900	9950	0.189	0.11	1360 *J*	1370 *J*	0.02 *U*	0.02 *U*	0.62	0.85
MW4	MW4	K1008751	Integral	August 2010	8/10/2010	11:45	0.8	9670	8970	0.118	0.075	2740	2710	0.02 *U*	0.02 *U*	1.07	1.12
MW4	MW4	K1011739	Integral	October 2010	10/19/2010	10:50	0.69	10700 *J*	10200 *J*	0.285	0.097	1860	1820	0.02 *U*	0.02 *U*	0.48 *U*	0.7 *U*
MW4	MW4	K1100642	Integral	January 2011	1/20/2011	11:45	0.33	9130	9040	0.056	0.034 *UJ*	2140	2070	0.02 *U*	0.02 *U*	0.41 *UJ*	0.69
MW4	MW4	K1103541	Integral	April 2011	4/20/2011	11:15	0.35 *U*	5320 *J*	5000 *J*	0.041	0.03 *UJ*	2420	2360	0.02 *U*	0.02 *U*	0.67 *UJ*	0.67 *U*
MW4	MW4	K1106862	Integral	July 2011 II	7/24/2011	16:10	1.69	6150	5700	0.138	0.112	2530	2470	0.02 *UJ*	0.02 *UJ*	0.61 *UJ*	0.6
MW4	MW4	K1112358	Integral	December 2011	12/20/2011	13:00	0.6	7430	5540	0.911 *J*	0.056	2070	1300	0.02 *U*	0.02 *U*	1.33	0.62
MW4	MW4	K1200245	Integral	January 2012	1/9/2012	12:15	0.46	6920	6060	0.086	0.049	1480	1340	0.02 *U*	0.02 *U*	0.51	0.55
MW4	MW4	K1203283	Integral	April 2012	4/7/2012	13:54	0.59	5790	5080	0.135	0.038	1710	1560	0.02 *U*	0.02 *U*	0.7	0.77
MW4	MW4	K1207121	Integral	July 2012	7/21/2012	10:15	0.53	7730	7590	0.066	0.039	1840	1850	0.02 *U*	0.02 *U*	0.4	0.33
MW7	MW7	L482967	Knight Piesold	February 2007	2/28/2007	13:00	3.1	4840	998	8.74	0.5	1870	690	0.031	0.02 *U*	3.7	1 *U*
MW7	MW7	L495369	Knight Piesold	April 2007	4/10/2007	14:24	1.16	4070	3600	1.52	0.21	1160	950	0.05 *U*	0.05 *U*	5	1.39
MW7	MW7	L507191	Knight Piesold	May 2007	5/15/2007	08:40	2.4	5360	5060	1.09	0.753	1210	1110	0.05 *U*	0.05 *U*	1.2	0.85
MW7	MW7	L515743	Knight Piesold	June 2007	6/5/2007	09:00	1.32	4890	5220	0.641	0.268	1120	1190	0.013	0.01 *U*	0.6	1.04
MW7	MW7	L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	1.07	4910	4970	0.545	0.196	1050	1060	0.012	0.01 *U*	1.21	0.9
MW7	MW7	K0706569	Integral	July 2007 II	7/23/2007	13:47	1.37	5140	4820	0.59	0.202	1000	947	0.03 *U*	0.03 *U*	0.93	0.94
MW7	MW7	K0707317	Integral	August 2007 I	8/13/2007	12:55	1.44	5130	5020	0.608	0.201	1020	983	0.03 *U*	0.03 *U*	2.18 *UJ*	3.02 *J*
MW7	MW7	K0707782	Integral	August 2007 II	8/28/2007	14:35	1.3 *J*	4780	4670	0.302	0.166 *J*	959	935	0.03 *U*	0.03 *U*	0.54	1.3
MW7	MW7	K0708240	Integral	September 2007 I	9/10/2007	12:25	1.36	4860	4880	0.485	0.194	969	962	0.03 *U*	0.03 *U*	0.97	0.96
MW7	MW7	K0709126	Integral	September 2007 II	9/30/2007	13:40	1.11	5520	4730	1.21	0.177	1130	924	0.03 *U*	0.03 *U*	0.94	1.37
MW7	MW7	K0709804	Integral	October 2007	10/16/2007	10:35	1.21	4510	4220	0.785	0.201	895	832	0.03 *U*	0.03 *U*	0.7	1.26
MW7	MW7	K0710773	Integral	November 2007	11/13/2007	07:45	1.18	4460	3850	0.543	0.197	883	806	0.03 *U*	0.03 *U*	0.93	1.34
MW7	MW7	K0711891	Integral	December 2007 I	12/15/2007	11:20	1.14 *J*	3970	3100	1.4	0.376	870	684	0.03 *U*	0.03 *U*	0.86	1.07
MW7	MW7	K0800335	Integral	January 2008	1/9/2008	09:18	1	4350	3690	0.561	0.191	747 *J*	624 *J*	0.03 *U*	0.03 *U*	0.85	1.01
MW7	MW7	K0801400	Integral	Februrary 2008	2/14/2008	12:05	0.7	2870	2620	0.429	0.165	566	542	0.03 *U*	0.03 *U*	1.32	0.73
MW7	MW7	K0802328	Integral	March 2008	3/13/2008	15:10	0.77	3180	3010	0.486	0.153	558 *J*	503 *J*	0.03 *U*	0.03 *U*	0.6	0.69
MW7	MW7	K0803239	Integral	April 2008	4/13/2008	15:45	0.51	3050	2940	0.564	0.167	588	547	0.03 *U*	0.03 *U*	0.46 *UJ*	0.49
MW7	MW7	K0804080	Integral	May 2008	5/6/2008	10:45	0.68 *U*	3180	2840	0.33	0.135	677	646	0.03 *UJ*	0.03 *UJ*	0.56	0.68
MW7	MW7	K0805877	Integral	June 2008	6/26/2008	13:30	0.98 *U*	3970	3340	1.4	0.162	839	633	0.05 *U*	0.05 *U*	0.5 *UJ*	0.36 *UJ*
MW7	MW7	K0806880	Integral	July 2008	7/25/2008	9:30	0.99	3120	3060	0.366	0.157	571 *R*	570 *R*	0.05 *U*	0.05 *U*	0.39 *UJ*	0.48 *UJ*
MW8	MW8	L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	0.89	241	62	0.176	0.05 *U*	1320	1240	0.01 *U*	0.01 *U*	0.86	1.1
MW8	MW8	K0706569	Integral	July 2007 II	7/23/2007	12:00	1.02	36	37	0.031 *U*	0.019 *U*	1030	996	0.03 *U*	0.03 *U*	1.08	1.15
MW8	MW8	K0707317	Integral	August 2007 I	8/13/2007	12:00	1.18	57 *U*	3.8 *U*	0.042	0.023 *U*	1010	967	0.03 *U*	0.03 *U*	3.55 *UJ*	3.23 *J*
MW8	MW8	K0707782	Integral	August 2007 II	8/28/2007	10:00	1.06 *J*	40 *J*	30 *J*	0.022 *U*	0.014 *U*	891	884	0.03 *U*	0.03 *U*	0.42	0.47
MW8	MW8	K0708240	Integral	September 2007 I	9/10/2007	11:20	0.95	24.5 *UJ*	29.2 *UJ*	0.033	0.01 *UJ*	912	944	0.03 *U*	0.03 *U*	0.59	0.61 *UJ*
MW8	MW8	K0709126	Integral	September 2007 II	9/30/2007	10:45	1.08	19.2 *U*	8.2 *U*	0.007 *U*	0.007 *U*	1010	987	0.03 *U*	0.03 *U*	0.61	0.84
MW8	MW8	K0709804	Integral	October 2007	10/16/2007	15:50	1.65	64.6	28.6 *UJ*	0.028	0.051	827	825	0.03 *U*	0.03 *U*	0.4	0.53
MW8	MW8	K0710773	Integral	November 2007	11/12/2007	16:15	1.54	28	30.6	0.016 *UJ*	0.057	935	962	0.03 *U*	0.03 *U*	1.01	1.43
MW8	MW8	K0711891	Integral	December 2007 I	12/14/2007	10:50	1.44 *J*	13.8 *J*	7.8 *J*	0.005 *UJ*	0.011 *UJ*	1020	1040	0.03 *U*	0.03 *U*	0.51	0.53
MW8	MW8	K0800335	Integral	January 2008	1/8/2008	09:41	1.51	18.5 *UJ*	7.9 *UJ*	0.006 *UJ*	0.012 *UJ*	838 *J*	899 *J*	0.03 *U*	0.03 *U*	1.23	0.48 *UJ*
MW8	MW8	K0801400	Integral	Februrary 2008	2/13/2008	10:00	1.25	14.2 *UJ*	10.2 *UJ*	0.012 *J*	0.003 *U*	1010	1030	0.03 *U*	0.03 *U*	5.11	0.94

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
MW8	MW8	K0802328	Integral	March 2008	3/13/2008	12:45	1.35	10.8 *UJ*	4.8 *UJ*	0.009 *U*	0.009 *U*	792 *J*	819 *J*	0.03 *U*	0.03 *U*	1.03	1.09
MW8	MW8	K0803239	Integral	April 2008	4/14/2008	9:00	1.54	38.9 *UJ*	3.5 *UJ*	0.003 *UJ*	0.014 *UJ*	927	913	0.03 *U*	0.03 *U*	0.5 *UJ*	0.54
MW8	MW8	K0804080	Integral	May 2008	5/6/2008	15:15	1.91	24	19.9 *UJ*	0.016 *U*	0.027 *UJ*	1050	1030	0.03 *UJ*	0.03 *UJ*	0.92	1.09
MW8	MW8	K0805877	Integral	June 2008	6/26/2008	10:45	1.64 *U*	11 *UJ*	4 *UJ*	0.006 *U*	0.014 *UJ*	1020	1000	0.05 *U*	0.05 *U*	0.34 *UJ*	0.54 *UJ*
MW9	MW9	L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	0.53	841	30 *U*	0.424	0.05 *U*	1780	1370	0.01 *U*	0.01 *U*	2.06	0.5 *U*
MW9	MW9	K0706569	Integral	July 2007 II	7/23/2007	16:07	0.98	3400	61	1.13	0.046 *U*	4150	2450	0.03 *U*	0.03 *U*	2.14	1.67
MW9	MW9	K0707317	Integral	August 2007 I	8/13/2007	15:20	0.77	3820	30	1.24	0.036	3440	1420	0.03 *U*	0.03 *U*	5.82 *J*	5.41 *J*
MW9	MW9	K0707782	Integral	August 2007 II	8/28/2007	15:00	0.54 *J*	747	11 *U*	0.346	0.026 *U*	2600	1690	0.03 *U*	0.03 *U*	0.57	0.4
MW9	MW9	K0708240	Integral	September 2007 I	9/10/2007	13:20	0.5	1490	23.5 *UJ*	0.473	0.014 *UJ*	3000	1680	0.03 *U*	0.03 *U*	1.14	0.82 *UJ*
MW9	MW9	K0709126	Integral	September 2007 II	9/30/2007	14:30	0.63	1060	8.7 *U*	0.349	0.021 *U*	2910	2210	0.03 *U*	0.03 *U*	1.34	1.29
MW9	MW9	K0709804	Integral	October 2007	10/16/2007	16:55	0.66	4780	12.5 *UJ*	1.65	0.031	4450	2320	0.03 *U*	0.03 *U*	1.85	0.94
MW9	MW9	K0710773	Integral	November 2007	11/12/2007	15:00	0.63	481	13.1 *UJ*	0.239	0.017 *UJ*	2400	2000	0.03 *U*	0.03 *U*	2.01	2.2
MW9	MW9	K0711891	Integral	December 2007 I	12/14/2007	11:15	0.73 *J*	5500	17.1 *J*	1.43	0.026 *UJ*	4830	1980	0.03 *U*	0.03 *U*	2.24	0.92
MW9	MW9	K0800335	Integral	January 2008	1/8/2008	08:35	0.71	1580	13 *UJ*	0.515	0.03 *UJ*	2760 *J*	1910 *J*	0.03 *U*	0.03 *U*	2.62	0.55
MW9	MW9	K0801400	Integral	Februrary 2008	2/13/2008	12:00	0.52	1180	11.6 *UJ*	0.418	0.026	2470	1510	0.03 *U*	0.03 *U*	1.55	1.24
MW9	MW9	K0802328	Integral	March 2008	3/13/2008	16:15	0.55	3780	25.7	1.2	0.031 *J*	2930 *J*	1040 *J*	0.03 *U*	0.03 *U*	2.6	1.52
MW9	MW9	K0803239	Integral	April 2008	4/14/2008	10:40	0.55	1250	54.8	0.411	0.048 *UJ*	2350	1410	0.03 *U*	0.03 *U*	1.12	0.73
MW9	MW9	K0804080	Integral	May 2008	5/6/2008	17:45	0.56 *U*	1040	16.2 *UJ*	0.411	0.034 *UJ*	2300	1550	0.03 *UJ*	0.03 *UJ*	1.73	1.23
MW9	MW9	K0805877	Integral	June 2008	6/26/2008	15:15	0.67 *U*	488	7.1 *UJ*	0.212	0.012 *UJ*	1740	1300	0.05 *U*	0.05 *U*	1.1 *UJ*	0.83 *UJ*

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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	MW1	L482967	Knight Piesold	February 2007	2/28/2007	08:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.047	0.02 *U*	4800	5000	8 *U*	5 *U*
MW1	MW1	L495369	Knight Piesold	April 2007	4/10/2007	08:25	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	8300	8800	5 *U*	2.1
MW1	MW1	L507191	Knight Piesold	May 2007	5/14/2007	10:49	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	6200	6100	1.3	1.2
MW1	MW1	L515743	Knight Piesold	June 2007	6/4/2007	13:06	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	4800	4900	3 *U*	1 *U*
MW1	MW1	L526591	Knight Piesold	July 2007 I	7/2/2007	11:45	2000 *U*	2000 *U*	1 *U*	1.1	0.01 *U*	0.01 *U*	4200	4400	20.2	1 *U*
MW1	MW1	K0706569	Integral	July 2007 II	7/24/2007	11:44	900 *U*	900 *U*	0.5 *J*	0.5 *J*	0.029 *U*	0.009 *U*	4620	4740	5.36 *U*	7.62 *U*
MW1	MW1	K0707317	Integral	August 2007 I	8/14/2007	11:05	900 *U*	900 *U*	0.5 *U*	0.5 *U*	0.018 *U*	0.013 *U*	4550	4400	4.02 *J*	2.83 *U*
MW1	MW1	K0707782	Integral	August 2007 II	8/28/2007	17:40	1190 *U*	977 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.005 *U*	4850	5030	5.9 *U*	6.06 *U*
MW1	MW1	K0708240	Integral	September 2007 I	9/11/2007	10:20	900 *U*	900 *U*	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	5000	5210	3 *U*	3.6 *U*
MW1	MW1	K0709126	Integral	September 2007 II	9/30/2007	15:45	900 *U*	900 *U*	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	7350	6980	4.55 *U*	2.72 *U*
MW1	MW1	K0709804	Integral	October 2007	10/16/2007	12:25	900 *U*	900 *U*	0.2 *U*	0.3 *J*	0.009 *U*	0.009 *U*	6350	6890	4.56 *U*	3.9 *U*
MW1	MW1	K0710773	Integral	November 2007	11/12/2007	14:05	900 *U*	900 *U*	0.3 *J*	0.4 *J*	0.009 *U*	0.009 *U*	7160	6830	4.3 *U*	3.97 *U*
MW1	MW1	K0711891	Integral	December 2007 I	12/14/2007	13:00	900 *U*	900 *U*	0.7 *J*	0.2 *U*	0.104	0.027 *UJ*	5440	4960	25.1 *J*	5.93 *U*
MW1	MW1	K0800335	Integral	January 2008	1/9/2008	10:00	137 *UJ*	62.4 *UJ*	0.3 *J*	0.4 *U*	0.034 *J*	0.011 *J*	5240	5410	7.9 *U*	5.4 *U*
MW1	MW1	K0801400	Integral	Februrary 2008	2/14/2008	8:30	900 *U*	900 *U*	0.7 *J*	0.2 *U*	0.021 *UJ*	0.009 *UJ*	5900	5630	7 *U*	9.41 *U*
MW1	MW1	K0802328	Integral	March 2008	3/14/2008	10:10	94 *J*	88 *J*	0.4 *U*	0.4 *U*	0.088 *UJ*	0.106	4700	4380	6.8 *U*	2.8 *U*
MW1	MW1	K0803239	Integral	April 2008	4/15/2008	6:30	82 *J*	72 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	5520	5450	2.9 *U*	2.86 *U*
MW1	MW1	K0804080	Integral	May 2008	5/7/2008	17:15	117 *J*	103 *J*	0.4 *U*	0.4 *U*	0.025 *UJ*	0.005 *UJ*	6070	5880	3.5 *U*	5.2 *U*
MW1	MW1	K0805877	Integral	June 2008	6/26/2008	17:15	112 *J*	115 *J*	0.5 *U*	0.5 *U*	0.048 *UJ*	0.057 *UJ*	5790	5750	3.9 *U*	7.3 *U*
MW1	MW1	K0806880	Integral	July 2008	7/24/2008	13:35	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.048 *UJ*	0.054 *UJ*	4120	3960	6.6 *U*	1.6 *U*
MW1	MW1	K0807975	Integral	August 2008	8/19/2008	11:45	123 *J*	30 *U*	0.4 *UJ*	0.4 *U*	0.101	0.079 *UJ*	4400	4290	8.59 *U*	4.09 *U*
MW1	MW1	K0808787	Integral	September 2008	9/9/2008	13:30	133 *UJ*	131 *UJ*	0.5 *U*	0.5 *U*	0.012 *UJ*	0.009 *UJ*	4020	4260	6.31 *U*	2.43 *U*
MW1	MW1	K0810253	Integral	October 2008	10/15/2008	15:00	122 *UJ*	52 *UJ*	0.5 *U*	0.5 *U*	0.011 *J*	0.009 *U*	4050	4170	2.41 *U*	1.25 *U*
MW1	MW1	K0902142	Integral	March 2009	3/9/2009	10:10	50 *U*	50 *U*	0.4 *U*	0.4 *U*	0.016 *UJ*	0.011 *UJ*	3780	3980	10 *J*	6.11 *U*
MW1	MW1	K0904395	Integral	May 2009	5/13/2009	12:45	114 *J*	50 *U*	0.7 *J*	0.4 *U*	0.034 *UJ*	0.009 *UJ*	4050	4400	19.9 *J*	5.78 *U*
MW1	MW1	K0906701	Integral	July 2009	7/24/2009	15:15	106 *J*	100 *J*	0.2 *U*	0.2 *U*	0.061 *UJ*	0.099	4530	4410	6.16 *U*	5.21 *U*
MW1	MW1	K0910115	Integral	October 2009	10/17/2009	16:02	47 *J*	40 *U*	0.3 *U*	0.3 *U*	0.128	0.109	4270	4240	1.58 *U*	1.24 *U*
MW1	MW1	K1000512	Integral	January 2010	1/17/2010	09:37	40 *U*	40 *U*	0.3 *U*	0.3 *J*	0.004 *UJ*	0.015 *UJ*	5590	5600	2.23 *U*	3.32 *U*
MW1	MW1	K1004032	Integral	April 2010	4/22/2010	15:00	69 *J*	68 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	8220	8430	1.47 *U*	2.5 *U*
MW1	MW1	K1008751	Integral	August 2010	8/10/2010	16:00	70 *J*	69 *J*	0.3 *U*	0.3 *U*	0.016 *UJ*	0.012 *UJ*	5190	5310	4.39 *U*	4.26 *U*
MW1	MW1	K1011739	Integral	October 2010	10/19/2010	13:40	246 *J*	249 *J*	0.3 *UJ*	0.3 *UJ*	0.031	0.014 *UJ*	7960	7780	4.5 *U*	4.1 *U*
MW1	MW1	K1100642	Integral	January 2011	1/20/2011	15:15	41 *J*	51 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.004 *UJ*	4960	5020	2.34 *U*	2.09 *U*
MW1	MW1	K1103541	Integral	April 2011	4/20/2011	14:40	97 *UJ*	72 *UJ*	0.3 *U*	0.3 *J*	0.008 *UJ*	0.019 *UJ*	4520	4680	2.22 *U*	2.02 *U*
MW1	MW1	K1106862	Integral	July 2011 II	7/25/2011	14:10	101 *UJ*	120 *UJ*	0.3 *U*	0.3 *U*	0.017 *UJ*	0.007 *UJ*	5140	4880	1.9 *U*	2.1 *U*
MW1	MW1	K1112358	Integral	December 2011	12/20/2011	15:10	50 *U*	60.3 *UJ*	0.4 *J*	0.4 *J*	0.008 *UJ*	0.005 *UJ*	4870	4850	1.76 *U*	1.48 *U*
MW1	MW1	K1200245	Integral	January 2012	1/9/2012	14:30	101 *J*	101 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	6130	6430	1.2 *U*	1.14 *U*
MW1	MW1	K1203283	Integral	April 2012	4/7/2012	15:53	66.5 *J*	88.7 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	5620	5460	1.98 *U*	1.98 *U*
MW1	MW1	K1207121	Integral	July 2012	7/21/2012	16:40	154 *UJ*	62.8 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	5100	5260	1.5 *U*	1.46 *U*
MW1	MW1	K1210890	Integral	October 2012	10/28/2012	13:30	234 *J*	276 *J*	0.2 *J*	0.2 *U*	0.115 *J*	0.115 *J*	4870	5030	1.4 *U*	1.3 *UJ*
MW2	MW2	L495369	Knight Piesold	April 2007	4/10/2007	15:10	2000 *U*	2000 *U*	1 *U*	1 *U*	0.033	0.01 *U*	7700	10600	8.4	4.9
MW2	MW2	L507191	Knight Piesold	May 2007	5/14/2007	11:20	2000	2400	1 *U*	1 *U*	0.029	0.01 *U*	6600	9200	5.9	3.5
MW2	MW2	L515743	Knight Piesold	June 2007	6/4/2007	13:58	2600	2600	1 *U*	1 *U*	0.023	0.01 *U*	7900	9200	6 *U*	4.8
MW2	MW2	L526591	Knight Piesold	July 2007 I	7/2/2007	14:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2700	2700	4.2	5.2
MW2	MW2	K0706569	Integral	July 2007 II	7/24/2007	12:10	3970	3760	0.9 *J*	0.8 *J*	0.015 *U*	0.041 *U*	11100	9870	12.8	7.68 *U*
MW2	MW2	K0707317	Integral	August 2007 I	8/14/2007	11:40	1630 *J*	2530	0.7 *U*	0.6 *U*	0.033 *U*	0.017 *U*	5890	6130	10.4 *J*	3.36 *U*
MW2	MW2	K0707782	Integral	August 2007 II	8/28/2007	16:20	3450	2900	1.5 *J*	0.5 *J*	0.104	0.019 *U*	13800	12800	39.2	7.93 *U*
MW2	MW2	K0708240	Integral	September 2007 I	9/11/2007	11:00	1250 *J*	900 *U*	1 *J*	0.7 *J*	0.056 *UJ*	0.01 *UJ*	7520	6650	12.3 *U*	5.7 *U*
MW2	MW2	K0709126	Integral	September 2007 II	9/30/2007	16:15	1850 *J*	979 *J*	0.7 *J*	0.7 *J*	0.052	0.021	8350	8260	12.3 *J*	5.97 *U*
MW2	MW2	K0709804	Integral	October 2007	10/16/2007	13:30	1090 *J*	900 *U*	0.2 *J*	0.5 *J*	0.009 *U*	0.013 *J*	8270	7980	20.5	11.3
MW2	MW2	K0710773	Integral	November 2007	11/12/2007	14:30	1420 *J*	985 *J*	0.4 *J*	0.7 *J*	0.047 *UJ*	0.009 *U*	8670	8810	12.9	7.5 *U*
MW2	MW2	K0711891	Integral	December 2007 I	12/14/2007	14:30	1360 *J*	900 *U*	0.2 *U*	0.2 *J*	0.11	0.048 *UJ*	6830	5980	21.5 *J*	9.84 *J*
MW2	MW2	K0800335	Integral	January 2008	1/8/2008	12:49	1100 *J*	743 *J*	1 *J*	0.4 *U*	0.101	0.013 *J*	5460	5460	12.7 *J*	9.6 *U*
MW2	MW2	K0801400	Integral	Februrary 2008	2/13/2008	15:30	900 *U*	900 *U*	1 *J*	0.2 *J*	0.031 *UJ*	0.009 *UJ*	5270	5650	29.5	7.8 *U*
MW2	MW2	K0802328	Integral	March 2008	3/14/2008	13:00	660 *J*	626 *J*	0.6 *J*	0.4 *U*	0.122	0.105	4680	4700	6.6 *U*	8.8 *U*
MW2	MW2	K0803239	Integral	April 2008	4/14/2008	13:00	648 *J*	530 *J*	0.2 *J*	0.2 *U*	0.026 *R*	0.013 *R*	5020	4630	3.72 *U*	5.28 *U*
MW2	MW2	K0804080	Integral	May 2008	5/7/2008	16:20	639 *J*	669 *J*	0.8 *U*	0.4 *U*	0.041 *UJ*	0.005 *UJ*	5240	8030	17.6 *J*	10.2 *U*
MW2	MW2	K0805877	Integral	June 2008	6/26/2008	16:10	535 *J*	515 *J*	0.5 *U*	0.5 *U*	0.042 *UJ*	0.035 *UJ*	4580	4580	5 *U*	10.9 *U*
MW2	MW2	K0806880	Integral	July 2008	7/24/2008	12:15	434 *J*	357 *J*	0.7 *J*	0.4 *J*	0.065 *UJ*	0.047 *UJ*	4430	4340	4.1 *U*	3.2 *U*
MW2	MW2	K0807975	Integral	August 2008	8/19/2008	11:00	542 *J*	406 *J*	0.7 *UJ*	0.4 *U*	0.112	0.072 *UJ*	4400	4530	8.34 *U*	7.36 *U*
MW2	MW2	K0808787	Integral	September 2008	9/9/2008	14:00	551 *J*	498 *J*	0.5 *U*	0.5 *U*	0.036 *UJ*	0.009 *UJ*	4580	4400	5.97 *U*	3.69 *U*
MW2	MW2	K0810253	Integral	October 2008	10/15/2008	13:45	354 *J*	431 *J*	0.5 *U*	0.5 *U*	0.015 *J*	0.009 *U*	4140	3910	5.08 *U*	2.57 *U*
MW2	MW2	K0902142	Integral	March 2009	3/8/2009	15:35	388 *J*	329 *J*	0.4 *U*	0.4 *U*	0.076	0.038 *UJ*	4670	4820	3.35 *U*	6.74 *U*

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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	MW2	K0904395	Integral	May 2009	5/13/2009	11:45	379 *J*	311 *J*	0.4 *U*	0.4 *U*	0.013 *UJ*	0.009 *UJ*	4140	4100	9.39 *J*	5.68 *U*
MW2	MW2	K0906701	Integral	July 2009	7/24/2009	15:45	428	386 *J*	0.2 *U*	0.2 *U*	0.065 *UJ*	0.078	5480	5270	5.73 *U*	4.38 *U*
MW2	MW2	K0908619	Integral	September 2009 II	9/12/2009	17:00	459	459	0.3 *J*	0.2 *U*	0.017 *UJ*	0.004 *UJ*	5150	5330	2.9 *U*	2.5 *U*
MW2	MW2	K0910115	Integral	October 2009	10/17/2009	08:52	464	422	0.5 *J*	0.4 *J*	0.118	0.1	5580	5270	3.71 *U*	1.61 *U*
MW2	MW2	K1000512	Integral	January 2010	1/15/2010	11:49	560	491	0.4 *J*	0.3 *U*	0.028 *UJ*	0.016 *UJ*	5190	4920	9.91 *U*	7.5 *U*
MW2	MW2	K1004032	Integral	April 2010	4/22/2010	11:40	584	527	0.3 *U*	0.3 *U*	0.018 *UJ*	0.004 *UJ*	5680	5580	3.04 *U*	2.89 *U*
MW2	MW2	K1008751	Integral	August 2010	8/10/2010	14:15	681	701	0.3 *U*	0.3 *U*	0.029 *UJ*	0.018 *UJ*	5700	5780	7.1 *U*	7.73 *U*
MW2	MW2	K1011739	Integral	October 2010	10/19/2010	14:25	547	559	0.3 *UJ*	0.3 *UJ*	0.036	0.016 *UJ*	5120	5080	1.1 *U*	1 *U*
MW2	MW2	K1100642	Integral	January 2011	1/20/2011	12:10	516	511	0.3 *UJ*	0.3 *UJ*	0.023 *UJ*	0.004 *UJ*	5220	5150	0.84 *U*	0.88 *U*
MW2	MW2	K1103541	Integral	April 2011	4/20/2011	13:20	567	533	0.3 *U*	0.3 *U*	0.017 *UJ*	0.005 *UJ*	4760	4880	1.49 *U*	1.02 *U*
MW2	MW2	K1106862	Integral	July 2011 II	7/24/2011	17:10	702	671	0.3 *J*	0.4 *J*	0.022 *UJ*	0.004 *UJ*	5260	5250	1.3 *U*	0.7 *U*
MW2	MW2	K1112358	Integral	December 2011	12/20/2011	14:10	1070	891	0.4 *J*	0.4 *J*	0.01 *UJ*	0.008 *UJ*	4610	4560	1.11 *U*	0.76 *U*
MW2	MW2	K1200245	Integral	January 2012	1/9/2012	12:55	781	834	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *U*	4490	4890	1.01 *U*	0.8 *U*
MW2	MW2	K1203283	Integral	April 2012	4/7/2012	9:34	585	514	0.5 *J*	0.4 *J*	0.015 *UJ*	0.004 *U*	4900	5100	0.9 *U*	0.82 *U*
MW2	MW2	K1207121	Integral	July 2012	7/21/2012	7:30	582	525	0.2 *U*	0.2 *U*	0.008 *J*	0.005 *U*	4420	4430	1.07 *U*	0.66 *U*
MW2	MW2	K1210890	Integral	October 2012	10/28/2012	10:45	515	375 *J*	0.2 *J*	0.2 *U*	0.169 *J*	0.132 *J*	4740	3160	0.7 *U*	0.6 *UJ*
MW3	MW3	L482967	Knight Piesold	February 2007	2/28/2007	11:12	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3500	3900	7 *U*	5.8
MW3	MW3	L495369	Knight Piesold	April 2007	4/10/2007	12:35	2000 *U*	2000 *U*	1 *U*	1 *U*	0.039	0.01 *U*	7500	8800	25.7	4.9
MW3	MW3	L507191	Knight Piesold	May 2007	5/14/2007	11:57	2000 *U*	2000 *U*	1 *U*	1 *U*	0.124	0.01 *U*	9300	10000	22.6	8.6
MW3	MW3	L515743	Knight Piesold	June 2007	6/4/2007	14:54	2000 *U*	2000 *U*	1 *U*	1 *U*	0.06	0.01 *U*	8500	8800	21.1	8.1
MW3	MW3	L526591	Knight Piesold	July 2007 I	7/2/2007	15:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3900	4600	7 *U*	7
MW3	MW3	K0706569	Integral	July 2007 II	7/24/2007	13:20	900 *U*	900 *U*	1	1 *J*	0.019 *U*	0.009 *U*	6030	5880	10.3	12.4 *U*
MW3	MW3	K0707317	Integral	August 2007 I	8/14/2007	12:20	900 *U*	900 *U*	0.9 *U*	0.7 *U*	0.047 *U*	0.015 *U*	4340	4040	10.1 *J*	4.26 *U*
MW3	MW3	K0707782	Integral	August 2007 II	8/28/2007	16:55	1180 *U*	1730 *U*	0.2 *U*	0.2 *U*	0.018 *U*	0.005 *U*	5120	5300	9.97 *U*	9.6 *U*
MW3	MW3	K0708240	Integral	September 2007 I	9/10/2007	16:20	900 *U*	900 *U*	0.8 *J*	0.8 *J*	0.021 *UJ*	0.011 *UJ*	4810	4650	11.3 *U*	10.8 *U*
MW3	MW3	K0709126	Integral	September 2007 II	9/30/2007	16:55	900 *U*	900 *U*	0.6 *J*	0.5 *J*	0.033	0.009 *U*	4710	4280	11.6 *J*	5.17 *U*
MW3	MW3	K0709804	Integral	October 2007	10/17/2007	09:10	900 *U*	900 *U*	0.3 *J*	0.4 *J*	0.009 *U*	0.009 *U*	4410	4540	7.39	8.58
MW3	MW3	K0710773	Integral	November 2007	11/12/2007	13:20	900 *U*	900 *U*	0.6 *J*	0.6 *J*	0.009 *U*	0.009 *U*	4590	4380	10	6.87 *U*
MW3	MW3	K0711891	Integral	December 2007 I	12/15/2007	09:00	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.017 *UJ*	0.027 *UJ*	4460	4650	8.84 *J*	7 *U*
MW3	MW3	K0800335	Integral	January 2008	1/8/2008	13:18	356 *UJ*	263 *UJ*	0.4 *J*	0.4 *U*	0.039 *J*	0.006 *J*	4570	4790	10.6 *J*	7 *U*
MW3	MW3	K0801400	Integral	Februrary 2008	2/13/2008	15:40	900 *U*	900 *U*	0.6 *J*	0.2 *U*	0.006 *UJ*	0.009 *UJ*	3830	3870	7 *U*	4.06 *U*
MW3	MW3	K0802328	Integral	March 2008	3/14/2008	14:20	281 *J*	241 *J*	0.4 *U*	0.4 *U*	0.053 *UJ*	0.069 *UJ*	4050	3880	3.7 *U*	4.3 *U*
MW3	MW3	K0803239	Integral	April 2008	4/14/2008	13:35	213 *J*	188 *UJ*	0.2 *U*	0.2 *U*	0.01 *R*	0.01 *R*	4630	4410	10.6 *J*	3.17 *U*
MW3	MW3	K0804080	Integral	May 2008	5/7/2008	15:45	254 *J*	195 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	5360	5040	4.8 *U*	8.2 *U*
MW3	MW3	K0805877	Integral	June 2008	6/27/2008	10:15	201 *J*	195 *J*	0.5 *U*	0.5 *U*	0.024 *UJ*	0.023 *UJ*	5590	5540	7.6 *U*	10 *U*
MW3	MW3	K0806880	Integral	July 2008	7/24/2008	12:40	134 *J*	108 *J*	1.1	1.1	0.046 *UJ*	0.044 *UJ*	5500	5310	9.8 *U*	4.7 *U*
MW3	MW3	K0807975	Integral	August 2008	8/19/2008	9:30	331 *J*	324 *J*	0.5 *UJ*	1.3	0.009 *UJ*	0.009 *UJ*	6080	6050	6.14 *U*	9.43 *U*
MW3	MW3	K0808787	Integral	September 2008	9/9/2008	11:30	443 *J*	427 *J*	0.5 *U*	0.5 *J*	0.02 *UJ*	0.009 *UJ*	5980	5370	6.68 *U*	4.05 *U*
MW3	MW3	K0810253	Integral	October 2008	10/15/2008	10:20	451 *J*	445 *J*	0.5 *U*	0.5 *U*	0.012 *J*	0.009 *J*	4780	4800	3.77 *U*	5.3 *U*
MW3	MW3	K0902142	Integral	March 2009	3/8/2009	15:10	258 *J*	297 *J*	0.4 *U*	0.4 *U*	0.045 *UJ*	0.036 *UJ*	2980	2990	3.61 *U*	2.9 *U*
MW3	MW3	K0904395	Integral	May 2009	5/13/2009	10:00	364 *J*	344 *J*	0.4 *J*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	3700	3750	7.42 *U*	6.5 *U*
MW3	MW3	K0906701	Integral	July 2009	7/24/2009	14:15	487	421	0.2 *U*	0.2 *U*	0.059 *UJ*	0.049 *UJ*	3810	3640	6.88 *U*	5.61 *U*
MW3	MW3	K0908619	Integral	September 2009 II	9/12/2009	14:35	598	635	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	4190	4340	3.6 *U*	4 *U*
MW3	MW3	K0910115	Integral	October 2009	10/17/2009	09:44	303 *J*	294 *J*	0.3 *U*	0.3 *U*	0.062	0.056	3450	3440	2.45 *U*	2.53 *U*
MW3	MW3	K1000512	Integral	January 2010	1/15/2010	12:36	338 *J*	359 *J*	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *UJ*	4610	4470	5.27 *U*	19.6 *J*
MW3	MW3	K1004032	Integral	April 2010	4/22/2010	8:45	377 *J*	374 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	7610	8110	2.22 *U*	3.07 *U*
MW3	MW3	K1008751	Integral	August 2010	8/10/2010	10:05	249 *J*	223 *J*	0.3 *U*	0.3 *U*	0.024 *UJ*	0.016 *UJ*	5210	5210	7.91 *U*	7.75 *U*
MW3	MW3	K1011739	Integral	October 2010	10/19/2010	09:55	313 *J*	294 *J*	0.3 *UJ*	0.3 *UJ*	0.027	0.017 *UJ*	5930	5810	2.8 *U*	2.9 *U*
MW3	MW3	K1100642	Integral	January 2011	1/20/2011	10:40	169 *J*	182 *J*	0.3 *UJ*	0.3 *UJ*	0.005 *UJ*	0.004 *UJ*	4430	4410	1.65 *U*	1.69 *U*
MW3	MW3	K1103541	Integral	April 2011	4/20/2011	13:00	186 *UJ*	190 *UJ*	0.3 *U*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	3500	3590	1.56 *U*	1.69 *U*
MW3	MW3	K1106862	Integral	July 2011 II	7/24/2011	15:00	217 *UJ*	213 *UJ*	0.3 *U*	0.3 *U*	0.021 *UJ*	0.004 *UJ*	4300	4360	3.5 *U*	2.1 *U*
MW3	MW3	K1112358	Integral	December 2011	12/20/2011	11:45	193 *UJ*	267 *UJ*	0.4 *J*	0.4 *J*	0.062	0.004 *UJ*	3830	3980	2.08 *U*	2.28 *U*
MW3	MW3	K1200245	Integral	January 2012	1/9/2012	11:00	327 *J*	310 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4930	5130	5.49 *U*	2 *U*
MW3	MW3	K1203283	Integral	April 2012	4/7/2012	10:57	228 *J*	215 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4850	4710	5.31 *U*	2.09 *U*
MW3	MW3	K1207121	Integral	July 2012	7/21/2012	9:15	268 *UJ*	195 *UJ*	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	4280	4320	2.74 *U*	2.3 *U*
MW3	MW3	K1210890	Integral	October 2012	10/28/2012	11:00	214 *J*	242 *J*	0.2 *U*	0.2 *U*	0.176 *J*	0.2 *J*	3730	3720	2.8 *U*	2.7 *UJ*
MW4	MW4	L482967	Knight Piesold	February 2007	2/27/2007	08:39	2000 *U*	2000 *U*	1 *U*	1 *U*	0.025	0.02 *U*	4200	4500	20.7	8.1
MW4	MW4	L495369	Knight Piesold	April 2007	4/10/2007	13:23	2000 *U*	2000 *U*	1 *U*	1 *U*	0.025	0.01 *U*	5900	6000	18.5	7
MW4	MW4	L507191	Knight Piesold	May 2007	5/14/2007	13:13	2000 *U*	2000 *U*	1 *U*	1 *U*	0.015	0.01 *U*	4300	4500	13.8	10.7
MW4	MW4	L515743	Knight Piesold	June 2007	6/4/2007	11:02	2000 *U*	2000 *U*	1 *U*	1 *U*	0.012	0.01 *U*	4000	4000	10 *U*	9.1
MW4	MW4	K0706569	Integral	July 2007 II	7/23/2007	17:00	900 *U*	900 *U*	0.8 *J*	0.8 *J*	0.014 *U*	0.009 *U*	4430	4260	14.5	14.7 *U*
MW4	MW4	K0707782	Integral	August 2007 II	8/27/2007	16:20	1730 *U*	900 *U*	0.2 *J*	0.2 *U*	0.023 *U*	0.008 *U*	5560	6070	26.7	12.3 *U*

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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	MW4	K0708240	Integral	September 2007 I	9/10/2007	17:00	900 *U*	900 *U*	0.8 *J*	0.7 *J*	0.031 *UJ*	0.013 *UJ*	5100	4940	17.5 *U*	14.3 *U*
MW4	MW4	K0709126	Integral	September 2007 II	9/30/2007	17:30	1110 *J*	991 *J*	0.8 *J*	0.9 *J*	0.02 *J*	0.018 *J*	5740	5200	16.3 *J*	14.2 *U*
MW4	MW4	K0709804	Integral	October 2007	10/16/2007	16:40	1070 *J*	900 *U*	0.7 *J*	0.7 *J*	0.016 *J*	0.012 *J*	5130	5150	16.5	15.9
MW4	MW4	K0710773	Integral	November 2007	11/12/2007	11:50	900 *U*	900 *U*	0.7 *J*	0.8 *J*	0.009 *UJ*	0.009 *U*	4680	4200	9.99	9.83 *U*
MW4	MW4	K0711891	Integral	December 2007 I	12/15/2007	09:45	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.025 *UJ*	0.012 *UJ*	4820	4800	9.24 *J*	6.54 *U*
MW4	MW4	K0800335	Integral	January 2008	1/8/2008	14:48	283 *UJ*	186 *UJ*	0.3 *J*	0.4 *U*	0.02 *J*	0.005 *J*	4530	5040	10.1 *J*	11 *U*
MW4	MW4	K0801400	Integral	Februrary 2008	2/13/2008	11:30	900 *U*	900 *U*	0.4 *J*	0.2 *U*	0.006 *UJ*	0.009 *UJ*	3970	4060	5.7 *U*	7.06 *U*
MW4	MW4	K0802328	Integral	March 2008	3/15/2008	8:15	284 *J*	258 *J*	0.5 *J*	0.4 *U*	0.029 *UJ*	0.032 *UJ*	4060	3940	9.5 *U*	8.5 *U*
MW4	MW4	K0803239	Integral	April 2008	4/14/2008	10:00	324 *J*	270 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	5550	5120	11 *J*	8.84 *U*
MW4	MW4	K0804080	Integral	May 2008	5/8/2008	15:50	276 *J*	319 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.033 *UJ*	5370	5420	8.9 *U*	21.5 *J*
MW4	MW4	K0805877	Integral	June 2008	6/27/2008	11:15	286 *J*	257 *J*	0.5 *U*	0.5 *U*	0.029 *UJ*	0.016 *UJ*	4550	4700	12.7 *U*	10.8 *U*
MW4	MW4	K0806880	Integral	July 2008	7/24/2008	10:15	221 *J*	244 *J*	0.5 *J*	0.6 *J*	0.027 *UJ*	0.02 *UJ*	6570	6380	5.9 *U*	6.1 *U*
MW4	MW4	K0807975	Integral	August 2008	8/19/2008	10:15	1020 *J*	985 *J*	0.4 *UJ*	0.4 *U*	0.02 *UJ*	0.009 *UJ*	10800	10500	13.9 *U*	15.8 *U*
MW4	MW4	K0808787	Integral	September 2008	9/9/2008	14:45	1440 *J*	1400 *J*	0.5 *U*	0.5 *U*	0.024 *UJ*	0.009 *UJ*	9810	9350	12.9 *U*	22.7 *J*
MW4	MW4	K0810253	Integral	October 2008	10/15/2008	11:40	961 *J*	634 *J*	0.5 *U*	0.5 *U*	0.014 *J*	0.009 *U*	5230	4230	2.68 *U*	2.19 *U*
MW4	MW4	K0902142	Integral	March 2009	3/8/2009	14:12	296 *J*	268 *J*	0.4 *U*	0.4 *U*	0.02 *UJ*	0.014 *UJ*	2450	2390	13 *J*	12.6 *J*
MW4	MW4	K0904395	Integral	May 2009	5/13/2009	11:00	531	520	0.4 *U*	0.4 *U*	0.012 *UJ*	0.009 *UJ*	4310	4310	20.6 *J*	20.9 *J*
MW4	MW4	K0906701	Integral	July 2009	7/23/2009	9:20	724	683	0.2 *U*	0.2 *U*	0.077	0.043 *UJ*	4950	4940	9.4 *J*	12.9 *J*
MW4	MW4	K0908619	Integral	September 2009 II	9/13/2009	07:50	842	860	0.4 *J*	0.3 *J*	0.019 *UJ*	0.007 *UJ*	4760	4670	4.4 *U*	2.1 *U*
MW4	MW4	K0910115	Integral	October 2009	10/17/2009	11:00	581	587	0.3 *U*	0.3 *U*	0.062	0.051	3590	3530	1.15 *U*	2.72 *U*
MW4	MW4	K1000512	Integral	January 2010	1/15/2010	13:34	420	409	0.5 *J*	0.4 *J*	0.012 *UJ*	0.006 *UJ*	4580	4460	13 *U*	8.32 *U*
MW4	MW4	K1004032	Integral	April 2010	4/22/2010	10:00	633	608	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	6400	6530	6.55 *U*	5.51 *U*
MW4	MW4	K1008751	Integral	August 2010	8/10/2010	11:45	719	706	0.3 *U*	0.3 *U*	0.023 *UJ*	0.019 *UJ*	6130	5890	9.14 *U*	8.7 *UJ*
MW4	MW4	K1011739	Integral	October 2010	10/19/2010	10:50	449	448	0.3 *UJ*	0.4 *UJ*	0.042	0.023 *UJ*	5530	5470	1.1 *U*	0.7 *U*
MW4	MW4	K1100642	Integral	January 2011	1/20/2011	11:45	460	448	0.3 *UJ*	0.3 *UJ*	0.009 *UJ*	0.004 *UJ*	5490	5510	0.74 *U*	0.94 *U*
MW4	MW4	K1103541	Integral	April 2011	4/20/2011	11:15	602	599	0.3 *J*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	4780	4790	1.56 *U*	1.87 *U*
MW4	MW4	K1106862	Integral	July 2011 II	7/24/2011	16:10	607	578	0.3 *U*	0.3 *U*	0.007 *UJ*	0.004 *UJ*	4810	4720	9.1 *J*	1.7 *U*
MW4	MW4	K1112358	Integral	December 2011	12/20/2011	13:00	332 *J*	277 *UJ*	0.5 *J*	0.5 *J*	0.029 *U*	0.008 *UJ*	3830	3900	3.24 *U*	0.94 *U*
MW4	MW4	K1200245	Integral	January 2012	1/9/2012	12:15	386 *J*	367 *J*	0.3 *U*	0.3 *U*	0.005 *UJ*	0.004 *U*	5440	5310	1.12 *U*	0.78 *U*
MW4	MW4	K1203283	Integral	April 2012	4/7/2012	13:54	340 *J*	331 *J*	0.3 *U*	0.4 *J*	0.005 *UJ*	0.004 *U*	4680	4680	1.91 *U*	1.63 *U*
MW4	MW4	K1207121	Integral	July 2012	7/21/2012	10:15	466	526	0.2 *U*	0.2 *J*	0.005 *U*	0.005 *U*	4610	4690	1.3 *U*	1.2 *U*
MW7	MW7	L482967	Knight Piesold	February 2007	2/28/2007	13:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.137	0.02 *U*	4700	5000	84.3	21
MW7	MW7	L495369	Knight Piesold	April 2007	4/10/2007	14:24	2000 *U*	2000 *U*	1 *U*	1 *U*	0.021	0.01 *U*	8400	9300	23.6	9.9
MW7	MW7	L507191	Knight Piesold	May 2007	5/15/2007	08:40	2000 *U*	2000 *U*	1 *U*	1 *U*	0.021	0.01 *U*	10300	11300	11.5	8.1
MW7	MW7	L515743	Knight Piesold	June 2007	6/5/2007	09:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.013	0.01 *U*	8400	9100	7 *U*	4
MW7	MW7	L526591	Knight Piesold	July 2007 I	7/1/2007	11:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	5900	6400	6 *U*	2.3
MW7	MW7	K0706569	Integral	July 2007 II	7/23/2007	13:47	900 *U*	900 *U*	0.6 *J*	0.6 *J*	0.018 *U*	0.011 *U*	7130	6880	10.5	10.2 *U*
MW7	MW7	K0707317	Integral	August 2007 I	8/13/2007	12:55	900 *U*	900 *U*	0.7 *U*	0.7 *U*	0.029 *U*	0.013 *U*	7080	7230	7.32 *J*	4.28 *U*
MW7	MW7	K0707782	Integral	August 2007 II	8/28/2007	14:35	1250 *U*	1140 *U*	0.4 *J*	0.4 *J*	0.028 *U*	0.011 *U*	6430	6230	6.47 *U*	5.64 *U*
MW7	MW7	K0708240	Integral	September 2007 I	9/10/2007	12:25	900 *U*	900 *U*	0.4 *J*	0.5 *J*	0.019 *UJ*	0.014 *UJ*	6250	6290	9.9 *U*	7.3 *U*
MW7	MW7	K0709126	Integral	September 2007 II	9/30/2007	13:40	900 *U*	900 *U*	0.4 *J*	0.5 *J*	0.019 *J*	0.009 *U*	6000	5820	11.2 *U*	4.72 *U*
MW7	MW7	K0709804	Integral	October 2007	10/16/2007	10:35	900 *U*	900 *U*	0.2 *J*	0.4 *J*	0.014 *J*	0.009 *U*	5600	5540	10.7	6.67 *U*
MW7	MW7	K0710773	Integral	November 2007	11/13/2007	07:45	900 *U*	900 *U*	0.5 *J*	0.4 *J*	0.009 *U*	0.009 *U*	5520	4950	10.4	7.48 *U*
MW7	MW7	K0711891	Integral	December 2007 I	12/15/2007	11:20	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.023 *UJ*	0.04 *UJ*	5240	5120	10.3 *J*	8.39 *J*
MW7	MW7	K0800335	Integral	January 2008	1/9/2008	09:18	294 *UJ*	173 *UJ*	0.5 *J*	0.5 *J*	0.021 *J*	0.007 *J*	5750	5830	11.8 *J*	7.1 *U*
MW7	MW7	K0801400	Integral	Februrary 2008	2/14/2008	12:05	900 *U*	900 *U*	0.6 *J*	0.2 *U*	0.005 *UJ*	0.01 *UJ*	5510	5420	5.2 *U*	5.26 *U*
MW7	MW7	K0802328	Integral	March 2008	3/13/2008	15:10	162 *J*	164 *J*	0.4 *U*	0.4 *U*	0.035 *UJ*	0.036 *UJ*	4870	4990	7.9 *U*	3.7 *U*
MW7	MW7	K0803239	Integral	April 2008	4/13/2008	15:45	177 *J*	164 *UJ*	0.3 *J*	0.2 *U*	0.19 *R*	0.009 *R*	5370	5290	5.74 *U*	3.2 *U*
MW7	MW7	K0804080	Integral	May 2008	5/6/2008	10:45	203 *J*	186 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.05 *UJ*	5980	5840	6.64 *U*	4.57 *U*
MW7	MW7	K0805877	Integral	June 2008	6/26/2008	13:30	204 *J*	209 *J*	0.5 *U*	0.5 *U*	0.023 *UJ*	0.009 *UJ*	4920	5010	25.3	5.2 *U*
MW7	MW7	K0806880	Integral	July 2008	7/25/2008	9:30	100 *U*	164 *J*	0.6 *J*	0.4 *U*	0.022 *UJ*	0.014 *UJ*	4080	4380	3.5 *U*	10 *U*
MW8	MW8	L526591	Knight Piesold	July 2007 I	7/2/2007	09:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	9800	11000	1.6	1.6
MW8	MW8	K0706569	Integral	July 2007 II	7/23/2007	12:00	900 *U*	900 *U*	0.5 *J*	0.5 *J*	0.015 *U*	0.032 *U*	5700	5530	4.05 *U*	2.5 *U*
MW8	MW8	K0707317	Integral	August 2007 I	8/13/2007	12:00	900 *U*	900 *U*	0.7 *U*	0.5 *U*	0.009 *U*	0.009 *U*	5820	6330	3.19 *J*	1.68 *U*
MW8	MW8	K0707782	Integral	August 2007 II	8/28/2007	10:00	1520 *U*	1100 *U*	0.2 *U*	0.2 *U*	0.01 *U*	0.008 *U*	5310	5370	1.97 *U*	1.75 *U*
MW8	MW8	K0708240	Integral	September 2007 I	9/10/2007	11:20	900 *U*	900 *U*	0.7 *J*	0.5 *J*	0.009 *U*	0.009 *U*	5000	5220	3.8 *U*	5.4 *U*
MW8	MW8	K0709126	Integral	September 2007 II	9/30/2007	10:45	900 *U*	900 *U*	0.5 *J*	0.6 *J*	0.009 *U*	0.009 *U*	4860	4830	3.42 *U*	3.38 *U*
MW8	MW8	K0709804	Integral	October 2007	10/16/2007	15:50	900 *U*	900 *U*	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4400	4550	2.05 *U*	2.85 *U*
MW8	MW8	K0710773	Integral	November 2007	11/12/2007	16:15	900 *U*	900 *U*	0.7 *J*	0.7 *J*	0.009 *UJ*	0.009 *U*	4260	4370	1.69 *U*	3.19 *U*
MW8	MW8	K0711891	Integral	December 2007 I	12/14/2007	10:50	900 *U*	900 *U*	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4340	4270	2.18 *U*	3.66 *U*
MW8	MW8	K0800335	Integral	January 2008	1/8/2008	09:41	223 *UJ*	141 *UJ*	0.8 *J*	0.4 *U*	0.009 *U*	0.004 *U*	4190	4380	11.2 *J*	3.8 *U*
MW8	MW8	K0801400	Integral	Februrary 2008	2/13/2008	10:00	900 *U*	900 *U*	1.2	0.4 *J*	0.005 *UJ*	0.009 *UJ*	4440	4660	2.4 *U*	4.96 *U*

Table B-1b. Water Quality Analytical Monitoring Data (2006-2012) – Permit Stations – Groundwate

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
MW8	MW8	K0802328	Integral	March 2008	3/13/2008	12:45	173 *J*	175 *J*	0.7 *J*	0.7 *J*	0.089 *UJ*	0.005 *UJ*	4330	4150	4.3 *U*	1.2 *U*
MW8	MW8	K0803239	Integral	April 2008	4/14/2008	9:00	188 *J*	200 *UJ*	0.3 *J*	0.2 *U*	0.009 *R*	0.009 *R*	4440	4390	1 *U*	0.97 *U*
MW8	MW8	K0804080	Integral	May 2008	5/6/2008	15:15	183 *J*	168 *J*	0.6 *J*	0.4 *J*	0.048 *UJ*	0.013 *UJ*	4830	4620	4.36 *U*	1.47 *U*
MW8	MW8	K0805877	Integral	June 2008	6/26/2008	10:45	184 *J*	201 *J*	0.5 *J*	0.8 *J*	0.009 *UJ*	0.009 *UJ*	4780	4570	1 *U*	3.2 *U*
MW9	MW9	L526591	Knight Piesold	July 2007 I	7/2/2007	12:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3800	3900	4 *U*	1 *U*
MW9	MW9	K0706569	Integral	July 2007 II	7/23/2007	16:07	900 *U*	906 *J*	0.5 *J*	0.5 *J*	0.014 *U*	0.01 *U*	5650	5210	6.21 *U*	9.42 *U*
MW9	MW9	K0707317	Integral	August 2007 I	8/13/2007	15:20	900 *U*	1210 *J*	0.8 *U*	0.7 *U*	0.009 *U*	0.009 *U*	4560	4140	9.29 *J*	2.04 *U*
MW9	MW9	K0707782	Integral	August 2007 II	8/28/2007	15:00	1470 *U*	992 *U*	0.2 *U*	0.2 *U*	0.012 *U*	0.003 *U*	4330	4150	3.76 *U*	2.74 *U*
MW9	MW9	K0708240	Integral	September 2007 I	9/10/2007	13:20	968 *J*	900 *U*	0.6 *J*	0.4 *J*	0.025 *UJ*	0.009 *U*	4510	4240	5.5 *U*	2.3 *U*
MW9	MW9	K0709126	Integral	September 2007 II	9/30/2007	14:30	1510 *J*	1440 *J*	0.4 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4590	4460	3.5 *U*	1.92 *U*
MW9	MW9	K0709804	Integral	October 2007	10/16/2007	16:55	900 *U*	900 *U*	0.3 *J*	0.3 *J*	0.009 *U*	0.009 *U*	4510	4530	9.37	2.34 *U*
MW9	MW9	K0710773	Integral	November 2007	11/12/2007	15:00	900 *J*	900 *U*	0.6 *J*	0.5 *J*	0.009 *U*	0.009 *U*	4300	4290	4.32 *U*	5.95 *U*
MW9	MW9	K0711891	Integral	December 2007 I	12/14/2007	11:15	900 *U*	900 *U*	0.3 *J*	0.4 *J*	0.031 *UJ*	0.014 *UJ*	4370	4000	7.99 *J*	4.94 *U*
MW9	MW9	K0800335	Integral	January 2008	1/8/2008	08:35	1190 *J*	977 *J*	0.6 *J*	0.4 *U*	0.009 *U*	0.004 *U*	3600	3790	6.4 *U*	6.3 *U*
MW9	MW9	K0801400	Integral	Februrary 2008	2/13/2008	12:00	900 *U*	900 *U*	0.4 *J*	0.3 *J*	0.032 *UJ*	0.009 *UJ*	4090	3820	2.7 *U*	3 *U*
MW9	MW9	K0802328	Integral	March 2008	3/13/2008	16:15	617 *J*	431 *J*	0.4 *U*	0.6 *J*	0.048 *UJ*	0.08 *UJ*	3560	3460	7 *U*	2.4 *U*
MW9	MW9	K0803239	Integral	April 2008	4/14/2008	10:40	1080 *J*	788 *J*	0.4 *J*	0.2 *U*	0.009 *R*	0.009 *R*	3570	3400	2.44 *U*	0.91 *U*
MW9	MW9	K0804080	Integral	May 2008	5/6/2008	17:45	1000 *J*	806 *J*	0.4 *U*	0.8 *J*	0.022 *UJ*	0.005 *UJ*	3840	3950	3.25 *U*	2.17 *U*
MW9	MW9	K0805877	Integral	June 2008	6/26/2008	15:15	802 *J*	616 *J*	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
QA/QC = quality assurance and quality control
SDG = sample digestion group
TDS = total dissolved solids
TSS = total suspended solids

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ1	WQ1	X2213	Knight Piesold	February 2006 II	2/16/2006		23	28	12.8	3 *U*	9.4	6.09	2.23	0.005 *U*	--	0.0476	0.001 *U*
WQ1	WQ1	X5977	Knight Piesold	May 2006 II	5/16/2006	11:18	15	20	8.72	3 *U*	7.7	2.94	1.5	0.02 *U*	--	0.0103	0.001 *U*
WQ1	WQ1	Z2004	Knight Piesold	August 2006 II	8/30/2006	07:00	21	22	14.9	3 *U*	12.1	3.1	1.61	0.005 *U*	--	0.0231	0.001 *U*
WQ1	WQ1	Z3908	Knight Piesold	October 2006	10/17/2006	07:50	20	26	13.3	3 *U*	10.9	2.6	1.83	0.005 *U*	--	0.0306	0.001 *U*
WQ1	WQ1	Z6128	Knight Piesold	December 2006	12/8/2006	08:50	13	18	5.99	3 *U*	3.3	3.91	0.95	--	--	0.0313	0.0027
WQ1	WQ1	L482967	Knight Piesold	February 2007	2/27/2007	14:01	21	23	12	3 *U*	8.7	4.68	2.42	0.005 *U*	--	0.0475	0.001 *U*
WQ1	WQ1	L495369	Knight Piesold	April 2007	4/11/2007	15:24	17	23	7.54	3 *U*	5.9	3.78	1.45	0.005 *U*	--	0.0547	0.001 *U*
WQ1	WQ1	L507191	Knight Piesold	May 2007	5/15/2007	07:30	16	22	8.82	3 *U*	7.2	2.59	1.2	0.005 *U*	--	0.0152	0.001 *U*
WQ1	WQ1	L526591	Knight Piesold	July 2007 I	7/1/2007	09:40	29	25	19.6	3 *U*	15.2	3.66	2.84	0.005 *U*	--	0.0965	0.001 *U*
WQ1	WQ1	K0706569	Integral	July 2007 II	7/24/2007	07:28	22 *J*	32 *U*	15	5 *U*	12	2.2	1.6	0.03 *U*	0.008 *J*	--	--
WQ1	WQ1	K0707317	Integral	August 2007 I	8/14/2007	07:40	30	54	29	5 *U*	16	3.5	3.2	0.006 *U*	0.19	--	--
WQ1	WQ1	K0707782	Integral	August 2007 II	8/27/2007	14:05	23 *J*	51 *U*	33	5 *U*	13	2.6	1.6	0.02 *UJ*	0.018 *J*	--	--
WQ1	WQ1	K0708240	Integral	September 2007 I	9/11/2007	07:20	25 *J*	27	25 *U*	5 *U*	14	2.6	1.9	0.03 *UJ*	0.1	--	--
WQ1	WQ1	K0709126	Integral	September 2007 II	10/2/2007	14:15	16	22	9 *U*	5 *U*	7	3	1	0.06 *U*	0.006 *U*	--	--
WQ1	WQ1	K0710773	Integral	November 2007	11/13/2007	09:05	18 *J*	18	17	5 *U*	7 *UJ*	5.8	1.4	0.022 *UJ*	0.023 *J*	--	--
WQ1	WQ1	K0802328	Integral	March 2008	3/14/2008	15:40	15 *J*	77 *U*	20 *U*	5 *U*	3 *U*	5.3	1.5	0.03 *UJ*	0.14 *U*	--	--
WQ1	WQ1	K0804080	Integral	May 2008	5/8/2008	13:30	15 *J*	29	24 *U*	5 *U*	7 *UJ*	3.8	1.4	0.06 *UJ*	0.023 *UJ*	--	--
WQ1	WQ1	K0807967	Integral	August 2008	8/20/2008	10:00	12 *J*	9	11	5 *U*	6	1.6	0.9	0.02 *UJ*	0.005 *UJ*	--	--
WQ1	WQ1	K0902142	Integral	March 2009	3/11/2009	09:15	27 *J*	23	14	5 *U*	22	3.1	2.4	0.03 *J*	0.11	--	--
WQ1	WQ1	K0904395	Integral	May 2009	5/14/2009	13:40	11 *J*	15	0.8 *J*	5 *U*	5	1.7	1.4	0.025 *UJ*	0.018 *J*	--	--
WQ1	WQ1	K0906701	Integral	July 2009	7/25/2009	12:15	17 *J*	27	8	5 *U*	11	2	1.5	0.011 *UJ*	0.07 *UJ*	--	--
WQ1	WQ1	K0910115	Integral	October 2009	10/19/2009	09:10	15 *J*	27.5	6.8	5 *U*	6.7	3.37	1.04	0.009 *UJ*	0.009 *U*	--	--
WQ1	WQ1	K1001408	Integral	February 2010	2/13/2010	08:35	11 *J*	15.5	4.8	5 *U*	3.7	2.83	0.81	0.012 *UJ*	0.009 *U*	--	--
WQ1	WQ1	K1007431	Integral	July 2010	7/14/2010	12:55	28 *J*	30	19	5 *UJ*	14	5.24	2.72 *U*	0.009 *UJ*	0.112 *UJ*	--	--
WQ1	WQ1	K1014375	Integral	December 2010	12/27/2010	11:30	15 *J*	67.5 *U*	14.3 *U*	5 *U*	1 *U*	5.5	1.3	0.044 *UJ*	0.01 *J*	--	--
WQ1	WQ1	K1102183	Integral	March 2011	3/10/2011	10:30	31 *J*	26 *U*	12.6	5 *U*	1 *UJ*	19.1	2.94	0.037 *UJ*	0.011 *J*	--	--
WQ2	WQ2	X2213	Knight Piesold	February 2006 II	2/16/2006		30	34	19.5	3 *U*	13.5	5.31	4.58	0.005 *U*	--	0.0319	0.001 *U*
WQ2	WQ2	X5977	Knight Piesold	May 2006 II	5/16/2006	10:26	21	26	12.3	3 *U*	9.8	3.48	3.28	0.02 *U*	--	0.0071	0.001 *U*
WQ2	WQ2	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:00	25	17	16.7	3 *U*	13.8	3.35	3.67	0.005 *U*	--	0.0068	0.001 *U*
WQ2	WQ2	Z3908	Knight Piesold	October 2006	10/17/2006	08:20	25	28	17.4	3 *U*	13.1	2.87	3.69	0.016	--	0.0162	0.001 *U*
WQ2	WQ2	Z6128	Knight Piesold	December 2006	12/8/2006	09:20	13	14	5.99	3 *U*	3.1	3.84	1.66	--	--	0.022	0.001 *U*
WQ2	WQ2	L482967	Knight Piesold	February 2007	2/27/2007	14:27	29	27	18.8	3 *U*	12.8	4.47	5.02	0.005 *U*	--	0.077	0.001 *U*
WQ2	WQ2	L495369	Knight Piesold	April 2007	4/11/2007	15:05	20	24	9.18	3 *U*	7.3	3.79	2.72	0.005 *U*	--	0.009	0.001 *U*
WQ2	WQ2	L507191	Knight Piesold	May 2007	5/15/2007	07:50	25	29	15	3 *U*	11.3	3.32	3.21	0.005 *U*	--	0.0105	0.001 *U*
WQ2	WQ2	L526591	Knight Piesold	July 2007 I	7/1/2007	09:00	57	35	10.7	3 *U*	20.1	3.69	6.08	0.005 *U*	--	0.0238	0.001 *U*
WQ2	WQ2	K0706569	Integral	July 2007 II	7/24/2007	07:53	30	55	21	5 *U*	15	2.7	4	0.03 *U*	0.006 *U*	--	--
WQ2	WQ2	K0707317	Integral	August 2007 I	8/14/2007	08:15	42 *J*	47	26	5 *U*	24	3.4	6.4	0.006 *U*	0.05	--	--
WQ2	WQ2	K0707782	Integral	August 2007 II	8/27/2007	14:30	33 *J*	53 *U*	36	5	20	2.8	3.8	0.02 *UJ*	0.038 *J*	--	--
WQ2	WQ2	K0708240	Integral	September 2007 I	9/11/2007	07:45	40 *J*	44	39	5 *U*	24	2.8	4.9	0.04 *UJ*	0.02 *J*	--	--
WQ2	WQ2	K0709126	Integral	September 2007 II	10/2/2007	14:40	18	16	70	5 *U*	8	2.8	1.8	0.02 *U*	0.006 *U*	--	--
WQ2	WQ2	K0710773	Integral	November 2007	11/13/2007	09:35	21 *J*	19	19	5 *U*	7 *UJ*	5.2	2.8	0.018 *UJ*	0.011 *J*	--	--
WQ2	WQ2	K0802328	Integral	March 2008	3/14/2008	15:55	20 *J*	60 *U*	35 *U*	5 *U*	5 *U*	4.7	2.2	0.15 *UJ*	1.49 *U*	--	--
WQ2	WQ2	K0804080	Integral	May 2008	5/8/2008	14:00	19 *J*	24	20 *U*	5 *U*	9 *UJ*	3.9	2.5	0.02 *UJ*	0.012 *UJ*	--	--
WQ2	WQ2	K0807967	Integral	August 2008	8/20/2008	10:40	12 *J*	12	11	5 *U*	5	1.8	1.7	0.05 *UJ*	0.005 *UJ*	--	--
WQ2	WQ2	K0902142	Integral	March 2009	3/9/2009	16:30	29 *J*	27	16	5 *U*	21	3.1	4.3	0.02 *U*	0.07	--	--
WQ2	WQ2	K0904395	Integral	May 2009	5/14/2009	14:55	15 *J*	18	7	5 *U*	7	2	2.5	0.028 *UJ*	0.014 *J*	--	--
WQ2	WQ2	K0906701	Integral	July 2009	7/25/2009	13:55	20 *J*	22	13	5 *U*	12	2.3	3	0.011 *UJ*	0.023 *UJ*	--	--
WQ2	WQ2	K0910115	Integral	October 2009	10/19/2009	09:45	14 *J*	25.5	8.4	5 *U*	5.3	3.12	1.65	0.018 *UJ*	0.009 *U*	--	--
WQ2	WQ2	K1001408	Integral	February 2010	2/13/2010	09:00	11 *J*	17	5.6	5 *U*	1.8 *J*	3.15	1.25	0.009 *UJ*	0.009 *U*	--	--
WQ2	WQ2	K1004034	Integral	April 2010	4/21/2010	15:10	25 *J*	10	11.6	5 *U*	5 *J*	7.89	3.26	0.052 *UJ*	0.047 *UJ*	--	--
WQ2	WQ2	K1007431	Integral	July 2010	7/14/2010	14:25	28 *J*	17	19.2	5 *U*	13.2	4.64	5.36 *U*	0.011 *UJ*	0.074 *UJ*	--	--
WQ2	WQ2	K1011737	Integral	October 2010	10/18/2010	11:40	18 *J*	28.5	6.4	5 *U*	3 *U*	7.21	1.51	0.023 *J*	0.009 *U*	--	--
WQ2	WQ2	K1014375	Integral	December 2010	12/27/2010	12:15	17 *J*	28.5 *U*	23.5	5 *U*	3.5	5.11	1.87	0.033 *UJ*	0.009 *U*	--	--
WQ2	WQ2	K1102183	Integral	March 2011	3/10/2011	11:10	15 *J*	10.5 *U*	8	8	4.1 *UJ*	4.41	2.21	0.043 *UJ*	0.024 *J*	--	--
WQ2	WQ2	K1105280	Integral	June 2011	6/9/2011	18:00	20 *J*	18	12.2	5 *U*	9.8 *UJ*	2.71	4.09	0.2 *J*	0.01 *J*	--	--
WQ2	WQ2	K1106865	Integral	July 2011 II	7/26/2011	13:50	31 *J*	31	13.2	5 *U*	28	2.86	3.36	0.009 *UJ*	0.04 *UJ*	--	--
WQ2	WQ2	K1107897	Integral	August 2011	8/24/2011	7:50	9 *J*	9	5	5 *U*	1 *UJ*	1.35	1.36	0.038 *UJ*	0.023 *UJ*	--	--
WQ2	WQ2	K1203282	Integral	April 2012	4/6/2012	14:05	25 *J*	34	11.2	2.9 *U*	4.6	9.93	2.31	0.042 *UJ*	0.024 *UJ*	--	--
WQ2	WQ2	K1207118	Integral	July 2012	7/22/2012	14:30	23 *J*	49	15.2 *J*	5 *U*	10.2	2.59	3.35	0.021 *UJ*	0.028 *J*	--	--
WQ2	WQ2	K1210889	Integral	October 2012	10/29/2012	10:05	37 *J*	28.5 *J*	23.6 *J*	5 *U*	18.3 *J*	4.07	6.57	0.009 *U*	0.065	--	--
WQ-03	WQ3	X2213	Knight Piesold	February 2006 II	2/16/2006		15	17	7.86	3 *U*	5.6	4.43	1	0.005 *U*	--	0.0464	0.001 *U*
WQ-03	WQ3	X5977	Knight Piesold	May 2006 II	5/16/2006	11:43	14	17	7.3	3 *U*	5.8	4.41	1.1	0.04	--	0.043	0.001 *U*

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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-03	WQ3	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:45	15	15	8.56	3 *U*	7.4	3.66	0.95	0.005 *U*	--	0.0383	0.001 *U*
WQ-03	WQ3	Z3908	Knight Piesold	October 2006	10/17/2006	08:45	14	16	7.79	3 *U*	6	3.1	0.79	0.005 *U*	--	0.0353	0.001 *U*
WQ-03	WQ3	Z6128	Knight Piesold	December 2006	12/7/2006	14:40	15	23	8.13	3 *U*	2 *U*	5.99	1.21	--	--	0.0537	0.001 *U*
WQ-03	WQ3	L482967	Knight Piesold	February 2007	2/27/2007	14:52	16	10 *U*	7.91	3 *U*	5.2	4.54	1.1	0.005 *U*	--	0.0596	0.001 *U*
WQ-03	WQ3	L495369	Knight Piesold	April 2007	4/11/2007	14:39	16	17	7.34	3 *U*	5.4	4.41	1.05	0.005 *U*	--	0.0425	0.001 *U*
WQ-03	WQ3	L507191	Knight Piesold	May 2007	5/15/2007	08:00	16	21	7.52	3 *U*	4.8	4.16	0.93	0.005 *U*	--	0.043	0.001 *U*
WQ-03	WQ3	L526591	Knight Piesold	July 2007 I	7/1/2007	10:20	17	15	8.76	3 *U*	5.9	4.39	1.07	0.005 *U*	--	0.0323	0.001 *U*
WQ-03	WQ3	K0706569	Integral	July 2007 II	7/24/2007	08:24	14 *J*	24 *U*	9	5 *U*	6	2.9	0.8	0.05 *U*	0.007 *J*	--	--
WQ-03	WQ3	K0707317	Integral	August 2007 I	8/14/2007	08:45	14	20	9	5 *U*	5	3.3	0.9	0.006 *U*	0.05	--	--
WQ-03	WQ3	K0707782	Integral	August 2007 II	8/27/2007	15:00	17 *J*	24 *U*	16	5 *U*	6	4	1	0.02 *UJ*	0.02 *J*	--	--
WQ-03	WQ3	K0708240	Integral	September 2007 I	9/11/2007	08:15	15 *J*	12	18 *U*	5 *U*	6	2.8	1.1	0.03 *UJ*	0.05	--	--
WQ-03	WQ3	K0710773	Integral	November 2007	11/13/2007	08:35	13 *J*	12	13	5 *U*	7 *UJ*	3.7	0.9	0.017 *UJ*	0.039 *J*	--	--
WQ-03	WQ3	K0802328	Integral	March 2008	3/14/2008	16:25	13 *J*	11 *U*	26 *U*	5 *U*	5 *U*	4.1	1	0.04 *UJ*	0.22 *U*	--	--
WQ-03	WQ3	K0804080	Integral	May 2008	5/8/2008	14:15	14 *J*	16	12 *U*	5 *U*	5 *UJ*	4.3	1	0.06 *UJ*	0.045 *UJ*	--	--
WQ-03	WQ3	K0807967	Integral	August 2008	8/20/2008	11:00	12 *J*	21	8	5 *U*	6	2.8	0.9	0.02 *UJ*	0.046 *UJ*	--	--
WQ-03	WQ3	K0810253	Integral	October 2008	10/16/2008	9:10	12 *J*	17	9	5 *U*	5	2.9	0.8	0.02 *UJ*	0.06	--	--
WQ-03	WQ3	K0902142	Integral	March 2009	3/11/2009	10:00	22 *J*	11	10	5 *U*	20	3.4	0.9	0.02 *U*	0.06	--	--
WQ-03	WQ3	K0904395	Integral	May 2009	5/14/2009	13:15	13 *J*	23	0.8 *J*	5 *U*	5	3.6	1.2	0.025 *UJ*	0.037 *J*	--	--
WQ-03	WQ3	K0906701	Integral	July 2009	7/25/2009	11:35	12 *J*	10	4	5 *U*	5	3	0.9	0.009 *UJ*	0.05 *UJ*	--	--
WQ-03	WQ3	K0910115	Integral	October 2009	10/20/2009	07:35	13 *J*	18.5	5.2	5 *U*	5.3	3.53	0.9	0.02 *UJ*	0.012 *J*	--	--
WQ-03	WQ3	K1002122	Integral	March 2010	3/5/2010	11:00	16 *J*	11.5 *U*	6	5 *U*	5.3	4.48	1.07	0.048 *UJ*	0.018 *J*	--	--
WQ-03	WQ3	K1004034	Integral	April 2010	4/22/2010	16:10	17 *J*	16.5	8	5 *U*	5.4 *J*	5.28	1.18	0.019 *UJ*	0.065 *UJ*	--	--
WQ-03	WQ3	K1008752	Integral	August 2010	8/15/2010	12:40	17 *J*	5	10.8	5 *U*	7	4.16	1.01	0.027 *UJ*	0.087 *UJ*	--	--
WQ-03	WQ3	K1014375	Integral	December 2010	12/27/2010	12:50	15 *J*	50.5 *U*	18.5	5 *U*	3.7	5.02	1	0.023 *UJ*	0.025 *J*	--	--
WQ-03	WQ3	K1102183	Integral	March 2011	3/10/2011	11:40	15 *J*	11 *U*	8	5 *U*	5.5 *UJ*	4.97	1.13	0.035 *UJ*	0.028 *J*	--	--
WQ14	WQ14	K0902142	Integral	March 2009	3/9/2009	15:45	39 *J*	48	40	5 *U*	25	3.4	2.3	0.02 *U*	0.048 *J*	--	--
WQ14	WQ14	K0904395	Integral	May 2009	5/14/2009	14:15	32 *J*	51	25	5 *U*	26	2.6	1.9	0.024 *UJ*	0.031 *J*	--	--
WQ14	WQ14	K0906701	Integral	July 2009	7/25/2009	13:15	28 *J*	38	18	5 *U*	22	2.4	1.5	0.1 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K0908796	Integral	September 2009 III	9/19/2009	12:30	22 *J*	32	14	5 *U*	14.9	2.75	1.12	0.009 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K0910115	Integral	October 2009	10/18/2009	09:10	37 *J*	46.5	25.6	5 *U*	25.6	3.81	1.65	0.015 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K0910635	Integral	November 2009	11/1/2009	9:15	30 *J*	31.5	16	5 *U*	19.7	4.43	1.2	0.021 *UJ*	0.026 *UJ*	--	--
WQ14	WQ14	K1000085	Integral	December 2009 II	12/29/2009	09:50	39 *J*	61.5	23	5 *U*	25.6	6.29	1.73	0.009 *U*	0.048 *J*	--	--
WQ14	WQ14	K1000512	Integral	January 2010	1/17/2010	12:00	19 *J*	26.5 *UJ*	7.6	5 *U*	2.7	7.88	1.13	0.107 *UJ*	0.005 *U*	--	--
WQ14	WQ14	K1001408	Integral	February 2010	2/12/2010	11:45	22 *J*	26	12	5 *U*	12.8	3.62	1.17	0.009 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K1002122	Integral	March 2010	3/5/2010	11:45	45 *J*	31 *U*	28.8	5 *U*	29.1	7.26	1.91	0.024 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K1004034	Integral	April 2010	4/21/2010	14:30	45 *J*	38	24.8	5 *U*	23.2	10.4	2.38	0.009 *UJ*	0.033 *UJ*	--	--
WQ14	WQ14	K1005179	Integral	May 2010	5/18/2010	15:00	48 *J*	62	38	5 *U*	35.4	5.64	2.05	0.009 *UJ*	0.041 *UJ*	--	--
WQ14	WQ14	K1006773	Integral	June 2010	6/29/2010	10:25	38 *J*	25	35.6	5	23 *UJ*	10	2.11	0.023 *UJ*	0.058 *UJ*	--	--
WQ14	WQ14	K1007431	Integral	July 2010	7/14/2010	13:35	67 *J*	72	57.3	6	53.2	5.47	2.83 *U*	0.009 *UJ*	0.044 *UJ*	--	--
WQ14	WQ14	K1008752	Integral	August 2010	8/14/2010	13:00	74 *J*	60	64	5 *U*	59	5.45	2.88	0.056 *UJ*	0.062 *UJ*	--	--
WQ14	WQ14	K1009889	Integral	September 2010	9/7/2010	12:10	24 *J*	50	21.6	24	20.1 *UJ*	3.68	1.64	0.019 *UJ*	0.045 *UJ*	--	--
WQ14	WQ14	K1011737	Integral	October 2010	10/18/2010	10:50	25 *J*	41	16	5 *U*	10.5	6.85	1.18	0.018 *J*	0.009 *U*	--	--
WQ14	WQ14	K1014375	Integral	December 2010	12/26/2010	11:45	26 *J*	98.5 *U*	31.1	5 *U*	13.1	5.46	1.38	0.022 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K1100726	Integral	January 2011	1/19/2011	11:30	34 *J*	44	29.6	5 *U*	28.4 *UJ*	5.51	1.84	0.038 *UJ*	0.036 *J*	--	--
WQ14	WQ14	K1101112	Integral	February 2011	2/8/2011	16:10	57 *J*	48.9	45.4	5 *U*	40.9	5.49	2.53	0.033 *UJ*	0.044 *J*	--	--
WQ14	WQ14	K1102183	Integral	March 2011	3/9/2011	15:20	28 *J*	12 *U*	23.1	5 *U*	23.8 *UJ*	5.2	1.88	0.059 *UJ*	0.026 *J*	--	--
WQ14	WQ14	K1103545	Integral	April 2011	4/21/2011	16:00	51 *J*	46	54.8	5 *U*	38	4.47	2.08	0.036 *U*	0.037 *J*	--	--
WQ14	WQ14	K1104448	Integral	May 2011	5/17/2011	14:00	26 *J*	34	18	5 *U*	16.8	2.43	1.31	--	0.052 *UJ*	--	--
WQ14	WQ14	K1105280	Integral	June 2011	6/8/2011	17:10	41 *J*	52	31.4	5 *U*	31.9	2.59	1.8	0.009 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K1106351	Integral	July 2011	7/12/2011	11:30	61 *J*	50	48	5.5	49	4.2	2.56	0.02 *UJ*	0.009 *U*	--	--
WQ14	WQ14	K1107897	Integral	August 2011	8/24/2011	8:40	12 *J*	27	12.4	5 *U*	1 *UJ*	1.64	0.96	0.021 *UJ*	0.058 *UJ*	--	--
WQ14	WQ14	K1203282	Integral	April 2012	4/6/2012	13:30	35 *J*	54.5	25.2	2.9 *U*	18.2	9.15	1.73	0.017 *UJ*	0.032 *UJ*	--	--

Notes:

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

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 = Rejected.

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ1	WQ1	X2213	Knight Piesold	February 2006 II	2/16/2006		36.8	33.8	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3770	3640	1 *U*	1 *U*	1 *U*
WQ1	WQ1	X5977	Knight Piesold	May 2006 II	5/16/2006	11:18	95	91.5	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2860	2740	1 *U*	1 *U*	1 *U*
WQ1	WQ1	Z2004	Knight Piesold	August 2006 II	8/30/2006	07:00	101	104	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4600	4680	1 *U*	1 *U*	1.1
WQ1	WQ1	Z3908	Knight Piesold	October 2006	10/17/2006	07:50	108	107	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	4150	4100	1 *U*	1 *U*	1.1
WQ1	WQ1	Z6128	Knight Piesold	December 2006	12/8/2006	08:50	85	75.4	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	1650	1670	1 *U*	1 *U*	1 *U*
WQ1	WQ1	L482967	Knight Piesold	February 2007	2/27/2007	14:01	50.6	47.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	3460	3530	1 *U*	1 *U*	1 *U*
WQ1	WQ1	L495369	Knight Piesold	April 2007	4/11/2007	15:24	75.1	72.5	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2210	2200	0.5 *U*	0.5 *U*	0.66
WQ1	WQ1	L507191	Knight Piesold	May 2007	5/15/2007	07:30	83.5	78.9	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2670	2700	0.5 *U*	0.5 *U*	1.35
WQ1	WQ1	L526591	Knight Piesold	July 2007 I	7/1/2007	09:40	60.1	29.2	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	5730	6040	0.5 *U*	0.5 *U*	0.88
WQ1	WQ1	K0706569	Integral	July 2007 II	7/24/2007	07:28	88.1	86.7	0.1 *J*	0.11 *J*	0.009 *U*	0.009 *U*	4500	4630	0.48 *U*	0.59 *U*	1.14
WQ1	WQ1	K0707317	Integral	August 2007 I	8/14/2007	07:40	27.8	26.3	0.06 *U*	0.1 *J*	0.048 *U*	0.008 *U*	6570	6040	0.28 *U*	0.29 *U*	0.67 *UJ*
WQ1	WQ1	K0707782	Integral	August 2007 II	8/27/2007	14:05	91.3 *J*	92.7	0.11 *J*	0.07 *U*	0.008 *J*	0.008 *UJ*	4560	4640	0.44 *U*	0.54 *U*	1.21
WQ1	WQ1	K0708240	Integral	September 2007 I	9/11/2007	07:20	65.4 *J*	66.2 *J*	0.09 *J*	0.1 *J*	0.008 *UJ*	0.005 *UJ*	5250	5130	0.68 *U*	0.55 *U*	0.9
WQ1	WQ1	K0709126	Integral	September 2007 II	10/2/2007	14:15	144	125	0.09 *J*	0.06 *U*	0.007 *U*	0.008 *U*	2470	2470	0.68 *U*	0.5 *U*	1.07
WQ1	WQ1	K0710773	Integral	November 2007	11/13/2007	09:05	67.7	66.4	0.06 *U*	0.06 *U*	0.012 *UJ*	0.008 *U*	2720	2800	0.51 *U*	0.53 *U*	0.57
WQ1	WQ1	K0802328	Integral	March 2008	3/14/2008	15:40	64.5 *J*	64.5 *J*	0.08 *U*	0.08 *U*	0.005 *UJ*	0.005 *UJ*	2340	2310	0.43 *U*	0.42 *U*	0.55
WQ1	WQ1	K0804080	Integral	May 2008	5/8/2008	13:30	72.4 *J*	66 *J*	0.08 *U*	0.08 *U*	0.005 *U*	0.005 *U*	2560	2530	1.06 *U*	0.47 *U*	0.71 *U*
WQ1	WQ1	K0807967	Integral	August 2008	8/20/2008	10:00	219 *J*	201 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2230	2130	0.68 *UJ*	0.62 *UJ*	1.41 *J*
WQ1	WQ1	K0902142	Integral	March 2009	3/11/2009	09:15	46	36.7	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	3950	4040	--	--	0.59 *U*
WQ1	WQ1	K0904395	Integral	May 2009	5/14/2009	13:40	99.8	90.8	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	2150	2020	--	--	1.66
WQ1	WQ1	K0906701	Integral	July 2009	7/25/2009	12:15	112 *J*	98 *J*	0.07 *J*	0.08 *J*	0.004 *UJ*	0.005 *UJ*	3380	3370	--	--	1.16
WQ1	WQ1	K0910115	Integral	October 2009	10/19/2009	09:10	123	109	0.07 *U*	0.07 *U*	0.004 *UJ*	0.004 *UJ*	2720	2710	--	--	0.83
WQ1	WQ1	K1001408	Integral	February 2010	2/13/2010	08:35	124	115	0.07 *U*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	1340	1310	0.75 *U*	0.7 *U*	0.69
WQ1	WQ1	K1007431	Integral	July 2010	7/14/2010	12:55	37.5	34.8	0.09 *J*	0.08 *J*	0.004 *J*	0.003 *U*	5140	5410	0.32 *U*	0.38 *UJ*	0.65
WQ1	WQ1	K1014375	Integral	December 2010	12/27/2010	11:30	100	96.7	0.41 *J*	0.07 *U*	0.157	0.006 *UJ*	1890	1900	0.82 *U*	0.79 *U*	0.79
WQ1	WQ1	K1102183	Integral	March 2011	3/10/2011	10:30	97.3	82.5	0.07 *J*	0.07 *J*	0.003 *J*	0.003 *U*	2300	2260	0.53 *U*	0.45 *UJ*	0.67
WQ2	WQ2	X2213	Knight Piesold	February 2006 II	2/16/2006		29	27.7	0.5 *U*	0.5 *U*	0.041	0.034	5830	6030	1 *U*	1 *U*	1.4
WQ2	WQ2	X5977	Knight Piesold	May 2006 II	5/16/2006	10:26	73.4	68.6	0.5 *U*	0.5 *U*	0.046	0.052	3890	3960	1 *U*	1 *U*	3.3
WQ2	WQ2	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:00	72.5	68.2	0.5 *U*	0.5 *U*	0.045	0.046	5480	5440	1 *U*	1 *U*	3.4
WQ2	WQ2	Z3908	Knight Piesold	October 2006	10/17/2006	08:20	78	76.2	0.5 *U*	0.5 *U*	0.045	0.034	5580	5640	1 *U*	1 *U*	3.1
WQ2	WQ2	Z6128	Knight Piesold	December 2006	12/8/2006	09:20	103	78	0.5 *U*	0.5 *U*	0.037	0.035	1580	1620	1 *U*	1 *U*	2.9
WQ2	WQ2	L482967	Knight Piesold	February 2007	2/27/2007	14:27	32	31.4	0.5 *U*	0.5 *U*	0.033	0.029	6020	5960	1 *U*	1 *U*	1.5
WQ2	WQ2	L495369	Knight Piesold	April 2007	4/11/2007	15:05	66	62.3	0.1 *U*	0.1 *U*	0.039	0.031	2800	2790	0.5 *U*	0.5 *U*	2.61
WQ2	WQ2	L507191	Knight Piesold	May 2007	5/15/2007	07:50	51.2	47.9	0.1 *U*	0.1 *U*	0.045	0.031	4790	4850	0.5 *U*	0.5 *U*	2.56
WQ2	WQ2	L526591	Knight Piesold	July 2007 I	7/1/2007	09:00	1670	641	0.68	0.55	0.018	0.017 *U*	1770	1510	3.64	1.81	6.12
WQ2	WQ2	K0706569	Integral	July 2007 II	7/24/2007	07:53	55.5	50.1	0.06 *U*	0.09 *J*	0.038 *U*	0.035 *U*	6560	6450	0.43 *U*	0.41 *U*	3.01
WQ2	WQ2	K0707317	Integral	August 2007 I	8/14/2007	08:15	26.8	25.2	0.06 *U*	0.11 *J*	0.02 *U*	0.03 *U*	9450	8570	0.25 *U*	0.26 *U*	1.45
WQ2	WQ2	K0707782	Integral	August 2007 II	8/27/2007	14:30	155 *J*	71.5	0.12 *J*	0.07 *U*	0.052	0.046 *J*	6760	6480	0.58 *U*	0.48 *U*	4.28
WQ2	WQ2	K0708240	Integral	September 2007 I	9/11/2007	07:45	184 *J*	70.3 *J*	0.34 *J*	0.12 *J*	0.064	0.051	8610	8300	0.37 *U*	0.69 *U*	4.27
WQ2	WQ2	K0709126	Integral	September 2007 II	10/2/2007	14:40	137	115	0.08 *J*	0.06 *U*	0.046 *U*	0.045 *U*	2730	2790	0.6 *U*	0.43 *U*	3.85
WQ2	WQ2	K0710773	Integral	November 2007	11/13/2007	09:35	69.4	58.8	0.06 *U*	0.06 *U*	0.051 *UJ*	0.038 *UJ*	4100	4170	0.64 *U*	0.56 *U*	2.39
WQ2	WQ2	K0802328	Integral	March 2008	3/14/2008	15:55	92.1 *J*	389 *J*	0.08 *U*	0.08 *U*	0.04 *UJ*	0.035 *UJ*	2760	2900	0.43 *U*	0.36 *U*	2.25
WQ2	WQ2	K0804080	Integral	May 2008	5/8/2008	14:00	65.6 *J*	62.5 *J*	0.08 *U*	0.08 *U*	0.054	0.044	3460	3550	0.58 *U*	0.51 *U*	3.02 *U*
WQ2	WQ2	K0807967	Integral	August 2008	8/20/2008	10:40	190 *J*	182 *J*	0.2 *U*	0.2 *U*	0.054 *UJ*	0.039 *UJ*	2370	2320	1.07	0.68 *UJ*	5.65 *J*
WQ2	WQ2	K0902142	Integral	March 2009	3/9/2009	16:30	31.5	31.6	0.2 *U*	0.2 *U*	0.022	0.025	5080	5100	--	--	1.72
WQ2	WQ2	K0904395	Integral	May 2009	5/14/2009	14:55	72.1	66.5	0.2 *U*	0.2 *U*	0.05	0.038	2930	3170	--	--	3.37
WQ2	WQ2	K0906701	Integral	July 2009	7/25/2009	13:55	77.3 *J*	64.7 *J*	0.09 *J*	0.07 *U*	0.034	0.03	4290	4190	--	--	3.63
WQ2	WQ2	K0910115	Integral	October 2009	10/19/2009	09:45	119	108	0.07 *U*	0.07 *U*	0.039	0.038	2610	2640	--	--	3.9
WQ2	WQ2	K1001408	Integral	February 2010	2/13/2010	09:00	131	128	0.07 *U*	0.07 *U*	0.034	0.034	1230	1210	0.58 *U*	0.63 *U*	3.46
WQ2	WQ2	K1004034	Integral	April 2010	4/21/2010	15:10	53.6	46.9	0.07 *UJ*	0.09 *UJ*	0.04 *UJ*	0.04 *U*	2860 *J*	2900 *J*	0.34 *U*	0.26 *U*	2.64 *J*
WQ2	WQ2	K1007431	Integral	July 2010	7/14/2010	14:25	37.7	31.9	0.07 *U*	0.07 *U*	0.034	0.024	5050	4980	0.25 *U*	0.27 *UJ*	2.26
WQ2	WQ2	K1011737	Integral	October 2010	10/18/2010	11:40	111	99.6	0.1 *U*	0.1 *U*	0.054	0.043	1330 *J*	1300 *J*	0.42 *U*	0.47 *U*	3.32
WQ2	WQ2	K1014375	Integral	December 2010	12/27/2010	12:15	102	91.4	0.1 *J*	0.07 *U*	0.035	0.032	1530	1730	0.66 *U*	0.53 *U*	2.77
WQ2	WQ2	K1102183	Integral	March 2011	3/10/2011	11:10	197	78.7	0.09 *J*	0.07 *U*	0.03	0.027	2070	2100	0.96 *U*	0.28 *UJ*	3.71
WQ2	WQ2	K1105280	Integral	June 2011	6/9/2011	18:00	36.3	43	0.07 *U*	0.07 *U*	0.037	0.029	3980	3930	0.22 *UJ*	0.33 *UJ*	2.16 *J*
WQ2	WQ2	K1106865	Integral	July 2011 II	7/26/2011	13:50	76.6	67.6	0.1 *U*	0.1 *U*	0.04 *UJ*	0.028 *UJ*	4010	4050	--	--	3.67
WQ2	WQ2	K1107897	Integral	August 2011	8/24/2011	7:50	205 *J*	194 *J*	0.11 *J*	0.09 *J*	0.044	0.038 *UJ*	1250	1190	0.47	0.43	5.84 *J*
WQ2	WQ2	K1203282	Integral	April 2012	4/6/2012	14:05	46.1	42.1	0.13 *UJ*	0.13 *UJ*	0.04	0.041	2640	2620	0.32	0.22	1.74
WQ2	WQ2	K1207118	Integral	July 2012	7/22/2012	14:30	82.3	75.5	0.03 *J*	0.05 *J*	0.052	0.036	3780	3780	0.3	0.7 *J*	3.68
WQ2	WQ2	K1210889	Integral	October 2012	10/29/2012	10:05	28.2	25.4	0.1 *U*	0.1 *U*	0.029	0.034 *J*	7420	6710	0.2 *UJ*	0.13 *UJ*	1.39
WQ-03	WQ3	X2213	Knight Piesold	February 2006 II	2/16/2006		98.4	47.3	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2330	2410	1 *U*	1 *U*	1 *U*
WQ-03	WQ3	X5977	Knight Piesold	May 2006 II	5/16/2006	11:43	50.3	47.7	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2310	2310	1 *U*	1 *U*	1 *U*

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
WQ-03	WQ3	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:45	59.7	47.2	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2760	2740	1 *U*	1 *U*	1 *U*
WQ-03	WQ3	Z3908	Knight Piesold	October 2006	10/17/2006	08:45	76.4	72	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2460	2470	1 *U*	1 *U*	1 *U*
WQ-03	WQ3	Z6128	Knight Piesold	December 2006	12/7/2006	14:40	58.7	49.1	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2440	2430	1 *U*	1 *U*	1 *U*
WQ-03	WQ3	L482967	Knight Piesold	February 2007	2/27/2007	14:52	47.2	44.9	0.5 *U*	0.5 *U*	0.017 *U*	0.017 *U*	2470	2470	1 *U*	1 *U*	1 *U*
WQ-03	WQ3	L495369	Knight Piesold	April 2007	4/11/2007	14:39	46.7	44.8	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2240	2270	0.5 *U*	0.5 *U*	0.38
WQ-03	WQ3	L507191	Knight Piesold	May 2007	5/15/2007	08:00	34.4	35.4	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2390	2300	0.5 *U*	0.5 *U*	0.31
WQ-03	WQ3	L526591	Knight Piesold	July 2007 I	7/1/2007	10:20	44.1	41.5	0.1 *U*	0.1 *U*	0.017 *U*	0.017 *U*	2570	2630	0.5 *U*	0.5 *U*	0.41
WQ-03	WQ3	K0706569	Integral	July 2007 II	7/24/2007	08:24	56.9	53.3	0.06 *J*	0.06 *U*	0.012 *U*	0.008 *U*	2450	2530	0.45 *U*	0.43 *U*	0.5 *U*
WQ-03	WQ3	K0707317	Integral	August 2007 I	8/14/2007	08:45	48.7	48.6	0.06 *U*	0.06 *U*	0.008 *U*	0.008 *U*	2570	2470	0.45 *U*	0.33 *U*	0.54 *UJ*
WQ-03	WQ3	K0707782	Integral	August 2007 II	8/27/2007	15:00	48.1 *J*	44.8	0.08 *U*	0.07 *U*	0.005 *U*	0.008 *UJ*	2520	2520	0.36 *U*	0.36 *U*	0.37
WQ-03	WQ3	K0708240	Integral	September 2007 I	9/11/2007	08:15	66.6 *J*	58.2 *J*	0.08 *J*	0.08 *J*	0.007 *U*	0.011 *UJ*	2460	2480	0.43 *U*	0.36 *U*	0.55
WQ-03	WQ3	K0710773	Integral	November 2007	11/13/2007	08:35	53.5	53	0.06 *U*	0.06 *U*	0.013 *UJ*	0.008 *U*	2290	2320	0.52 *U*	0.52 *U*	0.45
WQ-03	WQ3	K0802328	Integral	March 2008	3/14/2008	16:25	49.9 *J*	45.5 *J*	0.08 *U*	0.1 *J*	0.005 *UJ*	0.005 *UJ*	2360	2220	0.39 *U*	0.43 *U*	0.42
WQ-03	WQ3	K0804080	Integral	May 2008	5/8/2008	14:15	42.5 *J*	39.9 *J*	0.1 *J*	0.08 *U*	0.044	0.005 *U*	2470	2270	0.39 *U*	0.36 *U*	0.46 *U*
WQ-03	WQ3	K0807967	Integral	August 2008	8/20/2008	11:00	64.2 *J*	58.6 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.005 *UJ*	2120	2190	0.38 *UJ*	0.63 *UJ*	0.49 *J*
WQ-03	WQ3	K0810253	Integral	October 2008	10/16/2008	9:10	62.1 *J*	62.5 *J*	0.2 *U*	0.2 *U*	0.005 *UJ*	0.006 *UJ*	2000	2350	--	--	0.5
WQ-03	WQ3	K0902142	Integral	March 2009	3/11/2009	10:00	68	44.2	0.2 *U*	0.2 *U*	0.007 *J*	0.005 *U*	2320	2320	--	--	1.4
WQ-03	WQ3	K0904395	Integral	May 2009	5/14/2009	13:15	49.4	41.4	0.2 *U*	0.2 *U*	0.005 *J*	0.005 *U*	2430	2180	--	--	3.92
WQ-03	WQ3	K0906701	Integral	July 2009	7/25/2009	11:35	55.1 *J*	52.3 *J*	0.07 *U*	0.07 *U*	0.009 *UJ*	0.003 *U*	2390	2350	--	--	0.54 *U*
WQ-03	WQ3	K0910115	Integral	October 2009	10/20/2009	07:35	55.3	50.9	0.07 *U*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	2110	2130	--	--	0.46
WQ-03	WQ3	K1002122	Integral	March 2010	3/5/2010	11:00	52.8	47	0.07 *UJ*	0.08 *UJ*	0.003 *U*	0.003 *U*	2290	2290	0.72 *U*	0.58 *U*	0.44 *J*
WQ-03	WQ3	K1004034	Integral	April 2010	4/22/2010	16:10	45.5	40.3	0.08 *UJ*	0.15 *UJ*	0.007 *UJ*	0.003 *U*	2300 *J*	2420 *J*	0.3 *U*	0.32 *U*	0.39 *J*
WQ-03	WQ3	K1008752	Integral	August 2010	8/15/2010	12:40	40.4	37.7	0.07 *U*	0.07 *U*	0.003 *U*	0.003 *U*	2610	2710	0.25 *UJ*	0.33 *UJ*	0.63
WQ-03	WQ3	K1014375	Integral	December 2010	12/27/2010	12:50	50	45	0.15 *J*	0.08 *J*	0.034	0.003 *UJ*	2110	2060	0.42 *U*	0.54 *U*	0.38
WQ-03	WQ3	K1102183	Integral	March 2011	3/10/2011	11:40	45.4	47.9	0.07 *U*	0.07 *J*	0.004 *J*	0.003 *U*	2350	2360	0.63 *U*	0.32 *UJ*	0.38
WQ14	WQ14	K0902142	Integral	March 2009	3/9/2009	15:45	37.8	35.9	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	13600	14100	--	--	0.36 *U*
WQ14	WQ14	K0904395	Integral	May 2009	5/14/2009	14:15	52.9	48.7	0.2 *U*	0.2 *U*	0.005 *U*	0.005 *U*	9360	8610	--	--	0.55
WQ14	WQ14	K0906701	Integral	July 2009	7/25/2009	13:15	113 *J*	99 *J*	0.16 *J*	0.22 *J*	0.003 *UJ*	0.004 *UJ*	7420	7430	--	--	0.84
WQ14	WQ14	K0908796	Integral	September 2009 III	9/19/2009	12:30	121 *J*	109 *J*	0.2 *UJ*	0.2 *UJ*	0.005 *UJ*	0.005 *UJ*	5150	5330	--	--	0.77
WQ14	WQ14	K0910115	Integral	October 2009	10/18/2009	09:10	66	60.5	0.11 *J*	0.07 *U*	0.003 *UJ*	0.003 *UJ*	9700	10100	0.23 *UJ*	0.24 *UJ*	0.5
WQ14	WQ14	K0910635	Integral	November 2009	11/1/2009	9:15	62	58.8	0.18 *UJ*	0.15 *UJ*	0.003 *UJ*	0.004 *UJ*	6290	6900	0.32 *U*	0.28 *UJ*	0.41
WQ14	WQ14	K1000085	Integral	December 2009 II	12/29/2009	09:50	50.2 *J*	45.5 *J*	0.15 *J*	0.17 *J*	0.003 *U*	0.003 *U*	8850	8690	0.7 *U*	0.77 *U*	0.28
WQ14	WQ14	K1000512	Integral	January 2010	1/17/2010	12:00	110	69.7	0.07 *U*	0.07 *J*	0.003 *U*	0.004 *J*	2610	2680	0.6 *U*	0.56 *U*	0.38 *U*
WQ14	WQ14	K1001408	Integral	February 2010	2/12/2010	11:45	96.8	80.5	0.07 *J*	0.07 *U*	0.004 *UJ*	0.003 *UJ*	5220	4850	0.6 *U*	0.68 *U*	0.47
WQ14	WQ14	K1002122	Integral	March 2010	3/5/2010	11:45	47.9	41.2	0.13 *UJ*	0.19 *UJ*	0.003 *U*	0.003 *J*	11000	11000	0.78 *U*	0.65 *U*	0.33 *J*
WQ14	WQ14	K1004034	Integral	April 2010	4/21/2010	14:30	42.1	79	0.24 *UJ*	0.19 *UJ*	0.004 *UJ*	0.005 *UJ*	8520 *J*	8740 *J*	0.29 *U*	0.32 *U*	0.38 *J*
WQ14	WQ14	K1005179	Integral	May 2010	5/18/2010	15:00	51.8	38.7	0.23 *UJ*	0.3 *UJ*	0.01 *UJ*	0.007 *UJ*	12200	12200	0.15 *J*	0.09 *J*	0.44 *J*
WQ14	WQ14	K1006773	Integral	June 2010	6/29/2010	10:25	147 *J*	136 *J*	0.2 *UJ*	0.1 *UJ*	0.007 *J*	0.008 *J*	8410	8550	0.35 *UJ*	0.43	0.71 *J*
WQ14	WQ14	K1007431	Integral	July 2010	7/14/2010	13:35	44.6	42.4	0.27 *J*	0.27 *J*	0.005 *J*	0.003 *U*	19300	20000	0.36 *U*	0.35 *UJ*	0.32
WQ14	WQ14	K1008752	Integral	August 2010	8/14/2010	13:00	47.6	39.9	0.28 *J*	0.25 *J*	0.003 *U*	0.003 *U*	21500	21100	0.24 *UJ*	0.28 *UJ*	0.34
WQ14	WQ14	K1009889	Integral	September 2010	9/7/2010	12:10	151 *R*	143 *R*	0.14 *J*	0.19 *J*	0.004 *UJ*	0.005 *UJ*	6410	6580	0.35 *UJ*	0.38 *UJ*	0.97
WQ14	WQ14	K1011737	Integral	October 2010	10/18/2010	10:50	89	76.8	0.2 *J*	0.2 *J*	0.005 *U*	0.005 *U*	4610 *J*	4490 *J*	1.1 *U*	0.32 *U*	0.53
WQ14	WQ14	K1014375	Integral	December 2010	12/26/2010	11:45	81.7	77.6	0.15 *J*	0.15 *J*	0.003 *UJ*	0.003 *UJ*	5540	5750	0.5 *U*	0.52 *U*	0.37
WQ14	WQ14	K1100726	Integral	January 2011	1/19/2011	11:30	53.6	52.5	0.14 *J*	0.1 *J*	0.003 *UJ*	0.003 *UJ*	11000	11000	0.65 *U*	0.36 *U*	0.27
WQ14	WQ14	K1101112	Integral	February 2011	2/8/2011	16:10	45.7 *U*	43.8	0.21 *J*	0.23 *J*	0.003 *U*	0.003 *U*	16500	16500	0.44 *U*	0.51 *U*	0.34
WQ14	WQ14	K1102183	Integral	March 2011	3/9/2011	15:20	72.5	65.6	0.14 *J*	0.11 *J*	0.003 *J*	0.005 *J*	7190	7190	0.74 *U*	0.49 *UJ*	0.31
WQ14	WQ14	K1103545	Integral	April 2011	4/21/2011	16:00	42	38	0.17 *J*	0.2 *J*	0.004 *UJ*	0.003 *UJ*	14900	15000	0.36 *UJ*	0.35 *U*	0.34
WQ14	WQ14	K1104448	Integral	May 2011	5/17/2011	14:00	74.2	67.4	0.16 *J*	0.16 *J*	0.003 *U*	0.003 *U*	6930	6930	0.45 *UJ*	0.42 *UJ*	0.65
WQ14	WQ14	K1105280	Integral	June 2011	6/8/2011	17:10	49.1	41.3	0.16 *J*	0.14 *J*	0.003 *U*	0.003 *UJ*	11700	11500	0.28 *UJ*	0.22 *UJ*	1.75 *J*
WQ14	WQ14	K1106351	Integral	July 2011	7/12/2011	11:30	60.4	48.9	0.22 *J*	0.28 *J*	0.004 *UJ*	0.003 *UJ*	16900	16600	0.3 *U*	0.28 *UJ*	0.59
WQ14	WQ14	K1107897	Integral	August 2011	8/24/2011	8:40	175 *J*	166 *J*	0.18 *J*	0.19 *J*	0.006 *UJ*	0.003 *UJ*	3330	4050	0.46	0.43	1.23 *J*
WQ14	WQ14	K1203282	Integral	April 2012	4/6/2012	13:30	35.1	32.1	0.17 *UJ*	0.2 *UJ*	0.003 *U*	0.003 *U*	7460	5800	0.38	0.34	0.29

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ1	WQ1	X2213	Knight Piesold	February 2006 II	2/16/2006		1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	930	900	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	X5977	Knight Piesold	May 2006 II	5/16/2006	11:18	1 *U*	46	58	0.5 *U*	0.5 *U*	490	460	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	Z2004	Knight Piesold	August 2006 II	8/30/2006	07:00	1.2	97	103	0.5 *U*	0.5 *U*	760	770	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	Z3908	Knight Piesold	October 2006	10/17/2006	07:50	1.1	89	70	0.5 *U*	0.5 *U*	760	740	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	Z6128	Knight Piesold	December 2006	12/8/2006	08:50	1 *U*	63	51	0.5 *U*	0.5 *U*	440	440	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	L482967	Knight Piesold	February 2007	2/27/2007	14:01	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	770	790	0.065	0.02 *U*	1 *U*	1 *U*
WQ1	WQ1	L495369	Knight Piesold	April 2007	4/11/2007	15:24	0.68	33	33	0.05 *U*	0.05 *U*	500	500	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ1	WQ1	L507191	Knight Piesold	May 2007	5/15/2007	07:30	1.13	52	45	0.05 *U*	0.05 *U*	520	510	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ1	WQ1	L526591	Knight Piesold	July 2007 I	7/1/2007	09:40	0.59	69	30 *U*	0.051	0.05 *U*	1040	1100	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ1	WQ1	K0706569	Integral	July 2007 II	7/24/2007	07:28	1.11	79	76	0.042 *U*	0.015 *U*	784	801	0.03 *U*	0.03 *U*	0.45 *U*	0.52
WQ1	WQ1	K0707317	Integral	August 2007 I	8/14/2007	07:40	0.56	15.9 *U*	10 *U*	0.007 *UJ*	0.005 *U*	1140	1040	0.03 *U*	0.03 *U*	1.41 *UJ*	1.26 *J*
WQ1	WQ1	K0707782	Integral	August 2007 II	8/27/2007	14:05	1.23 *J*	76	72	0.011 *U*	0.012 *U*	758	771	0.03 *U*	0.03 *U*	0.33	0.27
WQ1	WQ1	K0708240	Integral	September 2007 I	9/11/2007	07:20	0.97	48.3	46.1	0.012 *UJ*	0.018 *UJ*	900	877	0.03 *U*	0.03 *U*	0.33	0.44 *UJ*
WQ1	WQ1	K0709126	Integral	September 2007 II	10/2/2007	14:15	0.94	136	120 *U*	0.028 *U*	0.023 *U*	502	499	0.03 *U*	0.03 *U*	0.37 *U*	0.27 *U*
WQ1	WQ1	K0710773	Integral	November 2007	11/13/2007	09:05	0.57	63.2	61.1	0.006 *UJ*	0.011 *UJ*	659	683	0.03 *U*	0.03 *U*	0.3	0.32
WQ1	WQ1	K0802328	Integral	March 2008	3/14/2008	15:40	0.6	35.1	29	0.009 *U*	0.009 *U*	540 *J*	540 *J*	0.03 *U*	0.03 *U*	0.35	0.29
WQ1	WQ1	K0804080	Integral	May 2008	5/8/2008	13:30	0.81	50.5	41.9 *UJ*	0.009 *U*	0.038 *UJ*	581	567	0.03 *UJ*	0.03 *UJ*	0.53	0.52
WQ1	WQ1	K0807967	Integral	August 2008	8/20/2008	10:00	1.49 *J*	184	160	0.031 *UJ*	0.035 *UJ*	382	369	0.05 *U*	0.05 *U*	0.25 *UJ*	0.31 *J*
WQ1	WQ1	K0902142	Integral	March 2009	3/11/2009	09:15	1.3	36.7 *UJ*	24.3 *UJ*	0.01 *J*	0.011 *J*	786	775	0.05 *U*	0.05 *U*	0.24 *U*	0.24 *UJ*
WQ1	WQ1	K0904395	Integral	May 2009	5/14/2009	13:40	0.86	63.2	41.1	0.066 *UJ*	0.006 *UJ*	382	363	0.02 *U*	0.02 *U*	0.25	0.31
WQ1	WQ1	K0906701	Integral	July 2009	7/25/2009	12:15	1.13	71.5	59.6	0.018 *UJ*	0.012 *UJ*	541	533	0.02 *U*	0.02 *U*	0.14 *UJ*	0.1 *UJ*
WQ1	WQ1	K0910115	Integral	October 2009	10/19/2009	09:10	0.8	126	101	0.015 *UJ*	0.01 *J*	521	513	0.02 *U*	0.02 *U*	0.2 *UJ*	0.23 *J*
WQ1	WQ1	K1001408	Integral	February 2010	2/13/2010	08:35	0.66	101	83.4	0.015 *J*	0.011 *UJ*	314	305	0.02 *U*	0.02 *U*	0.27	0.32
WQ1	WQ1	K1007431	Integral	July 2010	7/14/2010	12:55	0.65	31.9	30.8 *UJ*	0.006 *UJ*	0.021 *U*	969	1150	0.02 *U*	0.02 *U*	0.31	0.32
WQ1	WQ1	K1014375	Integral	December 2010	12/27/2010	11:30	0.78	75.1	75.8 *UJ*	0.28	0.022 *U*	463	478	0.02 *U*	0.02 *U*	0.37	0.41 *UJ*
WQ1	WQ1	K1102183	Integral	March 2011	3/10/2011	10:30	0.64	123	88.2	0.021	0.03 *UJ*	558	535	0.02 *UJ*	0.02 *UJ*	0.26 *U*	0.27
WQ2	WQ2	X2213	Knight Piesold	February 2006 II	2/16/2006		1.5	30 *U*	30 *U*	0.5 *U*	0.5 *U*	1070	1080	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	X5977	Knight Piesold	May 2006 II	5/16/2006	10:26	3.2	37	31	0.5 *U*	0.5 *U*	560	580	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:00	3.4	85	76	0.5 *U*	0.5 *U*	780	760	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	Z3908	Knight Piesold	October 2006	10/17/2006	08:20	3.1	67	60	0.5 *U*	0.5 *U*	810	810	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	Z6128	Knight Piesold	December 2006	12/8/2006	09:20	2.6	69	46	0.5 *U*	0.5 *U*	470	470	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	L482967	Knight Piesold	February 2007	2/27/2007	14:27	1.5	30 *U*	30 *U*	0.5 *U*	0.5 *U*	960	950	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ2	WQ2	L495369	Knight Piesold	April 2007	4/11/2007	15:05	2.5	33	30 *U*	0.05 *U*	0.05 *U*	540	540	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ2	WQ2	L507191	Knight Piesold	May 2007	5/15/2007	07:50	2.39	34	32	0.05 *U*	0.05 *U*	720	710	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ2	WQ2	L526591	Knight Piesold	July 2007 I	7/1/2007	09:00	1.14	8330	9150	0.944	0.146	2020	1690	0.03	0.01 *U*	1.74	1.9
WQ2	WQ2	K0706569	Integral	July 2007 II	7/24/2007	07:53	2.83	64	56	0.018 *U*	0.015 *U*	884	866	0.03 *U*	0.03 *U*	0.38 *U*	0.41
WQ2	WQ2	K0707317	Integral	August 2007 I	8/14/2007	08:15	1.29	22 *U*	18.4 *J*	0.01 *UJ*	0.023 *U*	1210	1080	0.03 *U*	0.03 *U*	1.91 *UJ*	1.4 *J*
WQ2	WQ2	K0707782	Integral	August 2007 II	8/27/2007	14:30	3.79 *J*	183	87	0.104	0.059 *J*	871	798	0.03 *U*	0.03 *U*	0.36	0.25
WQ2	WQ2	K0708240	Integral	September 2007 I	9/11/2007	07:45	3	216	99.1	0.2	0.106	1070	1000	0.03 *U*	0.03 *U*	0.55	1.57
WQ2	WQ2	K0709126	Integral	September 2007 II	10/2/2007	14:40	3.68	132	147 *U*	0.062	0.048	476	472	0.03 *U*	0.03 *U*	0.26 *U*	0.26 *U*
WQ2	WQ2	K0710773	Integral	November 2007	11/13/2007	09:35	2.48	67.3	67.9	0.021 *UJ*	0.029 *UJ*	724	721	0.03 *U*	0.03 *U*	0.5	0.43
WQ2	WQ2	K0802328	Integral	March 2008	3/14/2008	15:55	2.25	39.7	36.1	0.018 *J*	0.025 *J*	532 *J*	544 *J*	0.03 *U*	0.03 *U*	0.32	0.39
WQ2	WQ2	K0804080	Integral	May 2008	5/8/2008	14:00	3.06	48.7	43.7 *UJ*	0.034 *U*	0.014 *UJ*	607	618	0.03 *UJ*	0.03 *UJ*	0.35	0.76
WQ2	WQ2	K0807967	Integral	August 2008	8/20/2008	10:40	5.5 *J*	157	140	0.067	0.051 *UJ*	363	357	0.05 *U*	0.05 *U*	0.24 *UJ*	0.17 *UJ*
WQ2	WQ2	K0902142	Integral	March 2009	3/9/2009	16:30	1.66	27.4 *UJ*	21.6 *UJ*	0.006 *U*	0.007 *J*	728	724	0.05 *U*	0.05 *U*	0.26 *U*	0.26 *UJ*
WQ2	WQ2	K0904395	Integral	May 2009	5/14/2009	14:55	3.24	42.4	31.1 *UJ*	0.016 *UJ*	0.024 *UJ*	428	462	0.02 *U*	0.02 *U*	0.2 *J*	0.21
WQ2	WQ2	K0906701	Integral	July 2009	7/25/2009	13:55	3.35	71.3	53.8	0.17	0.008 *UJ*	540	530	0.02 *U*	0.02 *U*	0.08 *UJ*	0.08 *UJ*
WQ2	WQ2	K0910115	Integral	October 2009	10/19/2009	09:45	3.57	119	83.8	0.034 *UJ*	0.02	427	426	0.02 *U*	0.02 *U*	0.15 *UJ*	0.17 *J*
WQ2	WQ2	K1001408	Integral	February 2010	2/13/2010	09:00	3.35	108	91.4	0.052	0.028 *UJ*	316	312	0.02 *U*	0.02 *U*	0.2 *UJ*	0.24
WQ2	WQ2	K1004034	Integral	April 2010	4/21/2010	15:10	2.32 *J*	44.1	26.6	0.06	0.032 *U*	695 *J*	715 *J*	0.02 *U*	0.02 *U*	0.25	0.3
WQ2	WQ2	K1007431	Integral	July 2010	7/14/2010	14:25	2.08	47.1	32.9 *UJ*	0.012 *UJ*	0.009 *UJ*	857	846	0.02 *U*	0.02 *U*	0.23	0.22
WQ2	WQ2	K1011737	Integral	October 2010	10/18/2010	11:40	2.94	80.8	50.3	0.026	0.02 *UJ*	550	532	0.02 *U*	0.02 *U*	0.26 *U*	0.31 *U*
WQ2	WQ2	K1014375	Integral	December 2010	12/27/2010	12:15	2.58	66	57 *UJ*	0.023	0.026 *U*	384	427	0.02 *U*	0.02 *U*	0.28 *UJ*	0.27 *UJ*
WQ2	WQ2	K1102183	Integral	March 2011	3/10/2011	11:10	2.03	380	54.6 *UJ*	0.1	0.034 *UJ*	558	411	0.02 *UJ*	0.02 *UJ*	0.4 *U*	0.23
WQ2	WQ2	K1105280	Integral	June 2011	6/9/2011	18:00	2.2 *J*	31.4	42.8	0.015 *J*	0.014 *U*	584	584	0.02 *U*	0.02 *U*	0.23	0.26
WQ2	WQ2	K1106865	Integral	July 2011 II	7/26/2011	13:50	3.3	60.4 *UJ*	49.9	0.017 *UJ*	0.013 *UJ*	546	543	0.02 *UJ*	0.02 *UJ*	0.25 *UJ*	0.22
WQ2	WQ2	K1107897	Integral	August 2011	8/24/2011	7:50	5.36 *J*	295	128	0.08	0.063	284	253	0.05 *U*	0.02 *U*	0.22	0.21
WQ2	WQ2	K1203282	Integral	April 2012	4/6/2012	14:05	1.53	25.3	22	0.023	0.014 *UJ*	750	739	0.02 *U*	0.02 *J*	0.3	0.26
WQ2	WQ2	K1207118	Integral	July 2012	7/22/2012	14:30	3.32	79.9	61.2	0.034	0.024	601	608	0.02 *U*	0.02 *U*	0.24	0.44
WQ2	WQ2	K1210889	Integral	October 2012	10/29/2012	10:05	1.26 *J*	47.7	31.8	0.011 *UJ*	0.008 *UJ*	979	896	0.02 *U*	0.02 *U*	0.18 *UJ*	0.18 *UJ*
WQ-03	WQ3	X2213	Knight Piesold	February 2006 II	2/16/2006		1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	450	450	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ-03	WQ3	X5977	Knight Piesold	May 2006 II	5/16/2006	11:43	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	350	370	0.02 *U*	0.02 *U*	1 *U*	1 *U*

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
WQ-03	WQ3	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:45	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	400	410	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ-03	WQ3	Z3908	Knight Piesold	October 2006	10/17/2006	08:45	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	390	390	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ-03	WQ3	Z6128	Knight Piesold	December 2006	12/7/2006	14:40	1 *U*	32	30 *U*	0.5 *U*	0.5 *U*	510	500	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ-03	WQ3	L482967	Knight Piesold	February 2007	2/27/2007	14:52	1 *U*	30 *U*	30 *U*	0.5 *U*	0.5 *U*	420	420	0.02 *U*	0.02 *U*	1 *U*	1 *U*
WQ-03	WQ3	L495369	Knight Piesold	April 2007	4/11/2007	14:39	0.36	30 *U*	30 *U*	0.05 *U*	0.05 *U*	410	410	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ-03	WQ3	L507191	Knight Piesold	May 2007	5/15/2007	08:00	0.3	30 *U*	30 *U*	0.05 *U*	0.05 *U*	450	430	0.05 *U*	0.05 *U*	0.5 *U*	0.5 *U*
WQ-03	WQ3	L526591	Knight Piesold	July 2007 I	7/1/2007	10:20	0.58	30 *U*	30 *U*	0.05 *U*	0.05 *U*	510	530	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
WQ-03	WQ3	K0706569	Integral	July 2007 II	7/24/2007	08:24	0.51 *U*	29	18 *J*	0.016 *U*	0.011 *U*	373	375	0.03 *U*	0.03 *U*	0.26 *U*	0.26 *U*
WQ-03	WQ3	K0707317	Integral	August 2007 I	8/14/2007	08:45	0.46	16.9 *U*	12.9 *U*	0.017 *UJ*	0.014 *U*	430	406	0.03 *U*	0.03 *U*	0.61 *UJ*	0.59 *J*
WQ-03	WQ3	K0707782	Integral	August 2007 II	8/27/2007	15:00	0.41 *J*	15 *U*	12 *U*	0.009 *U*	0.012 *U*	528	528	0.03 *U*	0.03 *U*	0.14 *J*	0.73
WQ-03	WQ3	K0708240	Integral	September 2007 I	9/11/2007	08:15	0.54	25.5 *UJ*	20.2 *UJ*	0.023 *UJ*	0.02 *UJ*	408	406	0.03 *U*	0.03 *U*	2.12	0.2 *UJ*
WQ-03	WQ3	K0710773	Integral	November 2007	11/13/2007	08:35	0.49	56.1	11.6 *UJ*	0.026 *UJ*	0.019 *UJ*	393	403	0.03 *U*	0.03 *U*	0.27	0.31
WQ-03	WQ3	K0802328	Integral	March 2008	3/14/2008	16:25	0.41 *UJ*	9.4 *UJ*	6.8 *UJ*	0.009 *U*	0.009 *U*	379 *J*	365 *J*	0.03 *U*	0.03 *U*	0.26	0.24
WQ-03	WQ3	K0804080	Integral	May 2008	5/8/2008	14:15	0.41 *U*	15.1 *J*	7.1 *UJ*	0.058 *U*	0.014 *UJ*	465	435	0.03 *UJ*	0.03 *UJ*	0.3	0.27 *UJ*
WQ-03	WQ3	K0807967	Integral	August 2008	8/20/2008	11:00	0.47 *J*	24.5	20.1	0.014 *UJ*	0.006 *UJ*	320	330	0.05 *U*	0.05 *U*	0.07 *UJ*	0.05 *UJ*
WQ-03	WQ3	K0810253	Integral	October 2008	10/16/2008	9:10	0.49 *U*	31.2 *UJ*	23.7 *UJ*	0.027 *UJ*	0.04 *J*	336	378	0.05 *U*	0.05 *U*	0.04 *UJ*	0.04 *UJ*
WQ-03	WQ3	K0902142	Integral	March 2009	3/11/2009	10:00	0.82 *U*	37.7 *UJ*	16.6 *UJ*	0.092	0.026 *J*	404	397	0.05 *U*	0.05 *U*	0.37 *U*	0.25 *UJ*
WQ-03	WQ3	K0904395	Integral	May 2009	5/14/2009	13:15	0.42 *U*	19.3 *UJ*	4.7 *UJ*	0.028 *UJ*	0.006 *UJ*	443	384	0.02 *U*	0.02 *U*	0.2	0.12 *J*
WQ-03	WQ3	K0906701	Integral	July 2009	7/25/2009	11:35	0.42	32.5 *J*	20.7 *UJ*	0.093	0.005 *U*	361	355	0.02 *U*	0.02 *U*	0.03 *UJ*	0.03 *UJ*
WQ-03	WQ3	K0910115	Integral	October 2009	10/20/2009	07:35	0.45	20.4 *UJ*	12.2 *UJ*	0.007 *UJ*	0.005 *U*	375	370	0.02 *U*	0.02 *U*	0.12 *UJ*	0.19 *J*
WQ-03	WQ3	K1002122	Integral	March 2010	3/5/2010	11:00	0.42 *J*	5.7 *R*	1.7 *R*	0.005 *U*	0.005 *U*	438	439	0.02 *U*	0.02 *U*	0.12 *J*	0.18 *J*
WQ-03	WQ3	K1004034	Integral	April 2010	4/22/2010	16:10	0.4 *J*	6.8 *UJ*	16.5 *J*	0.016 *UJ*	0.015 *UJ*	415 *J*	439 *J*	0.02 *U*	0.02 *U*	0.14 *UJ*	0.18 *J*
WQ-03	WQ3	K1008752	Integral	August 2010	8/15/2010	12:40	0.56	14.8 *UJ*	21 *UJ*	0.009 *UJ*	0.034	454	459	0.02 *U*	0.02 *U*	0.21	0.28 *UJ*
WQ-03	WQ3	K1014375	Integral	December 2010	12/27/2010	12:50	0.37	15.9 *UJ*	10.6 *UJ*	0.063	0.012 *UJ*	397	397	0.02 *U*	0.02 *U*	0.19 *UJ*	0.23 *UJ*
WQ-03	WQ3	K1102183	Integral	March 2011	3/10/2011	11:40	0.37	14.8 *UJ*	7 *UJ*	0.01 *J*	0.018 *UJ*	439	438	0.02 *UJ*	0.02 *UJ*	0.32 *U*	0.21
WQ14	WQ14	K0902142	Integral	March 2009	3/9/2009	15:45	0.48 *U*	61.8	53.3	0.007 *J*	0.017 *J*	982	988	0.05 *U*	0.05 *U*	0.31 *U*	0.41 *UJ*
WQ14	WQ14	K0904395	Integral	May 2009	5/14/2009	14:15	0.46 *U*	42.4	31.1 *UJ*	0.015 *UJ*	0.006 *UJ*	654	602	0.02 *U*	0.02 *U*	0.37	0.36
WQ14	WQ14	K0906701	Integral	July 2009	7/25/2009	13:15	0.91	135	100	0.022 *UJ*	0.023 *UJ*	737	735	0.02 *U*	0.02 *U*	0.13 *UJ*	0.11 *UJ*
WQ14	WQ14	K0908796	Integral	September 2009 III	9/19/2009	12:30	0.7 *U*	103 *J*	84.7 *J*	0.024 *UJ*	0.01 *UJ*	514	529	0.02 *U*	0.02 *U*	0.33	0.32 *UJ*
WQ14	WQ14	K0910115	Integral	October 2009	10/18/2009	09:10	0.45	83.6	71.4	0.009 *UJ*	0.007 *J*	852	873	0.02 *U*	0.02 *U*	0.23 *UJ*	0.46
WQ14	WQ14	K0910635	Integral	November 2009	11/1/2009	9:15	0.45	64.5	52.9	0.012 *UJ*	0.012 *UJ*	742	738	0.02 *U*	0.02 *U*	0.31 *UJ*	0.3
WQ14	WQ14	K1000085	Integral	December 2009 II	12/29/2009	09:50	0.26	--	--	0.005 *U*	0.005 *U*	902 *J*	891 *J*	0.02 *U*	0.02 *U*	0.88	1.02
WQ14	WQ14	K1000512	Integral	January 2010	1/17/2010	12:00	0.29 *U*	115	48.4 *UJ*	0.026 *U*	0.016 *U*	570 *J*	574 *J*	0.02 *U*	0.02 *U*	0.41 *UJ*	0.46 *UJ*
WQ14	WQ14	K1001408	Integral	February 2010	2/12/2010	11:45	0.46	112	64.6 *UJ*	0.016 *J*	0.018 *UJ*	529	488	0.02 *U*	0.02 *U*	0.36	0.38
WQ14	WQ14	K1002122	Integral	March 2010	3/5/2010	11:45	0.29 *J*	35.8 *R*	24.7 *R*	0.005 *U*	0.005 *U*	1050	933	0.02 *U*	0.02 *U*	0.31	0.4
WQ14	WQ14	K1004034	Integral	April 2010	4/21/2010	14:30	0.35 *J*	42.5	35.7	0.009 *UJ*	0.009 *UJ*	1090 *J*	1110 *J*	0.02 *U*	0.02 *U*	0.25	0.27
WQ14	WQ14	K1005179	Integral	May 2010	5/18/2010	15:00	0.41 *J*	75.8	49.3	0.033 *UJ*	0.021 *UJ*	907 *J*	905 *J*	0.02 *U*	0.02 *U*	0.3	0.28
WQ14	WQ14	K1006773	Integral	June 2010	6/29/2010	10:25	0.6 *J*	207 *J*	169 *J*	0.065 *U*	0.072 *UJ*	1200	1190	0.04 *UJ*	0.02 *UJ*	0.42	0.51
WQ14	WQ14	K1007431	Integral	July 2010	7/14/2010	13:35	0.3 *UJ*	69.8	58	0.006 *UJ*	0.026 *U*	1380	1340	0.02 *U*	0.02 *U*	0.53	0.58
WQ14	WQ14	K1008752	Integral	August 2010	8/14/2010	13:00	0.27	75.3 *UJ*	48.6 *UJ*	0.005 *UJ*	0.005 *UJ*	1480	1460	0.02 *U*	0.02 *U*	0.92	0.97
WQ14	WQ14	K1009889	Integral	September 2010	9/7/2010	12:10	0.93	140 *J*	110 *J*	0.023 *UJ*	0.022 *U*	594	593	0.02 *UJ*	0.02 *UJ*	0.35	0.35
WQ14	WQ14	K1011737	Integral	October 2010	10/18/2010	10:50	0.48	88	46.6	0.014 *J*	0.009 *UJ*	582	547	0.02 *U*	0.02 *U*	0.66 *U*	0.24 *U*
WQ14	WQ14	K1014375	Integral	December 2010	12/26/2010	11:45	0.38	70.7	65.4 *UJ*	0.015 *J*	0.014 *UJ*	523	551	0.02 *U*	0.02 *U*	0.35	0.37 *UJ*
WQ14	WQ14	K1100726	Integral	January 2011	1/19/2011	11:30	0.26 *UJ*	66.3	58.5	0.01 *J*	0.009 *J*	781	780	0.02 *U*	0.02 *U*	0.33 *UJ*	0.21
WQ14	WQ14	K1101112	Integral	February 2011	2/8/2011	16:10	0.37	48.6 *UJ*	42.4 *UJ*	0.007 *UJ*	0.02 *UJ*	914	916	0.02 *UJ*	0.02 *UJ*	0.61	0.64
WQ14	WQ14	K1102183	Integral	March 2011	3/9/2011	15:20	0.33	104	85.1	0.03	0.034 *UJ*	625	623	0.02 *UJ*	0.02 *UJ*	0.44 *U*	0.39
WQ14	WQ14	K1103545	Integral	April 2011	4/21/2011	16:00	0.36 *U*	45.9 *UJ*	44.1 *UJ*	0.008 *UJ*	0.04 *UJ*	993	1000	0.02 *U*	0.02 *U*	0.35 *UJ*	0.43 *U*
WQ14	WQ14	K1104448	Integral	May 2011	5/17/2011	14:00	0.6	63.2 *J*	54.8 *J*	0.024 *UJ*	0.024 *UJ*	502	500	0.02 *U*	0.02 *U*	0.44 *UJ*	0.44 *UJ*
WQ14	WQ14	K1105280	Integral	June 2011	6/8/2011	17:10	0.47 *J*	46.5	32	0.02	0.005 *U*	745	733	0.02 *U*	0.02 *U*	0.37	0.31
WQ14	WQ14	K1106351	Integral	July 2011	7/12/2011	11:30	0.47	79.3	58.1	0.047	0.016 *UJ*	1250	1220	0.02 *U*	0.02 *U*	0.62	0.5
WQ14	WQ14	K1107897	Integral	August 2011	8/24/2011	8:40	1.29 *J*	184	121	0.059	0.048 *UJ*	369	395	--	0.02 *U*	0.35	0.4
WQ14	WQ14	K1203282	Integral	April 2012	4/6/2012	13:30	0.28 *J*	33.3	14.1 *UJ*	0.007 *UJ*	0.01 *UJ*	862	810	0.02 *U*	0.07 *J*	0.45	0.43

Notes:

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

Data Qualifiers:
J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
WQ1	WQ1	X2213	Knight Piesold	February 2006 II	2/16/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3600	3500	5 *U*	5 *U*
WQ1	WQ1	X5977	Knight Piesold	May 2006 II	5/16/2006	11:18	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ1	WQ1	Z2004	Knight Piesold	August 2006 II	8/30/2006	07:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2300	2300	5 *U*	5 *U*
WQ1	WQ1	Z3908	Knight Piesold	October 2006	10/17/2006	07:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2800	2800	5 *U*	5 *U*
WQ1	WQ1	Z6128	Knight Piesold	December 2006	12/8/2006	08:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2200	2200	5 *U*	5 *U*
WQ1	WQ1	L482967	Knight Piesold	February 2007	2/27/2007	14:01	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3300	3300	5 *U*	5 *U*
WQ1	WQ1	L495369	Knight Piesold	April 2007	4/11/2007	15:24	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2600	2600	1 *U*	1.1
WQ1	WQ1	L507191	Knight Piesold	May 2007	5/15/2007	07:30	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2300	2200	1 *U*	1.2
WQ1	WQ1	L526591	Knight Piesold	July 2007 I	7/1/2007	09:40	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2600	2700	3 *U*	1.5
WQ1	WQ1	K0706569	Integral	July 2007 II	7/24/2007	07:28	900 *U*	900 *U*	0.2 *J*	0.2 *J*	0.009 *U*	0.018 *U*	2760	2770	4.64 *U*	5.14 *U*
WQ1	WQ1	K0707317	Integral	August 2007 I	8/14/2007	07:40	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.015 *U*	0.009 *U*	3360	3070	1.32 *U*	2.03 *U*
WQ1	WQ1	K0707782	Integral	August 2007 II	8/27/2007	14:05	900 *U*	900 *U*	0.6 *U*	0.2 *U*	0.006 *U*	0.004 *U*	2490	2550	3.7 *U*	4.95 *U*
WQ1	WQ1	K0708240	Integral	September 2007 I	9/11/2007	07:20	900 *U*	900 *U*	0.2 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2850	2850	3.2 *U*	8.2 *U*
WQ1	WQ1	K0709126	Integral	September 2007 II	10/2/2007	14:15	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.011 *J*	2480	2490	6.42 *U*	3.04 *U*
WQ1	WQ1	K0710773	Integral	November 2007	11/13/2007	09:05	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.012 *UJ*	0.012 *UJ*	3000	3010	3.08 *U*	12.4 *U*
WQ1	WQ1	K0802328	Integral	March 2008	3/14/2008	15:40	172 *J*	164 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.043 *UJ*	3350	3210	3.6 *U*	14 *J*
WQ1	WQ1	K0804080	Integral	May 2008	5/8/2008	13:30	184 *J*	241 *J*	0.4 *U*	0.4 *U*	0.01 *UJ*	0.005 *UJ*	3100	3080	1.5 *U*	5.2 *U*
WQ1	WQ1	K0807967	Integral	August 2008	8/20/2008	10:00	124 *J*	97 *J*	0.4 *U*	0.4 *U*	0.081	0.097	2100	2050	1.18 *U*	1.3 *U*
WQ1	WQ1	K0902142	Integral	March 2009	3/11/2009	09:15	134 *J*	144 *J*	0.4 *U*	0.4 *U*	0.016 *UJ*	0.016 *UJ*	2680	2820	5.69 *U*	4.07 *U*
WQ1	WQ1	K0904395	Integral	May 2009	5/14/2009	13:40	126 *J*	110 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1680	1570	5.76 *U*	3.25 *U*
WQ1	WQ1	K0906701	Integral	July 2009	7/25/2009	12:15	113 *J*	83 *J*	0.2 *U*	0.2 *U*	0.004 *U*	0.016 *UJ*	2260	2210	2.36 *U*	2.89 *U*
WQ1	WQ1	K0910115	Integral	October 2009	10/19/2009	09:10	142 *J*	133 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.061	2280	2240	0.5 *UJ*	0.55 *UJ*
WQ1	WQ1	K1001408	Integral	February 2010	2/13/2010	08:35	103 *J*	91 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	2130	2120	1.31 *U*	0.71 *U*
WQ1	WQ1	K1007431	Integral	July 2010	7/14/2010	12:55	131 *J*	140 *J*	0.3 *U*	0.3 *U*	0.016 *UJ*	0.004 *UJ*	3610	3750	0.85 *U*	0.78 *U*
WQ1	WQ1	K1014375	Integral	December 2010	12/27/2010	11:30	121 *UJ*	123 *UJ*	0.5 *J*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3450	3510	0.81 *U*	0.75 *U*
WQ1	WQ1	K1102183	Integral	March 2011	3/10/2011	10:30	166 *J*	180 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3590	3540	0.65 *U*	1.21 *U*
WQ2	WQ2	X2213	Knight Piesold	February 2006 II	2/16/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3400	3500	8.5	8.9
WQ2	WQ2	X5977	Knight Piesold	May 2006 II	5/16/2006	10:26	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000	2100	10.1	10.9
WQ2	WQ2	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2500	2500	8.4	8.4
WQ2	WQ2	Z3908	Knight Piesold	October 2006	10/17/2006	08:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2900	2900	8.8	9.3
WQ2	WQ2	Z6128	Knight Piesold	December 2006	12/8/2006	09:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2100	2200	9.2	9.6
WQ2	WQ2	L482967	Knight Piesold	February 2007	2/27/2007	14:27	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	3300	3300	6.8	7.6
WQ2	WQ2	L495369	Knight Piesold	April 2007	4/11/2007	15:05	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2600	2600	8.5	9
WQ2	WQ2	L507191	Knight Piesold	May 2007	5/15/2007	07:50	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2700	2600	8.8	8.3
WQ2	WQ2	L526591	Knight Piesold	July 2007 I	7/1/2007	09:00	2500	2300	1 *U*	1 *U*	0.01 *U*	0.01 *U*	7100	7600	6 *U*	3.3
WQ2	WQ2	K0706569	Integral	July 2007 II	7/24/2007	07:53	900 *U*	900 *U*	0.2 *U*	0.3 *J*	0.018 *U*	0.015 *U*	2960	2860	9.75	9.43 *U*
WQ2	WQ2	K0707317	Integral	August 2007 I	8/14/2007	08:15	900 *U*	900 *U*	0.4 *U*	0.2 *U*	0.009 *U*	0.013 *U*	3360	3020	8.2 *J*	6.66 *J*
WQ2	WQ2	K0707782	Integral	August 2007 II	8/27/2007	14:30	1670 *U*	900 *U*	0.6 *U*	0.2 *U*	0.016 *U*	0.015 *U*	3020	2890	13.5	16.7 *U*
WQ2	WQ2	K0708240	Integral	September 2007 I	9/11/2007	07:45	900 *U*	900 *U*	0.3 *J*	0.4 *U*	0.084 *UJ*	0.009 *U*	3550	3520	13.9 *U*	13.9 *U*
WQ2	WQ2	K0709126	Integral	September 2007 II	10/2/2007	14:40	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.028	0.016 *J*	2380	2410	11.9 *J*	11.4 *U*
WQ2	WQ2	K0710773	Integral	November 2007	11/13/2007	09:35	900 *U*	900 *U*	0.2 *J*	0.2 *U*	0.009 *U*	0.009 *U*	2990	2870	21.5	20.1
WQ2	WQ2	K0802328	Integral	March 2008	3/14/2008	15:55	280 *J*	635 *J*	0.4 *U*	0.4 *U*	0.144	0.046 *UJ*	3130	3460	33.5	181
WQ2	WQ2	K0804080	Integral	May 2008	5/8/2008	14:00	169 *J*	191 *J*	0.4 *U*	0.4 *U*	0.033 *UJ*	0.014 *UJ*	3060	3090	12.4 *U*	13.2 *J*
WQ2	WQ2	K0807967	Integral	August 2008	8/20/2008	10:40	69 *J*	86 *J*	0.4 *U*	0.4 *U*	0.104	0.078 *UJ*	2130	2140	13.1 *J*	11.1 *U*
WQ2	WQ2	K0902142	Integral	March 2009	3/9/2009	16:30	95 *J*	88 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.016 *UJ*	2690	2770	7.88 *U*	7.42 *U*
WQ2	WQ2	K0904395	Integral	May 2009	5/14/2009	14:55	102 *J*	111 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	1730	1870	14.2 *J*	12.4 *J*
WQ2	WQ2	K0906701	Integral	July 2009	7/25/2009	13:55	94 *J*	79 *J*	0.2 *U*	0.2 *U*	0.007 *UJ*	0.015 *UJ*	2260	2230	8.06 *U*	5.7 *U*
WQ2	WQ2	K0910115	Integral	October 2009	10/19/2009	09:45	97 *J*	109 *J*	0.3 *U*	0.3 *U*	0.008 *UJ*	0.033	2160	2150	7.94 *U*	7.74 *U*
WQ2	WQ2	K1001408	Integral	February 2010	2/13/2010	09:00	91 *J*	93 *J*	0.3 *U*	0.3 *U*	0.009 *J*	0.004 *U*	2260	2270	9 *U*	8.63 *J*
WQ2	WQ2	K1004034	Integral	April 2010	4/21/2010	15:10	175 *J*	199 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.01 *UJ*	4210	4280	17.2 *J*	12.1 *J*
WQ2	WQ2	K1007431	Integral	July 2010	7/14/2010	14:25	122 *J*	105 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3630	3600	5.72 *U*	5.39 *U*
WQ2	WQ2	K1011737	Integral	October 2010	10/18/2010	11:40	174 *J*	168 *J*	0.3 *U*	0.3 *U*	0.07	0.027	4020	4120	10 *J*	9.8 *J*
WQ2	WQ2	K1014375	Integral	December 2010	12/27/2010	12:15	80 *UJ*	103 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2990	3270	8.08 *U*	7.96 *U*
WQ2	WQ2	K1102183	Integral	March 2011	3/10/2011	11:10	222 *J*	148 *J*	0.3 *U*	0.3 *U*	0.005 *UJ*	0.004 *UJ*	2900	2990	7.62 *U*	6.15 *U*
WQ2	WQ2	K1105280	Integral	June 2011	6/9/2011	18:00	77 *J*	100 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2530	2450	5.82 *U*	5.68 *U*
WQ2	WQ2	K1106865	Integral	July 2011 II	7/26/2011	13:50	144 *UJ*	131 *UJ*	0.3 *U*	0.3 *U*	0.027 *UJ*	0.009 *UJ*	2980	3000	4.9 *U*	5.3 *U*
WQ2	WQ2	K1107897	Integral	August 2011	8/24/2011	7:50	107 *J*	77 *J*	0.3 *U*	0.3 *U*	0.025 *UJ*	0.014 *UJ*	1860	1750	8.22	7.73
WQ2	WQ2	K1203282	Integral	April 2012	4/6/2012	14:05	218 *J*	227 *J*	0.3 *U*	0.3 *U*	0.011 *UJ*	0.004 *U*	4820	4740	11 *J*	11 *J*
WQ2	WQ2	K1207118	Integral	July 2012	7/22/2012	14:30	93.3 *J*	142 *J*	0.2 *U*	0.2 *U*	0.017 *J*	0.01 *J*	2900	2960	5.68 *U*	5.28 *U*
WQ2	WQ2	K1210889	Integral	October 2012	10/29/2012	10:05	172 *J*	177 *J*	0.3 *U*	0.3 *U*	0.058 *J*	0.019 *UJ*	3410	3130	5.4 *U*	5.4 *UJ*
WQ-03	WQ3	X2213	Knight Piesold	February 2006 II	2/16/2006		2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2400	2400	5 *U*	5 *U*
WQ-03	WQ3	X5977	Knight Piesold	May 2006 II	5/16/2006	11:43	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*

Table B-1c. Water Quality Analytical Monitoring Data (2006-2012) – Offsite Surface Water

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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-03	WQ3	Z2004	Knight Piesold	August 2006 II	8/30/2006	08:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2000 *U*	2000 *U*	5 *U*	5 *U*
WQ-03	WQ3	Z3908	Knight Piesold	October 2006	10/17/2006	08:45	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2300	2300	5 *U*	5 *U*
WQ-03	WQ3	Z6128	Knight Piesold	December 2006	12/7/2006	14:40	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2900	3000	5 *U*	5 *U*
WQ-03	WQ3	L482967	Knight Piesold	February 2007	2/27/2007	14:52	2000 *U*	2000 *U*	1 *U*	1 *U*	0.02 *U*	0.02 *U*	2600	2600	5 *U*	5 *U*
WQ-03	WQ3	L495369	Knight Piesold	April 2007	4/11/2007	14:39	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2500	2500	1 *U*	1 *U*
WQ-03	WQ3	L507191	Knight Piesold	May 2007	5/15/2007	08:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2600	2600	1 *U*	1 *U*
WQ-03	WQ3	L526591	Knight Piesold	July 2007 I	7/1/2007	10:20	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	2300	2500	1 *U*	1.3
WQ-03	WQ3	K0706569	Integral	July 2007 II	7/24/2007	08:24	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.018 *U*	0.009 *U*	2180	2270	3.09 *U*	4.12 *U*
WQ-03	WQ3	K0707317	Integral	August 2007 I	8/14/2007	08:45	900 *U*	900 *U*	0.4 *U*	0.3 *U*	0.013 *U*	0.009 *U*	2470	2380	5.16 *J*	5.41 *J*
WQ-03	WQ3	K0707782	Integral	August 2007 II	8/27/2007	15:00	1110 *U*	900 *U*	0.6 *U*	0.2 *U*	0.005 *U*	0.004 *U*	3540	3550	4.1 *U*	7.39 *U*
WQ-03	WQ3	K0708240	Integral	September 2007 I	9/11/2007	08:15	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *UJ*	0.022 *UJ*	2250	2270	4.1 *U*	5.4 *U*
WQ-03	WQ3	K0710773	Integral	November 2007	11/13/2007	08:35	900 *U*	900 *U*	0.2 *U*	0.2 *U*	0.009 *U*	0.009 *U*	2280	2250	5.98 *U*	12.4 *U*
WQ-03	WQ3	K0802328	Integral	March 2008	3/14/2008	16:25	154 *J*	129 *J*	0.4 *U*	0.4 *U*	0.036 *UJ*	0.007 *UJ*	2650	2410	4.1 *U*	3.4 *U*
WQ-03	WQ3	K0804080	Integral	May 2008	5/8/2008	14:15	135 *J*	217 *J*	0.4 *U*	0.4 *U*	0.074 *UJ*	0.019 *UJ*	2910	2700	1.2 *U*	4.1 *U*
WQ-03	WQ3	K0807967	Integral	August 2008	8/20/2008	11:00	97 *J*	94 *J*	0.4 *U*	0.4 *U*	0.011 *UJ*	0.009 *UJ*	2070	2130	0.63 *U*	2.35 *U*
WQ-03	WQ3	K0810253	Integral	October 2008	10/16/2008	9:10	131 *UJ*	65 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	1980	2300	1.95 *U*	1.28 *U*
WQ-03	WQ3	K0902142	Integral	March 2009	3/11/2009	10:00	100 *J*	119 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2450	2440	7.62 *U*	5.39 *U*
WQ-03	WQ3	K0904395	Integral	May 2009	5/14/2009	13:15	174 *J*	105 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2440	2200	5.49 *U*	1.73 *U*
WQ-03	WQ3	K0906701	Integral	July 2009	7/25/2009	11:35	110 *J*	119 *J*	0.2 *U*	0.2 *U*	0.004 *U*	0.004 *U*	2130	2150	1.01 *U*	0.62 *U*
WQ-03	WQ3	K0910115	Integral	October 2009	10/20/2009	07:35	105 *J*	111 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.007 *UJ*	2490	2370	0.27 *UJ*	0.33 *UJ*
WQ-03	WQ3	K1002122	Integral	March 2010	3/5/2010	11:00	113 *J*	125 *J*	0.3 *U*	0.3 *U*	0.006 *UJ*	0.004 *UJ*	2790	2810	0.78	0.86 *UJ*
WQ-03	WQ3	K1004034	Integral	April 2010	4/22/2010	16:10	138 *J*	151 *J*	0.3 *U*	0.3 *U*	0.01 *UJ*	0.006 *UJ*	2750	2810	0.81 *U*	1.71 *U*
WQ-03	WQ3	K1008752	Integral	August 2010	8/15/2010	12:40	93 *J*	73 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2640	2780	0.56 *U*	0.75 *U*
WQ-03	WQ3	K1014375	Integral	December 2010	12/27/2010	12:50	135 *UJ*	128 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2720	2620	0.22 *UJ*	0.32 *UJ*
WQ-03	WQ3	K1102183	Integral	March 2011	3/10/2011	11:40	156 *J*	136 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2940	2990	0.6 *U*	0.86 *U*
WQ14	WQ14	K0902142	Integral	March 2009	3/9/2009	15:45	156 *J*	123 *J*	0.4 *U*	0.4 *U*	0.009 *U*	0.009 *U*	2880	2980	3.47 *U*	3.4 *U*
WQ14	WQ14	K0904395	Integral	May 2009	5/14/2009	14:15	125 *J*	98 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2100	1930	4.47 *U*	3.18 *U*
WQ14	WQ14	K0906701	Integral	July 2009	7/25/2009	13:15	119 *J*	103 *J*	0.2 *U*	0.2 *U*	0.009 *UJ*	0.004 *U*	2500	2550	3.3 *U*	1.84 *U*
WQ14	WQ14	K0908796	Integral	September 2009 III	9/19/2009	12:30	115 *J*	124 *J*	0.2 *U*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	2510	2420	2.5 *U*	0.9 *U*
WQ14	WQ14	K0910115	Integral	October 2009	10/18/2009	09:10	140 *J*	142 *J*	0.3 *U*	0.3 *U*	0.015 *UJ*	0.004 *UJ*	2740	2720	0.2 *UJ*	0.4 *UJ*
WQ14	WQ14	K0910635	Integral	November 2009	11/1/2009	9:15	149 *J*	145 *J*	0.3 *UJ*	0.3 *UJ*	0.004 *UJ*	0.005 *UJ*	2840	2780	0.54 *UJ*	1.01 *UJ*
WQ14	WQ14	K1000085	Integral	December 2009 II	12/29/2009	09:50	148 *UJ*	146 *UJ*	0.3 *U*	0.3 *U*	0.017 *UJ*	0.006 *UJ*	3460	3340	0.33 *U*	0.5 *U*
WQ14	WQ14	K1000512	Integral	January 2010	1/17/2010	12:00	186 *J*	166 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3870	3930	1.45 *U*	1.31 *U*
WQ14	WQ14	K1001408	Integral	February 2010	2/12/2010	11:45	117 *J*	91 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	2730	2490	0.75 *U*	0.62 *U*
WQ14	WQ14	K1002122	Integral	March 2010	3/5/2010	11:45	210 *J*	166 *J*	0.3 *U*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	4180	4140	1.36	0.33 *UJ*
WQ14	WQ14	K1004034	Integral	April 2010	4/21/2010	14:30	236 *J*	249 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	5400	5460	0.48 *UJ*	0.68 *U*
WQ14	WQ14	K1005179	Integral	May 2010	5/18/2010	15:00	134 *J*	141 *J*	0.3 *U*	0.4 *J*	0.006 *UJ*	0.004 *UJ*	3520 *J*	3500 *J*	0.64 *U*	0.5 *UJ*
WQ14	WQ14	K1006773	Integral	June 2010	6/29/2010	10:25	244 *J*	274 *J*	0.3 *UJ*	0.3 *UJ*	0.006 *J*	0.004 *U*	6850	6690	6 *U*	1.4 *U*
WQ14	WQ14	K1007431	Integral	July 2010	7/14/2010	13:35	154 *J*	157 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3560	3530	0.86 *U*	0.72 *U*
WQ14	WQ14	K1008752	Integral	August 2010	8/14/2010	13:00	148 *J*	69 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3910	3980	0.63 *U*	0.38 *U*
WQ14	WQ14	K1009889	Integral	September 2010	9/7/2010	12:10	121 *J*	120 *J*	0.3 *U*	0.3 *J*	0.004 *UJ*	0.004 *UJ*	3120	3080	1.04 *U*	0.5 *UJ*
WQ14	WQ14	K1011737	Integral	October 2010	10/18/2010	10:50	132 *J*	157 *J*	0.4 *J*	0.3 *U*	0.042	0.019 *J*	3920	3620	0.5 *U*	0.4 *U*
WQ14	WQ14	K1014375	Integral	December 2010	12/26/2010	11:45	155 *UJ*	152 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3240	3380	0.29 *UJ*	0.95 *U*
WQ14	WQ14	K1100726	Integral	January 2011	1/19/2011	11:30	154 *J*	158 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3430	3540	0.21 *UJ*	0.23 *UJ*
WQ14	WQ14	K1101112	Integral	February 2011	2/8/2011	16:10	155 *J*	162 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3600	3550	0.56 *U*	1.3 *U*
WQ14	WQ14	K1102183	Integral	March 2011	3/9/2011	15:20	165 *J*	170 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3320	3410	0.93 *U*	1.49 *U*
WQ14	WQ14	K1103545	Integral	April 2011	4/21/2011	16:00	173 *UJ*	161 *UJ*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	3050	2910	0.2 *U*	0.8 *U*
WQ14	WQ14	K1104448	Integral	May 2011	5/17/2011	14:00	106 *UJ*	109 *UJ*	0.3 *U*	0.3 *U*	0.01 *UJ*	0.004 *UJ*	2170	2180	1.07 *U*	0.3 *UJ*
WQ14	WQ14	K1105280	Integral	June 2011	6/8/2011	17:10	116 *J*	101 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2230	2190	1.16 *U*	0.2 *U*
WQ14	WQ14	K1106351	Integral	July 2011	7/12/2011	11:30	145 *J*	124 *J*	0.3 *U*	0.3 *J*	0.004 *UJ*	0.004 *UJ*	3140	3270	0.42 *U*	0.28 *UJ*
WQ14	WQ14	K1107897	Integral	August 2011	8/24/2011	8:40	87 *J*	105 *J*	0.3 *U*	0.3 *U*	0.005 *UJ*	0.004 *UJ*	1830	2080	0.51	6.18
WQ14	WQ14	K1203282	Integral	April 2012	4/6/2012	13:30	207 *J*	196 *J*	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	4300	4450	0.23 *UJ*	0.38 *UJ*

Notes:

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

Data Qualifiers:

J = The analyte was positively identified; the associated n
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sa
R = Rejected.

Table B-1d. Water Quality Analytical Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
EFF1	EFF1	K0710773	Integral	November 2007	11/13/2007	14:40	66 *J*	56	38	12	42	4	3.9	0.42	1.32	--	--
EFF1	EFF1	K0711891	Integral	December 2007 I	12/16/2007	10:45	139 *J*	117	81	9	70	4.2	15.2	2.39	5.22	--	--
EFF1	EFF1	K0800335	Integral	January 2008	1/9/2008	07:45	117 *J*	113	60	5 *U*	40	4.7	14.5	2.62	5.66	--	--
EFF1	EFF1	K0801400	Integral	Februrary 2008	2/13/2008	13:20	121 *J*	113	60	40	48	4.7	20.5	3.03	3.26	--	--
EFF1	EFF1	K0802328	Integral	March 2008	3/17/2008	7:00	155 *J*	106 *U*	101	422	108	3.6	24	1.9	3.95 *U*	--	--
EFF1	EFF1	K0803239	Integral	April 2008	4/15/2008	8:30	147 *J*	112	57 *U*	30	63	4.1	25.3	1.61	5.42	--	--
EFF1	EFF1	K0804080	Integral	May 2008	5/8/2008	11:45	146 *J*	102	56 *U*	45	50	3.7	23.7	2.41	7.37	--	--
EFF1	EFF1	K0805877	Integral	June 2008	6/27/2008	15:15	211 *J*	185	73	98	51	3.7	31	5.59	17.2	--	--
EFF1	EFF1	K0806880	Integral	July 2008	7/25/2008	10:00	142 *J*	113	108	70	71	2.9	22.3	1.44	5.09	--	--
EFF1	EFF1	K0807975	Integral	August 2008	8/19/2008	16:30	127 *J*	91	100	105	74	2.7	25.2	0.65	2.71	--	--
EFF1	EFF1	K0808787	Integral	September 2008	9/9/2008	15:30	148 *J*	173	120	13	76	2.8	45	0.4	1.01	--	--
EFF1	EFF1	K0810253	Integral	October 2008	10/15/2008	14:30	125 *J*	131	101	5 *U*	64	2.7	33.8	0.14 *UJ*	1.37	--	--
EFF1	EFF1	K0902142	Integral	March 2009	3/9/2009	14:00	98 *J*	97	76	5 *U*	70	2.8	16.1	0.02 *U*	0.16	--	--
EFF1	EFF1	K0904395	Integral	May 2009	5/14/2009	10:20	106 *J*	106	83	5 *U*	76	3.2	18.4	0.031 *UJ*	0.15	--	--
EFF1	EFF1	K0906701	Integral	July 2009	7/23/2009	11:50	100 *J*	107	80	5 *U*	71	2.7	19.1	0.02 *UJ*	0.11	--	--
EFF1	EFF1	K0910233	Integral	October 2009	10/18/2009	10:40	93 *J*	108	84	16	71.2	2.91	10.6	0.022 *J*	0.038 *J*	--	--
EFF1	EFF1	K1000512	Integral	January 2010	1/16/2010	10:00	93 *J*	34 *UJ*	80	19.5	70.2	3.37	13.5	0.009 *UJ*	0.017 *J*	--	--
EFF1	EFF1	K1004032	Integral	April 2010	4/21/2010	11:00	106 *J*	101	86	22	80.1	4.01	16.3	0.153	0.072 *UJ*	--	--
EFF1	EFF1	K1007431	Integral	July 2010	7/14/2010	08:30	122 *J*	63	103	13	80.5	3.51	20.8	0.009 *UJ*	0.069 *UJ*	--	--
EFF1	EFF1	K1008751	Integral	August 2010	8/11/2010	06:15	126 *J*	103	101	17	82	3.72	30	0.041 *UJ*	0.085 *UJ*	--	--
EFF1	EFF1	K1011739	Integral	October 2010	10/18/2010	15:30	105 *J*	94	86.4	100	70.5	4.59	21.2	--	0.014 *J*	--	--
EFF1	EFF1	K1100642	Integral	January 2011	1/19/2011	14:35	113 *J*	112	98.4	114	72.8	7.43	19.8	--	0.046 *J*	--	--
EFF1	EFF1	K1103541	Integral	April 2011	4/21/2011	11:30	106 *J*	144	87.2	18	76	4.41	17.2	--	0.062 *UJ*	--	--
EFF1	EFF1	K1106862	Integral	July 2011 II	7/24/2011	10:15	72 *J*	90	70	26.5	31	3.69	18	0.009 *UJ*	0.041 *UJ*	--	--
EFF1	EFF1	K1108476/K1108477	Integral	September 2011	9/7/2011	8:20	102 *J*	88	81.6	27	62.7	3.37	23.6	0.017 *UJ*	0.022 *J*	--	--
EFF1	EFF1	K1109861	Integral	October 2011	10/11/2011		105 *J*	81	82.8	11	71.4	4.19	20.1	0.045 *UJ*	0.104	--	--
EFF1	EFF1	K1112358	Integral	December 2011	12/21/2011	10:00	98 *J*	149	80	5 *U*	67	3.22	19 *J*	0.112 *U*	0.047 *UJ*	--	--
EFF1	EFF1	K1200245	Integral	January 2012	1/8/2012	10:00	92 *J*	99	73.6	5 *U*	60.4	5.01	18	0.009 *U*	0.042 *J*	--	--
EFF1	EFF1	K1203283	Integral	April 2012	4/6/2012	11:50	99 *J*	121	83.6	2.9 *U*	67.6	4.59	18.5	0.009 *U*	0.037 *J*	--	--
EFF1	EFF1	K1207121	Integral	July 2012	7/22/2012	9:40	102 *J*	98	88.4	5 *U*	72.2	3.31	18.4	0.009 *U*	0.034 *J*	--	--
EFF1	EFF1	K1210890	Integral	October 2012	10/28/2012	15:25	107 *J*	99 *J*	90.8	5 *U*	74.6	3.8	20.4	0.009 *U*	0.035 *J*	--	--
HW-1	HW-1	K0806879	Integral	July 2008	7/25/2008	14:45	--	--	199	--	140	--	97.4	--	22.8	--	--
HW-1	HW-1	K0807974	Integral	August 2008	8/19/2008	15:50	488 *J*	584	344	--	72	--	281	--	2.76	--	--
HW-1	HW-1	K0808787	Integral	September 2008	9/9/2008	16:50	326 *J*	335	260	--	85	--	172	--	1.21	--	--
HW-1	HW-1	K0810253	Integral	October 2008	10/15/2008	17:45	324 *J*	416	256	--	88	--	174	--	0.82	--	--
HW-1	HW-1	K0906701	Integral	July 2009	7/25/2009	9:30	318 *J*	356	230	5 *U*	70	1.4	182	0.013 *UJ*	0.009 *U*	--	--
HW-1	HW-1	K0910115	Integral	October 2009	10/18/2009	14:15	183 *J*	230	142	5 *U*	66.4	3.21	78	0.018 *UJ*	0.032 *J*	--	--
HW-1	HW-1	K0910640	Integral	November 2009	10/31/2009	09:30	105 *J*	110	90	5 *U*	57.2	6.46	23.9	0.05	0.019 *UJ*	--	--
HW-1	HW-1	K0912614	Integral	December 2009 II	12/29/2009	12:10	121 *J*	140	102	5 *U*	87.6	7.11	18.6	0.011 *J*	0.134	--	--
HW-1	HW-1	K1000512	Integral	January 2010	1/16/2010	11:10	106 *J*	120 *UJ*	86.4	5 *U*	78.2	5.05	14.4	0.116 *UJ*	0.005 *U*	--	--
HW-1	HW-1	K1001411	Integral	February 2010	2/12/2010	16:30	114 *J*	113	91.6	5 *U*	78.4	2.35	21.5	0.009 *UJ*	0.009 *U*	--	--
HW-1	HW-1	K1002121	Integral	March 2010	3/5/2010	13:40	--	--	--	--	--	--	29.5	--	--	--	--
HW-1	HW-1	K1005182	Integral	May 2010	5/18/2010	09:50	302 *J*	315	230	5 *U*	57.6	1.78	174	0.022 *UJ*	0.037 *UJ*	--	--
HW-1	HW-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:15	274 *J*	225	210	5 *U*	61.9	0.47	150	0.009 *UJ*	0.021 *UJ*	--	--
HW-1	HW-1	K1009890	Integral	September 2010	9/7/2010	10:35	179 *J*	189	154	5 *U*	59.7	0.5	85	0.009 *UJ*	0.009 *UJ*	--	--
HW-1	HW-1	K1011739	Integral	October 2010	10/18/2010	15:00	105 *J*	114	78.4	5 *U*	70	10.4	15.7	--	0.009 *U*	--	--
HW-1	HW-1	K1014374	Integral	December 2010	12/27/2010	10:20	94 *J*	263	87.8	5 *U*	70	3.84	11.6	--	0.009 *U*	--	--
HW-1	HW-1	K1103541	Integral	April 2011	4/21/2011	10:10	128 *J*	118	108	5 *U*	72.2	2.25	35.3	--	0.009 *UJ*	--	--
HW-1	HW-1	K1106865	Integral	July 2011 II	7/24/2011	11:45	550 *J*	524	346	5 *U*	49	1.03	377	0.009 *UJ*	0.02 *UJ*	--	--
HW-1	HW-1	K1108477	Integral	September 2011	9/7/2011	10:15	71 *J*	44	62	5 *U*	56	0.43 *J*	9.9	0.048 *UJ*	0.009 *U*	--	--
HW-1	HW-1	K1111032	Integral	November 2011	11/10/2011	12:50	101 *J*	100	85.2	5 *U*	75.6	1.99	17.1	0.023 *UJ*	0.037 *J*	--	--
HW-1	HW-1	K1200245	Integral	January 2012	1/8/2012	11:30	88 *J*	37	72.8	5 *U*	70.2	4.92	6.66	0.148	0.009 *U*	--	--
HW-1	HW-1	K1203283	Integral	April 2012	4/6/2012	11:05	120 *J*	140	100	2.9 *U*	70.2	16.2	16.7	0.009 *U*	0.011 *J*	--	--
HW-1	HW-1	K1207121	Integral	July 2012	7/22/2012	8:05	244 *J*	254	198	5 *U*	50.2	0.35 *J*	138	0.009 *U*	0.009 *U*	--	--
LO-1	LO-1	K0806879	Integral	July 2008	7/25/2008	14:10	--	--	156	--	120	--	153	--	192	--	--
LO-1	LO-1	K0807974	Integral	August 2008	8/19/2008	15:40	641 *J*	587	233	--	82	--	264	--	32.1	--	--
LO-1	LO-1	K0808787	Integral	September 2008	9/9/2008	16:40	578 *J*	582	240	--	84	--	245	--	25.8	--	--
LO-1	LO-1	K0810253	Integral	October 2008	10/15/2008	17:40	580 *J*	591	228	--	13	--	247	--	37.4	--	--
LO-1	LO-1	K0904395	Integral	May 2009	5/14/2009	11:00	216 *J*	221	180	5 *U*	110	3.3	71.9	0.035 *UJ*	0.07	--	--
LO-1	LO-1	K0910640	Integral	November 2009	10/31/2009	09:20	317 *J*	236	185	5 *U*	99.6	2.63	170	0.028 *J*	0.012 *UJ*	--	--
LO-1	LO-1	K0912614	Integral	December 2009 II	12/29/2009	12:00	93 *J*	95	70.4	5 *U*	48.2	6.91	18.8	0.035 *J*	0.019 *J*	--	--
LO-1	LO-1	K1000512	Integral	January 2010	1/16/2010	11:00	175 *J*	146	124	5 *U*	80.8	6.3	63.7	0.036 *UJ*	0.012 *J*	--	--
LO-1	LO-1	K1005182	Integral	May 2010	5/18/2010	09:40	195 *J*	194	147	5 *U*	66.6	2.24	86.8	0.025 *UJ*	0.043 *UJ*	--	--
LO-1	LO-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:00	220 *J*	169	174	5 *U*	70.9	0.84	104	0.009 *UJ*	0.037 *UJ*	--	--
LO-1	LO-1	K1009890	Integral	September 2010	9/7/2010	10:25	267 *J*	295	187	5	62	0.9	158	0.021 *UJ*	0.017 *UJ*	--	--
LO-1	LO-1	K1011739	Integral	October 2010	10/18/2010	14:45	130 *J*	136	97.2	5 *U*	60	9.98	37.9	--	0.009 *U*	--	--

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
LO-1	LO-1	K1014374	Integral	December 2010	12/27/2010	10:10	102 *J*	291	93.6	5 *U*	68.4	3.81	19.7	--	0.014 *J*	--	--
LO-1	LO-1	K1103541	Integral	April 2011	4/21/2011	09:55	122 *J*	147	88	5 *U*	81	2.45	26	--	0.013 *UJ*	--	--
LO-1	LO-1	K1106865	Integral	July 2011 II	7/24/2011	11:25	259 *J*	284	192	5 *U*	59	0.96	142	0.009 *UJ*	0.018 *UJ*	--	--
LO-1	LO-1	K1108477	Integral	September 2011	9/7/2011	10:00	107 *J*	103	87.2	5 *U*	55.4	0.56	35	0.024 *UJ*	0.017 *J*	--	--
LO-1	LO-1	K1111032	Integral	November 2011	11/10/2011	12:28	103 *J*	95	79.2	5 *U*	70	5.25	18.9	0.026 *UJ*	0.018 *J*	--	--
LO-1	LO-1	K1200245	Integral	January 2012	1/8/2012	11:15	100 *J*	105	80	5 *U*	64.2	11.5	13.2	0.191	0.01 *J*	--	--
LO-1	LO-1	K1203283	Integral	April 2012	4/6/2012	10:50	112 *J*	131	95.2	2.9 *U*	74	8.03	19.4	0.112	0.009 *U*	--	--
LO-1	LO-1	K1207121	Integral	July 2012	7/22/2012	7:45	149 *J*	141	122	5 *U*	50	0.37 *J*	69.4	0.014 *UJ*	0.009 *U*	--	--
LO-2	LO-2	K0806879	Integral	July 2008	7/25/2008	14:30	--	--	6	--	208	--	98	--	161	--	--
LO-2	LO-2	K0807974	Integral	August 2008	8/19/2008	15:30	642 *J*	549	88	--	161	--	92	--	65.5	--	--
LO-2	LO-2	K0808787	Integral	September 2008	9/9/2008	16:30	380 *J*	333	108	--	128	--	76.5	--	28.7	--	--
LO-2	LO-2	K0810253	Integral	October 2008	10/15/2008	17:20	184 *J*	207	121	--	84	--	58.9	--	4.2	--	--
LO-2	LO-2	K0904395	Integral	May 2009	5/14/2009	11:15	159 *J*	164	138	5 *U*	98	3.1	43.4	0.041 *UJ*	0.013 *J*	--	--
LO-2	LO-2	K0910640	Integral	November 2009	10/31/2009	09:10	124 *J*	125	112	5 *U*	76.3	2.96	30	0.016 *J*	0.013 *UJ*	--	--
LO-2	LO-2	K0912614	Integral	December 2009 II	12/29/2009	11:45	98 *J*	103	77.6	5 *U*	67.4	9.88	14.5	0.009 *U*	0.028 *J*	--	--
LO-2	LO-2	K1005182	Integral	May 2010	5/18/2010	09:30	149 *J*	155	117	5 *U*	64.6	1.78	58.4	0.115 *UJ*	0.032 *UJ*	--	--
LO-2	LO-2	K1007431/K1007635	Integral	July 2010	7/14/2010	09:45	124 *J*	117	104	5 *U*	66	0.68	40.3	0.018 *UJ*	0.031 *UJ*	--	--
LO-2	LO-2	K1009890	Integral	September 2010	9/7/2010	10:15	115 *J*	149	100	5 *U*	57.5	0.66	43	0.01 *UJ*	0.009 *UJ*	--	--
LO-2	LO-2	K1011739	Integral	October 2010	10/18/2010	14:25	102 *J*	98	73.2	5 *U*	71.8	14.3	7.93	--	0.009 *U*	--	--
LO-2	LO-2	K1014374	Integral	December 2010	12/27/2010	9:55	95 *J*	181	86.1	5 *U*	76	4.72	9.23	--	0.009 *U*	--	--
LO-2	LO-2	K1103541	Integral	April 2011	4/21/2011	09:40	95 *J*	89	78.4	5 *U*	74	2.02	11.6	--	0.013 *UJ*	--	--
LO-2	LO-2	K1106865	Integral	July 2011 II	7/24/2011	11:15	169 *J*	183	132	5 *U*	60	1.2	75.3	0.009 *UJ*	0.02 *UJ*	--	--
LO-2	LO-2	K1108477	Integral	September 2011	9/7/2011	9:45	63 *J*	37	58	5 *U*	50.9	0.56	7.94	0.016 *UJ*	0.013 *J*	--	--
LO-2	LO-2	K1111032	Integral	November 2011	11/10/2011	12:10	84 *J*	87	73.2	5 *U*	69	4.64	5.95	0.048 *UJ*	0.013 *J*	--	--
LO-2	LO-2	K1200245	Integral	January 2012	1/8/2012	11:00	82 *J*	67	65.6	5 *U*	69.4	4.65	4.6	0.009 *U*	0.009 *U*	--	--
LO-2	LO-2	K1203283	Integral	April 2012	4/6/2012	10:35	100 *J*	118	86.8	2.9 *U*	69.8	14.8	6.34	0.03 *UJ*	0.009 *U*	--	--
LO-2	LO-2	K1207121	Integral	July 2012	7/22/2012	7:25	109 *J*	92	98.8	5 *U*	52.2	0.33 *J*	39.1	0.019 *UJ*	0.014 *J*	--	--
PAG	PAG	K0807974	Integral	August 2008	8/19/2008	16:15	1049 *J*	952	384	--	78	--	409	--	73.3	--	--
PAG	PAG	K0808787	Integral	September 2008	9/9/2008	16:05	643 *J*	695	362	--	67	--	267	--	34.9	--	--
PAG	PAG	K0810253	Integral	October 2008	10/15/2008	17:00	350 *J*	383	250	--	55	--	164	--	10.4	--	--
PAG	PAG	K0903584	Integral	March 2009	4/21/2009		185 *J*	225	148	5 *U*	48	2.1	92.2	0.047 *J*	1.42 *UJ*	--	--
PAG	PAG	K0904619	Integral	May 2009	5/21/2009		335 *J*	351	243	5 *U*	68	1.9	194	0.03 *J*	2.06 *UJ*	--	--
PAG	PAG	K0905553	Integral	June 2009	6/19/2009		316 *J*	324	212	9	52	1.3	190	0.07 *UJ*	0.75	--	--
PAG	PAG	K0906701	Integral	July 2009	7/25/2009	9:00	524 *J*	539	360	6	50	1.5	334	0.018 *UJ*	2.02	--	--
PAG	PAG	K0908166	Integral	August 2009	8/31/2009	09:15	351 *J*	387	254	5 *U*	48	1.8	210	0.06 *UJ*	0.98	--	--
PAG	PAG	K0908619	Integral	September 2009 II	9/13/2009	13:30	285 *J*	323	190	5 *U*	53.2	2.5	163	0.013 *UJ*	0.511	--	--
PAG	PAG	K0910115	Integral	October 2009	10/18/2009	12:10	240 *J*	268	165	5 *U*	53.4	2.23	126	0.027 *UJ*	0.43	--	--
PAG	PAG	K0910640	Integral	November 2009	10/31/2009	08:45	126 *J*	104	99.6	5 *U*	49.6	4.29	48.4	0.012 *J*	0.145	--	--
PAG	PAG	K0912614	Integral	December 2009 II	12/29/2009	12:40	148 *J*	172	114	5 *U*	54.7	6.25	57.2	0.009 *U*	0.192	--	--
PAG	PAG	K1000512	Integral	January 2010	1/16/2010	10:30	132 *J*	97 *UJ*	103	5 *U*	56.2	5.41	47.3	0.009 *UJ*	0.065	--	--
PAG	PAG	K1001411	Integral	February 2010	2/12/2010	16:00	100 *J*	123	91.2	5 *U*	56.6	2.68	20.3	0.012 *UJ*	0.111	--	--
PAG	PAG	K1002121	Integral	March 2010	3/5/2010	14:00	137	137	106	5 *U*	58.4	7.29	45.3	0.016 *UJ*	0.095	--	--
PAG	PAG	K1004032	Integral	April 2010	4/21/2010	10:30	170 *J*	160	115	5 *U*	56.2	8.19	71.4	0.013 *J*	0.13	--	--
PAG	PAG	K1005179	Integral	May 2010	5/18/2010	10:25	194 *J*	204	132	5 *U*	47.2	3.11	95	0.024 *UJ*	0.086 *UJ*	--	--
PAG	PAG	K1006773	Integral	June 2010	6/29/2010	13:30	286 *J*	400	187	5	42.6	2.21	172	0.027 *UJ*	0.116 *UJ*	--	--
PAG	PAG	K1007431/K1007635	Integral	July 2010	7/14/2010	09:15	319 *J*	285	227	5 *U*	45.1	1.69	192	0.009 *UJ*	0.041 *UJ*	--	--
PAG	PAG	K1008755	Integral	August 2010	8/11/2010	06:00	463 *J*	381	297	6.7 *U*	41.9	1.25	309	0.046 *UJ*	0.065 *UJ*	--	--
PAG	PAG	K1009890	Integral	September 2010	9/7/2010	09:50	312 *J*	305	240	5 *U*	44.8	0.63	194	0.017 *UJ*	0.168 *UJ*	--	--
PAG	PAG	K1011739	Integral	October 2010	10/18/2010	14:00	131 *J*	139	98	5 *U*	51	6.63	50.2	--	0.035 *J*	--	--
PAG	PAG	K1012347	Integral	November 2010	11/2/2010	13:30	170 *J*	242	136	5 *U*	50.6	9.48	72.8	--	0.087	--	--
PAG	PAG	K1014375	Integral	December 2010	12/27/2010	9:30	122 *J*	323	109	5 *U*	50.4	3.49	41.5	0.032 *UJ*	0.04 *J*	--	--
PAG	PAG	K1100726	Integral	January 2011	1/19/2011	14:00	189 *J*	208	134	5 *U*	68.7	5.39	68.8	0.016 *UJ*	0.05	--	--
PAG	PAG2	K1100726	Integral	January 2011	1/20/2011	13:41	102 *J*	89	82.4	5 *U*	39.8	2.53	35	0.031 *UJ*	0.061	--	--
PAG	PAG	K1101112	Integral	February 2011	2/9/2011	7:35	116 *J*	92	90.7	5 *U*	48.2	3.61	36.3	0.036 *UJ*	0.049 *J*	--	--
PAG	PAG	K1103541	Integral	April 2011	4/21/2011	09:00	151 *J*	150	118	5 *U*	60.6	2.83	59.1	--	0.04 *UJ*	--	--
PAG	PAG	K1104448	Integral	May 2011	5/17/2011	17:40	160 *J*	191	118	5 *U*	49	3.4	69.3	--	0.039 *UJ*	--	--
PAG	PAG	K1105280	Integral	June 2011	6/8/2011	13:10	243 *J*	265	175	244	54	3.4	125	0.01 *UJ*	0.009 *U*	--	--
PAG	PAG	K1106351	Integral	July 2011	7/12/2011	14:40	453 *J*	456	317	5 *U*	44	2.05	284	0.023 *UJ*	0.009 *U*	--	--
PAG	PAG	K1107897	Integral	August 2011	8/23/2011	11:10	191 *J*	170	141	5 *U*	46	0.43	94.7	0.023 *UJ*	0.143	--	--
PAG	PAG	K1108477	Integral	September 2011	9/7/2011	9:15	151 *J*	149	119	5 *U*	48.4	0.68	71.4	0.017 *UJ*	0.074	--	--
PAG	PAG	K1109861	Integral	October 2011	10/11/2011		159 *J*	168	111	5 *U*	46.5	5.78	72.6	0.035 *UJ*	0.073	--	--
PAG	PAG	K1111032	Integral	November 2011	11/10/2011	13:25	140 *J*	169	114	5 *U*	49.8	3.42	57.6	0.035 *UJ*	0.067	--	--
PAG	PAG	K1112358	Integral	December 2011	12/21/2011	9:35	135 *J*	209	106	28.5	54.4	1.58	55.4 *J*	0.035 *UJ*	0.067 *UJ*	--	--
PAG	PAG	K1200245	Integral	January 2012	1/8/2012	10:30	101 *J*	107	76	5 *U*	54.2	7.27	24.9	0.009 *U*	0.031 *J*	--	--
PAG	PAG	K1201605	Integral	February 2012	2/21/2012		119 *J*	128	92.8	2.9 *U*	54.2	2.19	42.4	0.027 *UJ*	0.079 *U*	--	--
PAG	PAG	K1202763	Integral	March 2012	3/27/2012		--	--	88.4	--	48	4.87	35.9	0.021 *UJ*	0.076	--	--
PAG	PAG	K1203283	Integral	April 2012	4/6/2012	11:30	126 *J*	151	101	2.9 *U*	56	7.57	40.1	0.013 *UJ*	0.046 *J*	--	--

							Calculated Test	Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS_{calc} (mg/L)	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
PAG	PAG	K1207121	Integral	July 2012	7/22/2012	8:45	242 *J*	262	190	5 *U*	43.2	0.65	136	0.017 *UJ*	0.065	--	--
PAG	PAG	K1210890	Integral	October 2012	10/28/2012	15:00	229 *J*	245 *J*	178	5 *U*	49.2	2.1	125	0.009 *U*	0.063	--	--
PORTAL	PORTAL	L515743	Knight Piesold	June 2007	6/5/2007	08:00	101	88	86.5	13.3	71.7	3.73	9.65	0.005 *U*	--	0.0522	0.001 *U*
PORTAL	PORTAL	L526591	Knight Piesold	July 2007 I	7/1/2007	16:00	101	103	84	3 *U*	75.5	3.4	9.41	0.005 *U*	--	0.0542	0.001 *U*
PORTAL	PORTAL	K0706569	Integral	July 2007 II	7/23/2007	15:45	96	114	76	5 *U*	72	3	9.3	0.03 *U*	0.05	--	--
PORTAL	PORTAL	K0707317	Integral	August 2007 I	8/13/2007	14:50	94 *J*	102	81	5 *U*	69	3	9.5	0.006 *U*	0.047 *J*	--	--
PORTAL	PORTAL	K0707782	Integral	August 2007 II	8/28/2007	11:00	93 *J*	103	83	5 *U*	71	3	9.6	0.006 *U*	0.034 *J*	--	--
PORTAL	PORTAL	K0709126	Integral	September 2007 II	9/30/2007	07:15	95 *J*	105	99	5 *U*	70	2.8	9.2	0.02 *U*	0.037 *J*	--	--
PORTAL	PORTAL+150	K0709804	Integral	October 2007	10/16/2007	07:00	96	60	77	5 *U*	70	3	10.1	0.01 *UJ*	0.05	--	--
PORTAL	Portal + 488	K0711443	Integral	December 2007 (Portal only)	12/4/2007		156 *J*	135	139	5 *U*	84	2.7	27.1	0.02 *UJ*	0.034 *J*	--	--
PORTAL	Portal + 400	K0800335	Integral	January 2008	1/8/2008	10:50	97 *J*	89	87	5 *U*	68	3.3	11.4	0.02 *UJ*	0.006 *U*	--	--
PORTAL	Portal + 400	K0801400	Integral	Februrary 2008	2/14/2008	7:22	97 *J*	102	86	5 *U*	69	3.4	9.9	0.02 *J*	0.07 *UJ*	--	--
PORTAL	Portal + 400	K0802328	Integral	March 2008	3/14/2008	7:15	97 *J*	99 *U*	93	5 *U*	75	2.9	8.4	0.07 *UJ*	0.09 *U*	--	--
PORTAL	Portal + 400	K0803239	Integral	April 2008	4/14/2008	19:00	98 *J*	83	105	30	79	2.9	7.9	0.04 *UJ*	0.04 *U*	--	--
PORTAL	Portal + 400	K0804080	Integral	May 2008	5/8/2008	13:45	101 *J*	76	92	5 *U*	78	3	7.9	0.04 *UJ*	0.05	--	--
PORTAL	Portal + 400	K0805877	Integral	June 2008	6/27/2008	21:00	97 *J*	90	80	5 *U*	72	3.4	9.2	0.06 *UJ*	0.08	--	--
PORTAL	Portal + 400	K0806880	Integral	July 2008	7/25/2008	11:50	94 *J*	109	83	9	74	2.9	7.9	0.03 *UJ*	0.06	--	--
PORTAL	Portal + 2500	K0806880	Integral	July 2008	7/25/2008	11:30	76 *J*	88	68	5 *U*	50	2.6	12.8	0.03 *UJ*	0.026 *J*	--	--
PORTAL	Portal + 2775	K0806880	Integral	July 2008	7/25/2008	14:30	600 *J*	549	340	328	43	4.4	400	0.02 *UJ*	0.06	--	--
PORTAL	Portal + 400	K0807967	Integral	August 2008	8/19/2008	13:20	90 *J*	86	80	5 *U*	75	3	8.1	0.02 *UJ*	0.044 *UJ*	--	--
PORTAL	Portal + 2500	K0807967	Integral	August 2008	8/19/2008	13:30	98 *J*	90	84	5 *U*	80	2.7	12.1	0.02 *UJ*	0.006 *UJ*	--	--
PORTAL	Portal + 2775	K0807967	Integral	August 2008	8/19/2008	13:40	413 *J*	432	232	5 *U*	48	4.1	255	0.06 *UJ*	0.005 *UJ*	--	--
PORTAL	Portal + 2500	K0808787	Integral	September 2008	9/9/2008	18:11	104 *J*	76	85	5 *U*	99	2.7	8.4	0.03 *J*	0.016 *UJ*	--	--
PORTAL	Portal + 2775	K0808787	Integral	September 2008	9/9/2008		320 *J*	314	187	5 *U*	68	3.4	177	0.03 *J*	0.015 *UJ*	--	--
PORTAL	Portal + 400	K0810253	Integral	October 2008	10/16/2008	10:40	90 *J*	129	84	9	74	3.2	8.1	0.04 *UJ*	0.07	--	--
PORTAL	Portal + 2500	K0810253	Integral	October 2008	10/16/2008	11:05	85 *J*	99	82	5 *U*	62	2.9	11.4	0.04 *UJ*	0.014 *J*	--	--
PORTAL	Portal + 2775	K0810253	Integral	October 2008	10/16/2008	11:10	231 *J*	249	144	5 *U*	75	3.6	101	0.02 *UJ*	0.005 *U*	--	--
PORTAL	Portal DSCG	K0906701	Integral	July 2009	7/23/2009	10:50	101 *J*	98	80	5 *U*	76	2.9	16.5	0.009 *U*	0.13	--	--
PORTAL	Portal + 400	K1008755	Integral	August 2010	8/11/2010	21:00	91 *J*	89	82.8	5	75.8	3.3	7.04	0.036 *UJ*	0.13 *UJ*	--	--
PORTAL	Portal Drift	K1109861	Integral	October 2011	10/11/2011		100 *J*	115	85.6	30.5	69.8	4	16.6	0.092 *U*	0.05 *J*	--	--
PORTAL	Drift	K1207121	Integral	July 2012	7/22/2012	9:10	95 *J*	102	84.8	5 *U*	74.4	3.33	11	0.009 *U*	0.044 *J*	--	--
PORTAL	Drift	K1210890	Integral	October 2012	10/28/2012	15:50	101 *J*	97 *J*	86.8	5 *U*	77.4	3.76	13.2	0.009 *U*	0.054	--	--

Notes:

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

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 = Rejected.

Table B-1d. Water Quality Analytical Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
EFF1	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	7.31	6.8	3.55
EFF1	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	17.7	17.7	3.7 *J*
EFF1	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	15.5	16.5	2.4
EFF1	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	15.8	12.9	6.3
EFF1	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	37.5	32.6	12.8
EFF1	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	35.3	33.4	9.55
EFF1	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	29.1	25.6	8.12
EFF1	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	17.9	11.6	16.6 *J*
EFF1	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	7.42	2.15	27
EFF1	EFF1	K0807975	Integral	August 2008	8/19/2008	16:30	2980	48.2	1.26	0.75	0.292	0.042 *UJ*	32100	30300	4.91	1 *U*	37.4
EFF1	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	1.85	1.08	4.45 *J*
EFF1	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	1.02	0.73	3.08
EFF1	EFF1	K0902142	Integral	March 2009	3/9/2009	14:00	48	49.1	1.1	1	0.197	0.197	27900	28300	1.34	1.3	7.53
EFF1	EFF1	K0904395	Integral	May 2009	5/14/2009	10:20	42.2	39	1.1	1.1	0.217	0.214	29800	29400	1.07	1.15	7.41
EFF1	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	1.22	0.99	7.4
EFF1	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	--	--	4.03
EFF1	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	--	--	13.1
EFF1	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*	--	--	3.8 *J*
EFF1	EFF1	K1007431	Integral	July 2010	7/14/2010	08:30	557	24.9	0.72	0.57	0.024	0.009 *J*	31200	31100	2.1	0.53 *UJ*	3.78
EFF1	EFF1	K1008751	Integral	August 2010	8/11/2010	06:15	562	37.9	0.76	0.69	0.045	0.029	33100	32300	2.11	0.44 *UJ*	4.38
EFF1	EFF1	K1011739	Integral	October 2010	10/18/2010	15:30	1190	34.7	0.8	0.6	0.065	0.02 *J*	30000	27700	0.6 *U*	--	6.83
EFF1	EFF1	K1100642	Integral	January 2011	1/19/2011	14:35	1900	123	0.94	0.79	0.162	0.049	35000	31900	7.81	1.93	15
EFF1	EFF1	K1103541	Integral	April 2011	4/21/2011	11:30	331	37.4	0.94	0.83	0.062	0.019 *J*	31900	31400	--	--	4.99
EFF1	EFF1	K1106862	Integral	July 2011 II	7/24/2011	10:15	870	68	0.5	0.4 *J*	0.951	0.213	24500	24000	5.11	2.1	63.5
EFF1	EFF1	K1108476/K1108477	Integral	September 2011	9/7/2011	8:20	821	38.7	0.56	0.37 *J*	0.948	0.621	30200	29400	5.61	0.75	46.6
EFF1	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*	1.63 *J*	0.31 *UJ*	3.22
EFF1	EFF1	K1112358	Integral	December 2011	12/21/2011	10:00	53.1	18.7	1.11	1.2	0.064	0.059	28200	27500	0.77	0.73	2.23
EFF1	EFF1	K1200245	Integral	January 2012	1/8/2012	10:00	42.4	19.4	1.05	0.97	0.066 *J*	0.056 *J*	25400	25200	0.82	0.87	2.02
EFF1	EFF1	K1203283	Integral	April 2012	4/6/2012	11:50	42.6	19.5	1.18	1.14	0.062	0.057	26400	27100	0.7	0.68	2.04
EFF1	EFF1	K1207121	Integral	July 2012	7/22/2012	9:40	53	24.4	1.2	1.2	0.06	0.06	27800	27900	0.81	0.63	2.56
EFF1	EFF1	K1210890	Integral	October 2012	10/28/2012	15:25	43.1 *J*	18.1 *J*	1.2	1.2	0.096	0.089 *J*	29800	29400	0.67	0.52	2.79
HW-1	HW-1	K0806879	Integral	July 2008	7/25/2008	14:45	41.8	8.2 *UJ*	3.82	3.62	0.012 *UJ*	0.005 *UJ*	60000	60900	0.89	0.71	7.46
HW-1	HW-1	K0807974	Integral	August 2008	8/19/2008	15:50	33.3 *J*	8.8 *J*	7.2	6.29	0.028	0.029	126000	133000	0.54 *UJ*	0.55 *UJ*	3.44
HW-1	HW-1	K0808787	Integral	September 2008	9/9/2008	16:50	14.3 *UJ*	8.2 *UJ*	4.29	4.16	0.038 *UJ*	0.014 *U*	90200	85600	0.11 *J*	0.11 *J*	2 *J*
HW-1	HW-1	K0810253	Integral	October 2008	10/15/2008	17:45	6.2 *UJ*	5.2 *UJ*	3.13	3.18	0.01 *UJ*	0.01 *UJ*	86000	82000	0.11 *UJ*	0.35 *UJ*	1.66
HW-1	HW-1	K0906701	Integral	July 2009	7/25/2009	9:30	23.8 *J*	15.4 *J*	0.95	0.95	0.027	0.018 *UJ*	86100	82400	0.26 *UJ*	0.26 *UJ*	1.89
HW-1	HW-1	K0910115	Integral	October 2009	10/18/2009	14:15	42.5	25.7	0.57	0.6	0.015 *UJ*	0.011 *UJ*	53900	56300	--	--	1.88
HW-1	HW-1	K0910640	Integral	November 2009	10/31/2009	09:30	34.8	26.8	0.61	0.55	0.008 *UJ*	0.007 *UJ*	32100	34800	--	--	0.83
HW-1	HW-1	K0912614	Integral	December 2009 II	12/29/2009	12:10	23.8 *J*	11.8 *J*	0.51	0.48 *J*	0.018 *J*	0.015 *J*	37900	35200	--	--	1.12
HW-1	HW-1	K1000512	Integral	January 2010	1/16/2010	11:10	39.7	31.7	0.44 *J*	0.52	0.008 *J*	0.01 *J*	34000	33300	--	--	0.99
HW-1	HW-1	K1001411	Integral	February 2010	2/12/2010	16:30	34.6	23.7	0.36 *J*	0.33 *J*	0.007 *UJ*	0.005 *UJ*	39400	38600	--	--	0.8
HW-1	HW-1	K1002121	Integral	March 2010	3/5/2010	13:40	--	--	--	--	--	--	--	--	--	--	--
HW-1	HW-1	K1005182	Integral	May 2010	5/18/2010	09:50	30.4 *U*	24.3	0.61 *UJ*	0.49 *UJ*	0.014 *UJ*	0.014 *UJ*	85100	84500	--	--	1.94
HW-1	HW-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:15	32.5 *J*	27.4 *J*	0.62	0.6	0.014 *J*	0.016 *J*	79700	80800	--	--	1.88
HW-1	HW-1	K1009890	Integral	September 2010	9/7/2010	10:35	42.2 *R*	32.7 *R*	0.51	0.53	0.011 *UJ*	0.012 *UJ*	53000	54200	--	--	1.22
HW-1	HW-1	K1011739	Integral	October 2010	10/18/2010	15:00	49.5	42.2	0.4 *J*	0.4 *J*	0.014 *J*	0.006 *J*	31200	30000	--	--	0.59
HW-1	HW-1	K1014374	Integral	December 2010	12/27/2010	10:20	35.1	22.7	0.37 *J*	0.35 *J*	0.012 *UJ*	0.012 *UJ*	32400	33000	--	--	0.72
HW-1	HW-1	K1103541	Integral	April 2011	4/21/2011	10:10	22.8	20.6	0.3 *J*	0.31 *J*	0.01 *J*	0.01 *J*	43600	43600	--	--	0.78
HW-1	HW-1	K1106865	Integral	July 2011 II	7/24/2011	11:45	26.1	22.1	0.4 *J*	0.4 *J*	0.029 *UJ*	0.031 *UJ*	138000	136000	--	--	2.96
HW-1	HW-1	K1108477	Integral	September 2011	9/7/2011	10:15	79.2	74.4	0.63	0.44 *J*	0.099	0.017 *UJ*	25200	25000	0.4 *UJ*	0.37 *UJ*	0.71
HW-1	HW-1	K1111032	Integral	November 2011	11/10/2011	12:50	30.3	25.6	0.28 *J*	0.26 *J*	0.016 *UJ*	0.013 *UJ*	32600	33000	--	--	1.25
HW-1	HW-1	K1200245	Integral	January 2012	1/8/2012	11:30	37.7	31.1	0.18 *J*	0.16 *J*	0.022 *J*	0.009 *UJ*	27300	29000	--	--	0.46
HW-1	HW-1	K1203283	Integral	April 2012	4/6/2012	11:05	26.3	22.7	0.25 *UJ*	0.32 *UJ*	0.01 *UJ*	0.009 *UJ*	38900	39100	--	--	0.66
HW-1	HW-1	K1207121	Integral	July 2012	7/22/2012	8:05	39.6	32.9	0.33 *J*	0.3 *J*	0.03	0.02	74700	71800	--	--	1.24
LO-1	LO-1	K0806879	Integral	July 2008	7/25/2008	14:10	147	36.4	21.3	18.8	0.036 *UJ*	0.02 *UJ*	45600	43200	2.09	1.47	16.6
LO-1	LO-1	K0807974	Integral	August 2008	8/19/2008	15:40	60.9 *J*	15.2 *J*	6.33	5.94	0.117	0.1	72500	76800	0.73	0.53 *UJ*	4.89
LO-1	LO-1	K0808787	Integral	September 2008	9/9/2008	16:40	18.8 *UJ*	14.7 *UJ*	5.03	4.82	0.094	0.064 *U*	63300	70800	0.12 *J*	0.17 *J*	3.9 *J*
LO-1	LO-1	K0810253	Integral	October 2008	10/15/2008	17:40	7.2 *UJ*	4.6 *UJ*	3.19	3.22	0.1	0.086	68400	66500	0.22 *UJ*	0.15 *UJ*	3.71
LO-1	LO-1	K0904395	Integral	May 2009	5/14/2009	11:00	8.7 *UJ*	4.8 *UJ*	3.4	3.2	0.026	0.026	62400	60500	0.15 *UJ*	0.16 *UJ*	1.15
LO-1	LO-1	K0910640	Integral	November 2009	10/31/2009	09:20	5.6	3.5	2.06	1.99	0.046	0.027 *UJ*	62200	69000	--	--	0.8
LO-1	LO-1	K0912614	Integral	December 2009 II	12/29/2009	12:00	65.8 *J*	7.6 *J*	2.17	2.26	0.053	0.04	27000	29800	--	--	1.11
LO-1	LO-1	K1000512	Integral	January 2010	1/16/2010	11:00	19.5	7.1	2.19	2.24	0.03	0.028	45400	46300	--	--	0.84
LO-1	LO-1	K1005182	Integral	May 2010	5/18/2010	09:40	27.1 *U*	5.6 *UJ*	1.42	1.07	0.33	0.297	52000	56100	--	--	1.98
LO-1	LO-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:00	17.3 *J*	7.7 *J*	1.25	1.31	0.744	0.742	62800	63800	--	--	2.66
LO-1	LO-1	K1009890	Integral	September 2010	9/7/2010	10:25	27.4 *R*	9.3 *R*	1.09	1.02	1.3	1.22	63700	62300	--	--	3.04
LO-1	LO-1	K1011739	Integral	October 2010	10/18/2010	14:45	19.9	10.9	0.8	0.8	0.62	0.621	37500	37100	--	--	1.93

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
LO-1	LO-1	K1014374	Integral	December 2010	12/27/2010	10:10	28.4	6.3 *UJ*	0.66	0.67	0.765	0.765	28900	32000	--	--	2.79
LO-1	LO-1	K1103541	Integral	April 2011	4/21/2011	09:55	12.1	6 *UJ*	0.6	0.6	0.749	0.747	40100	40300	--	--	3.04
LO-1	LO-1	K1106865	Integral	July 2011 II	7/24/2011	11:25	47.1	34.2	0.8	0.7	2.18	2.08	74900	72700	--	--	5.29
LO-1	LO-1	K1108477	Integral	September 2011	9/7/2011	10:00	23.1	11.4	0.62	0.66	1.16	1.16	34800	34600	0.2 *UJ*	0.25 *UJ*	2.26
LO-1	LO-1	K1111032	Integral	November 2011	11/10/2011	12:28	9.5 *U*	7.3 *U*	0.37 *J*	0.36 *J*	1.1	1.04	30500	30800	--	--	1.79
LO-1	LO-1	K1200245	Integral	January 2012	1/8/2012	11:15	12.1	9	0.26 *J*	0.26 *J*	1.24 *J*	1.2 *J*	29500	29600	--	--	1.96
LO-1	LO-1	K1203283	Integral	April 2012	4/6/2012	10:50	7.5	4.8	0.36 *UJ*	0.4 *UJ*	1.44	1.44	36900	34600	--	--	2.93
LO-1	LO-1	K1207121	Integral	July 2012	7/22/2012	7:45	14.2	8.9	0.35 *J*	0.34 *J*	2.11	2.1	45300	45300	--	--	3.32
LO-2	LO-2	K0806879	Integral	July 2008	7/25/2008	14:30	49.4	40.7	70.8	66.5	0.015 *UJ*	0.005 *UJ*	16800	16300	3.78	3.38	18.7
LO-2	LO-2	K0807974	Integral	August 2008	8/19/2008	15:30	43.1 *J*	28.7 *J*	34.8	33.6	0.063	0.049	24300	24400	1.62	1.79	8.98
LO-2	LO-2	K0808787	Integral	September 2008	9/9/2008	16:30	27 *UJ*	23.4 *UJ*	21.5	20.7	0.042 *UJ*	0.027 *U*	28100	25400	0.8	0.71	5.51 *J*
LO-2	LO-2	K0810253	Integral	October 2008	10/15/2008	17:20	16.6 *J*	14.7 *J*	6.21	5.78	0.047	0.039	36000	36900	0.31 *UJ*	0.23 *UJ*	1.65
LO-2	LO-2	K0904395	Integral	May 2009	5/14/2009	11:15	11.2 *UJ*	10.1 *UJ*	4.4	4.6	0.064	0.062	48200	47000	0.17 *UJ*	0.19 *UJ*	1.21
LO-2	LO-2	K0910640	Integral	November 2009	10/31/2009	09:10	10.7	9.6	2.55	2.56	0.058	0.049	37800	40600	--	--	0.47
LO-2	LO-2	K0912614	Integral	December 2009 II	12/29/2009	11:45	10 *J*	6.7 *J*	1.31	1.22	0.087	0.085	28600	27100	--	--	0.5
LO-2	LO-2	K1005182	Integral	May 2010	5/18/2010	09:30	16 *U*	11.8	1.73	1.84	0.111	0.122	44700	44800	--	--	0.86
LO-2	LO-2	K1007431/K1007635	Integral	July 2010	7/14/2010	09:45	19.3 *J*	15.8 *J*	1.9	1.84	0.135	0.127	39100	39600	--	--	0.87
LO-2	LO-2	K1009890	Integral	September 2010	9/7/2010	10:15	26.9 *R*	19.1 *R*	1.93	1.77	0.214	0.205	35800	34200	--	--	1.05
LO-2	LO-2	K1011739	Integral	October 2010	10/18/2010	14:25	18.8	17.6	0.9	0.9	0.215	0.215	28200	29400	--	--	0.68
LO-2	LO-2	K1014374	Integral	December 2010	12/27/2010	9:55	19.7	11.7	0.73	0.76	0.255	0.256	30700	32000	--	--	1.04
LO-2	LO-2	K1103541	Integral	April 2011	4/21/2011	09:40	13.6	12.3	0.69	0.68	0.197	0.201	33800	34200	--	--	1.11
LO-2	LO-2	K1106865	Integral	July 2011 II	7/24/2011	11:15	16.2	13.9	1.1	1.2	0.327	0.374	52400	52400	--	--	1.69
LO-2	LO-2	K1108477	Integral	September 2011	9/7/2011	9:45	28.6	26.1	0.76	0.79	0.183	0.188	23100	22800	0.16 *UJ*	0.17 *UJ*	0.7
LO-2	LO-2	K1111032	Integral	November 2011	11/10/2011	12:10	11.5	12	0.48 *J*	0.46 *J*	0.249	0.274	27700	27400	--	--	0.73
LO-2	LO-2	K1200245	Integral	January 2012	1/8/2012	11:00	15.6	13.5	0.33 *J*	0.32 *J*	0.296 *J*	0.318 *J*	26400	26500	--	--	0.92
LO-2	LO-2	K1203283	Integral	April 2012	4/6/2012	10:35	9.9	9.2	0.47 *UJ*	0.45 *UJ*	0.342	0.345	33800	32500	--	--	1.07
LO-2	LO-2	K1207121	Integral	July 2012	7/22/2012	7:25	38	16.8	0.73	0.71	0.28	0.31	36500	35700	--	--	1.47
PAG	PAG	K0807974	Integral	August 2008	8/19/2008	16:15	55 *J*	14.8 *J*	0.85	0.8	0.144	0.143	136000	133000	0.6 *UJ*	0.63 *UJ*	3.44
PAG	PAG	K0808787	Integral	September 2008	9/9/2008	16:05	84.7 *UJ*	14.7 *UJ*	0.98 *J*	0.91 *J*	0.148	0.122 *U*	112000	113000	0.38	0.16 *J*	2.92 *J*
PAG	PAG	K0810253	Integral	October 2008	10/15/2008	17:00	133 *J*	16.1 *J*	0.72	0.67	0.07	0.052	78200	77300	0.53 *UJ*	0.56	2.72
PAG	PAG	K0903584	Integral	March 2009	4/21/2009		122	18.7	0.4 *J*	0.4 *J*	0.033 *J*	0.026 *J*	49300	50400	0.38 *UJ*	0.24 *UJ*	1.67
PAG	PAG	K0904619	Integral	May 2009	5/21/2009		39.4 *UJ*	19.2 *UJ*	0.3 *J*	0.3 *J*	0.041	0.034	82200	79500	0.21	0.12 *J*	1.98 *J*
PAG	PAG	K0905553	Integral	June 2009	6/19/2009		55.3	19.1	0.3 *J*	0.4 *J*	0.035	0.024 *UJ*	71000	72900	0.24	0.18 *J*	4.07
PAG	PAG	K0906701	Integral	July 2009	7/25/2009	9:00	49.1 *J*	13.8 *J*	0.49 *J*	0.34 *J*	0.084	0.069	125000	123000	0.28 *UJ*	0.31 *UJ*	2.84
PAG	PAG	K0908166	Integral	August 2009	8/31/2009	09:15	37 *J*	12.8 *J*	0.34 *J*	0.29 *J*	0.051	0.038	86500	86500	0.47	0.42	2.48
PAG	PAG	K0908619	Integral	September 2009 II	9/13/2009	13:30	15.7	55.4	0.5 *UJ*	0.5 *UJ*	0.058 *UJ*	0.065 *UJ*	68200 *J*	68600 *J*	--	--	1.71
PAG	PAG	K0910115	Integral	October 2009	10/18/2009	12:10	47.1	12.5	0.3 *J*	0.27 *J*	0.069	0.065	62700	64200	--	--	2.2
PAG	PAG	K0910640	Integral	November 2009	10/31/2009	08:45	124	19	0.51	0.42 *J*	0.05	0.038	35100	34500	--	--	2.28
PAG	PAG	K0912614	Integral	December 2009 II	12/29/2009	12:40	91.2 *J*	12.3 *J*	0.3 *UJ*	0.29 *UJ*	0.084	0.079	41400	41200	--	--	1.96
PAG	PAG	K1000512	Integral	January 2010	1/16/2010	10:30	145	17.1	0.36 *J*	0.32 *J*	0.052	0.047	36100	36400	--	--	1.8
PAG	PAG	K1001411	Integral	February 2010	2/12/2010	16:00	88.7	15.4	0.35 *J*	0.33 *J*	0.045	0.032	35600	35300	--	--	1.75
PAG	PAG	K1002121	Integral	March 2010	3/5/2010	14:00	74.3	14.2	0.42 *J*	0.34 *UJ*	0.033	0.028	39600	40400	--	--	1.75
PAG	PAG	K1004032	Integral	April 2010	4/21/2010	10:30	43.2	15.2	0.46 *J*	0.26 *UJ*	0.052 *UJ*	0.049 *UJ*	41900 *J*	43400 *J*	--	--	1.56 *J*
PAG	PAG	K1005179	Integral	May 2010	5/18/2010	10:25	35.2 *U*	16.2	0.41 *UJ*	0.39 *UJ*	0.056	0.024 *UJ*	47200	49800	0.14 *J*	0.07 *J*	1.8 *J*
PAG	PAG	K1006773	Integral	June 2010	6/29/2010	13:30	24.6 *J*	11.4 *J*	0.2 *UJ*	0.2 *UJ*	0.123	0.055	65800	68100	0.12 *UJ*	0.12 *UJ*	2.41 *J*
PAG	PAG	K1007431/K1007635	Integral	July 2010	7/14/2010	09:15	17.7 *J*	13.1 *J*	0.37 *J*	0.39 *J*	0.047	0.026	83900	83300	--	--	1.96
PAG	PAG	K1008755	Integral	August 2010	8/11/2010	06:00	14	7.6 *UJ*	0.47 *J*	0.44 *J*	0.097	0.039	109000 *J*	110000 *J*	--	--	2.74
PAG	PAG	K1009890	Integral	September 2010	9/7/2010	09:50	39.2 *R*	13.3 *R*	0.4 *J*	0.43 *J*	0.125	0.09	79900	79100	--	--	2.11
PAG	PAG	K1011739	Integral	October 2010	10/18/2010	14:00	91.3	25.4	0.5 *J*	0.4 *J*	0.051	0.044	38600	36800	--	--	2.03
PAG	PAG	K1012347	Integral	November 2010	11/2/2010	13:30	71.1	15.5	0.41 *J*	0.39 *J*	0.084	0.072 *U*	47600	47300	--	--	2.04
PAG	PAG	K1014375	Integral	December 2010	12/27/2010	9:30	101	18.8	0.33 *J*	0.31 *J*	0.046	0.036	34400	34300	0.58 *U*	0.4 *U*	1.96
PAG	PAG	K1100726	Integral	January 2011	1/19/2011	14:00	63.3	14.4	0.33 *J*	0.43 *J*	0.06	0.06	54700	55600	0.79 *U*	0.32 *U*	1.57
PAG	PAG2	K1100726	Integral	January 2011	1/20/2011	13:41	113	25.8	0.25 *J*	0.22 *J*	0.05	0.044	30800	30800	0.64 *U*	0.28 *U*	1.79
PAG	PAG	K1101112	Integral	February 2011	2/9/2011	7:35	28.5 *U*	11.4	0.23 *J*	0.24 *J*	0.051	0.048	34600	35800	0.36 *U*	0.56 *U*	1.12
PAG	PAG	K1103541	Integral	April 2011	4/21/2011	09:00	34.9	12.7	0.3 *J*	0.31 *J*	0.063	0.048	46400	45800	--	--	1.67
PAG	PAG	K1104448	Integral	May 2011	5/17/2011	17:40	33.3	16	0.34 *J*	0.27 *J*	0.066	0.049	44900	46800	0.29 *UJ*	0.51 *UJ*	1.8
PAG	PAG	K1105280	Integral	June 2011	6/8/2011	13:10	38	14.7	0.59	0.58	0.071	0.05	68800	67400	0.27 *UJ*	0.43	2.63 *J*
PAG	PAG	K1106351	Integral	July 2011	7/12/2011	14:40	20.7	13.6	0.52	0.57	0.182	0.074	116000	122000	0.22 *U*	0.21 *UJ*	3.91
PAG	PAG	K1107897	Integral	August 2011	8/23/2011	11:10	35.6 *J*	15.6 *J*	0.36 *J*	0.34 *J*	0.087	0.065	54500	54200	0.17 *J*	0.15 *J*	1.9 *J*
PAG	PAG	K1108477	Integral	September 2011	9/7/2011	9:15	83.5	26	0.46 *J*	0.45 *J*	0.087 *UJ*	0.035	43500	44200	0.24 *UJ*	0.16 *UJ*	2.43
PAG	PAG	K1109861	Integral	October 2011	10/11/2011		41.8 *J*	18.8 *J*	0.42 *UJ*	0.41 *UJ*	0.069 *J*	0.042 *J*	40800 *J*	45800 *J*	--	--	1.6
PAG	PAG	K1111032	Integral	November 2011	11/10/2011	13:25	44.2	16	0.32 *J*	0.29 *J*	0.062	0.046 *U*	41000	42300	--	--	1.36
PAG	PAG	K1112358	Integral	December 2011	12/21/2011	9:35	62.1	19.9	0.33 *J*	0.32 *J*	0.075	0.063	39300	39600	--	--	1.76
PAG	PAG	K1200245	Integral	January 2012	1/8/2012	10:30	46.8	24.9	0.29 *J*	0.28 *J*	0.059 *J*	0.057 *J*	29400	29900	--	--	1.3
PAG	PAG	K1201605	Integral	February 2012	2/21/2012		37.9	15.7	0.4 *J*	0.3 *J*	0.051	0.04	35300	36000	--	--	1.07
PAG	PAG	K1202763	Integral	March 2012	3/27/2012		25.7	10.8	0.18 *J*	0.14 *J*	0.054	0.054	31100	32300	--	--	0.94
PAG	PAG	K1203283	Integral	April 2012	4/6/2012	11:30	26.7	12.5	0.34 *UJ*	0.29 *UJ*	0.065	0.061	39100	38000	--	--	1.34

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
PAG	PAG	K1207121	Integral	July 2012	7/22/2012	8:45	19.9	10.1	0.26 *J*	0.24 *J*	0.1	0.05	68800	71000	--	--	1.83
PAG	PAG	K1210890	Integral	October 2012	10/28/2012	15:00	23.2 *J*	12.2 *J*	0.1 *J*	0.3 *J*	0.099	0.096 *J*	64800	65100	--	--	1.53
PORTAL	PORTAL	L515743	Knight Piesold	June 2007	6/5/2007	08:00	65.6	8.6	0.31	0.29	0.017 *U*	0.017 *U*	32400	32200	0.5 *U*	0.5 *U*	2.1
PORTAL	PORTAL	L526591	Knight Piesold	July 2007 I	7/1/2007	16:00	19.2	5.9	0.32	0.33	0.017 *U*	0.017 *U*	31200	31100	0.5 *U*	0.5 *U*	0.49
PORTAL	PORTAL	K0706569	Integral	July 2007 II	7/23/2007	15:45	14.6	7.2 *U*	0.4 *J*	0.34 *J*	0.014 *U*	0.009 *U*	27700	28300	0.55 *U*	0.62 *U*	0.46 *U*
PORTAL	PORTAL	K0707317	Integral	August 2007 I	8/13/2007	14:50	11.6	6.2	0.3 *J*	0.25 *J*	0.012 *U*	0.008 *U*	28200	28100	0.78 *U*	0.53 *U*	0.58 *UJ*
PORTAL	PORTAL	K0707782	Integral	August 2007 II	8/28/2007	11:00	8.8 *U*	7.8 *U*	0.29 *J*	0.32 *J*	0.005 *U*	0.008 *UJ*	26300	26400	0.58 *U*	0.55 *U*	0.32
PORTAL	PORTAL	K0709126	Integral	September 2007 II	9/30/2007	07:15	72	5.8 *U*	0.37 *J*	0.33 *J*	0.009 *U*	0.007 *U*	28300	28500	0.72	0.49 *U*	1.67
PORTAL	PORTAL+150	K0709804	Integral	October 2007	10/16/2007	07:00	35.8	7.3	0.38 *J*	0.38 *J*	0.007 *U*	0.007 *U*	27700	28400	0.73 *U*	0.66 *U*	1.32
PORTAL	Portal + 488	K0711443	Integral	December 2007 (Portal only)	12/4/2007		357	283	1.25	1.18	0.047	0.065	56000	53300	62.4	65.2	4.73 *J*
PORTAL	Portal + 400	K0800335	Integral	January 2008	1/8/2008	10:50	17.9	10.7	0.67 *J*	0.66	0.025 *UJ*	0.005 *U*	27400	27600	1.05	1.16 *U*	0.48
PORTAL	Portal + 400	K0801400	Integral	Februrary 2008	2/14/2008	7:22	43.2 *J*	6.1 *J*	0.5 *UJ*	0.4 *UJ*	0.005 *UJ*	0.011 *UJ*	27800	29100	2.26	1.37 *U*	1.52
PORTAL	Portal + 400	K0802328	Integral	March 2008	3/14/2008	7:15	323 *J*	5.1 *J*	0.63	0.47 *J*	0.01 *UJ*	0.005 *UJ*	29500	28700	2.65	1.07 *U*	6.7
PORTAL	Portal + 400	K0803239	Integral	April 2008	4/14/2008	19:00	242	22.6	0.39 *J*	0.29 *J*	0.01 *UJ*	0.007 *UJ*	29500	27800	2.56	1.38 *U*	7.19
PORTAL	Portal + 400	K0804080	Integral	May 2008	5/8/2008	13:45	10.2 *U*	4.7 *J*	0.26 *J*	0.25 *J*	0.013 *J*	0.008 *J*	30800	31000	0.77 *U*	0.79 *U*	1.23 *U*
PORTAL	Portal + 400	K0805877	Integral	June 2008	6/27/2008	21:00	9.6 *J*	9.9	0.54	0.62	0.012 *UJ*	0.014 *UJ*	27000	28000	1.74	1.76	0.44 *U*
PORTAL	Portal + 400	K0806880	Integral	July 2008	7/25/2008	11:50	1280 *J*	17.2 *J*	0.43 *J*	0.22 *J*	0.044	0.018 *UJ*	28400	28800	2.48	1.08 *U*	17.4
PORTAL	Portal + 2500	K0806880	Integral	July 2008	7/25/2008	11:30	97.7 *J*	65.5 *J*	1.68	1.94	0.037 *UJ*	0.023 *UJ*	17400	16600	3.01	2.72	4.8
PORTAL	Portal + 2775	K0806880	Integral	July 2008	7/25/2008	14:30	33900 *J*	9.3 *J*	11	7.37	0.029 *UJ*	0.005 *UJ*	99300	107000	154	0.35 *U*	49.8
PORTAL	Portal + 400	K0807967	Integral	August 2008	8/19/2008	13:20	294 *J*	8.8 *J*	0.2 *U*	0.2 *U*	0.012 *UJ*	0.007 *UJ*	28700	28600	1.19	0.87 *UJ*	5.58 *J*
PORTAL	Portal + 2500	K0807967	Integral	August 2008	8/19/2008	13:30	8.7 *J*	7.5 *J*	0.36 *J*	0.31 *J*	0.019 *UJ*	0.021 *UJ*	27900	27700	0.89 *UJ*	0.82 *UJ*	1.56 *J*
PORTAL	Portal + 2775	K0807967	Integral	August 2008	8/19/2008	13:40	98 *J*	1.2 *UJ*	7.49	6.97	0.005 *UJ*	0.005 *UJ*	77600	78300	0.8 *UJ*	0.28 *UJ*	0.36 *J*
PORTAL	Portal + 2500	K0808787	Integral	September 2008	9/9/2008	18:11	29.3 *UJ*	9 *UJ*	0.77 *J*	0.58 *J*	0.245	0.036 *U*	27100	26100	0.83	0.57	5.04 *J*
PORTAL	Portal + 2775	K0808787	Integral	September 2008	9/9/2008		43.4 *UJ*	2 *UJ*	8.67	7.52	0.021 *UJ*	0.01 *U*	61200	61600	1.67	0.3	0.84 *J*
PORTAL	Portal + 400	K0810253	Integral	October 2008	10/16/2008	10:40	491 *J*	16.3 *J*	0.37 *J*	0.37 *J*	0.022 *UJ*	0.015 *UJ*	29800	29000	1.48	0.59	10.5
PORTAL	Portal + 2500	K0810253	Integral	October 2008	10/16/2008	11:05	30.9 *J*	7.9 *UJ*	0.91	0.66	0.046	0.024 *UJ*	25400	25800	0.76 *UJ*	0.57	7.19
PORTAL	Portal + 2775	K0810253	Integral	October 2008	10/16/2008	11:10	186 *J*	1.8 *UJ*	7.11	6.56	0.012 *UJ*	0.009 *UJ*	47400	50000	1.94	0.15 *UJ*	0.2 *UJ*
PORTAL	Portal DSCG	K0906701	Integral	July 2009	7/23/2009	10:50	49.9 *J*	41.9 *J*	1.05	1.01	0.227	0.211	28500	27500	--	--	9.04
PORTAL	Portal + 400	K1008755	Integral	August 2010	8/11/2010	21:00	445	9.4	0.3 *J*	0.23 *J*	0.027	0.014 *J*	29600 *J*	30200 *J*	--	--	7.55
PORTAL	Portal Drift	K1109861	Integral	October 2011	10/11/2011		421 *J*	22.6 *J*	0.73 *J*	0.64 *UJ*	0.1 *J*	0.044 *J*	31700 *J*	30700 *J*	--	--	6.4
PORTAL	Drift	K1207121	Integral	July 2012	7/22/2012	9:10	23.6	20.8	0.95	0.93	0.07	0.06	27700	27900	--	--	1.82
PORTAL	Drift	K1210890	Integral	October 2012	10/28/2012	15:50	43.5 *J*	26.5 *J*	1	1.2	0.088	0.221 *J*	29600	29400	--	--	2.62

Notes:

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

Data Qualifiers:

J = The analyte was positively identified; the associated nu
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sar
R = Rejected.

Table B-1d. Water Quality Analytical Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
EFF1	EFF1	K0710773	Integral	November 2007	11/13/2007	14:40	1.15	505	13.9 *UJ*	0.399	0.028 *UJ*	548	252	0.03 *U*	0.03 *U*	1.17	1.17
EFF1	EFF1	K0711891	Integral	December 2007 I	12/16/2007	10:45	2.11 *J*	179	33.2	0.615	0.044 *UJ*	288	175	0.03 *U*	0.03 *U*	0.76	0.96
EFF1	EFF1	K0800335	Integral	January 2008	1/9/2008	07:45	1.81	62.8 *UJ*	19.8 *UJ*	0.129	0.026 *UJ*	486 *J*	456 *J*	0.03 *U*	0.03 *U*	1.59	0.5 *UJ*
EFF1	EFF1	K0801400	Integral	Februrary 2008	2/13/2008	13:20	1.37	1690	33.2 *UJ*	1.58	0.104	1680	826	0.03 *U*	0.03 *U*	5.9	0.88
EFF1	EFF1	K0802328	Integral	March 2008	3/17/2008	7:00	2.94	6080	30.4	3.03	0.02 *J*	3610 *J*	630 *J*	0.03 *U*	0.03 *U*	5.29	2.02
EFF1	EFF1	K0803239	Integral	April 2008	4/15/2008	8:30	5.19	2070	67.1	1.68	0.025 *UJ*	1420	494	0.03 *U*	0.03 *U*	1.96	0.78
EFF1	EFF1	K0804080	Integral	May 2008	5/8/2008	11:45	2.65	3100	53 *UJ*	2.11	0.065 *UJ*	2050	570	0.03 *UJ*	0.03 *UJ*	2.47	0.99
EFF1	EFF1	K0805877	Integral	June 2008	6/27/2008	15:15	1.76 *U*	4890	13.4 *UJ*	6.3	0.041 *UJ*	5000	1690	0.05 *U*	0.05 *U*	3.26	0.43 *UJ*
EFF1	EFF1	K0806880	Integral	July 2008	7/25/2008	10:00	0.76	4480	16.9 *UJ*	5.92	0.048	5080 *R*	2970 *R*	0.05 *U*	0.05 *U*	3.58	1.56
EFF1	EFF1	K0807975	Integral	August 2008	8/19/2008	16:30	1.09	4260	9.6 *UJ*	3.76	0.028 *UJ*	5140	2910	0.05 *U*	0.05 *U*	2.74	1.11
EFF1	EFF1	K0808787	Integral	September 2008	9/9/2008	15:30	2.2 *J*	574	95.6	0.87	0.164	3630	3490	0.05 *U*	0.05 *U*	1.29	0.94
EFF1	EFF1	K0810253	Integral	October 2008	10/15/2008	14:30	1.3	218	7.7 *UJ*	0.716	0.051 *UJ*	3250	3330	0.05 *U*	0.05 *U*	0.75	0.56
EFF1	EFF1	K0902142	Integral	March 2009	3/9/2009	14:00	6.91	15.8 *UJ*	6.5 *UJ*	1.3	0.785	2100	2130	0.05 *U*	0.05 *U*	0.54 *U*	0.6
EFF1	EFF1	K0904395	Integral	May 2009	5/14/2009	10:20	6.43	12.8 *UJ*	4 *UJ*	1.48	0.664	2380	2340	0.02 *U*	0.02 *U*	0.59	0.77
EFF1	EFF1	K0906701	Integral	July 2009	7/23/2009	11:50	5.87	24.2 *UJ*	12.2 *UJ*	1.44	0.488	2290	2270	0.02 *U*	0.02 *U*	0.19 *UJ*	0.2 *UJ*
EFF1	EFF1	K0910233	Integral	October 2009	10/18/2009	10:40	0.62	545	15.9 *U*	0.972	0.057	3210 *J*	2950 *J*	0.02 *U*	0.02 *U*	0.9	0.83
EFF1	EFF1	K1000512	Integral	January 2010	1/16/2010	10:00	0.73 *U*	1380	22.6 *UJ*	3.05	0.076 *U*	3340 *J*	2760 *J*	0.02 *U*	0.02 *U*	2.39	1.64
EFF1	EFF1	K1004032	Integral	April 2010	4/21/2010	11:00	1.13 *J*	1160	47.5	0.488	0.06	3780 *J*	3450 *J*	0.02 *U*	0.02 *U*	1.25	0.66
EFF1	EFF1	K1007431	Integral	July 2010	7/14/2010	08:30	0.36	831	10.9 *UJ*	0.714	0.026 *U*	4130	3750	0.02 *U*	0.02 *U*	1.36	0.91
EFF1	EFF1	K1008751	Integral	August 2010	8/11/2010	06:15	0.89	793	40.2	0.367	0.098	4280	3960	0.04 *J*	0.02 *U*	1.34	0.83
EFF1	EFF1	K1011739	Integral	October 2010	10/18/2010	15:30	0.92	2050 *J*	27.3 *UJ*	1.32	0.038	3820	2850	0.02 *U*	0.02 *U*	1.22 *U*	0.43 *U*
EFF1	EFF1	K1100642	Integral	January 2011	1/19/2011	14:35	1.12	2460	173	1.47	0.098	3760	2880	0.02 *U*	0.02 *U*	2.67	0.93
EFF1	EFF1	K1103541	Integral	April 2011	4/21/2011	11:30	0.78 *U*	881 *J*	15.9 *UJ*	1.16	0.042 *UJ*	2830	2460	0.02 *U*	0.02 *U*	0.97	0.59 *U*
EFF1	EFF1	K1106862	Integral	July 2011 II	7/24/2011	10:15	6.39	1660	8.2 *UJ*	0.342	0.005 *UJ*	2800	2110	0.02 *UJ*	0.02 *UJ*	1.34	0.33
EFF1	EFF1	K1108476/K1108477	Integral	September 2011	9/7/2011	8:20	20.1	1770 *J*	234 *J*	0.27	0.052 *UJ*	2580	1960	0.02 *U*	0.02 *U*	2.24	1.36
EFF1	EFF1	K1109861	Integral	October 2011	10/11/2011		0.58	686 *J*	19.9 *UJ*	0.198 *J*	0.013 *J*	2240 *J*	1870 *J*	0.02 *U*	0.02 *U*	0.64	0.43
EFF1	EFF1	K1112358	Integral	December 2011	12/21/2011	10:00	1.32	78	3.5 *UJ*	0.155	0.016 *J*	2650	2590	0.02 *U*	0.02 *U*	0.92	0.95
EFF1	EFF1	K1200245	Integral	January 2012	1/8/2012	10:00	1.2	55.9	6.1 *UJ*	0.134	0.019 *UJ*	2270	2240	0.02 *U*	0.02 *U*	0.78	0.85
EFF1	EFF1	K1203283	Integral	April 2012	4/6/2012	11:50	1.24	38.9	13.9 *UJ*	0.153	0.02	2460	2480	0.02 *U*	0.02 *U*	1.13	1.12
EFF1	EFF1	K1207121	Integral	July 2012	7/22/2012	9:40	1.43	74.4	3 *U*	0.184	0.01 *UJ*	2620	2610	0.02 *U*	0.02 *U*	0.19 *UJ*	0.11 *UJ*
EFF1	EFF1	K1210890	Integral	October 2012	10/28/2012	15:25	1.7	54.7	5.5 *UJ*	0.136 *J*	0.02 *UJ*	2750	2740	0.02 *U*	0.02 *U*	0.31	0.32 *J*
HW-1	HW-1	K0806879	Integral	July 2008	7/25/2008	14:45	6.86	142	24.5	0.931 *J*	0.142 *J*	9070 *R*	9290 *R*	0.05 *U*	0.05 *U*	5.01	4.81
HW-1	HW-1	K0807974	Integral	August 2008	8/19/2008	15:50	2.76	55.1	6.5 *UJ*	0.278	0.03	7360 *J*	8170 *J*	0.05 *U*	0.05 *U*	1.22	1.16
HW-1	HW-1	K0808787	Integral	September 2008	9/9/2008	16:50	1.66 *J*	66.5	7.8 *UJ*	0.202	0.007 *UJ*	5180	4960	0.05 *U*	0.05 *U*	1.41	1.45
HW-1	HW-1	K0810253	Integral	October 2008	10/15/2008	17:45	1.61	11.8 *UJ*	8.3 *UJ*	0.027 *UJ*	0.028 *UJ*	5070	4790	0.05 *U*	0.05 *U*	1.22	1.46
HW-1	HW-1	K0906701	Integral	July 2009	7/25/2009	9:30	1.86	25.5 *UJ*	8.4 *UJ*	0.165	0.024 *UJ*	2680	2560	0.02 *U*	0.02 *U*	0.83	1.01
HW-1	HW-1	K0910115	Integral	October 2009	10/18/2009	14:15	1.08	54.5	2.5 *UJ*	0.181	0.013 *J*	1110	1130	0.02 *U*	0.02 *U*	0.6	0.62
HW-1	HW-1	K0910640	Integral	November 2009	10/31/2009	09:30	0.6	23	4.7 *UJ*	0.12	0.022 *UJ*	736	723	0.02 *U*	0.02 *U*	0.76	0.68
HW-1	HW-1	K0912614	Integral	December 2009 II	12/29/2009	12:10	0.78	27.1 *UJ*	11 *UJ*	0.11 *J*	0.021 *J*	769	712	0.02 *U*	0.02 *U*	3.44	3.17
HW-1	HW-1	K1000512	Integral	January 2010	1/16/2010	11:10	0.7 *U*	24.1 *UJ*	6.4 *UJ*	0.186 *U*	0.12 *U*	663 *J*	665 *J*	0.02 *U*	0.02 *U*	1.77	1.78
HW-1	HW-1	K1001411	Integral	February 2010	2/12/2010	16:30	0.63	48 *UJ*	42 *UJ*	0.113	0.02 *J*	711	694	0.02 *U*	0.02 *U*	1.05	1.11
HW-1	HW-1	K1002121	Integral	March 2010	3/5/2010	13:40	--	--	--	--	--	--	--	--	--	--	--
HW-1	HW-1	K1005182	Integral	May 2010	5/18/2010	09:50	1.78	13.8 *UJ*	8.2 *UJ*	0.032 *UJ*	0.005 *UJ*	2200 *J*	2180 *J*	0.02 *U*	0.02 *U*	1.1	1.11
HW-1	HW-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:15	1.74	7.3 *UJ*	18.7 *UJ*	0.028 *UJ*	0.051	1700	1710	0.02 *U*	0.02 *U*	1.79	1.83
HW-1	HW-1	K1009890	Integral	September 2010	9/7/2010	10:35	1.02	14.2 *UJ*	0.8 *UJ*	0.094	0.015 *UJ*	1010	1030	0.02 *UJ*	0.02 *UJ*	0.6	0.67
HW-1	HW-1	K1011739	Integral	October 2010	10/18/2010	15:00	0.44	13.7 *UJ*	0.8 *UJ*	0.083	0.011 *UJ*	622	596	0.02 *U*	0.02 *U*	0.23 *U*	0.36 *U*
HW-1	HW-1	K1014374	Integral	December 2010	12/27/2010	10:20	0.51	26.1 *UJ*	8.3 *UJ*	0.118	0.028	696	693	0.02 *U*	0.02 *U*	0.68	0.74
HW-1	HW-1	K1103541	Integral	April 2011	4/21/2011	10:10	0.67 *U*	7 *UJ*	2.9 *UJ*	0.026 *UJ*	0.014 *UJ*	619	623	0.02 *U*	0.02 *U*	0.65 *UJ*	0.59 *U*
HW-1	HW-1	K1106865	Integral	July 2011 II	7/24/2011	11:45	2.69	0.8 *UJ*	0.8 *UJ*	0.03 *UJ*	0.012 *UJ*	2100	2080	0.02 *UJ*	0.02 *UJ*	0.99	1.11
HW-1	HW-1	K1108477	Integral	September 2011	9/7/2011	10:15	0.59	18.7 *UJ*	12.1 *UJ*	0.188	0.043 *UJ*	348	349	0.02 *U*	0.02 *U*	0.47	0.65
HW-1	HW-1	K1111032	Integral	November 2011	11/10/2011	12:50	0.4	12.2 *J*	6.5 *J*	0.041 *UJ*	0.012 *UJ*	635	635	0.02 *U*	0.02 *U*	0.09 *J*	0.18 *J*
HW-1	HW-1	K1200245	Integral	January 2012	1/8/2012	11:30	0.34	19.9 *UJ*	5 *UJ*	0.074	0.008 *UJ*	511	529	0.02 *U*	0.02 *U*	0.78	0.78
HW-1	HW-1	K1203283	Integral	April 2012	4/6/2012	11:05	0.48	13.8 *J*	6.5 *J*	0.061	0.015 *UJ*	729	747	0.02 *U*	0.02 *U*	1.43	1.36
HW-1	HW-1	K1207121	Integral	July 2012	7/22/2012	8:05	1.22	26.2	3 *U*	0.049	0.009 *UJ*	1450	1380	0.02 *U*	0.02 *U*	0.45	0.19 *UJ*
LO-1	LO-1	K0806879	Integral	July 2008	7/25/2008	14:10	11.5	228	17.8 *UJ*	1.14 *J*	0.224 *J*	8860 *R*	8350 *R*	0.05 *U*	0.05 *U*	6.28	3.22
LO-1	LO-1	K0807974	Integral	August 2008	8/19/2008	15:40	3.86	73.1	10.5 *UJ*	1.01	0.24	12800 *J*	13700 *J*	0.05 *U*	0.05 *U*	1.37	1.3
LO-1	LO-1	K0808787	Integral	September 2008	9/9/2008	16:40	3.24 *J*	10.2 *UJ*	7 *UJ*	0.258	0.12	11600	12600	0.05 *U*	0.05 *U*	0.96	1.02
LO-1	LO-1	K0810253	Integral	October 2008	10/15/2008	17:40	2.9	16.2 *UJ*	4 *UJ*	0.285	0.062 *UJ*	12900	12400	0.05 *U*	0.05 *U*	0.97	0.86
LO-1	LO-1	K0904395	Integral	May 2009	5/14/2009	11:00	1.3	65.6	36.3	0.523	0.309	7040	6830	0.02 *U*	0.02 *U*	1.61	1.57
LO-1	LO-1	K0910640	Integral	November 2009	10/31/2009	09:20	0.64	42	23.6	0.352	0.124	6330	6240	0.02 *U*	0.02 *U*	1.57	1.29
LO-1	LO-1	K0912614	Integral	December 2009 II	12/29/2009	12:00	0.34	72.2	14.7 *UJ*	1.59 *J*	0.094 *J*	1750	1860	0.02 *U*	0.02 *U*	2.46	2.89
LO-1	LO-1	K1000512	Integral	January 2010	1/16/2010	11:00	0.58 *U*	25.6 *UJ*	10.8 *UJ*	0.447	0.095 *U*	2810 *J*	2930 *J*	0.02 *U*	0.02 *U*	2.35	2.67
LO-1	LO-1	K1005182	Integral	May 2010	5/18/2010	09:40	1.26	30.3	12.5 *UJ*	0.526	0.12	2930 *J*	3150 *J*	0.02 *U*	0.02 *U*	0.65	0.54
LO-1	LO-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:00	2.2	24.2 *J*	6.9 *UJ*	0.922	0.132	2970	3000	0.02 *U*	0.02 *U*	1.45	1.45
LO-1	LO-1	K1009890	Integral	September 2010	9/7/2010	10:25	2.53	25.3 *UJ*	9.3 *UJ*	0.807	0.408	2850	2790	0.02 *UJ*	0.02 *UJ*	0.8	0.89
LO-1	LO-1	K1011739	Integral	October 2010	10/18/2010	14:45	1.68	12.3 *UJ*	2.4 *UJ*	0.685	0.356	1510	1490	0.02 *U*	0.02 *U*	0.26 *U*	0.44 *U*

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
LO-1	LO-1	K1014374	Integral	December 2010	12/27/2010	10:10	2.08	30.8 *UJ*	3.3 *UJ*	1.21	0.584	930	1080	0.02 *U*	0.02 *U*	0.78	0.7
LO-1	LO-1	K1103541	Integral	April 2011	4/21/2011	09:55	2.75	8.7 *UJ*	1.8 *UJ*	0.765	0.6	1090	1090	0.02 *U*	0.02 *U*	0.59 *UJ*	0.64 *U*
LO-1	LO-1	K1106865	Integral	July 2011 II	7/24/2011	11:25	3.97	102	0.8 *UJ*	1.84	0.853	2230	2120	0.02 *UJ*	0.02 *UJ*	0.65 *UJ*	0.84
LO-1	LO-1	K1108477	Integral	September 2011	9/7/2011	10:00	1.9	17.1 *UJ*	3.2 *UJ*	0.951	0.307	817	792	0.02 *U*	0.02 *U*	0.48	0.49
LO-1	LO-1	K1111032	Integral	November 2011	11/10/2011	12:28	1.63	9.1 *J*	5.5 *J*	0.559 *J*	0.463 *J*	963	970	0.02 *U*	0.02 *U*	0.21	0.2
LO-1	LO-1	K1200245	Integral	January 2012	1/8/2012	11:15	1.77	11.7 *UJ*	4.4 *UJ*	0.79	0.62	769	771	0.02 *U*	0.02 *U*	0.78	0.79
LO-1	LO-1	K1203283	Integral	April 2012	4/6/2012	10:50	2.72	4.4 *J*	11 *J*	0.897	0.779	923	886	0.02 *U*	0.02 *U*	1.4	1.44
LO-1	LO-1	K1207121	Integral	July 2012	7/22/2012	7:45	2.81	16.2 *J*	3 *U*	1.35	0.985	1170	1160	0.02 *U*	0.02 *U*	0.1 *UJ*	0.13 *UJ*
LO-2	LO-2	K0806879	Integral	July 2008	7/25/2008	14:30	16.7	55.3	38	0.471 *J*	0.247 *J*	5050 *R*	4910 *R*	0.05 *U*	0.05 *U*	2.86	1.91
LO-2	LO-2	K0807974	Integral	August 2008	8/19/2008	15:30	7.84	19.8 *UJ*	10.9 *UJ*	0.259	0.079	5670 *J*	5840 *J*	0.05 *U*	0.05 *U*	1.51	1.67
LO-2	LO-2	K0808787	Integral	September 2008	9/9/2008	16:30	4.92 *J*	16.3 *UJ*	18.4 *UJ*	0.212	0.07	6450	6010	0.05 *U*	0.05 *U*	0.65 *UJ*	0.64
LO-2	LO-2	K0810253	Integral	October 2008	10/15/2008	17:20	1.38	4 *UJ*	4 *UJ*	0.108 *UJ*	0.06 *UJ*	6240	6300	0.05 *U*	0.05 *U*	0.37	0.29
LO-2	LO-2	K0904395	Integral	May 2009	5/14/2009	11:15	0.85	4 *UJ*	7.2 *UJ*	0.166	0.038 *UJ*	3100	3000	0.02 *U*	0.02 *U*	1.19	1.21
LO-2	LO-2	K0910640	Integral	November 2009	10/31/2009	09:10	0.39	5.9 *UJ*	4 *UJ*	0.038	0.011 *UJ*	2230	2170	0.02 *U*	0.02 *U*	0.85	0.75
LO-2	LO-2	K0912614	Integral	December 2009 II	12/29/2009	11:45	0.32	14.9 *UJ*	12.3 *UJ*	0.092 *J*	0.012 *J*	1220	1190	0.02 *U*	0.02 *U*	2.62	2.53
LO-2	LO-2	K1005182	Integral	May 2010	5/18/2010	09:30	0.74	13.9 *UJ*	9.6 *UJ*	0.035 *UJ*	0.011 *UJ*	1460 *J*	1450 *J*	0.02 *U*	0.02 *U*	0.42 *UJ*	0.53
LO-2	LO-2	K1007431/K1007635	Integral	July 2010	7/14/2010	09:45	0.8	7.8 *UJ*	11.3 *UJ*	0.047 *UJ*	0.03 *UJ*	1380	1380	0.02 *U*	0.02 *U*	0.88	0.9
LO-2	LO-2	K1009890	Integral	September 2010	9/7/2010	10:15	0.85	7 *UJ*	2.7 *UJ*	0.082	0.028 *U*	1310	1250	0.02 *UJ*	0.02 *UJ*	0.47	0.42
LO-2	LO-2	K1011739	Integral	October 2010	10/18/2010	14:25	0.61	2 *UJ*	9.5 *UJ*	0.033	0.029 *UJ*	781	815	0.02 *U*	0.02 *U*	0.14 *U*	0.17 *U*
LO-2	LO-2	K1014374	Integral	December 2010	12/27/2010	9:55	0.87	14.5 *UJ*	5.4 *UJ*	0.088	0.027	719	736	0.02 *U*	0.02 *U*	0.65	0.63
LO-2	LO-2	K1103541	Integral	April 2011	4/21/2011	09:40	1.04 *U*	22 *UJ*	13.3 *UJ*	0.054	0.051 *UJ*	644	645	0.02 *U*	0.02 *U*	1.48	0.87 *U*
LO-2	LO-2	K1106865	Integral	July 2011 II	7/24/2011	11:15	1.53	0.8 *UJ*	0.8 *UJ*	0.042 *UJ*	0.022 *UJ*	1170	1170	0.02 *UJ*	0.02 *UJ*	0.43 *UJ*	0.52
LO-2	LO-2	K1108477	Integral	September 2011	9/7/2011	9:45	0.72	5.1 *UJ*	3.3 *UJ*	0.056 *UJ*	0.042 *UJ*	453	446	0.02 *U*	0.02 *U*	0.29	0.31
LO-2	LO-2	K1111032	Integral	November 2011	11/10/2011	12:10	0.81	3 *U*	3.3 *J*	0.021 *UJ*	0.025 *UJ*	578	576	0.02 *U*	0.02 *U*	0.05 *J*	0.06 *J*
LO-2	LO-2	K1200245	Integral	January 2012	1/8/2012	11:00	0.98	8.1 *UJ*	4.8 *UJ*	0.051	0.027 *U*	426	428	0.02 *U*	0.02 *U*	0.72	1.05
LO-2	LO-2	K1203283	Integral	April 2012	4/6/2012	10:35	1.02	4.7 *J*	36.2	0.031	0.03	659	668	0.02 *U*	0.02 *U*	1.22	1.3
LO-2	LO-2	K1207121	Integral	July 2012	7/22/2012	7:25	1.16	78.6	3 *U*	0.172	0.018 *UJ*	940	860	0.02 *U*	0.02 *U*	0.06 *UJ*	0.06 *UJ*
PAG	PAG	K0807974	Integral	August 2008	8/19/2008	16:15	2.78	100	17.3 *UJ*	0.136	0.03	17100 *J*	16600 *J*	0.05 *U*	0.05 *U*	2.31	3.62
PAG	PAG	K0808787	Integral	September 2008	9/9/2008	16:05	2.4 *J*	222	29.7	0.303	0.019 *UJ*	13800	13800	0.05 *U*	0.05 *U*	2.2	2.16
PAG	PAG	K0810253	Integral	October 2008	10/15/2008	17:00	1.61	311	35.2 *UJ*	0.35	0.054 *UJ*	9240	8960	0.05 *U*	0.05 *U*	1.44	1.28
PAG	PAG	K0903584	Integral	March 2009	4/21/2009		0.96	179	48.2 *UJ*	0.22	0.042	4420	4500	0.05 *U*	0.05 *U*	1.13	1.37
PAG	PAG	K0904619	Integral	May 2009	5/21/2009		1.76 *J*	58.4	14.2 *J*	0.08 *UJ*	0.026 *UJ*	7390	7110	0.02 *U*	0.02 *U*	1.13	1
PAG	PAG	K0905553	Integral	June 2009	6/19/2009		3.65	138	29.2	0.811	0.09	5990 *J*	6110 *J*	0.02 *U*	0.02 *U*	1.3	1.15
PAG	PAG	K0906701	Integral	July 2009	7/25/2009	9:00	2.24	70.7	20.2 *UJ*	0.136	0.009 *UJ*	10800	10700	0.02 *U*	0.02 *U*	1.34	1.31
PAG	PAG	K0908166	Integral	August 2009	8/31/2009	09:15	1.9	62.7	11.9 *UJ*	0.112	0.015 *UJ*	6970	6950	0.02 *U*	0.02 *U*	4.68	4.74
PAG	PAG	K0908619	Integral	September 2009 II	9/13/2009	13:30	2.47	12.5 *UJ*	114	0.009 *UJ*	0.327	5050	5210	0.02 *U*	0.02 *U*	1.25	1.42
PAG	PAG	K0910115	Integral	October 2009	10/18/2009	12:10	1.53	91.9	11.2 *UJ*	0.161	0.006 *J*	4420	4480	0.02 *U*	0.02 *U*	0.89	1.04
PAG	PAG	K0910640	Integral	November 2009	10/31/2009	08:45	1.12	250	17.6 *J*	0.42	0.035 *UJ*	2820	2520	0.02 *U*	0.02 *U*	1.02	0.9
PAG	PAG	K0912614	Integral	December 2009 II	12/29/2009	12:40	0.94	145	20.1 *UJ*	0.32 *J*	0.034 *J*	2680	2580	0.02 *U*	0.02 *U*	3.67	3.57
PAG	PAG	K1000512	Integral	January 2010	1/16/2010	10:30	0.89 *U*	190	13.7 *UJ*	0.386	0.027 *U*	2530 *J*	2460 *J*	0.02 *U*	0.02 *U*	2.06	1.94
PAG	PAG	K1001411	Integral	February 2010	2/12/2010	16:00	0.78	150	17.6 *UJ*	0.262	0.016 *J*	2150	2070	0.02 *U*	0.02 *U*	1.59	0.94
PAG	PAG	K1002121	Integral	March 2010	3/5/2010	14:00	0.87	94.2 *J*	0.8 *R*	0.191	0.005 *U*	2300	2330	0.02 *U*	0.02 *U*	1.05	0.86
PAG	PAG	K1004032	Integral	April 2010	4/21/2010	10:30	0.97 *J*	58.7	11.9 *J*	0.143	0.017 *UJ*	2300 *J*	2350 *J*	0.02 *U*	0.02 *U*	0.74	0.87
PAG	PAG	K1005179	Integral	May 2010	5/18/2010	10:25	1.23 *J*	59.9	12.2 *UJ*	0.112	0.04 *UJ*	2670 *J*	2770 *J*	0.02 *U*	0.02 *U*	0.8	0.82
PAG	PAG	K1006773	Integral	June 2010	6/29/2010	13:30	1.75 *J*	31.6 *J*	0.8 *UJ*	0.071 *U*	0.056 *UJ*	3450	3490	0.02 *UJ*	0.02 *UJ*	1.3	1.66
PAG	PAG	K1007431/K1007635	Integral	July 2010	7/14/2010	09:15	1.46	37.6 *J*	15.9 *UJ*	0.043 *UJ*	0.029 *UJ*	4220	4150	0.02 *U*	0.02 *U*	2.12	2.01
PAG	PAG	K1008755	Integral	August 2010	8/11/2010	06:00	1.96	48 *UJ*	9.2 *UJ*	0.034	0.012 *UJ*	5450 *J*	5480 *J*	0.02 *U*	0.02 *U*	4.64	4.55
PAG	PAG	K1009890	Integral	September 2010	9/7/2010	09:50	1.29	49.2 *J*	0.8 *UJ*	0.12	0.011 *UJ*	3680	3500	0.02 *UJ*	0.02 *UJ*	1.12	1.17
PAG	PAG	K1011739	Integral	October 2010	10/18/2010	14:00	1.05	131 *J*	26.9 *UJ*	0.269	0.099	1590	1510	0.02 *U*	0.02 *U*	0.55 *U*	0.34 *U*
PAG	PAG	K1012347	Integral	November 2010	11/2/2010	13:30	1.02	150 *J*	2 *UJ*	0.293	0.016 *U*	2110	2040	0.02 *U*	0.02 *U*	1.31	1.29 *U*
PAG	PAG	K1014375	Integral	December 2010	12/27/2010	9:30	0.81	168	15.5 *UJ*	0.381	0.038 *U*	1440	1380	0.02 *U*	0.02 *U*	0.84	0.75
PAG	PAG	K1100726	Integral	January 2011	1/19/2011	14:00	0.89	77.8	0.8 *UJ*	0.163	0.02	2280	2270	0.02 *U*	0.02 *U*	0.8	0.76
PAG	PAG2	K1100726	Integral	January 2011	1/20/2011	13:41	0.74	181	9.8 *UJ*	0.402	0.136	1270	1210	0.02 *U*	0.02 *U*	0.56	0.42
PAG	PAG	K1101112	Integral	February 2011	2/9/2011	7:35	0.86	35.9 *UJ*	8.8 *UJ*	0.078	0.02 *UJ*	1430	1460	0.02 *UJ*	0.02 *UJ*	1.13	1.29
PAG	PAG	K1103541	Integral	April 2011	4/21/2011	09:00	1.1 *U*	55.9 *UJ*	5.7 *UJ*	0.115	0.016 *UJ*	1890	1860	0.02 *U*	0.02 *U*	0.68 *UJ*	0.74 *U*
PAG	PAG	K1104448	Integral	May 2011	5/17/2011	17:40	1.23	42.3 *J*	12.2 *UJ*	0.092	0.027 *UJ*	1770	1820	0.02 *U*	0.02 *U*	1.9	2.02
PAG	PAG	K1105280	Integral	June 2011	6/8/2011	13:10	1.73 *J*	87.3	53.6	0.06	0.016 *U*	2870	2810	0.02 *U*	0.02 *U*	1.7	1.75
PAG	PAG	K1106351	Integral	July 2011	7/12/2011	14:40	2.2	36.8	10.2 *J*	0.132	0.017 *UJ*	4260	4460	0.02 *U*	0.02 *U*	3.47	3.34
PAG	PAG	K1107897	Integral	August 2011	8/23/2011	11:10	1.03 *J*	51.1	6.2 *UJ*	0.11	0.018 *UJ*	1860	1870	0.02 *U*	0.02 *U*	0.79	0.74
PAG	PAG	K1108477	Integral	September 2011	9/7/2011	9:15	1.16	97.4	11.8 *UJ*	0.215	0.03 *UJ*	1470	1450	0.02 *U*	0.02 *U*	0.69	0.6 *UJ*
PAG	PAG	K1109861	Integral	October 2011	10/11/2011		1.06	60.7 *J*	4.6 *UJ*	0.099 *J*	0.017 *J*	1430 *J*	1530 *J*	0.02 *U*	0.02 *U*	0.29	0.35
PAG	PAG	K1111032	Integral	November 2011	11/10/2011	13:25	0.69	54.6	5.4 *J*	0.11 *J*	0.018 *UJ*	1420	1420	0.02 *U*	0.02 *U*	0.14 *J*	0.15 *J*
PAG	PAG	K1112358	Integral	December 2011	12/21/2011	9:35	0.86	100	13.7 *UJ*	0.25	0.026	1370	1360	0.02 *U*	0.02 *U*	1.54	1.38
PAG	PAG	K1200245	Integral	January 2012	1/8/2012	10:30	0.74	68	21.3 *U*	0.142	0.032 *U*	1040	1050	0.02 *U*	0.02 *U*	0.93	0.94
PAG	PAG	K1201605	Integral	February 2012	2/21/2012		0.67	58.2	10.8 *UJ*	0.094	0.015 *UJ*	1200	1190	0.02 *U*	0.02 *U*	0.52	0.29
PAG	PAG	K1202763	Integral	March 2012	3/27/2012		0.72	26	5.2 *J*	0.038	0.008 *UJ*	1100	1090	0.02 *U*	0.02 *U*	1.08	1.14
PAG	PAG	K1203283	Integral	April 2012	4/6/2012	11:30	0.65	30.5	13.8 *J*	0.094	0.012 *UJ*	1340	1330	0.02 *U*	0.02 *U*	1.52	1.47

							Trace Elements										
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
PAG	PAG	K1207121	Integral	July 2012	7/22/2012	8:45	1.02	29.3	4.1 *UJ*	0.047	0.002 *UJ*	2210	2260	0.02 *U*	0.02 *U*	0.26	0.21
PAG	PAG	K1210890	Integral	October 2012	10/28/2012	15:00	1.16 *J*	22.4	4.1 *UJ*	0.036 *J*	0.01 *UJ*	2140	2170	0.02 *U*	0.02 *U*	0.51	0.64 *J*
PORTAL	PORTAL	L515743	Knight Piesold	June 2007	6/5/2007	08:00	0.24	70	30 *U*	0.074	0.05 *U*	1530	1490	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
PORTAL	PORTAL	L526591	Knight Piesold	July 2007 I	7/1/2007	16:00	0.15	30 *U*	30 *U*	0.05 *U*	0.05 *U*	1580	1540	0.01 *U*	0.01 *U*	0.5 *U*	0.5 *U*
PORTAL	PORTAL	K0706569	Integral	July 2007 II	7/23/2007	15:45	0.2 *U*	17 *J*	30	0.013 *U*	0.012 *U*	1430	1440	0.03 *U*	0.07 *U*	1.37	1.34
PORTAL	PORTAL	K0707317	Integral	August 2007 I	8/13/2007	14:50	0.42	19.9 *U*	6.3 *U*	0.011 *UJ*	0.006 *U*	1450	1430	0.03 *U*	0.03 *U*	6.18 *J*	5.36 *J*
PORTAL	PORTAL	K0707782	Integral	August 2007 II	8/28/2007	11:00	0.25 *U*	7.5 *U*	3.8 *U*	0.009 *U*	0.008 *U*	1360	1360	0.03 *U*	0.03 *U*	0.42	0.16 *J*
PORTAL	PORTAL	K0709126	Integral	September 2007 II	9/30/2007	07:15	0.35 *U*	148	6.3 *U*	0.01 *U*	0.003 *U*	1550	1490	0.03 *U*	0.03 *U*	0.99	1.02
PORTAL	PORTAL+150	K0709804	Integral	October 2007	10/16/2007	07:00	0.27 *UJ*	58.3	3 *U*	0.008 *J*	0.004 *J*	1400	1400	0.03 *U*	0.03 *U*	0.53	0.48
PORTAL	Portal + 488	K0711443	Integral	December 2007 (Portal only)	12/4/2007		3.78 *J*	31.7	3 *U*	0.013 *UJ*	0.009 *UJ*	767 *J*	715 *J*	0.03 *U*	0.03 *U*	1.76	1.65
PORTAL	Portal + 400	K0800335	Integral	January 2008	1/8/2008	10:50	0.25 *UJ*	9.4 *UJ*	4 *UJ*	0.003 *U*	0.009 *U*	2120 *J*	2080 *J*	0.03 *U*	0.03 *U*	2.3	0.34 *UJ*
PORTAL	Portal + 400	K0801400	Integral	Februrary 2008	2/14/2008	7:22	0.36	95.8	4 *UJ*	0.018 *J*	0.007 *J*	1570	1610	0.03 *U*	0.03 *U*	7.4	1.42
PORTAL	Portal + 400	K0802328	Integral	March 2008	3/14/2008	7:15	0.27 *UJ*	541	3 *UJ*	0.131	0.009 *U*	1880 *J*	1720 *J*	0.03 *U*	0.03 *U*	2.27	2.03
PORTAL	Portal + 400	K0803239	Integral	April 2008	4/14/2008	19:00	0.69	604	34.2 *UJ*	0.132	0.032 *UJ*	1970	1610	0.03 *U*	0.03 *U*	1.33	1.12
PORTAL	Portal + 400	K0804080	Integral	May 2008	5/8/2008	13:45	0.65 *U*	13.1 *J*	6.4 *UJ*	0.098 *U*	0.088 *UJ*	1630	1640	0.03 *UJ*	0.03 *UJ*	1.48	1.32
PORTAL	Portal + 400	K0805877	Integral	June 2008	6/27/2008	21:00	0.6 *U*	6.8 *UJ*	24.3	0.007 *J*	0.012 *UJ*	1620	1670	0.05 *U*	0.05 *U*	0.78 *UJ*	1.09 *UJ*
PORTAL	Portal + 400	K0806880	Integral	July 2008	7/25/2008	11:50	0.6	1640	7.2 *UJ*	0.152	0.013 *J*	2090 *R*	1540 *R*	0.05 *U*	0.05 *U*	2.21	1.41
PORTAL	Portal + 2500	K0806880	Integral	July 2008	7/25/2008	11:30	1.83	76.3	4 *UJ*	1.64	0.278	1850 *R*	1990 *R*	0.05 *U*	0.05 *U*	1.24	1.13
PORTAL	Portal + 2775	K0806880	Integral	July 2008	7/25/2008	14:30	0.51	32900	15.3 *UJ*	1.59	0.006 *U*	36500 *R*	9830 *R*	0.05 *U*	0.05 *U*	43.7	5.38
PORTAL	Portal + 400	K0807967	Integral	August 2008	8/19/2008	13:20	0.35 *J*	447	12.1 *UJ*	0.058 *UJ*	0.008 *UJ*	1760	1510	0.05 *U*	0.05 *U*	0.8	0.64
PORTAL	Portal + 2500	K0807967	Integral	August 2008	8/19/2008	13:30	1.34 *J*	6.2 *UJ*	6.6 *UJ*	0.051 *UJ*	0.023 *UJ*	3170	3100	0.05 *U*	0.05 *U*	0.62	0.51
PORTAL	Portal + 2775	K0807967	Integral	August 2008	8/19/2008	13:40	0.19 *J*	164	18.4 *UJ*	0.033 *UJ*	0.012 *UJ*	6900	6810	0.05 *U*	0.05 *U*	1.83	1.75
PORTAL	Portal + 2500	K0808787	Integral	September 2008	9/9/2008	18:11	2.69 *J*	60.7	14.7 *UJ*	1.35	0.106	3070	3040	0.05 *U*	0.05 *U*	0.37 *UJ*	0.29 *UJ*
PORTAL	Portal + 2775	K0808787	Integral	September 2008	9/9/2008		0.29 *U*	93	19.1 *UJ*	0.116	0.051 *UJ*	5590	5580	0.05 *U*	0.05 *U*	1.59	0.93
PORTAL	Portal + 400	K0810253	Integral	October 2008	10/16/2008	10:40	0.74 *U*	1180	19.2 *UJ*	0.089 *UJ*	0.04 *UJ*	2200	1590	0.05 *U*	0.05 *U*	0.46	0.15 *UJ*
PORTAL	Portal + 2500	K0810253	Integral	October 2008	10/16/2008	11:05	1.51	88	7.5 *UJ*	2.09	0.055 *UJ*	3090	3080	0.05 *U*	0.05 *U*	0.14 *UJ*	0.06 *UJ*
PORTAL	Portal + 2775	K0810253	Integral	October 2008	10/16/2008	11:10	0.22 *U*	490	10.7 *UJ*	0.124 *UJ*	0.021 *UJ*	5090	4800	0.05 *U*	0.05 *U*	0.89	0.45
PORTAL	Portal DSCG	K0906701	Integral	July 2009	7/23/2009	10:50	7.42	28.3 *UJ*	11.9 *UJ*	1.99	0.709	2350	2300	0.02 *U*	0.02 *U*	0.21 *UJ*	0.23 *UJ*
PORTAL	Portal + 400	K1008755	Integral	August 2010	8/11/2010	21:00	0.47	729	20.3 *UJ*	0.12	0.032	1880 *J*	1380 *J*	0.02 *U*	0.02 *U*	0.88	1.24
PORTAL	Portal Drift	K1109861	Integral	October 2011	10/11/2011		0.54	1580 *J*	14 *UJ*	0.366 *J*	0.014 *J*	2470 *J*	1870 *J*	0.02 *U*	0.02 *U*	1.03	0.46
PORTAL	Drift	K1207121	Integral	July 2012	7/22/2012	9:10	1.65	8.6 *J*	3 *U*	0.041	0.017 *UJ*	2660	2710	0.02 *U*	0.02 *U*	0.45	0.14 *UJ*
PORTAL	Drift	K1210890	Integral	October 2012	10/28/2012	15:50	2.02	54.3	8.4 *UJ*	0.222 *J*	0.206 *J*	2850	2830	0.02 *U*	0.02 *U*	0.36	0.66 *J*

Notes:

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

Data Qualifiers:

J = The analyte was positively identified; the associated nu
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sar
R = Rejected.

Table B-1d. Water Quality Analytical Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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	EFF1	K0710773	Integral	November 2007	11/13/2007	14:40	1090 *J*	900 *U*	0.3 *J*	0.2 *J*	0.009 *U*	0.009 *U*	5420	5090	7.71 *U*	2.27 *U*
EFF1	EFF1	K0711891	Integral	December 2007 I	12/16/2007	10:45	3050	2560	0.5 *J*	0.5 *J*	0.009 *U*	0.009 *U*	13500	13300	7 *J*	7.58 *U*
EFF1	EFF1	K0800335	Integral	January 2008	1/9/2008	07:45	3470	3120	1 *J*	0.9 *J*	0.009 *U*	0.006 *J*	14700	15400	6.1 *U*	4.3 *U*
EFF1	EFF1	K0801400	Integral	Februrary 2008	2/13/2008	13:20	1530 *J*	2390	0.9 *J*	0.7 *J*	0.241	0.009 *UJ*	18900	19500	10.3 *U*	11.9 *U*
EFF1	EFF1	K0802328	Integral	March 2008	3/17/2008	7:00	4710	4420	1	0.9 *J*	0.219	0.054 *UJ*	15100	14500	17.2 *J*	1.3 *U*
EFF1	EFF1	K0803239	Integral	April 2008	4/15/2008	8:30	5760	5580	1 *J*	0.5 *J*	0.009 *R*	0.009 *R*	21100	20400	8.18 *U*	0.71 *U*
EFF1	EFF1	K0804080	Integral	May 2008	5/8/2008	11:45	4930	4830	0.9 *J*	0.7 *J*	0.014 *UJ*	0.005 *UJ*	24200	24300	11.3 *U*	3.21 *U*
EFF1	EFF1	K0805877	Integral	June 2008	6/27/2008	15:15	4280	4050	0.8 *J*	0.7 *J*	0.312	0.009 *UJ*	26900	26000	95.7	3.6 *U*
EFF1	EFF1	K0806880	Integral	July 2008	7/25/2008	10:00	1390 *J*	1380 *J*	0.9 *J*	0.6 *J*	0.23	0.009 *UJ*	11400	12200	49.5	4.9 *U*
EFF1	EFF1	K0807975	Integral	August 2008	8/19/2008	16:30	1150 *J*	1010 *J*	0.7 *UJ*	0.4 *U*	0.659	0.009 *UJ*	9130	8680	67.2 *J*	5.52 *U*
EFF1	EFF1	K0808787	Integral	September 2008	9/9/2008	15:30	844 *J*	826 *J*	0.6 *J*	0.6 *J*	0.077 *UJ*	0.02 *UJ*	8010	8110	14.1 *U*	7.7 *U*
EFF1	EFF1	K0810253	Integral	October 2008	10/15/2008	14:30	1060 *J*	1150 *J*	0.8 *J*	0.8 *J*	0.027	0.009 *U*	6090	6430	17.5 *J*	11.9 *U*
EFF1	EFF1	K0902142	Integral	March 2009	3/9/2009	14:00	569	586	0.8 *J*	0.8 *J*	0.009 *U*	0.009 *U*	5290	5350	145	145
EFF1	EFF1	K0904395	Integral	May 2009	5/14/2009	10:20	608	628	0.9 *J*	1 *J*	0.009 *UJ*	0.009 *UJ*	5280	5180	129 *J*	131 *J*
EFF1	EFF1	K0906701	Integral	July 2009	7/23/2009	11:50	589	615	0.6 *J*	0.5 *J*	0.004 *U*	0.004 *U*	4700	4870	111	106
EFF1	EFF1	K0910233	Integral	October 2009	10/18/2009	10:40	402	398 *J*	0.5 *J*	0.5 *J*	0.069	0.014 *UJ*	4270	4120	14.9 *J*	3.07 *U*
EFF1	EFF1	K1000512	Integral	January 2010	1/16/2010	10:00	445	447	0.7 *J*	0.6 *J*	0.362	0.004 *UJ*	3900	3780	29.5 *U*	4.28 *U*
EFF1	EFF1	K1004032	Integral	April 2010	4/21/2010	11:00	513	489	0.5 *J*	0.4 *J*	0.374	0.015 *UJ*	4320	4370	9.04 *U*	2.9 *U*
EFF1	EFF1	K1007431	Integral	July 2010	7/14/2010	08:30	391 *J*	379 *J*	0.8 *J*	0.7 *J*	0.216	0.004 *UJ*	5070	4910	9.64 *J*	1.14 *U*
EFF1	EFF1	K1008751	Integral	August 2010	8/11/2010	06:15	461	432	0.6 *J*	0.7 *J*	0.194	0.005 *UJ*	6680	6450	9.13 *U*	2.87 *U*
EFF1	EFF1	K1011739	Integral	October 2010	10/18/2010	15:30	554	498	0.9 *UJ*	0.7 *UJ*	1.12	0.011 *UJ*	5980	5570	17.6 *J*	2.8 *U*
EFF1	EFF1	K1100642	Integral	January 2011	1/19/2011	14:35	892	818	0.6 *J*	0.6 *J*	0.612	0.041 *UJ*	6070	5880	28	2.06 *U*
EFF1	EFF1	K1103541	Integral	April 2011	4/21/2011	11:30	520	512	0.7 *J*	0.6 *J*	0.177	0.004 *UJ*	4800	4750	10.4 *J*	0.8 *U*
EFF1	EFF1	K1106862	Integral	July 2011 II	7/24/2011	10:15	675	654	0.5 *J*	0.5 *J*	0.374	0.004 *UJ*	4330	4380	110	10.3 *J*
EFF1	EFF1	K1108476/K1108477	Integral	September 2011	9/7/2011	8:20	660	645	0.5 *J*	0.4 *J*	1.05	0.088 *UJ*	4900	4610	107	63.7
EFF1	EFF1	K1109861	Integral	October 2011	10/11/2011		438	422	0.6 *UJ*	0.4 *UJ*	0.101 *J*	0.004 *UJ*	4250	4160	9.68	2.15
EFF1	EFF1	K1112358	Integral	December 2011	12/21/2011	10:00	477	428	0.9 *J*	1 *J*	0.023 *U*	0.004 *U*	5250	5170	11.6 *J*	9.92 *J*
EFF1	EFF1	K1200245	Integral	January 2012	1/8/2012	10:00	482	502	0.7 *J*	0.7 *J*	0.01 *UJ*	0.004 *U*	4970	4750	11.2 *J*	9.75 *J*
EFF1	EFF1	K1203283	Integral	April 2012	4/6/2012	11:50	444	463	0.8 *J*	0.9 *J*	0.013 *UJ*	0.004 *U*	5240	5300	14.3 *J*	18.1 *J*
EFF1	EFF1	K1207121	Integral	July 2012	7/22/2012	9:40	500	483	0.7 *J*	0.6 *J*	0.008 *UJ*	0.005 *U*	5280	5440	16.4 *J*	12.2 *J*
EFF1	EFF1	K1210890	Integral	October 2012	10/28/2012	15:25	332 *J*	346 *J*	0.9 *J*	0.7 *J*	0.046 *J*	0.043 *J*	5060	5090	23.2	20.8
HW-1	HW-1	K0806879	Integral	July 2008	7/25/2008	14:45	9020	9420	0.7 *J*	0.6 *J*	0.027 *UJ*	0.013 *UJ*	27700	28800	4.4 *J*	4.2 *J*
HW-1	HW-1	K0807974	Integral	August 2008	8/19/2008	15:50	1690 *J*	1750 *J*	0.43 *UJ*	0.42 *UJ*	0.021 *UJ*	0.009 *UJ*	8240	8790	7.24 *J*	2.22 *J*
HW-1	HW-1	K0808787	Integral	September 2008	9/9/2008	16:50	2990	2830	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	4870	4580	2.62 *U*	1.81 *U*
HW-1	HW-1	K0810253	Integral	October 2008	10/15/2008	17:45	2870	2730	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	4590	4310	2.25 *U*	4.67 *U*
HW-1	HW-1	K0906701	Integral	July 2009	7/25/2009	9:30	3560	3460	0.5 *J*	0.4 *J*	0.004 *U*	0.004 *U*	4230	4030	15.4 *J*	12.7 *J*
HW-1	HW-1	K0910115	Integral	October 2009	10/18/2009	14:15	1900	1890	0.4 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	1940	1920	13 *J*	10.2 *J*
HW-1	HW-1	K0910640	Integral	November 2009	10/31/2009	09:30	1330	1280	0.6 *UJ*	0.6 *UJ*	0.005 *UJ*	0.004 *UJ*	3240	3120	20.3 *J*	21.1 *J*
HW-1	HW-1	K0912614	Integral	December 2009 II	12/29/2009	12:10	1460	1350	0.7 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	5370	5020	0.7 *U*	1.01 *U*
HW-1	HW-1	K1000512	Integral	January 2010	1/16/2010	11:10	1250	1270	0.3 *J*	0.7 *J*	0.011 *UJ*	0.011 *UJ*	4030	3960	34.2	36.7
HW-1	HW-1	K1001411	Integral	February 2010	2/12/2010	16:30	1110	1120	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	2320	2280	0.66	0.65
HW-1	HW-1	K1002121	Integral	March 2010	3/5/2010	13:40	--	--	--	--	--	--	--	--	--	--
HW-1	HW-1	K1005182	Integral	May 2010	5/18/2010	09:50	1790	1790	0.9 *J*	1	0.004 *UJ*	0.004 *UJ*	2990	3030	1.32 *U*	0.84 *U*
HW-1	HW-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:15	1850	1840	0.9 *J*	1	0.004 *UJ*	0.004 *UJ*	1930	1920	0.56	0.91
HW-1	HW-1	K1009890	Integral	September 2010	9/7/2010	10:35	1330	1340	0.6 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	1290	1340	2.89 *U*	0.89 *U*
HW-1	HW-1	K1011739	Integral	October 2010	10/18/2010	15:00	798	737	0.4 *UJ*	0.4 *UJ*	0.011 *UJ*	0.008 *UJ*	5580	5330	1.9 *U*	0.5 *U*
HW-1	HW-1	K1014374	Integral	December 2010	12/27/2010	10:20	655	649	0.4 *J*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	2260	2170	0.3 *J*	0.32 *J*
HW-1	HW-1	K1103541	Integral	April 2011	4/21/2011	10:10	805	802	0.4 *J*	0.5 *J*	0.004 *UJ*	0.004 *UJ*	2120	1990	0.61 *U*	0.53 *U*
HW-1	HW-1	K1106865	Integral	July 2011 II	7/24/2011	11:45	1930	1930	0.9 *J*	0.9 *J*	0.004 *UJ*	0.004 *UJ*	2890	2820	0.6 *U*	0.7 *U*
HW-1	HW-1	K1108477	Integral	September 2011	9/7/2011	10:15	514	537	0.4 *J*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	553	545	1.38 *U*	1.76 *U*
HW-1	HW-1	K1111032	Integral	November 2011	11/10/2011	12:50	536	545	0.15 *UJ*	0.08 *U*	0.005 *U*	0.005 *U*	2590	2580	0.5 *R*	0.71 *R*
HW-1	HW-1	K1200245	Integral	January 2012	1/8/2012	11:30	471	473	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	3830	4220	0.34 *UJ*	0.3 *UJ*
HW-1	HW-1	K1203283	Integral	April 2012	4/6/2012	11:05	564	593	0.3 *U*	0.5 *J*	0.004 *U*	0.004 *U*	4080	4100	0.3 *UJ*	0.35 *UJ*
HW-1	HW-1	K1207121	Integral	July 2012	7/22/2012	8:05	979	931	0.4 *J*	0.5 *J*	0.005 *U*	0.005 *U*	1580	1550	0.85 *U*	0.51 *U*
LO-1	LO-1	K0806879	Integral	July 2008	7/25/2008	14:10	44700	44200	2.3 *J*	2.1 *J*	0.118	0.04 *UJ*	252000	245000	9.5 *J*	9.8 *J*
LO-1	LO-1	K0807974	Integral	August 2008	8/19/2008	15:40	11600	12400	0.79 *UJ*	0.81 *UJ*	0.142	0.06 *UJ*	78700	83200	11.4 *J*	8.52 *J*
LO-1	LO-1	K0808787	Integral	September 2008	9/9/2008	16:40	10500	11100	0.8 *J*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	67800	74200	7.63 *U*	5.58 *U*
LO-1	LO-1	K0810253	Integral	October 2008	10/15/2008	17:40	10900	10800	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	73200	70100	8.42 *U*	8.38 *U*
LO-1	LO-1	K0904395	Integral	May 2009	5/14/2009	11:00	3060	2980	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	4740	4600	26.6 *J*	22.2 *J*
LO-1	LO-1	K0910640	Integral	November 2009	10/31/2009	09:20	4460	4240	0.4 *UJ*	0.4 *UJ*	0.01 *UJ*	0.02 *UJ*	5120	4990	26.9	25.7
LO-1	LO-1	K0912614	Integral	December 2009 II	12/29/2009	12:00	1780	1950	0.3 *U*	0.4 *J*	0.022 *UJ*	0.017 *UJ*	4130	4490	7.16 *U*	2.68 *U*
LO-1	LO-1	K1000512	Integral	January 2010	1/16/2010	11:00	2910	3090	0.4 *J*	0.6 *J*	0.007 *UJ*	0.004 *UJ*	4300	4450	64.5	69.4
LO-1	LO-1	K1005182	Integral	May 2010	5/18/2010	09:40	3120	3340	0.3 *J*	0.2 *U*	0.004 *UJ*	0.004 *UJ*	3440	3660	41.9	34.8
LO-1	LO-1	K1007431/K1007635	Integral	July 2010	7/14/2010	10:00	3440	3440	0.4 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	2490	2460	71.5	70.5
LO-1	LO-1	K1009890	Integral	September 2010	9/7/2010	10:25	3060	3030	0.4 *J*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	2390	2350	114	110
LO-1	LO-1	K1011739	Integral	October 2010	10/18/2010	14:45	1720	1750	0.3 *UJ*	0.3 *UJ*	0.02 *UJ*	0.008 *UJ*	5420	5380	60.5	58.4

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
LO-1	LO-1	K1014374	Integral	December 2010	12/27/2010	10:10	1300	1500	0.3 *J*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	2050	2350	106	98.9
LO-1	LO-1	K1103541	Integral	April 2011	4/21/2011	09:55	1570	1580	0.4 *J*	0.4 *J*	0.007 *UJ*	0.004 *UJ*	2000	2030	145	143
LO-1	LO-1	K1106865	Integral	July 2011 II	7/24/2011	11:25	2820	2770	0.8 *J*	0.6 *J*	0.008 *UJ*	0.022 *UJ*	2850	2730	218	204
LO-1	LO-1	K1108477	Integral	September 2011	9/7/2011	10:00	1250	1200	0.5 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	1030	1050	98.5	97.8
LO-1	LO-1	K1111032	Integral	November 2011	11/10/2011	12:28	989	969	0.26 *UJ*	0.21 *UJ*	0.005 *U*	0.005 *U*	3690	3780	118 *R*	114 *R*
LO-1	LO-1	K1200245	Integral	January 2012	1/8/2012	11:15	772	800	0.3 *U*	0.3 *U*	0.004 *U*	0.004 *U*	5740	5900	128	124
LO-1	LO-1	K1203283	Integral	April 2012	4/6/2012	10:50	1040	1040	0.3 *U*	0.5 *J*	0.005 *UJ*	0.004 *U*	3830	3700	239	231
LO-1	LO-1	K1207121	Integral	July 2012	7/22/2012	7:45	1290	1280	0.4 *J*	0.5 *J*	0.005 *U*	0.005 *U*	1660	1660	149	151
LO-2	LO-2	K0806879	Integral	July 2008	7/25/2008	14:30	45700	45500	4.6 *J*	3.6 *J*	0.014 *UJ*	0.023 *UJ*	229000	223000	5.8 *J*	6.3 *J*
LO-2	LO-2	K0807974	Integral	August 2008	8/19/2008	15:30	20600	20800	2.1	1.5 *UJ*	0.077 *UJ*	0.036 *UJ*	113000	112000	7.43 *J*	4.05 *J*
LO-2	LO-2	K0808787	Integral	September 2008	9/9/2008	16:30	12700	11600	1.4	1.4	0.009 *UJ*	0.009 *UJ*	63400	56500	9.22 *U*	2.87 *U*
LO-2	LO-2	K0810253	Integral	October 2008	10/15/2008	17:20	2670	2770	1.2	0.9 *J*	0.009 *U*	0.009 *U*	10500	10400	3.12 *U*	2.63 *U*
LO-2	LO-2	K0904395	Integral	May 2009	5/14/2009	11:15	1070	1070	0.5 *J*	0.5 *J*	0.009 *UJ*	0.009 *UJ*	3050	2900	11.8 *J*	10.9 *J*
LO-2	LO-2	K0910640	Integral	November 2009	10/31/2009	09:10	892	845	0.7 *UJ*	0.9 *UJ*	0.019 *UJ*	0.016 *UJ*	2110	2020	63.7	61.6
LO-2	LO-2	K0912614	Integral	December 2009 II	12/29/2009	11:45	626	687	0.5 *J*	0.4 *J*	0.009 *UJ*	0.005 *UJ*	4460	4300	7.14 *U*	6.04 *U*
LO-2	LO-2	K1005182	Integral	May 2010	5/18/2010	09:30	654	625	0.5 *J*	0.5 *J*	0.004 *UJ*	0.004 *UJ*	2790	2680	10.5 *J*	10.7 *J*
LO-2	LO-2	K1007431/K1007635	Integral	July 2010	7/14/2010	09:45	537	542	0.7 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	1570	1580	11.6	11.8
LO-2	LO-2	K1009890	Integral	September 2010	9/7/2010	10:15	492	489	0.6 *J*	0.5 *J*	0.004 *UJ*	0.004 *UJ*	1170	1140	15.1 *J*	12.6 *J*
LO-2	LO-2	K1011739	Integral	October 2010	10/18/2010	14:25	318 *J*	366 *J*	0.3 *UJ*	0.3 *UJ*	0.01 *UJ*	0.007 *UJ*	6220	6450	15.2 *J*	15.4 *J*
LO-2	LO-2	K1014374	Integral	December 2010	12/27/2010	9:55	261 *UJ*	265 *UJ*	0.3 *J*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	2600	2620	22.2	21.2
LO-2	LO-2	K1103541	Integral	April 2011	4/21/2011	09:40	291 *J*	275 *J*	0.3 *J*	0.4 *J*	0.008 *UJ*	0.004 *UJ*	1960	2040	23.9	24.6
LO-2	LO-2	K1106865	Integral	July 2011 II	7/24/2011	11:15	540	532	0.8 *J*	0.8 *J*	0.004 *UJ*	0.004 *UJ*	2000	2020	22.8	23.2
LO-2	LO-2	K1108477	Integral	September 2011	9/7/2011	9:45	233 *J*	207 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.011 *UJ*	541	523	8.6 *U*	8.26 *J*
LO-2	LO-2	K1111032	Integral	November 2011	11/10/2011	12:10	157 *J*	171 *J*	0.16 *UJ*	0.14 *UJ*	0.005 *U*	0.005 *U*	3410	3400	21.9 *R*	22.4 *R*
LO-2	LO-2	K1200245	Integral	January 2012	1/8/2012	11:00	181 *J*	188 *J*	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *U*	3650	3750	24.2	23.9
LO-2	LO-2	K1203283	Integral	April 2012	4/6/2012	10:35	193 *J*	175 *J*	0.4 *J*	0.5 *J*	0.004 *U*	0.004 *U*	3820	3880	32.9	33
LO-2	LO-2	K1207121	Integral	July 2012	7/22/2012	7:25	278 *UJ*	312 *UJ*	0.4 *J*	0.5 *J*	0.005 *U*	0.005 *U*	1060	1030	18.1 *J*	15.5 *J*
PAG	PAG	K0807974	Integral	August 2008	8/19/2008	16:15	14000	13700	2.3	1.9	0.011 *UJ*	0.009 *UJ*	106000	105000	2.68 *J*	4.32 *J*
PAG	PAG	K0808787	Integral	September 2008	9/9/2008	16:05	9630	9670	1.7	1.4	0.009 *UJ*	0.009 *UJ*	44500	44400	3.12 *U*	1.61 *U*
PAG	PAG	K0810253	Integral	October 2008	10/15/2008	17:00	6330	6270	1.1	0.9 *J*	0.009 *U*	0.009 *U*	14700	14500	2.86 *U*	5.95 *U*
PAG	PAG	K0903584	Integral	March 2009	4/21/2009		3250	3330	0.9 *J*	0.9 *J*	0.009 *UJ*	0.009 *UJ*	3170	3240	3.68 *U*	4.02 *U*
PAG	PAG	K0904619	Integral	May 2009	5/21/2009		5660	5500	1.3	1.2	0.021 *J*	0.006 *J*	5120	4890	4 *U*	4.7 *U*
PAG	PAG	K0905553	Integral	June 2009	6/19/2009		5850	6000	0.4 *J*	0.7 *J*	0.009 *UJ*	0.006 *UJ*	4780	4870	8 *J*	8.2 *U*
PAG	PAG	K0906701	Integral	July 2009	7/25/2009	9:00	7490	7430	1.4	1.5	0.004 *U*	0.004 *U*	7970	7910	36.8	6.68 *U*
PAG	PAG	K0908166	Integral	August 2009	8/31/2009	09:15	5960	5940	1.2	1.1	0.004 *UJ*	0.035 *UJ*	6540	6460	15.5 *J*	11.8 *J*
PAG	PAG	K0908619	Integral	September 2009 II	9/13/2009	13:30	5330	5280	0.8 *J*	1 *J*	0.004 *UJ*	0.004 *UJ*	5700	5640	3.5 *U*	5.5 *U*
PAG	PAG	K0910115	Integral	October 2009	10/18/2009	12:10	4820	4850	0.8 *J*	0.8 *J*	0.004 *UJ*	0.045	4170	4230	5.1 *UJ*	4.22 *U*
PAG	PAG	K0910640	Integral	November 2009	10/31/2009	08:45	2920	2710	0.7 *UJ*	0.7 *UJ*	0.061 *UJ*	0.047 *UJ*	3140	2820	4.75 *U*	3.12 *U*
PAG	PAG	K0912614	Integral	December 2009 II	12/29/2009	12:40	3300	3170	0.7 *J*	0.6 *J*	0.022 *UJ*	0.004 *UJ*	3840	3810	4.78 *U*	3.61 *U*
PAG	PAG	K1000512	Integral	January 2010	1/16/2010	10:30	2540	2660	0.7 *J*	0.7 *J*	0.006 *UJ*	0.004 *UJ*	3760	3880	5.97 *U*	3.42 *U*
PAG	PAG	K1001411	Integral	February 2010	2/12/2010	16:00	2530	2480	0.3 *U*	0.6 *J*	0.004 *U*	0.004 *U*	3020	2970	5.6	3.17
PAG	PAG	K1002121	Integral	March 2010	3/5/2010	14:00	2700	2780	1 *J*	0.8 *J*	0.004 *UJ*	0.004 *UJ*	3550	3630	5.23	3.23
PAG	PAG	K1004032	Integral	April 2010	4/21/2010	10:30	3070	3200	0.7 *J*	0.4 *J*	0.004 *UJ*	0.004 *UJ*	6790	6940	4.41 *u*	3.42 *U*
PAG	PAG	K1005179	Integral	May 2010	5/18/2010	10:25	3750	3960	0.8 *J*	0.8 *J*	0.004 *UJ*	0.004 *UJ*	6290 *J*	6660 *J*	3.98 *U*	3.18 *U*
PAG	PAG	K1006773	Integral	June 2010	6/29/2010	13:30	3950	3910	0.8 *UJ*	1.2 *UJ*	0.004 *U*	0.004 *U*	4910	4870	11.3 *J*	5.7 *U*
PAG	PAG	K1007431/K1007635	Integral	July 2010	7/14/2010	09:15	5240	5060	1.2	1.1	0.004 *UJ*	0.004 *UJ*	5820	5660	3.18	3.97
PAG	PAG	K1008755	Integral	August 2010	8/11/2010	06:00	5820 *J*	5790 *J*	1.2	1.2	0.004 *UJ*	0.004 *UJ*	6400 *J*	6540 *J*	7.21	6.71
PAG	PAG	K1009890	Integral	September 2010	9/7/2010	09:50	4200	4080	1.3	1.5	0.004 *UJ*	0.004 *UJ*	4010	3930	13.3 *J*	11.3 *J*
PAG	PAG	K1011739	Integral	October 2010	10/18/2010	14:00	2180	2080	0.7 *UJ*	0.7 *UJ*	0.007 *UJ*	0.004 *UJ*	3590	3430	5 *U*	3.6 *U*
PAG	PAG	K1012347	Integral	November 2010	11/2/2010	13:30	2520	2510	0.9 *J*	0.8 *J*	0.004 *U*	0.004 *U*	5140	5140	7.72	5.21
PAG	PAG	K1014375	Integral	December 2010	12/27/2010	9:30	1970	2010	0.6 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	2980	3010	7.03 *U*	4.82 *U*
PAG	PAG	K1100726	Integral	January 2011	1/19/2011	14:00	3070	3120	0.6 *J*	0.7 *J*	0.004 *UJ*	0.004 *UJ*	4250	4340	6.87 *U*	3.66 *U*
PAG	PAG2	K1100726	Integral	January 2011	1/20/2011	13:41	1720	1690	0.3 *U*	0.3 *U*	0.004 *UJ*	0.004 *UJ*	2300	2340	4.92 *U*	3.1 *U*
PAG	PAG	K1101112	Integral	February 2011	2/9/2011	7:35	2110	2150	0.5 *J*	0.6 *J*	0.004 *UJ*	0.004 *UJ*	2970	2960	3.98 *U*	4.29 *U*
PAG	PAG	K1103541	Integral	April 2011	4/21/2011	09:00	2380	2340	0.7 *J*	0.8 *J*	0.006 *UJ*	0.004 *UJ*	2380	2350	4.88 *U*	3.94 *U*
PAG	PAG	K1104448	Integral	May 2011	5/17/2011	17:40	2460	2550	0.8 *J*	0.7 *J*	0.004 *UJ*	0.004 *UJ*	2530	2640	3.67 *U*	2.59 *U*
PAG	PAG	K1105280	Integral	June 2011	6/8/2011	13:10	4180	4180	0.9 *J*	0.9 *J*	0.004 *UJ*	0.004 *UJ*	3270	3230	2.47 *U*	1.39 *U*
PAG	PAG	K1106351	Integral	July 2011	7/12/2011	14:40	4860	5170	1.9	1.7	0.004 *UJ*	0.004 *UJ*	4220	4390	6.79 *U*	3.29 *U*
PAG	PAG	K1107897	Integral	August 2011	8/23/2011	11:10	2620	2630	0.8 *J*	0.8 *J*	0.004 *UJ*	0.004 *UJ*	2010	2050	8.79	7.25
PAG	PAG	K1108477	Integral	September 2011	9/7/2011	9:15	2180	2160	0.8 *J*	0.8 *J*	0.004 *UJ*	0.004 *UJ*	1480	1550	7.52 *U*	5.66 *U*
PAG	PAG	K1109861	Integral	October 2011	10/11/2011		2080	2290	0.4 *UJ*	0.6 *UJ*	0.004 *UJ*	0.004 *UJ*	2550	2590	8.22	6.71
PAG	PAG	K1111032	Integral	November 2011	11/10/2011	13:25	2050	2060	0.45 *UJ*	0.53 *UJ*	0.008 *J*	0.005 *U*	2700	2750	4.57 *R*	3.59 *R*
PAG	PAG	K1112358	Integral	December 2011	12/21/2011	9:35	1940	1970	0.7 *J*	0.8 *J*	0.009 *UJ*	0.004 *U*	2540	2590	7.34 *U*	3.98 *U*
PAG	PAG	K1200245	Integral	January 2012	1/8/2012	10:30	1420	1490	0.3 *J*	0.3 *J*	0.004 *U*	0.004 *U*	4120	4110	5.76 *U*	5.16 *U*
PAG	PAG	K1201605	Integral	February 2012	2/21/2012		1610	1610	0.6 *J*	0.4 *J*	0.034 *U*	0.024 *U*	2970	2990	5.2	4.8
PAG	PAG	K1202763	Integral	March 2012	3/27/2012		1730	1720	0.3 *J*	0.4 *J*	0.004 *U*	0.004 *U*	2940	2940	3.71	3.34
PAG	PAG	K1203283	Integral	April 2012	4/6/2012	11:30	1760	1710	0.7 *J*	0.7 *J*	0.004 *U*	0.004 *U*	3850	3830	4.94 *U*	4.46 *U*

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
PAG	PAG	K1207121	Integral	July 2012	7/22/2012	8:45	2860	2960	0.9 *J*	0.7 *J*	0.005 *U*	0.005 *U*	3140	3250	9.44 *J*	7.83 *J*
PAG	PAG	K1210890	Integral	October 2012	10/28/2012	15:00	2750	2800	1.1	0.7 *J*	0.038 *J*	0.045 *J*	2130	2170	6.4 *U*	6.1 *UJ*
PORTAL	PORTAL	L515743	Knight Piesold	June 2007	6/5/2007	08:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3200	3200	1 *U*	1 *U*
PORTAL	PORTAL	L526591	Knight Piesold	July 2007 I	7/1/2007	16:00	2000 *U*	2000 *U*	1 *U*	1 *U*	0.01 *U*	0.01 *U*	3300	3200	1 *U*	1 *U*
PORTAL	PORTAL	K0706569	Integral	July 2007 II	7/23/2007	15:45	900 *U*	900 *U*	0.5 *J*	0.4 *J*	0.009 *U*	0.009 *U*	3850	3920	2.63 *U*	6.69 *U*
PORTAL	PORTAL	K0707317	Integral	August 2007 I	8/13/2007	14:50	900 *U*	900 *U*	0.9 *U*	0.7 *U*	0.024 *U*	0.011 *U*	3710	3650	7.03 *J*	3.69 *U*
PORTAL	PORTAL	K0707782	Integral	August 2007 II	8/28/2007	11:00	900 *U*	900 *U*	0.6 *U*	0.3 *J*	0.005 *U*	0.004 *U*	3430	3480	1.2 *U*	9.54 *U*
PORTAL	PORTAL	K0709126	Integral	September 2007 II	9/30/2007	07:15	900 *U*	900 *U*	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	3680	3740	1.67 *U*	5.77 *U*
PORTAL	PORTAL+150	K0709804	Integral	October 2007	10/16/2007	07:00	900 *U*	900 *U*	0.4 *J*	0.4 *J*	0.009 *U*	0.009 *U*	3670	3750	1.57 *U*	4.17 *U*
PORTAL	Portal + 488	K0711443	Integral	December 2007 (Portal only)	12/4/2007		1290 *J*	1230 *J*	1.1	1	0.009 *U*	0.009 *U*	8270	8010	2.63 *UJ*	7.19
PORTAL	Portal + 400	K0800335	Integral	January 2008	1/8/2008	10:50	392 *UJ*	278 *UJ*	0.5 *J*	0.4 *J*	0.009 *U*	0.004 *U*	3520	3610	1.3 *U*	5 *U*
PORTAL	Portal + 400	K0801400	Integral	Februrary 2008	2/14/2008	7:22	900 *U*	900 *U*	0.6 *J*	0.2 *J*	0.008 *UJ*	0.009 *UJ*	3370	3590	2.2 *U*	2.92 *U*
PORTAL	Portal + 400	K0802328	Integral	March 2008	3/14/2008	7:15	226 *J*	242 *J*	0.4 *J*	0.5 *J*	0.041 *UJ*	0.032 *UJ*	3110	3130	3.7 *U*	4.4 *U*
PORTAL	Portal + 400	K0803239	Integral	April 2008	4/14/2008	19:00	244 *J*	257 *UJ*	0.2 *U*	0.2 *U*	0.009 *R*	0.009 *R*	3110	2970	4.62 *U*	2.13 *U*
PORTAL	Portal + 400	K0804080	Integral	May 2008	5/8/2008	13:45	191 *J*	214 *J*	0.4 *U*	0.4 *U*	0.005 *UJ*	0.005 *UJ*	3360	3410	4.26 *U*	2.88 *U*
PORTAL	Portal + 400	K0805877	Integral	June 2008	6/27/2008	21:00	259 *J*	249 *J*	0.5 *U*	0.5 *U*	0.009 *UJ*	0.009 *UJ*	3440	3540	1.5 *U*	8.4 *U*
PORTAL	Portal + 400	K0806880	Integral	July 2008	7/25/2008	11:50	100 *U*	100 *U*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	2870	3130	6.8 *U*	1.6 *U*
PORTAL	Portal + 2500	K0806880	Integral	July 2008	7/25/2008	11:30	363 *J*	475 *J*	1.9	2	0.009 *UJ*	0.009 *UJ*	4560	4630	3.1 *U*	20.2 *J*
PORTAL	Portal + 2775	K0806880	Integral	July 2008	7/25/2008	14:30	938 *J*	941 *J*	0.9 *J*	0.8 *J*	0.2	0.009 *UJ*	43500	48600	139	1.4 *U*
PORTAL	Portal + 400	K0807967	Integral	August 2008	8/19/2008	13:20	150 *J*	147 *J*	0.4 *U*	0.4 *U*	0.009 *UJ*	0.009 *UJ*	3080	3120	2.41 *U*	1.99 *U*
PORTAL	Portal + 2500	K0807967	Integral	August 2008	8/19/2008	13:30	247 *J*	231 *J*	1.7	1.4	0.009 *UJ*	0.009 *UJ*	4490	4480	2.44 *U*	1.59 *U*
PORTAL	Portal + 2775	K0807967	Integral	August 2008	8/19/2008	13:40	796 *J*	797 *J*	1.6	1.7	0.009 *UJ*	0.009 *UJ*	39300	39300	0.74 *U*	2.14 *U*
PORTAL	Portal + 2500	K0808787	Integral	September 2008	9/9/2008	18:11	194 *J*	293 *J*	0.69 *J*	1.8	0.009 *UJ*	0.009 *UJ*	3500	3910	3.5 *U*	5.57 *U*
PORTAL	Portal + 2775	K0808787	Integral	September 2008	9/9/2008		723 *J*	737 *J*	3.4	3.6	0.009 *UJ*	0.027 *UJ*	31400	30600	9.32 *U*	3.52 *U*
PORTAL	Portal + 400	K0810253	Integral	October 2008	10/16/2008	10:40	144 *UJ*	110 *UJ*	0.5 *U*	0.5 *U*	0.009 *U*	0.009 *U*	3280	3210	7.65 *U*	3.65 *U*
PORTAL	Portal + 2500	K0810253	Integral	October 2008	10/16/2008	11:05	172 *J*	180 *J*	1.4	1.6	0.009 *U*	0.009 *U*	4010	4040	2.47 *U*	2.65 *U*
PORTAL	Portal + 2775	K0810253	Integral	October 2008	10/16/2008	11:10	548 *J*	588 *J*	3.4	3.6	0.009 *U*	0.009 *U*	24800	25700	4.89 *U*	4.27 *U*
PORTAL	Portal DSCG	K0906701	Integral	July 2009	7/23/2009	10:50	509	471	0.7 *J*	0.6 *J*	0.004 *U*	0.01 *UJ*	5090	5030	135	127
PORTAL	Portal + 400	K1008755	Integral	August 2010	8/11/2010	21:00	75 *J*	118 *J*	0.3 *U*	0.5 *J*	0.006 *UJ*	0.004 *UJ*	3240 *J*	3130 *J*	2.33	1.28
PORTAL	Portal Drift	K1109861	Integral	October 2011	10/11/2011		319 *J*	298 *J*	0.2 *UJ*	0.2 *U*	0.18 *J*	0.004 *UJ*	4220	4250	16	3.15
PORTAL	Drift	K1207121	Integral	July 2012	7/22/2012	9:10	315 *UJ*	318 *UJ*	0.5 *J*	0.6 *J*	0.005 *U*	0.005 *U*	4940	5080	12.6 *J*	13.1 *J*
PORTAL	Drift	K1210890	Integral	October 2012	10/28/2012	15:50	270 *J*	266 *J*	0.5 *J*	0.6 *J*	0.108 *J*	0.356 *J*	5130	5200	16 *J*	14 *J*

Notes:

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

Data Qualifiers:

J = The analyte was positively identified; the associated nu
U = The analyte was not detected above the reported sam
UJ = The analyte was not detected above the reported sar
R = Rejected.

Table B-2a. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ4	Knight Piesold	February 2006 II	2/15/2006		2.76	57	15.8	--	6.42	--
WQ4	Knight Piesold	May 2006 II	5/16/2006	08:08	4.36	22	18.36	--	5.83	--
WQ4	Knight Piesold	August 2006 II	8/29/2006	11:05	10.45	40	11.48	--	6.73	--
WQ4	Knight Piesold	October 2006	10/17/2006	13:30	8.48	70	11.59	22	6.6	--
WQ4	Knight Piesold	December 2006	12/7/2006	09:25	5.27	30	11.26	42	4.08	--
WQ4	Knight Piesold	February 2007	2/26/2007	08:41	1.42	55	12.8	15	6.45	--
WQ4	Knight Piesold	April 2007	4/10/2007	09:26	2.14	33	13.03	38.4	6.76	--
WQ4	Knight Piesold	May 2007	5/14/2007	14:05	4.18	29	13	11.8	6.64	--
WQ4	Knight Piesold	June 2007	6/4/2007	16:13	6.43	15	13.15	10	6.69	--
WQ4	Knight Piesold	July 2007 I	7/1/2007	13:35	8.78	44	12.14	0.6	7.09	--
WQ4	Integral	July 2007 II	7/24/2007	14:12	9.41	64	11.89	16	6.89	--
WQ4	Integral	August 2007 I	8/14/2007	13:25	10.78	87	11.77	4.5	7.26	--
WQ4	Integral	August 2007 II	8/27/2007	10:00	9.7	61	12.7	6.2	6.6	--
WQ4	Integral	September 2007 I	9/11/2007	11:25	9.51	75	12	3	7.39	--
WQ4	Integral	September 2007 II	10/2/2007	11:35	8.2	38	12.88	6.5	6.52	--
WQ4	Integral	October 2007	10/17/2007	10:30	6.29	27	15.05	17.7	6.73	--
WQ4	Integral	November 2007	11/13/2007	11:30	4.15	57	13.4	6	7.19	--
WQ4	Integral	December 2007 I	12/15/2007	14:10	1.36	46	15.13	26.5	6.5	--
WQ4	Integral	January 2008	1/9/2008	11:40	1.09	84	15.96	43.5	7.12	--
WQ4	Integral	Februrary 2008	2/14/2008	13:55	1.24	52	15.11	59.7	6.73	--
WQ4	Integral	March 2008	3/15/2008	11:30	1.8	49	13.66	4	6.39	--
WQ4	Integral	April 2008	4/14/2008	15:50	3.2	68	14.12	11.7	6.85	--
WQ4	Integral	May 2008	5/8/2008	9:40	4.1	58	13.5	15.7	6.81	--
WQ4	Integral	June 2008	6/28/2008	9:05	7.3	29	12.96	4.6	5.89	--
WQ4	Integral	July 2008	7/24/2008	15:45	9.8	68	11.3	24.3	6.82	--
WQ4	Integral	October 2008	10/15/2008	14:10	8	50	11.61	4.4	6.72	--
WQ4	Integral	March 2009	3/9/2009	12:05	0.34	87	18.85	6.7	6.34	--
WQ4	Integral	May 2009	5/13/2009	13:50	4.81	31	13.92	8.2	6.2	--
WQ4	Integral	July 2009	7/23/2009	14:00	11.05	26	11.15	17.6	6.97	--
WQ4	Integral	September 2009 I	9/5/2009	11:25	11.31	116	8.67	4.4	7.17	--
WQ4	Integral	September 2009 II	9/12/2009	16:25	11.02	86	10.32	4.6	6.95	--
WQ4	Integral	October 2009	10/17/2009	13:50	8.6	56	10.67	6	7.07	--
WQ4	Integral	January 2010	1/15/2010	16:05	4.29	45	11.64	9.9	6.55	--
WQ4	Integral	April 2010	4/22/2010	13:35	5	89	11.7	0	6.9	--
WQ4	Integral	July 2010	7/14/2010	15:45	10.2	136	11.21	7.1	6.46	--
WQ4	Integral	August 2010	8/10/2010	15:00	11.4	132	10.62	7.5	7.54	--
WQ4	Integral	October 2010	10/18/2010	16:30	8.1	95	11.03	24	7.94	--
WQ4	Integral	January 2011	1/19/2011	15:15	1.3	64	12.85	23.5	7.35	--
WQ4	Integral	April 2011	4/20/2011	17:10	4.05	80	13.2	7	6.2	--
WQ4	Integral	July 2011 II	7/25/2011	15:55	10.16	70	10.78	6	6.9	--
WQ4	Integral	December 2011	12/21/2011	8:50	2.81	60	12.06	9	6.4	--
WQ4	Integral	January 2012	1/9/2012	8:45	2.48	70	11.85	15	5.2	--
WQ4	Integral	April 2012	4/8/2012	10:20	2.55	80	11.27	17	6.1	--
WQ4	Integral	July 2012	7/21/2012	14:35	10.65	61	10.76	--	6.38	--
WQ4	Integral	October 2012	10/27/2012	16:40	4.34	102	11.65	13.2	6.34	--
WQ6	Knight Piesold	February 2006 II	2/15/2006		2.15	39	16.16	--	6.51	--
WQ6	Knight Piesold	May 2006 II	5/16/2006	09:44	5.8	33	13.22	--	5.91	--
WQ6	Knight Piesold	August 2006 II	8/29/2006	10:45	10.03	25	11.52	--	6.36	--
WQ6	Knight Piesold	October 2006	10/17/2006	14:50	8.27	40	11.58	11	6.22	--
WQ6	Knight Piesold	December 2006	12/7/2006	09:00	4.92	20	11.77	85	4.1	--
WQ6	Knight Piesold	February 2007	2/26/2007	09:46	0.87	37	12.54	8	6.25	--
WQ6	Knight Piesold	April 2007	4/10/2007	10:38	1.65	24	13.06	7.4	5.16	--

Table B-2a. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ6	Knight Piesold	May 2007	5/14/2007	14:45	3.45	22	13.24	12.1	6.78	--
WQ6	Knight Piesold	June 2007	6/4/2007	16:45	4.8	9	13.35	8	6.75	--
WQ6	Knight Piesold	July 2007 I	7/1/2007	14:15	7.78	20	12.45	0.9	6.97	--
WQ6	Integral	July 2007 II	7/24/2007	14:47	9.12	32	12.03	14.4	7	--
WQ6	Integral	August 2007 I	8/14/2007	14:00	10.31	52	11.73	4.9	7.14	--
WQ6	Integral	August 2007 II	8/27/2007	10:45	9.73	45	12.48	5.2	6.47	--
WQ6	Integral	September 2007 I	9/11/2007	12:15	9.53	43	11.76	1.9	7.22	--
WQ6	Integral	September 2007 II	10/2/2007	12:00	7.83	24	12.89	4.5	5.98	--
WQ6	Integral	October 2007	10/17/2007	09:40	6.74	19	14.88	11.5	5.96	--
WQ6	Integral	November 2007	11/13/2007	11:00	3.85	35	13.5	1.5	7.05	--
WQ6	Integral	December 2007 I	12/15/2007	13:20	1.46	29	15.14	12	6.08	--
WQ6	Integral	January 2008	1/9/2008	11:05	0.53	54	15.87	4.2	6.8	--
WQ6	Integral	Februrary 2008	2/14/2008	9:45	1.62	37	15.27	7.4	5.98	--
WQ6	Integral	March 2008	3/15/2008	10:40	1.8	33	13.74	0	7.38	--
WQ6	Integral	April 2008	4/14/2008	14:40	2.8	51	13.9	0	6.3	--
WQ6	Integral	May 2008	5/8/2008	8:45	3.2	40	13.67	1.4	5.62	--
WQ6	Integral	June 2008	6/28/2008	9:10	5.9	16	13.37	3.5	5.53	--
WQ6	Integral	July 2008	7/24/2008	15:00	8.8	31	11.72	1	6.65	--
WQ6	Integral	October 2008	10/15/2008	10:40	7.5	31	11.64	3.4	5.7	--
WQ6	Integral	March 2009	3/9/2009	11:30	0.68	75	14.84	6.1	5.77	--
WQ6	Integral	May 2009	5/13/2009	15:00	4.07	26	13.53	6.9	6.91	--
WQ6	Integral	July 2009	7/23/2009	13:00	9.95	21	11.28	12.9	7.36	--
WQ6	Integral	September 2009 I	9/5/2009	10:25	10.63	37	7.16	3.3	5.52	--
WQ6	Integral	September 2009 II	9/12/2009	15:10	10.8	42	9.72	3.2	6.13	--
WQ6	Integral	October 2009	10/17/2009	12:00	8.26	37	10.77	5.3	6.4	--
WQ6	Integral	January 2010	1/15/2010	15:10	4.09	36	11.62	9.4	6.32	--
WQ6	Integral	April 2010	4/22/2010	13:15	4.4	65	11.89	--	6.67	--
WQ6	Integral	August 2010	8/10/2010	14:00	11.4	84	10.68	9.3	7.18	--
WQ6	Integral	October 2010	10/19/2010	15:30	7.8	60	11.34	7.1	7.05	--
WQ6	Integral	January 2011	1/21/2011	8:30	1.7	43	12.57	11.3	5.69	--
WQ6	Integral	April 2011	4/20/2011	16:50	3.21	50	13.49	6	5.9	--
WQ6	Integral	July 2011 II	7/25/2011	15:35	9.59	40	11.05	8	6.6	--
WQ6	Integral	December 2011	12/21/2011	8:30	2.52	50	12.45	10	6.3	--
WQ6	Integral	January 2012	1/8/2012	15:00	2.77	50	12.51	8	5.7	--
WQ6	Integral	April 2012	4/8/2012	9:55	2.31	70	11.47	11	5.8	--
WQ6	Integral	July 2012	7/21/2012	11:40	9.18	31	12.2	--	5.98	--
WQ6	Integral	October 2012	10/27/2012	16:15	3.74	61	11.8	20.4	5.83	--
WQ7	Knight Piesold	February 2006 II	2/15/2006		2.15	39	16.95	--	5.2	--
WQ7	Knight Piesold	May 2006 II	5/16/2006	14:38	5.19	19	13.64	--	5.46	--
WQ7	Knight Piesold	August 2006 II	8/29/2006	13:30	10	25	12.2	--	6.28	--
WQ7	Knight Piesold	October 2006	10/17/2006	16:00	8.24	40	11.72	93	6.11	--
WQ7	Knight Piesold	February 2007	2/26/2007	11:20	0.95	36	12.69	9.5	6.28	--
WQ7	Knight Piesold	April 2007	4/10/2007	16:22	1.55	23	12.92	41.2	6.8	--
WQ7	Knight Piesold	May 2007	5/14/2007	15:15	5.87	113	12.47	6.1	6.97	--
WQ7	Knight Piesold	June 2007	6/4/2007	17:41	4.87	9	13.36	7.7	6.65	--
WQ7	Knight Piesold	July 2007 I	7/1/2007	15:10	7.53	19	12.24	4.2	7.31	--
WQ7	Integral	July 2007 II	7/24/2007	15:31	8.82	31	12.21	14.1	7.13	--
WQ7	Integral	August 2007 I	8/14/2007	14:50	10.3	51	11.92	4	7.2	--
WQ7	Integral	August 2007 II	8/27/2007	12:00	9.3	45	12.79	10.6	6.77	--
WQ7	Integral	September 2007 I	9/11/2007	13:15	9.39	41	11.92	5.2	7.45	--
WQ7	Integral	September 2007 II	10/2/2007	12:30	7.5	22	13.08	25.9	6.18	--
WQ7	Integral	October 2007	10/17/2007	11:35	5.81	19	15.31	8	6.28	--

Table B-2a. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ7	Integral	November 2007	11/13/2007	12:10	3.55	33	13.57	3.1	7.12	--
WQ7	Integral	December 2007 I	12/15/2007	14:50	1.32	27	15.16	9.3	6.37	--
WQ7	Integral	January 2008	1/9/2008	12:30	0.55	53	16.11	5.5	7.14	--
WQ7	Integral	Februrary 2008	2/14/2008	10:25	1.42	35	15.33	59.6	6.03	--
WQ7	Integral	March 2008	3/15/2008	12:40	1.9	33	13.61	0	7.06	--
WQ7	Integral	April 2008	4/14/2008	17:00	2.6	51	14.07	34.3	6.89	--
WQ7	Integral	May 2008	5/8/2008	10:30	3.3	38	13.41	8	6.95	--
WQ7	Integral	June 2008	6/28/2008	10:30	5.9	15	13.1	2.8	5.87	--
WQ7	Integral	July 2008	7/24/2008	16:15	8.4	31	11.68	0.2	7.13	--
WQ8	Knight Piesold	February 2006 II	2/15/2006		2.8	57	15.88	--	6.23	--
WQ8	Knight Piesold	May 2006 II	5/17/2006	07:42	4.49	17	12.96	--	5.93	--
WQ8	Knight Piesold	August 2006 II	8/29/2006	14:40	10.02	40	11.92	--	6.77	--
WQ8	Knight Piesold	October 2006	10/17/2006	16:20	8.95	50	11.06	11	6.44	--
WQ8	Knight Piesold	February 2007	2/26/2007	11:35	2.03	37	12.59	9.3	6.22	--
WQ8	Knight Piesold	April 2007	4/10/2007	16:31	1.64	33	12.76	8.4	6.9	--
WQ8	Knight Piesold	May 2007	5/14/2007	15:50	3.51	36	12.91	8.2	7.12	--
WQ8	Knight Piesold	June 2007	6/4/2007	17:19	6.08	13	13.25	8.6	6.49	--
WQ8	Knight Piesold	July 2007 I	7/1/2007	15:25	7.08	41	12.57	2.5	7.11	--
WQ8	Integral	July 2007 II	7/24/2007	15:16	9.21	53	11.99	14.8	7.06	--
WQ8	Integral	August 2007 I	8/14/2007	14:30	9.54	65	11.84	3.9	7.12	--
WQ8	Integral	August 2007 II	8/27/2007	11:35	9.38	49	12.36	5.9	6.5	--
WQ8	Integral	September 2007 I	9/11/2007	13:35	8.93	53	11.88	3	7.24	--
WQ8	Integral	September 2007 II	10/2/2007	12:50	7.91	25	12.82	7.4	6.21	--
WQ8	Integral	October 2007	10/17/2007	11:20	6.25	21	14.95	7	6.42	--
WQ8	Integral	November 2007	11/13/2007	13:00	3.95	39	13.31	2.2	7.15	--
WQ8	Integral	December 2007 I	12/15/2007		0.82	28	15.16	20.5	6.03	--
WQ8	Integral	January 2008	1/9/2008	12:45	1.21	54	15.62	4.1	7.04	--
WQ8	Integral	Februrary 2008	2/14/2008	15:10	1.04	32	15.03	18	6.72	--
WQ8	Integral	March 2008	3/15/2008	13:00	1.9	32	12.9	1	6.4	--
WQ8	Integral	April 2008	4/14/2008	17:30	2.3	49	13.84	0	7.07	--
WQ8	Integral	May 2008	5/8/2008	11:30	3.2	40	13.28	6.1	7.35	--
WQ8	Integral	June 2008	6/28/2008	11:10	6.7	20	13.26	3.2	6.46	--
WQ8	Integral	July 2008	7/24/2008	17:00	8.8	50	10.92	1.5	7.1	--
WQ10	Knight Piesold	August 2006 II	8/29/2006	16:45	10.48	28	12.25	--	6.82	--
WQ10	Knight Piesold	October 2006	10/17/2006	13:05	--	40	11.39	29	6.06	--
WQ10	Knight Piesold	December 2006	12/7/2006	10:30	5.07	30	11.67	39	4.06	--
WQ10	Knight Piesold	February 2007	2/26/2007	10:00	1.95	29	12.65	27	6.05	--
WQ10	Knight Piesold	April 2007	4/10/2007	11:11	2.99	26	13.14	7.2	6.71	--
WQ10	Knight Piesold	May 2007	5/14/2007	14:20	5.12	32	12.83	10.3	6.68	--
WQ10	Knight Piesold	June 2007	6/4/2007	16:33	6.74	29.5	12.95	6.6	6.75	--
WQ10	Knight Piesold	July 2007 I	7/1/2007	14:00	8.92	47	11.54	0	7.12	--
WQ10	Integral	July 2007 II	7/24/2007	14:37	9.13	39	11.98	18	7.07	--
WQ10	Integral	August 2007 I	8/14/2007	13:40	10.72	46	11.22	4.6	7.11	--
WQ10	Integral	August 2007 II	8/27/2007	10:15	9.74	44	12.27	4.9	6.34	--
WQ10	Integral	September 2007 I	9/11/2007	11:50	9.6	41	11.64	2.2	7.43	--
WQ10	Integral	September 2007 II	10/1/2007	07:55	7.74	34	14.04	5.9	5.91	--
WQ10	Integral	October 2007	10/17/2007	10:00	6.89	22	14.82	7.9	6.21	--
WQ10	Integral	November 2007	11/13/2007	11:15	4.78	36	13.2	1.6	7.02	--
WQ10	Integral	December 2007 I	12/15/2007	13:50	2.28	35	14.93	12.3	6.04	--
WQ10	Integral	January 2008	1/9/2008	11:20	1.88	50	15.4	5.7	6.66	--
WQ10	Integral	Februrary 2008	2/14/2008	13:35	1.72	30	14.91	7.4	6.5	--
WQ10	Integral	March 2008	3/15/2008	11:00	2.6	31	13.04	10	6.3	--

Table B-2a. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ10	Integral	April 2008	4/14/2008	15:05	3.8	58	13.65	0	6.73	--
WQ10	Integral	May 2008	5/8/2008	9:10	4.7	48	13.02	1.2	6.28	--
WQ10	Integral	June 2008	6/28/2008	9:35	8.4	55	12.71	2.8	5.95	--
WQ10	Integral	July 2008	7/24/2008	15:25	9.9	70	10.2	0.8	6.93	--
WQ10	Integral	October 2008	10/15/2008	13:30	8.4	45	10.96	4.9	6.61	--
WQ10	Integral	March 2009	3/9/2009	11:45	0.58	63	17.91	6.4	5.82	--
WQ10	Integral	May 2009	5/13/2009	14:30	5.92	33	13.23	6.1	6.8	--
WQ10	Integral	July 2009	7/23/2009	13:30	10.2	40	11.24	11.3	6.85	--
WQ10	Integral	September 2009 I	9/5/2009	11:00	11.03	50	6.32	14	6.4	--
WQ10	Integral	September 2009 II	9/12/2009	15:35	10.84	70	10.18	3.7	6.49	--
WQ10	Integral	October 2009	10/17/2009	12:40	8.89	73	10.53	6.1	7.06	--
WQ10	Integral	January 2010	1/15/2010	14:30	5.18	49	11.52	9	6.18	--
WQ10	Integral	April 2010	4/22/2010	11:00	5.6	107	11.51	0.8	6.65	--
WQ10	Integral	August 2010	8/10/2010	13:30	11.4	121	10.02	4.7	6.81	--
WQ10	Integral	October 2010	10/19/2010	16:00	8.6	93	10.93	5.8	7.18	--
WQ10	Integral	January 2011	1/21/2011	9:00	2.3	52	12.22	16	5.9	--
WQ10	Integral	April 2011	4/20/2011	16:10	4.5	50	12.91	19	5.4	--
WQ10	Integral	July 2011 II	7/25/2011	15:15	9.84	60	10.87	5	6.3	--
WQ10	Integral	December 2011	12/21/2011	8:10	3.58	60	12.33	9	6.1	--
WQ10	Integral	January 2012	1/8/2012	14:10	3.9	60	12.41	11	5.4	--
WQ10	Integral	April 2012	4/8/2012	9:25	2.99	70	11.44	11	5.8	--
WQ10	Integral	July 2012	7/21/2012	13:50	10.79	65	10.59	--	5.79	--
WQ10	Integral	October 2012	10/27/2012	15:45	4.39	73	11.31	17.6	5.36	--
WQ12	Knight Piesold	August 2006 II	8/29/2006	16:00	9.52	63	12.36	--	6.82	--
WQ12	Knight Piesold	October 2006	10/17/2006	09:40	9.48	30	11.37	78	6.42	--
WQ12	Knight Piesold	February 2007	2/26/2007	11:01	1.93	44	12.47	9.1	6.25	--
WQ12	Knight Piesold	April 2007	4/10/2007	16:06	3	45	12.52	7.7	6.95	--
WQ12	Knight Piesold	May 2007	5/14/2007	15:35	3.36	21	13.23	9.7	7.42	--
WQ12	Knight Piesold	June 2007	6/4/2007	18:07	6.55	97	11.77	8	6.91	--
WQ12	Knight Piesold	July 2007 I	7/1/2007	14:45	8.57	102	10.85	0.2	6.92	--
WQ12	Integral	July 2007 II	7/24/2007	15:56	9.53	96	11.52	15.3	6.97	--
WQ12	Integral	August 2007 I	8/14/2007	15:50	10.55	103	10.35	2.5	7.03	--
WQ12	Integral	August 2007 II	8/27/2007	12:20	9.8	110	11.08	4.6	6.86	--
WQ12	Integral	September 2007 I	9/11/2007	12:50	10.5	96	10.3	1.8	7.18	--
WQ12	Integral	September 2007 II	10/1/2007	09:15	8.49	43	12.73	15.3	6.45	--
WQ12	Integral	October 2007	10/17/2007	12:00	6.56	24	14.73	8.3	6.57	--
WQ12	Integral	November 2007	11/13/2007	12:40	5.48	53	12.18	2	7.16	--
WQ12	Integral	December 2007 I	12/15/2007	15:10	1.79	32	14.82	13.9	6.36	--
WQ12	Integral	January 2008	1/9/2008	12:15	1.54	63	15.24	3	7.15	--
WQ12	Integral	Februrary 2008	2/14/2008	14:50	1.25	28	15	7.9	6.82	--
WQ12	Integral	March 2008	3/15/2008	12:10	4.9	49	9.98	1	6.68	--
WQ12	Integral	April 2008	4/14/2008	16:35	3.7	66	12.8	0	7.21	--
WQ12	Integral	May 2008	5/8/2008	11:00	4.8	74	12.04	1.2	7.01	--
WQ12	Integral	June 2008	6/28/2008	10:45	7.9	32	12.38	4.5	6.24	--
WQ12	Integral	July 2008	7/24/2008	16:35	8.8	87	10.38	0.9	7.17	--
WQ13	Knight Piesold	February 2007	2/26/2007	08:19	2.34	62	12.34	8.2	6.33	--
WQ13	Knight Piesold	April 2007	4/10/2007	08:52	1.72	33	13.16	14.8	6.41	--
WQ13	Knight Piesold	May 2007	5/14/2007	13:50	3.41	39	12.85	10.8	6.24	--
WQ13	Knight Piesold	June 2007	6/4/2007	15:53	5.2	25	13.05	10.7	6.44	--
WQ13	Knight Piesold	July 2007 I	7/1/2007	13:05	7.18	49	12.37	6.1	7.02	--
WQ13	Integral	July 2007 II	7/24/2007	14:00	7.66	56	12.5	43	6.61	--
WQ13	Integral	August 2007 I	8/14/2007	13:10	9.7	72.5	11.93	7.4	6.92	--

Table B-2a. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ13	Integral	August 2007 II	8/27/2007	09:10	8.36	59	12.91	10.1	6.12	--
WQ13	Integral	September 2007 I	9/11/2007	10:45	8.82	59	12.02	7	7.08	--
WQ13	Integral	September 2007 II	10/1/2007	08:15	7.74	38	13.87	7.3	6.12	--
WQ13	Integral	October 2007	10/17/2007	10:50	7.65	30	14.17	8.4	6.56	--
WQ13	Integral	November 2007	11/13/2007	10:35	5.57	45	12.92	4	6.86	--
WQ13	Integral	December 2007 I	12/16/2007	09:45	3.04	50	14.87	8.9	5.6	--
WQ13	Integral	January 2008	1/9/2008	10:40	2.11	66	15.56	12.9	6.81	--
WQ13	Integral	Februrary 2008	2/14/2008	15:50	1.93	44	14.84	8.5	6.54	--
WQ13	Integral	March 2008	3/15/2008	10:20	2.5	39	13.18	0	7.46	--
WQ13	Integral	April 2008	4/15/2008	5:45	3.1	58	12.95	0.3	6.95	--
WQ13	Integral	May 2008	5/8/2008	8:00	3.5	52	13.49	1.2	5.34	--
WQ13	Integral	June 2008	6/27/2008	8:50	6.6	36	12.06	1.3	5.83	--
WQ13	Integral	July 2008	7/25/2008	8:00	8.1	62	11.51	4.1	5.78	--
WQ13	Integral	October 2008	10/15/2008	14:30	8.5	45	11.33	9.5	6.88	--
WQ13	Integral	March 2009	3/8/2009	10:57	1.78	120	12.83	3.5	5.67	--
WQ13	Integral	May 2009	5/13/2009	13:30	4.2	35	13.05	7.1	6.53	--
WQ13	Integral	July 2009	7/23/2009	14:20	10.43	30	11.13	13.3	6.75	--
WQ13	Integral	October 2009	10/17/2009	15:15	8.99	51	10.25	7.1	7.06	--
WQ13	Integral	January 2010	1/17/2010	08:50	4.4	55	11.43	14.1	5.39	--
WQ13	Integral	April 2010	4/22/2010	14:10	4.6	78	11.68	0	6.57	--
WQ13	Integral	July 2010	7/14/2010	16:10	9	91	11.07	4.4	6.76	--
WQ13	Integral	August 2010	8/10/2010	15:20	10	91	10.5	5.5	7.77	--
WQ13	Integral	October 2010	10/18/2010	16:50	8.3	95	10.97	8.5	7.06	--
WQ13	Integral	January 2011	1/19/2011	15:50	3	74	12.27	18.5	7.11	--
WQ13	Integral	April 2011	4/20/2011	17:30	3.33	70	13.22	7	6.3	--
WQ13	Integral	July 2011 II	7/25/2011	16:15	8.3	60	11.07	11	6.7	--
WQ13	Integral	December 2011	12/21/2011	9:10	3.91	60	11.85	13	6.4	--
WQ13	Integral	January 2012	1/9/2012	8:30	3.32	70	12.63	25	5.1	--
WQ13	Integral	April 2012	4/8/2012	10:50	2.88	80	11.24	10	6.3	--
WQ13	Integral	July 2012	7/21/2012	16:00	8.32	72	11.46	--	5.81	--
WQ13	Integral	October 2012	10/27/2012	17:00	5.13	92	11.71	12.7	6.45	--

Table B-2b. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Groundwater

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
MW1	Knight Piesold	February 2007	2/28/2007	08:45	1.07	73	4.23	24.7	5.84	--
MW1	Knight Piesold	April 2007	4/10/2007	08:25	3.2	114	3.06	23.5	6.54	--
MW1	Knight Piesold	May 2007	5/14/2007	10:49	5.24	101	1.93	14.5	6.36	--
MW1	Knight Piesold	June 2007	6/4/2007	13:06	8.48	111	3.42	8.4	6.39	--
MW1	Knight Piesold	July 2007 I	7/2/2007	11:45	9.02	113	5.04	7.5	6.31	--
MW1	Integral	July 2007 II	7/24/2007	11:44	10.56	117	6.14	54	6.28	--
MW1	Integral	August 2007 I	8/14/2007	11:05	11.24	115	5.52	13	6.18	--
MW1	Integral	August 2007 II	8/28/2007	17:40	10.44	116	4.49	10.5	6.2	--
MW1	Integral	September 2007 I	9/11/2007	10:20	10.61	108	5.02	5.2	6.38	--
MW1	Integral	September 2007 II	9/30/2007	15:45	7.87	107	6.2	15.2	6.68	--
MW1	Integral	October 2007	10/16/2007	12:25	7.49	97	5.57	44.5	6.77	--
MW1	Integral	November 2007	11/12/2007	14:05	4.69	97	6.09	18.8	6.95	--
MW1	Integral	December 2007 I	12/14/2007	13:00	1.7	87	7.89	48.7	6.33	--
MW1	Integral	January 2008	1/9/2008	10:00	1.26	100	5.71	13	6.1	--
MW1	Integral	Februrary 2008	2/14/2008	8:30	1.35	97	6.05	47.5	6.29	--
MW1	Integral	March 2008	3/14/2008	10:10	3.43	100	4.96	17.2	6.47	--
MW1	Integral	April 2008	4/15/2008	6:30	4.2	111	0	2.9	5.83	--
MW1	Integral	May 2008	5/7/2008	17:15	5.4	109	0	4.5	6.08	--
MW1	Integral	June 2008	6/26/2008	17:15	8.6	99	0	28.2	6.36	--
MW1	Integral	July 2008	7/24/2008	13:35	10.5	101	0	--	6.17	--
MW1	Integral	August 2008	8/19/2008	11:45	11.9	91	0	21.5	6.12	--
MW1	Integral	September 2008	9/9/2008	13:30	10.5	99	0	8.1	6.23	--
MW1	Integral	October 2008	10/15/2008	15:00	7.9	82	0	6.7	6.27	--
MW1	Integral	March 2009	3/9/2009	10:10	1.15	115	0	12.4	5.8	--
MW1	Integral	May 2009	5/13/2009	12:45	6.93	106	0	11.7	6.27	--
MW1	Integral	July 2009	7/24/2009	15:15	11.64	87	0	65.2	5.97	--
MW1	Integral	October 2009	10/17/2009	16:02	8.38	97	0	8.8	5.98	--
MW1	Integral	January 2010	1/17/2010	09:37	5.21	104	0	14.7	5.22	--
MW1	Integral	April 2010	4/22/2010	15:00	5.9	240	0.81	0.3	6.11	--
MW1	Integral	August 2010	8/10/2010	16:00	12.6	204	1.41	81.7	6.39	--
MW1	Integral	October 2010	10/19/2010	13:40	8.5	167	1.31	13.7	6.33	--
MW1	Integral	January 2011	1/20/2011	15:15	1.6	135	0.84	78	6.26	--
MW1	Integral	April 2011	4/20/2011	14:40	3.7	100	1.15	100	6.1	--
MW1	Integral	July 2011 II	7/25/2011	14:10	11.42	140	3.43	11	5.3	--
MW1	Integral	December 2011	12/20/2011	15:10	3.49	110	2.52	22	6	--
MW1	Integral	January 2012	1/9/2012	14:30	3.92	130	3.3	15	6	--
MW1	Integral	April 2012	4/7/2012	15:53	3.41	140	2.45	25	6	--
MW1	Integral	July 2012	7/21/2012	16:40	11.08	190	1.99	--	6.14	--
MW1	Integral	October 2012	10/28/2012	13:30	4.39	146	0.64	14.1	5.77	--
MW2	Knight Piesold	April 2007	4/10/2007	15:10	3.5	65	3.59	70.4	4.97	--
MW2	Knight Piesold	May 2007	5/14/2007	11:20	4.43	80	1.05	294	5.06	--
MW2	Knight Piesold	June 2007	6/4/2007	13:58	7.02	76	2.53	60	5.23	--
MW2	Knight Piesold	July 2007 I	7/2/2007	14:00	7.89	95	4.86	43.9	4.99	--
MW2	Integral	July 2007 II	7/24/2007	12:10	9.48	125	6.18	90	5.01	--
MW2	Integral	August 2007 I	8/14/2007	11:40	9.96	83	6.4	171	5.24	--
MW2	Integral	August 2007 II	8/28/2007	16:20	9.75	86	4.77	375	5.21	--
MW2	Integral	September 2007 I	9/11/2007	11:00	9.88	78	5.78	316	5.42	--
MW2	Integral	September 2007 II	9/30/2007	16:15	8.3	81	6.45	738	5.56	--
MW2	Integral	October 2007	10/16/2007	13:30	7.61	71	5.97	611	5.86	--
MW2	Integral	November 2007	11/12/2007	14:30	5.42	76	6.68	475	5.76	--
MW2	Integral	December 2007 I	12/14/2007	14:30	3.3	54	7.18	601	5.35	--
MW2	Integral	January 2008	1/8/2008	12:49	2.62	66	5.94	401	5.64	--

Table B-2b. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Groundwater

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
MW2	Integral	Februrary 2008	2/13/2008	15:30	2.25	70	6.16	219	5.62	--
MW2	Integral	March 2008	3/14/2008	13:00	6.4	57	2.29	394	4.62	--
MW2	Integral	April 2008	4/14/2008	13:00	4	56	0.47	142	5.18	--
MW2	Integral	May 2008	5/7/2008	16:20	5.1	63	1.43	107	5.7	--
MW2	Integral	June 2008	6/26/2008	16:10	7.8	60	0.2	63.4	5.47	--
MW2	Integral	July 2008	7/24/2008	12:15	9.6	76	0.36	57	5.14	--
MW2	Integral	August 2008	8/19/2008	11:00	10.5	72	0.56	73.2	5.09	--
MW2	Integral	September 2008	9/9/2008	14:00	10.1	90	0.82	33.9	5.5	--
MW2	Integral	October 2008	10/15/2008	13:45	8.2	82	0.19	47	5.2	--
MW2	Integral	March 2009	3/8/2009	15:35	2.19	52	--	36.6	4.77	--
MW2	Integral	May 2009	5/13/2009	11:45	5.67	82	0.21	28.1	5.07	--
MW2	Integral	July 2009	7/24/2009	15:45	10.66	96	--	810	4.92	--
MW2	Integral	September 2009 I	9/8/2009	18:40	11.4	55	2.96	800	5.5	1
MW2	Integral	September 2009 II	9/12/2009	17:00	11.32	274	0.26	23.7	4.51	--
MW2	Integral	October 2009	10/17/2009	08:52	8.64	78	0	38.4	4.59	--
MW2	Integral	January 2010	1/15/2010	11:49	5.2	75	0.66	298	4.65	--
MW2	Integral	April 2010	4/22/2010	11:40	5.6	90	1.8	38.1	4.55	--
MW2	Integral	August 2010	8/10/2010	14:15	11.6	111	1.64	61.7	4.94	--
MW2	Integral	October 2010	10/19/2010	14:25	8.9	106	3.3	20	5.05	--
MW2	Integral	January 2011	1/20/2011	12:10	2.9	88	1.78	34.1	5.26	--
MW2	Integral	April 2011	4/20/2011	13:20	3.74	70	2.81	20	4.6	--
MW2	Integral	July 2011 II	7/24/2011	17:10	10.77	80	3.87	140	5.3	--
MW2	Integral	December 2011	12/20/2011	14:10	4.08	100	4.56	66	4.7	--
MW2	Integral	January 2012	1/9/2012	12:55	3.93	80	4.06	30	5.3	--
MW2	Integral	April 2012	4/7/2012	9:34	3.46	80	4.15	54	4.5	--
MW2	Integral	July 2012	7/21/2012	7:30	10.18	118	2.73	34.5	4.73	--
MW2	Integral	October 2012	10/28/2012	10:45	5.44	75	3.82	46.6	5.38	--
MW3	Knight Piesold	February 2007	2/28/2007	11:12	0.42	31	4.91	46.1	4.63	--
MW3	Knight Piesold	April 2007	4/10/2007	12:35	2.86	44	3.29	858	5.17	--
MW3	Knight Piesold	May 2007	5/14/2007	11:57	4.45	49	2.57	221	5.29	--
MW3	Knight Piesold	June 2007	6/4/2007	14:54	6.21	55	5.15	282	5.26	--
MW3	Knight Piesold	July 2007 I	7/2/2007	15:45	7.2	47	4.57	79.9	5.09	--
MW3	Integral	July 2007 II	7/24/2007	13:20	8.8	63	6.4	200	5.11	--
MW3	Integral	August 2007 I	8/14/2007	12:20	10.22	52	7.51	175	5.14	--
MW3	Integral	August 2007 II	8/28/2007	16:55	9.94	37	6.2	34.2	4.59	--
MW3	Integral	September 2007 I	9/10/2007	16:20	10.12	48	5.75	63	5.09	--
MW3	Integral	September 2007 II	9/30/2007	16:55	7.89	40	5.98	241	5.36	--
MW3	Integral	October 2007	10/17/2007	09:10	7.55	43	6.64	205	4.89	--
MW3	Integral	November 2007	11/12/2007	13:20	5.15	9 *U*	12.62	166	5.89	--
MW3	Integral	December 2007 I	12/15/2007	09:00	2.38	47	10.31	66	4.41	--
MW3	Integral	January 2008	1/8/2008	13:18	1.44	9 *U*	13.75	176	4.73	--
MW3	Integral	Februrary 2008	2/13/2008	15:40	1.84	38	5.77	76.2	5.22	--
MW3	Integral	March 2008	3/14/2008	14:20	3.7	32	1.88	10	4.5	--
MW3	Integral	April 2008	4/14/2008	13:35	4	57	0.34	21.1	5.14	--
MW3	Integral	May 2008	5/7/2008	15:45	4.9	58	0.34	9	4.8	--
MW3	Integral	June 2008	6/27/2008	10:15	7.6	51	0.04	50.9	4.82	--
MW3	Integral	July 2008	7/24/2008	12:40	9.1	57	0.25	15.2	4.73	--
MW3	Integral	August 2008	8/19/2008	9:30	10.3	71	0.37	7.8	4.55	--
MW3	Integral	September 2008	9/9/2008	11:30	9.9	72	0.29	19.6	4.95	--
MW3	Integral	October 2008	10/15/2008	10:20	8.2	58	0	24.9	4.87	--
MW3	Integral	March 2009	3/8/2009	15:10	1.68	31	1.05	50.7	4.94	--
MW3	Integral	May 2009	5/13/2009	10:00	5.45	49	0.7	14.1	4.93	--

Table B-2b. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Groundwater

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
MW3	Integral	July 2009	7/24/2009	14:15	11.1	38	0	16.2	4.2	--
MW3	Integral	September 2009 II	9/12/2009	14:35	11.36	71	0.43	5.5	5.01	--
MW3	Integral	October 2009	10/17/2009	09:44	8.54	42	0.72	7.5	4.83	--
MW3	Integral	January 2010	1/15/2010	12:36	5.32	58	0.8	8.2	5.04	--
MW3	Integral	April 2010	4/22/2010	8:45	5.4	142	1.97	2.6	4.91	--
MW3	Integral	August 2010	8/10/2010	10:05	11.3	87	1.47	648	4.86	--
MW3	Integral	October 2010	10/19/2010	09:55	8.7	111	1.52	81	4.53	--
MW3	Integral	January 2011	1/20/2011	10:40	2.6	70	2.19	128	4.58	--
MW3	Integral	April 2011	4/20/2011	13:00	3.63	40	3.22	92	4.8	--
MW3	Integral	July 2011 II	7/24/2011	15:00	10.31	50	3.97	40	4.7	--
MW3	Integral	December 2011	12/20/2011	11:45	3.77	50	2.79	58	4.9	--
MW3	Integral	January 2012	1/9/2012	11:00	3.89	70	3.68	19	5.1	--
MW3	Integral	April 2012	4/7/2012	10:57	3.57	60	5.67	81	4.9	--
MW3	Integral	July 2012	7/21/2012	9:15	9.75	70	3.98	33.8	4.66	--
MW3	Integral	October 2012	10/28/2012	11:00	4.57	37	3.63	6.01	5.06	--
MW4	Knight Piesold	February 2007	2/27/2007	08:39	1.95	23	3.61	402	4.86	--
MW4	Knight Piesold	April 2007	4/10/2007	13:23	3.71	33	3.81	68.6	5.36	--
MW4	Knight Piesold	May 2007	5/14/2007	13:13	4.84	34	1.45	58.3	5.39	--
MW4	Knight Piesold	June 2007	6/4/2007	11:02	8.87	31	6.83	14.5	4.99	--
MW4	Integral	July 2007 II	7/23/2007	17:00	10.13	45	6.09	27	5.45	--
MW4	Integral	August 2007 II	8/27/2007	16:20	10.68	39	5.68	43.4	4.73	--
MW4	Integral	September 2007 I	9/10/2007	17:00	10.4	44	5.3	60	5.57	--
MW4	Integral	September 2007 II	9/30/2007	17:30	8.28	60	5.81	33.6	5.9	--
MW4	Integral	October 2007	10/16/2007	16:40	7.47	65	5.62	107	6.24	--
MW4	Integral	November 2007	11/12/2007	11:50	5.19	84	5.98	12	6.49	--
MW4	Integral	December 2007 I	12/15/2007	09:45	2.63	36	10.55	131	4.61	--
MW4	Integral	January 2008	1/8/2008	14:48	0.77	52	8.19	20.7	5.13	--
MW4	Integral	Februrary 2008	2/13/2008	11:30	0.82	41	9.66	21.4	4.96	--
MW4	Integral	March 2008	3/15/2008	8:15	3.2	31	3.14	18	4.72	--
MW4	Integral	April 2008	4/14/2008	10:00	3.9	56	0.41	37	4.6	--
MW4	Integral	May 2008	5/8/2008	15:50	5.2	52	0	12.5	5.55	--
MW4	Integral	June 2008	6/27/2008	11:15	8.6	40	0.26	7.4	5.12	--
MW4	Integral	July 2008	7/24/2008	10:15	10	66	0	5.1	4.97	--
MW4	Integral	August 2008	8/19/2008	10:15	12.1	90	0	10.9	5.27	--
MW4	Integral	September 2008	9/9/2008	14:45	10.8	124	0	4.5	6.01	--
MW4	Integral	October 2008	10/15/2008	11:40	8.1	89	0	5.9	6.11	--
MW4	Integral	March 2009	3/8/2009	14:12	1.62	39	2.49	24.2	5.14	--
MW4	Integral	May 2009	5/13/2009	11:00	6.64	69	2.18	14.5	5.15	--
MW4	Integral	July 2009	7/23/2009	9:20	11.81	91	0.86	135	5.61	0
MW4	Integral	July 2009	7/24/2009	13:00	12.52	72	2.09	24.2	5.7	--
MW4	Integral	July 2009	7/25/2009	10:10	12.67	89	2.15	16.3	6.63	0
MW4	Integral	September 2009 II	9/13/2009	07:50	11.65	99	1.07	9.4	5.36	--
MW4	Integral	October 2009	10/17/2009	11:00	8.79	83	0.09	7.4	5.93	--
MW4	Integral	January 2010	1/15/2010	13:34	5.38	69	0.36	17.9	5.6	--
MW4	Integral	April 2010	4/22/2010	10:00	5.7	164	1.61	3.2	6.17	--
MW4	Integral	August 2010	8/10/2010	11:45	12.3	200	0.93	24.6	6.28	--
MW4	Integral	October 2010	10/19/2010	10:50	8.7	169	0.93	11.2	6.7	--
MW4	Integral	January 2011	1/20/2011	11:45	2.3	182	1.97	50.2	5.84	--
MW4	Integral	April 2011	4/20/2011	11:15	4.05	130	3.2	43	6.1	--
MW4	Integral	July 2011 II	7/24/2011	16:10	11.36	180	4.6	41	6.1	--
MW4	Integral	December 2011	12/20/2011	13:00	4.09	110	4.13	62	6.1	--
MW4	Integral	January 2012	1/9/2012	12:15	4.03	130	3.54	15	6.1	--

Table B-2b. Water Quality *In Situ* Monitoring Data (2006-2012) – Permit Stations – Groundwater

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
MW4	Integral	April 2012	4/7/2012	13:54	4.11	120	4.71	28	5.8	--
MW4	Integral	July 2012	7/21/2012	10:15	10.61	186	3.56	11.5	6.3	--
MW7	Knight Piesold	February 2007	2/28/2007	13:00	2.14	52	3.32	--	5.34	--
MW7	Knight Piesold	April 2007	4/10/2007	14:24	3.13	89	1.4	21.4	6.24	--
MW7	Knight Piesold	May 2007	5/15/2007	08:40	5.27	95	1.58	17.6	6.17	--
MW7	Knight Piesold	June 2007	6/5/2007	09:00	7.47	99	3.74	8.1	6.15	--
MW7	Knight Piesold	July 2007 I	7/1/2007	11:20	8.68	103	4.17	1.7	6.08	--
MW7	Integral	July 2007 II	7/23/2007	13:47	9.77	87	6.12	13.5	6.13	--
MW7	Integral	August 2007 I	8/13/2007	12:55	10.4	98	6.37	21.3	6.14	--
MW7	Integral	August 2007 II	8/28/2007	14:35	10.03	90	4.82	6.6	6.23	--
MW7	Integral	September 2007 I	9/10/2007	12:25	9.91	90	5.85	12	6.53	--
MW7	Integral	September 2007 II	9/30/2007	13:40	7.9	88	5.91	25.2	6.45	--
MW7	Integral	October 2007	10/16/2007	10:35	7.65	81	5.74	14.5	6.5	--
MW7	Integral	November 2007	11/13/2007	07:45	5.57	92	6.05	9.6	6.32	--
MW7	Integral	December 2007 I	12/15/2007	11:20	1.73	64	6.05	36.1	5.83	--
MW7	Integral	January 2008	1/9/2008	09:18	1.63	83	6.23	13.2	6.64	--
MW7	Integral	Februrary 2008	2/14/2008	12:05	1.08	74	5.94	12.9	6.44	--
MW7	Integral	March 2008	3/13/2008	15:10	2.56	63	5	23.5	6.47	--
MW7	Integral	April 2008	4/13/2008	15:45	4.2	79	0.17	12.9	5.4	--
MW7	Integral	May 2008	5/6/2008	10:45	5	96	0	3.4	5.3	--
MW7	Integral	June 2008	6/26/2008	13:30	8.1	69	0.07	35.7	6.21	--
MW7	Integral	July 2008	7/25/2008	9:30	10	70	3.8	4.6	6.19	--
MW8	Knight Piesold	July 2007 I	7/2/2007	09:20	6.25	116	9.49	21.9	6.29	--
MW8	Integral	July 2007 II	7/23/2007	12:00	7.5	99	6.96	9.5	6.1	--
MW8	Integral	August 2007 I	8/13/2007	12:00	8.47	111	5.71	30.4	6.05	--
MW8	Integral	August 2007 II	8/28/2007	10:00	7.79	102	4.79	41.7	5.83	--
MW8	Integral	September 2007 I	9/10/2007	11:20	8.42	107	6.24	12	6.1	--
MW8	Integral	September 2007 II	9/30/2007	10:45	7.76	115	6.26	31.2	6.14	--
MW8	Integral	October 2007	10/16/2007	15:50	7.29	91	7.24	16.4	6.32	--
MW8	Integral	November 2007	11/12/2007	16:15	6.25	98	6.67	93.9	6.49	--
MW8	Integral	December 2007 I	12/14/2007	10:50	4.74	116	5.46	21.2	6.09	--
MW8	Integral	January 2008	1/8/2008	09:41	3.9	105	7.28	13.7	5.94	--
MW8	Integral	Februrary 2008	2/13/2008	10:00	3.57	114	5.64	8.5	5.99	--
MW8	Integral	March 2008	3/13/2008	12:45	3.4	101	6.51	10.1	6.3	--
MW8	Integral	April 2008	4/14/2008	9:00	4.4	111	2.57	0	5.95	--
MW8	Integral	May 2008	5/6/2008	15:15	4.9	121	0.64	1.2	6.04	--
MW8	Integral	June 2008	6/26/2008	10:45	6.9	122	0.74	2.5	6.32	--
MW9	Knight Piesold	July 2007 I	7/2/2007	12:30	10.56	156	9.97	128	7.34	--
MW9	Integral	July 2007 II	7/23/2007	16:07	8.02	176	7.69	220	7.74	--
MW9	Integral	August 2007 I	8/13/2007	15:20	9.01	165	7.65	138	7.45	--
MW9	Integral	August 2007 II	8/28/2007	15:00	7.05	167	7.64	350	6.97	--
MW9	Integral	September 2007 I	9/10/2007	13:20	8.49	177	7.16	140	7.18	--
MW9	Integral	September 2007 II	9/30/2007	14:30	8.28	173	7.84	119	7.27	--
MW9	Integral	October 2007	10/16/2007	16:55	7.74	173	7.04	87.6	7.91	--
MW9	Integral	November 2007	11/12/2007	15:00	7.2	175	6.58	49.2	7.87	--
MW9	Integral	December 2007 I	12/14/2007	11:15	5.86	181	6.94	60.5	6.74	--
MW9	Integral	January 2008	1/8/2008	08:35	5.01	191	6.72	81	7.19	--
MW9	Integral	Februrary 2008	2/13/2008	12:00	4.86	171	5.91	75.5	7.26	--
MW9	Integral	March 2008	3/13/2008	16:15	4.47	160	5.99	95.1	7.25	--
MW9	Integral	April 2008	4/14/2008	10:40	5.3	175	1.75	44.8	7.25	--
MW9	Integral	May 2008	5/6/2008	17:45	5.8	171	1.78	36.5	7.19	--
MW9	Integral	June 2008	6/26/2008	15:15	7.3	175	2.55	55.9	7.77	--

Table B-2c. Water Quality *In Situ* Monitoring Data (2006-2012) – Offsite Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ1	Knight Piesold	February 2006 II	2/16/2006		0.91	42	18.84	--	6.22	--
WQ1	Knight Piesold	May 2006 II	5/16/2006	11:18	5.79	27	13.28	--	6.06	--
WQ1	Knight Piesold	August 2006 II	8/30/2006	07:00	10.31	38	11.77	--	6.5	--
WQ1	Knight Piesold	October 2006	10/17/2006	07:50	--	40	11.63	16	5.5	--
WQ1	Knight Piesold	February 2007	2/27/2007	14:01	0.6	35	13.02	3	5.84	--
WQ1	Knight Piesold	April 2007	4/11/2007	15:24	1.33	24	12.39	15.4	5.92	--
WQ1	Knight Piesold	May 2007	5/15/2007	07:30	4.51	31	13.15	20.1	5.58	--
WQ1	Knight Piesold	July 2007 I	7/1/2007	09:40	9.27	52	11.93	0	6.91	--
WQ1	Integral	July 2007 II	7/24/2007	07:28	10.49	39	11.91	4.5	6.48	--
WQ1	Integral	August 2007 I	8/14/2007	07:40	10.88	63	11.46	2.8	6.2	--
WQ1	Integral	August 2007 II	8/27/2007	14:05	11.18	41	11.79	7.5	6.55	--
WQ1	Integral	September 2007 I	9/11/2007	07:20	9.91	47	11.84	1.7	6.44	--
WQ1	Integral	September 2007 II	10/2/2007	14:15	7.79	27	13.15	4.7	6.46	--
WQ1	Integral	November 2007	11/13/2007	09:05	3.08	38	13.81	6.8	6.66	--
WQ1	Integral	March 2008	3/14/2008	15:40	2.1	29	13.43	5	5.82	--
WQ1	Integral	May 2008	5/8/2008	13:30	3.2	37	13.48	7.1	8.94	--
WQ1	Integral	August 2008	8/20/2008	10:00	11.1	31	11.44	2.7	5.68	--
WQ1	Integral	March 2009	3/11/2009	09:15	0.25	50	14.53	7.1	5.31	--
WQ1	Integral	May 2009	5/14/2009	13:40	3.7	30	13.1	4.5	5.92	--
WQ1	Integral	July 2009	7/25/2009	12:15	11.93	37	10.5	2.4	6.77	--
WQ1	Integral	October 2009	10/19/2009	09:10	7.98	40	10.95	3.6	5.76	--
WQ1	Integral	February 2010	2/13/2010	08:35	3.48	32	12.01	--	5.16	--
WQ1	Integral	July 2010	7/14/2010	12:55	10.9	95	10.8	2.2	5.72	--
WQ1	Integral	December 2010	12/27/2010	11:30	1.2	64	12.55	25.8	7.7	--
WQ1	Integral	March 2011	3/10/2011	10:30	-0.17	40	14.67	11	5.1	--
WQ2	Knight Piesold	February 2006 II	2/16/2006		0.94	52	17.68	--	6.09	--
WQ2	Knight Piesold	May 2006 II	5/16/2006	10:26	6.43	38	11.9	--	6.25	--
WQ2	Knight Piesold	August 2006 II	8/30/2006	08:00	10.03	45	11.94	--	6.82	--
WQ2	Knight Piesold	October 2006	10/17/2006	08:20	--	50	11.81	9	5.79	--
WQ2	Knight Piesold	February 2007	2/27/2007	14:27	0.72	48	13.13	3.2	6.14	--
WQ2	Knight Piesold	April 2007	4/11/2007	15:05	1.81	30	13.11	21.9	6.05	--
WQ2	Knight Piesold	May 2007	5/15/2007	07:50	4.87	42	13.09	29.1	6.14	--
WQ2	Knight Piesold	July 2007 I	7/1/2007	09:00	9.56	69	11.84	0	7	--
WQ2	Integral	July 2007 II	7/24/2007	07:53	10.36	54	11.92	4.5	6.82	--
WQ2	Integral	August 2007 I	8/14/2007	08:15	10.8	72	11.53	3.2	6.74	--
WQ2	Integral	August 2007 II	8/27/2007	14:30	11.06	54	12.18	22	6.83	--
WQ2	Integral	September 2007 I	9/11/2007	07:45	10.45	66	11.77	23.1	6.9	--
WQ2	Integral	September 2007 II	10/2/2007	14:40	7.62	30	13.15	8.5	6.44	--
WQ2	Integral	November 2007	11/13/2007	09:35	2.67	45	13.87	2.7	6.97	--
WQ2	Integral	March 2008	3/14/2008	15:55	2.6	30	13.02	1	6.05	--
WQ2	Integral	May 2008	5/8/2008	14:00	4.3	43	13.19	1.2	8.59	--
WQ2	Integral	August 2008	8/20/2008	10:40	11	34	11.26	10.7	5.7	--
WQ2	Integral	March 2009	3/9/2009	16:30	0.23	59	13.92	7.5	7.47	--
WQ2	Integral	May 2009	5/14/2009	14:55	5.57	37	12.69	5.1	6.89	--
WQ2	Integral	July 2009	7/25/2009	13:55	13.01	45	10.89	2.1	7.46	--
WQ2	Integral	October 2009	10/19/2009	09:45	8.03	38	10.95	6.7	5.95	--
WQ2	Integral	February 2010	2/13/2010	09:00	4.02	30	11.94	--	5.31	--
WQ2	Integral	April 2010	4/21/2010	15:10	5.4	72	11.67	2.1	6.92	--
WQ2	Integral	July 2010	7/14/2010	14:25	11.1	88	11.02	3.5	6.47	--
WQ2	Integral	October 2010	10/18/2010	11:40	8.1	113	10.33	6.8	5.49	--
WQ2	Integral	December 2010	12/27/2010	12:15	1.2	59	12.42	--	6.66	--
WQ2	Integral	March 2011	3/10/2011	11:10	-0.21	40	14.53	86	5.3	--

Table B-2c. Water Quality *In Situ* Monitoring Data (2006-2012) – Offsite Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ2	Integral	June 2011	6/9/2011	18:00	9.57	50	10.88	7	5.6	--
WQ2	Integral	July 2011 II	7/26/2011	13:50	11.6	50	11.07	11	5.6	--
WQ2	Integral	August 2011	8/24/2011	7:50	10.23	30	11.52	20	4.9	--
WQ2	Integral	April 2012	4/6/2012	14:05	2.02	60	11.53	12	7	--
WQ2	Integral	July 2012	7/22/2012	14:30	11.86	55	11.15	--	5.86	--
WQ2	Integral	October 2012	10/29/2012	10:05	0.73	74	12.34	115	5.08	--
WQ3	Knight Piesold	February 2006 II	2/16/2006		3.9	27	15.89	--	5.92	--
WQ3	Knight Piesold	May 2006 II	5/16/2006	11:43	7.5	28	12.66	--	5.98	--
WQ3	Knight Piesold	August 2006 II	8/30/2006	08:45	14.51	28	10.34	--	6.75	--
WQ3	Knight Piesold	October 2006	10/17/2006	08:45	--	30	11.86	5	5.68	--
WQ3	Knight Piesold	February 2007	2/27/2007	14:52	1.94	23	13.57	3.1	5.8	--
WQ3	Knight Piesold	April 2007	4/11/2007	14:39	2.3	26	13.1	6.5	6.31	--
WQ3	Knight Piesold	May 2007	5/15/2007	08:00	6.72	29	12.68	4.7	6.2	--
WQ3	Knight Piesold	July 2007 I	7/1/2007	10:20	13.39	33	10.99	0	6.9	--
WQ3	Integral	July 2007 II	7/24/2007	08:24	14.1	28	10.84	1.6	6.81	--
WQ3	Integral	August 2007 I	8/14/2007	08:45	16.02	30	10.11	0	7.03	--
WQ3	Integral	August 2007 II	8/27/2007	15:00	15.1	35	10.88	3.2	6.72	--
WQ3	Integral	September 2007 I	9/11/2007	08:15	14.11	27	10.6	0.9	6.94	--
WQ3	Integral	November 2007	11/13/2007	08:35	5.28	2.9	13.25	8.2	6.78	--
WQ3	Integral	March 2008	3/14/2008	16:25	3.1	28	13.11	0	6.38	--
WQ3	Integral	May 2008	5/8/2008	14:15	5.2	34	13.42	0.7	7.8	--
WQ3	Integral	August 2008	8/20/2008	11:00	13	33	10.69	1.6	5.97	--
WQ3	Integral	October 2008	10/16/2008	9:10	9.38	34	11.39	2	5.95	--
WQ3	Integral	March 2009	3/11/2009	10:00	2.15	36	12.06	6.9	5.19	--
WQ3	Integral	May 2009	5/14/2009	13:15	8.72	37	11.18	2.2	5.87	--
WQ3	Integral	July 2009	7/25/2009	11:35	15.32	33	9.92	6.8	6.9	--
WQ3	Integral	October 2009	10/20/2009	07:35	9.41	39	11.41	13.6	5.41	--
WQ3	Integral	March 2010	3/5/2010	11:00	3.5	55	12.27	5.1	5.11	--
WQ3	Integral	April 2010	4/22/2010	16:10	5.9	55	11.9	6	6.18	--
WQ3	Integral	August 2010	8/15/2010	12:40	19.3	58	9.36	1.4	6.69	--
WQ3	Integral	December 2010	12/27/2010	12:50	4.1	61	12.28	11.7	6.72	--
WQ3	Integral	March 2011	3/10/2011	11:40	1.35	40	14.06	10	5.5	--
WQ14	Integral	March 2009	3/9/2009	15:45	0.22	107	14.08	7.3	7.34	--
WQ14	Integral	May 2009	5/14/2009	14:15	7.41	77	12.29	3.2	7.14	--
WQ14	Integral	July 2009	7/25/2009	13:15	14.41	60	10.19	1.3	7.47	--
WQ14	Integral	September 2009 III	9/19/2009	12:30	10.98	68	10.01	3	5.78	--
WQ14	Integral	October 2009	10/18/2009	09:10	7.99	82	11	2.6	5.89	--
WQ14	Integral	November 2009	11/1/2009	9:15	5.61	68	11.51	3.8	6.38	--
WQ14	Integral	December 2009 II	12/29/2009	09:50	2.58	93	12.15	22.8	5.32	--
WQ14	Integral	January 2010	1/17/2010	12:00	4.06	54	11.09	11.1	6.51	--
WQ14	Integral	February 2010	2/12/2010	11:45	3.79	58	11.96	--	5.08	--
WQ14	Integral	March 2010	3/5/2010	11:45	2.8	140	12.17	1.9	6.3	--
WQ14	Integral	April 2010	4/21/2010	14:30	6.3	119	11.5	2	6.63	--
WQ14	Integral	May 2010	5/18/2010	15:00	9.7	136	11.07	1.5	7.09	--
WQ14	Integral	June 2010	6/29/2010	10:25	9.7	134	11.27	14.9	5.99	--
WQ14	Integral	July 2010	7/14/2010	13:35	12.4	205	10.91	1.8	7.74	--
WQ14	Integral	August 2010	8/14/2010	13:00	16.8	203	10.53	10.9	7.6	--
WQ14	Integral	September 2010	9/7/2010	12:10	10.3	91	10.91	7.2	7.18	--
WQ14	Integral	October 2010	10/18/2010	10:50	8.2	115	11.24	20.6	5.82	--
WQ14	Integral	December 2010	12/26/2010	11:45	2.1	93	12.34	16.9	5.78	--
WQ14	Integral	January 2011	1/19/2011	11:30	1	124	12.57	8.9	5.57	--
WQ14	Integral	February 2011	2/8/2011	16:10	1.13	110	14.9	9	5.5	--

Table B-2c. Water Quality *In Situ* Monitoring Data (2006-2012) – Offsite Surface Water

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
WQ14	Integral	March 2011	3/9/2011	15:20	0.1	70	13.4	10	5.9	--
WQ14	Integral	April 2011	4/21/2011	16:00	5.05	100	12.78	11	6.6	--
WQ14	Integral	May 2011	5/17/2011	14:00	5.84	60	15.78	30	6.8	--
WQ14	Integral	June 2011	6/8/2011	17:10	11.38	90	10.71	3	6.9	--
WQ14	Integral	July 2011	7/12/2011	11:30	14.25	130	10.4	16	7.2	--
WQ14	Integral	August 2011	8/24/2011	8:40	10.02	40	11.24	13	6.1	--
WQ14	Integral	April 2012	4/6/2012	13:30	3.58	90	11.52	6	7.1	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	November 2007	11/13/2007	14:40	3.54	120	12.81	20.4	11.17	--
EFF1	Integral	December 2007 I	12/16/2007	10:45	2.67	336	14.49	42.3	11.03	--
EFF1	Integral	January 2008	1/9/2008	07:45	3.35	319	15.74	43.8	8.86	--
EFF1	Integral	Februrary 2008	2/13/2008	13:20	1.65	208	14.12	146	10.27	--
EFF1	Integral	March 2008	3/17/2008	7:00	5.4	259	9.14	132	10.67	--
EFF1	Integral	April 2008	4/15/2008	8:30	5.8	236	10.18	47.7	11.16	--
EFF1	Integral	May 2008	5/8/2008	11:45	8.6	221	10.59	7.46	10.56	--
EFF1	Integral	June 2008	6/27/2008	15:15	11.3	311	9.43	136	10.17	--
EFF1	Integral	July 2008	7/25/2008	10:00	12.7	258	9.17	98.5	8.09	--
EFF1	Integral	August 2008	8/19/2008	16:30	13	308	9.15	135	8.42	--
EFF1	Integral	September 2008	9/9/2008	15:30	12.5	284	8.56	36.8	7.29	--
EFF1	Integral	October 2008	10/15/2008	14:30	8.3	255	9.88	13.3	6.84	--
EFF1	Integral	Weekly Field Data	12/2/2008	14:48	--	--	--	--	6.47	--
EFF1	Integral	Weekly Field Data	12/9/2008	13:05	--	--	--	--	6.35	--
EFF1	Integral	Weekly Field Data	12/16/2008	15:00	--	--	--	--	6.7	--
EFF1	Integral	Weekly Field Data	12/27/2008	13:30	--	--	--	--	7.19	--
EFF1	Integral	Weekly Field Data	1/21/2009	14:45	2	132	16.4	825	6.82	--
EFF1	Integral	Weekly Field Data	2/2/2009	14:25	2.2	129	13.31	11	7.2	--
EFF1	Integral	Weekly Field Data	2/9/2009	10:00	1	140	15.51	35	7.21	--
EFF1	Integral	Weekly Field Data	2/14/2009	15:00	0.09	138	14.41	7	6.81	--
EFF1	Integral	Weekly Field Data	2/21/2009	12:40	2.5	129	18.3	153	6.85	--
EFF1	Integral	Weekly Field Data	2/28/2009	14:10	2.1	149	17.27	85	7.05	--
EFF1	Integral	Weekly Field Data	3/7/2009	13:50	2.7	132	16.94	9	6.81	--
EFF1	Integral	March 2009	3/9/2009	14:00	1.74	242	12.48	6.6	6.91	--
EFF1	Integral	Weekly Field Data	3/11/2009	14:00	1.74	242	12.48	6.6	6.91	--
EFF1	Integral	Weekly Field Data	3/16/2009	15:30	2.2	141	9.7	10	6.35	--
EFF1	Integral	Weekly Field Data	3/23/2009	16:25	1.6	138	10.02	10	7.5	--
EFF1	Integral	Weekly Field Data	3/29/2009	14:30	3	130	11.7	10	6.7	--
EFF1	Integral	Weekly Field Data	4/4/2009	14:40	4	130	12.4	5	6.9	--
EFF1	Integral	Weekly Field Data	4/11/2009	14:30	4	110	12.6	3	6.2	--
EFF1	Integral	Weekly Field Data	4/18/2009	11:10	5	120	12	1	6	--
EFF1	Integral	Weekly Field Data	5/9/2009	13:00	16.9	230	9.14	-10	7.7	--
EFF1	Integral	May 2009	5/14/2009	10:20	10.98	233	9.58	1.7	7.6	50 *U*
EFF1	Integral	Weekly Field Data	5/16/2009	14:10	9.1	197	11.89	0	7.38	50 *U*
EFF1	Integral	Weekly Field Data	5/23/2009	12:00	11.9	207	10.44	180	7.4	50 *U*
EFF1	Integral	Weekly Field Data	5/31/2009	10:15	11.3	220	7.9	-10	7.58	50 *U*
EFF1	Integral	Weekly Field Data	6/9/2009	16:30	19.1	208	6.34	1	7.99	50 *U*
EFF1	Integral	Weekly Field Data	6/14/2009	09:15	17.4	210	6.27	0	8.18	50 *U*
EFF1	Integral	Weekly Field Data	6/21/2009	15:00	15.8	205	6.51	0	7.84	50 *U*
EFF1	Integral	Weekly Field Data	6/28/2009	12:50	11.3	215	11.34	-10	7.68	50 *U*
EFF1	Integral	Weekly Field Data	7/5/2009	09:55	17.4	206	6.78	-10	7.68	50 *U*
EFF1	Integral	Weekly Field Data	7/11/2009	11:25	17.3	217	9.79	19	7.85	50 *U*
EFF1	Integral	Weekly Field Data	7/21/2009	16:25	14.7	210	9.82	0	7.85	50 *U*
EFF1	Integral	July 2009	7/23/2009	11:50	14.38	201	9.7	8.5	8.09	16
EFF1	Integral	July 2009	7/24/2009	17:50	14.5	245	9.61	8.9	7.76	--
EFF1	Integral	July 2009	7/25/2009	8:35	--	245	9.41	1.7	7.63	37
EFF1	Integral	Weekly Field Data	8/2/2009	16:45	23.1	229	8.44	0	8.23	50 *U*
EFF1	Integral	Weekly Field Data	8/13/2009	10:05	14.8	236	10.83	2	7.95	50 *U*
EFF1	Integral	Weekly Field Data	8/20/2009	17:25	14.8	239	9.77	128	7.63	50 *U*
EFF1	Integral	August 2009	8/31/2009	08:29	12.96	237	6.89	3.7	7.03	--
EFF1	Integral	September 2009 I	9/4/2009	17:23	13.4	319	7.13	18.5	7.84	25
EFF1	Integral	September 2009 I	9/5/2009	14:40	12.6	259	9.4	22.6	7.6	14

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	September 2009 I	9/6/2009	16:40	12.8	190	9.25	19	7.74	23
EFF1	Integral	September 2009 I	9/7/2009	14:15	12.2	219	8	30	7.57	14
EFF1	Integral	September 2009 I	9/8/2009	17:00	10.7	216	7.26	10	7.68	14
EFF1	Integral	September 2009 I	9/9/2009	15:15	11.2	223	7.14	19	7.66	19
EFF1	Integral	September 2009 I	9/10/2009	16:15	11	224	8.7	16	7.42	23
EFF1	Integral	September 2009 I	9/11/2009	16:00	11.3	187	7.55	0.11	7.36	20
EFF1	Integral	Weekly Field Data	9/23/2009	14:35	12.4	202	0.53	1	6.75	50 *U*
EFF1	Integral	Weekly Field Data	10/1/2009	14:28	10.5	184	4.75	4	6.82	50 *U*
EFF1	Integral	Weekly Field Data	10/7/2009	15:40	10.5	184	7.85	-10	7.2	50 *U*
EFF1	Integral	Weekly Field Data	10/14/2009	15:35	8.9	205	8.72	24	7.86	50 *U*
EFF1	Integral	October 2009	10/18/2009	10:40	8.57	202	10.09	28.9	7.49	--
EFF1	Integral	November 2009	10/31/2009	17:23	6.86	197	10.39	37.1	7.65	9
EFF1	Integral	Weekly Field Data	11/8/2009	14:05	8.4	196	8.22	22	6.68	50 *U*
EFF1	Integral	Weekly Field Data	11/27/2009	14:40	8.6	196	8.96	30	6.4	50 *U*
EFF1	Integral	Weekly Field Data	12/4/2009	15:30	6	201	8.79	47	6.78	50 *U*
EFF1	Integral	Weekly Field Data	12/11/2009	13:25	7.7	192	9.21	-10	6.5	50 *U*
EFF1	Integral	December 2009 II	12/29/2009	13:00	4.19	219	10.68	141	7.52	50 *U*
EFF1	Integral	Weekly Field Data	1/7/2010	14:10	7.4	195	8.38	-10	6.6	--
EFF1	Integral	January 2010	1/16/2010	10:00	6.76	209	10.77	32.6	6.03	--
EFF1	Integral	Weekly Field Data	1/23/2010	13:40	8.2	189	8.36	24	7.26	--
EFF1	Integral	Weekly Field Data	1/30/2010	14:10	8.2	184	17.35	156	6.6	--
EFF1	Integral	Weekly Field Data	2/6/2010	14:25	8.9	193	9.27	-10	6.25	50 *U*
EFF1	Integral	February 2010	2/12/2010	15:40	7	211	11.55	--	6.73	--
EFF1	Integral	Weekly Field Data	2/19/2010	15:00	7.8	172	15.75	37	6.11	--
EFF1	Integral	Weekly Field Data	2/27/2010	9:35	8.1	173	17.82	12	6.34	--
EFF1	Integral	March 2010	3/5/2010	14:30	6.3	294	9.32	24.5	7.52	--
EFF1	Integral	Weekly Field Data	3/14/2010	16:20	7.7	187	19.99	35	6.65	--
EFF1	Integral	Weekly Field Data	3/20/2010	13:58	9.3	203	19.99	27	5.91	--
EFF1	Integral	Weekly Field Data	3/27/2010	17:42	9.2	217	19.99	48	6.16	--
EFF1	Integral	Weekly Field Data	4/3/2010	13:40	9.2	178	17.85	45	8.1	--
EFF1	Integral	Weekly Field Data	4/11/2010	14:20	11.1	195	12.55	53	6.7	--
EFF1	Integral	Weekly Field Data	4/18/2010	17:28	8.8	209	10.07	-10	6.39	--
EFF1	Integral	April 2010	4/21/2010	11:00	8.7	297	10.82	71.5	7.13	--
EFF1	Integral	Weekly Field Data	4/24/2010	11:31	10.6	185	9.43	108	7.66	--
EFF1	Integral	Weekly Field Data	5/2/2010	16:05	11.3	191	9.09	39	6.71	--
EFF1	Integral	Weekly Field Data	5/12/2010	16:00	11.8	198	10.1	37	6.73	--
EFF1	Integral	May 2010	5/18/2010	11:00	10.2	338	10.99	41	7.62	--
EFF1	Integral	Weekly Field Data	5/23/2010	17:01	11.5	255	9.14	107	6.08	--
EFF1	Integral	Weekly Field Data	5/29/2010	15:37	13.4	214	8.51	119	6.69	--
EFF1	Integral	Weekly Field Data	6/5/2010	15:37	13.5	208	8.86	135	7.39	--
EFF1	Integral	Weekly Field Data	6/13/2010	15:40	8.6	213	7.54	--	6.86	--
EFF1	Integral	Weekly Field Data	6/19/2010	14:40	17.6	212	7.05	14	7.98	--
EFF1	Integral	Weekly Field Data	6/27/2010	14:28	17.5	212	7.05	14	7.98	--
EFF1	Integral	June 2010	6/29/2010	14:10	10.5	348	10.38	51	7.86	--
EFF1	Integral	Weekly Field Data	7/7/2010	14:00	17.8	315	9.86	23	7.23	--
EFF1	Integral	July 2010	7/14/2010	08:30	12.1	312	10.89	38.8	6.28	--
EFF1	Integral	Weekly Field Data	7/23/2010	14:50	13.8	273	7.38	15	6.25	--
EFF1	Integral	Weekly Field Data	7/30/2010	15:45	13.5	280	7.52	19	6.2	--
EFF1	Integral	Weekly Field Data	8/7/2010	14:23	13.4	235	6.18	42	7.27	--
EFF1	Integral	August 2010	8/11/2010	06:15	11.8	339	10.45	60.6	7.44	--
EFF1	Integral	August 2010	8/14/2010	10:45	13.8	336	10.13	88.8	6.64	--
EFF1	Integral	Weekly Field Data	8/24/2010	17:45	13.2	244	6.56	98	6.25	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	Weekly Field Data	9/1/2010	16:30	13	210	7.7	40	7.3	--
EFF1	Integral	September 2010	9/7/2010	09:30	10.9	333	10.52	92.3	6.78	--
EFF1	Integral	Weekly Field Data	9/10/2010	16:53	11.4	231	2.2	89	7.55	--
EFF1	Integral	Weekly Field Data	9/18/2010	11:05	12.1	252	2.25	84	7.58	--
EFF1	Integral	Weekly Field Data	9/25/2010	15:03	12	246	8.33	25	7.05	--
EFF1	Integral	Weekly Field Data	10/2/2010	16:00	12	224	6.089	151	6.89	--
EFF1	Integral	Weekly Field Data	10/9/2010	12:17	11.2	206	5.36	83	6.98	--
EFF1	Integral	Weekly Field Data	10/17/2010	14:15	11	205	6.11	149	7.08	--
EFF1	Integral	October 2010	10/18/2010	15:30	8.3	588	10.17	145	8.51	--
EFF1	Integral	Weekly Field Data	10/25/2010	16:15	9.2	213	5.13	57	7.35	--
EFF1	Integral	Weekly Field Data	10/31/2010	10:31	6.8	230	7.89	64	7.44	--
EFF1	Integral	Weekly Field Data	11/7/2010	11:03	7.9	209	8.19	45	7.22	--
EFF1	Integral	Weekly Field Data	11/21/2010	15:44	6.8	286	8.19	71	7.28	--
EFF1	Integral	Weekly Field Data	11/30/2010	11:20	7	239	0.09	75	6.99	--
EFF1	Integral	Weekly Field Data	12/7/2010	11:15	9.1	234	0.3	96	6.73	--
EFF1	Integral	Weekly Field Data	12/14/2010	14:10	7	231	--	88	8.34	--
EFF1	Integral	Weekly Field Data	12/22/2010	10:40	2.7	324	10.69	127	10.39	--
EFF1	Integral	Weekly Field Data	1/8/2011	10:45	4.9	238	--	54	7.43	--
EFF1	Integral	January 2011	1/19/2011	14:35	4.3	334	11	390	8.41	--
EFF1	Integral	Weekly Field Data	1/26/2011	15:17	6.1	210	--	102	9.02	--
EFF1	Integral	February 2011	2/9/2011	8:00	4.63	200	12.39	140	7.2	--
EFF1	Integral	Weekly Field Data	2/17/2011	13:55	4.3	210	10.03	58	7.58	--
EFF1	Integral	Weekly Field Data	2/24/2011	13:49	3	215	11.16	62	7.54	--
EFF1	Integral	Weekly Field Data	3/4/2011	11:06	4.7	201	10.27	54	7.2	--
EFF1	Integral	March 2011	3/10/2011	07:10	4.44	220	12.7	160	7.2	--
EFF1	Integral	Weekly Field Data	3/19/2011	11:30	6.2	213	9.71	24	7.15	--
EFF1	Integral	Weekly Field Data	3/26/2011	16:58	7.2	197	8.03	20	9.79	--
EFF1	Integral	Weekly Field Data	4/3/2011	18:55	6	178	9.81	88	8.78	--
EFF1	Integral	Weekly Field Data	4/9/2011	11:07	6.5	195	10.66	76	8.17	--
EFF1	Integral	Weekly Field Data	4/16/2011	11:00	7.7	205	7.7	55	7.66	50
EFF1	Integral	April 2011	4/21/2011	11:30	7.02	210	13.18	67	8.4	50 *U*
EFF1	Integral	Weekly Field Data	4/30/2011	11:56	8.2	198	7.87	153	8.24	50 *U*
EFF1	Integral	Weekly Field Data	5/7/2011	8:41	9	184	7.98	83	7.56	50 *U*
EFF1	Integral	Weekly Field Data	5/13/2011	18:50	10	184	8.01	95	7.58	50 *U*
EFF1	Integral	Weekly Field Data	5/21/2011	16:05	11.1	198	8.13	41	7.29	50 *U*
EFF1	Integral	June 2011	6/8/2011	14:32	10.56	210	12.41	58	6.9	50
EFF1	Integral	Weekly Field Data	6/18/2011	11:42	12.8	180	8.33	87	6.49	50 *U*
EFF1	Integral	Weekly Field Data	6/25/2011	14:52	11.7	197	7.66	48	8.03	50
EFF1	Integral	Weekly Field Data	7/2/2011	17:39	9.3	192	--	63	7.51	55
EFF1	Integral	Weekly Field Data	7/9/2011	15:00	13.5	179	--	48	7.71	50 *U*
EFF1	Integral	July 2011	7/12/2011	15:11	13.25	220	10.82	56	6.8	50
EFF1	Integral	Weekly Field Data	7/16/2011	14:49	14.5	174	--	24	7.63	55
EFF1	Integral	July 2011 II	7/24/2011	10:15	9.84	200	11.43	63	7.8	50
EFF1	Integral	Weekly Field Data	7/30/2011	13:05	11.7	180	--	23	7.37	50 *U*
EFF1	Integral	Weekly Field Data	8/6/2011	14:26	13.1	195	--	109	7.79	55
EFF1	Integral	Weekly Field Data	8/13/2011	13:30	12.3	211	6.79	--	7.6	50 *U*
EFF1	Integral	Weekly Field Data	8/20/2011	11:50	12.1	182	4.9	--	7.38	50 *U*
EFF1	Integral	Weekly Field Data	8/27/2011	13:42	13.5	222	7.34	290	6.5	50 *U*
EFF1	Integral	Weekly Field Data	9/3/2011	10:55	13.7	307	7.52	40	6.69	70
EFF1	Integral	September 2011	9/7/2011	8:20	11.15	230	11.14	67	6.6	50
EFF1	Integral	Weekly Field Data	9/17/2011	14:32	10.2	197	7.22	46	7.37	50 *U*
EFF1	Integral	Weekly Field Data	9/25/2011	10:50	8.6	195	8.58	25	7.39	50 *U*

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	Weekly Field Data	10/1/2011	11:57	8.4	193	8.38	27	6.48	50 *U*
EFF1	Integral	Weekly Field Data	10/8/2011	11:21	8.2	197	7.68	26	7.42	50 *U*
EFF1	Integral	Weekly Field Data	10/14/2011	14:00	8.1	185	8.1	26	7.4	50 *U*
EFF1	Integral	Weekly Field Data	10/22/2011	12:35	8.3	181	9.3	28	7.53	50 *U*
EFF1	Integral	Weekly Field Data	11/5/2011	16:58	6.7	180	8.88	4	7.36	50 *U*
EFF1	Integral	Weekly Field Data	11/12/2011	10:08	6.5	181	9.3	8	7.4	50 *U*
EFF1	Integral	Weekly Field Data	11/19/2011	10:46	5.2	180	9.29	3	7.41	50 *U*
EFF1	Integral	Weekly Field Data	11/28/2011	16:19	3.4	179	9.51	5	7.48	50 *U*
EFF1	Integral	Weekly Field Data	12/3/2011	15:43	3.6	185	9.28	2	7.46	50 *U*
EFF1	Integral	Weekly Field Data	12/12/2011	11:40	2.9	180	9.22	2	7.47	50 *U*
EFF1	Integral	Weekly Field Data	12/17/2011	14:45	3.6	187	9.86	1	7.59	50 *U*
EFF1	Integral	December 2011	12/21/2011	10:00	3.44	230	11.17	10	7.1	50 *U*
EFF1	Integral	Weekly Field Data	12/31/2011	9:47	4.2	197	10.9	9	7.13	50 *U*
EFF1	Integral	January 2012	1/8/2012	10:00	4.77	250	11.85	13	7	50 *U*
EFF1	Integral	Weekly Field Data	1/9/2012	10:00	4.77	250	11.85	13	7	50 *U*
EFF1	Integral	Weekly Field Data	1/17/2012	14:55	1.8	182	9.82	3	6.51	50 *U*
EFF1	Integral	Weekly Field Data	1/28/2012	11:15	2.8	180	9.82	2	6.5	50 *U*
EFF1	Integral	Weekly Field Data	2/4/2012	9:49	3.9	159	9.98	38	6.25	50 *U*
EFF1	Integral	Weekly Field Data	2/11/2012	11:56	4.1	157	9.89	3	6.28	50 *U*
EFF1	Integral	Weekly Field Data	2/25/2012	11:30	2.3	198	8.63	1	6.11	50 *U*
EFF1	Integral	Weekly Field Data	3/4/2012	12:41	3	204	8.27	2	6.43	50 *U*
EFF1	Integral	Weekly Field Data	3/10/2012	11:10	3.8	182	9.22	2	7.04	50 *U*
EFF1	Integral	Weekly Field Data	3/18/2012	15:38	3.3	184	7.5	1	7.07	50 *U*
EFF1	Integral	Weekly Field Data	3/26/2012	13:42	3.1	182	7.6	1	7.02	50 *U*
EFF1	Integral	Weekly Field Data	4/1/2012	14:45	4.1	186	7.8	1	6.87	50 *U*
EFF1	Integral	April 2012	4/6/2012	11:50	5.55	240	10.82	6	7.1	50
EFF1	Integral	Weekly Field Data	4/8/2012	11:50	5.55	240	10.82	6	7.1	50 *J*
EFF1	Integral	Weekly Field Data	4/14/2012	14:50	6.8	201	7.59	1	6.85	50 *U*
EFF1	Integral	Weekly Field Data	4/21/2012	11:52	7.1	202	8.58	8	7.74	50 *U*
EFF1	Integral	Weekly Field Data	4/28/2012	17:38	6.8	201	8.54	6	7.34	50 *U*
EFF1	Integral	Weekly Field Data	5/7/2012	10:25	7.2	198	8.26	11	6.85	50 *U*
EFF1	Integral	Weekly Field Data	5/13/2012	11:21	8.24	189	8.24	3	6.72	50 *U*
EFF1	Integral	Weekly Field Data	5/19/2012	16:06	11.2	195	8.15	5	7.04	50 *U*
EFF1	Integral	Weekly Field Data	5/26/2012	16:24	11.3	198	7.33	0	7.55	50 *U*
EFF1	Integral	Weekly Field Data	6/2/2012	15:52	11.7	196	7.36	2	7.46	50 *U*
EFF1	Integral	Weekly Field Data	6/9/2012	9:55	12.2	201	7.86	1	7.54	50 *U*
EFF1	Integral	Weekly Field Data	6/16/2012	17:39	11.1	194	8.68	1	7.36	50 *U*
EFF1	Integral	Weekly Field Data	6/25/2012	16:00	13.2	197	7.63	1	7.09	50 *U*
EFF1	Integral	Weekly Field Data	6/30/2012	15:05	12	210	8.06	1	7.63	50 *U*
EFF1	Integral	Weekly Field Data	7/8/2012	4:45	12.7	196	7.86	9	7.33	50 *J*
EFF1	Integral	Weekly Field Data	7/14/2012	2:05	18.7	203	7.62	10	8.28	50 *J*
EFF1	Integral	July 2012	7/22/2012	9:40	13.58	275	10.73	--	7.74	50 *U*
EFF1	Integral	Weekly Field Data	7/28/2012	14:11	16.5	210	6.82	--	6.86	50 *J*
EFF1	Integral	Weekly Field Data	8/4/2012	12:43	13.5	184	6.41	--	7.88	50 *J*
EFF1	Integral	Weekly Field Data	8/12/2012	17:45	12.3	199	8.26	--	7.27	50 *J*
EFF1	Integral	Weekly Field Data	8/17/2012	15:32	16.2	194	8.68	--	7.75	50 *J*
EFF1	Integral	Weekly Field Data	8/25/2012	12:35	14	196	6.84	--	7.92	50 *J*
EFF1	Integral	Weekly Field Data	9/2/2012	3:34	13	197	7.23	8	7.72	50 *J*
EFF1	Integral	Weekly Field Data	9/8/2012	6:02	13	199	6.78	4	8.03	50 *J*
EFF1	Integral	Weekly Field Data	9/14/2012	12:39	11.4	217	7.8	2	7.71	50 *J*
EFF1	Integral	Weekly Field Data	9/22/2012	18:05	10.8	211	8.19	3	7.71	50 *J*
EFF1	Integral	Weekly Field Data	9/30/2012	15:15	9.7	208	7.76	--	7.68	50 *J*

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
EFF1	Integral	Weekly Field Data	10/6/2012	13:35	8	209	10.17	2	7.79	50 *J*
EFF1	Integral	Weekly Field Data	10/14/2012	10:43	8.4	194	11.16	0	7.62	50 *J*
EFF1	Integral	Weekly Field Data	10/20/2012	16:55	6	210	8.9	--	7.4	50 *J*
EFF1	Integral	October 2012	10/28/2012	15:25	4.88	239	11.45	15.8	6.64	50
EFF1	Integral	Weekly Field Data	11/3/2012	15:27	5	200	8.3	--	7.5	50 *J*
EFF1	Integral	Weekly Field Data	11/11/2012	17:01	4.8	199	10.32	12	6.74	50 *J*
EFF1	Integral	Weekly Field Data	11/17/2012	11:09	5	190	11.2	2	7.4	50 *J*
EFF1	Integral	Weekly Field Data	12/2/2012	15:15	4.8	200	8.12	0	7.28	50 *J*
EFF1	Integral	Weekly Field Data	12/17/2012	11:45	3.3	203	8.78	1	7.03	50 *J*
EFF1	Integral	Weekly Field Data	12/22/2012	9:25	4.5	201	9.29	11	6.43	50 *J*
EFF1	Integral	Weekly Field Data	12/28/2012	14:12	5.5	189	9.64	24	6.46	50 *J*
HW1	Integral	Weekly Field Data	1/21/2008	15:20	1.3	220	6.03	10	6.48	--
HW1	Integral	July 2008	7/25/2008	14:45	11.3	738	5.32	4.9	8.3	--
HW1	Integral	August 2008	8/19/2008	15:50	12.2	741	6.3	2.1	7.91	--
HW1	Integral	September 2008	9/9/2008	16:50	12	575	8.32	5	8.12	--
HW1	Integral	October 2008	10/15/2008	17:45	8.3	560	9.71	4.3	7.63	--
HW1	Integral	Weekly Field Data	1/21/2009	15:20	1.3	220	6.03	--	6.48	--
HW1	Integral	Weekly Field Data	3/7/2009	14:55	0.3	146	15.39	10	6.7	--
HW1	Integral	Weekly Field Data	3/29/2009	15:10	1	180	15.8	10	6.3	--
HW1	Integral	Weekly Field Data	4/4/2009	15:20	4	200	9.4	0	6.5	--
HW1	Integral	Weekly Field Data	4/11/2009	15:00	5	200	13.4	0	5.8	--
HW1	Integral	Weekly Field Data	4/18/2009	12:20	5	200	9	1	6	--
HW1	Integral	May 2009	5/14/2009	11:45	10.41	321	--	22.1	8.2	75
HW1	Integral	Weekly Field Data	5/23/2009	12:50	--	--	--	--	--	185
HW1	Integral	Weekly Field Data	5/31/2009	11:35	13.1	510	7.71	-10	7.75	185
HW1	Integral	Weekly Field Data	6/6/2009	17:50	--	--	--	--	--	100
HW1	Integral	Weekly Field Data	6/14/2009	8:50	--	--	--	--	--	150
HW1	Integral	Weekly Field Data	6/21/2009	15:25	--	--	--	--	--	125
HW1	Integral	Weekly Field Data	6/28/2009	13:25	9	559	11.5	475	7.51	190
HW1	Integral	Weekly Field Data	7/5/2009	10:55	18.5	535	10.2	-10	8.09	195
HW1	Integral	Weekly Field Data	7/11/2009	12:10	16.6	565	10.68	39	7.99	195
HW1	Integral	Weekly Field Data	7/21/2009	13:30	13.1	625	5.56	0	7.43	200
HW1	Integral	July 2009	7/25/2009	9:30	15.78	568	7.22	1.2	8.2	200
HW1	Integral	Weekly Field Data	8/2/2009	17:45	25	360	4.5	0	8	110
HW1	Integral	Weekly Field Data	8/13/2009	10:30	13.1	438	10.85	-10	7.66	200
HW1	Integral	Weekly Field Data	8/20/2009	18:05	12.7	347	9.78	41	7.5	95
HW1	Integral	August 2009	8/31/2009	10:00	12.34	327	7.57	3.2	8.55	75
HW1	Integral	September 2009 I	9/8/2009	17:49	11.1	288	5.64	-10	7.9	90
HW1	Integral	Weekly Field Data	9/23/2009	16:35	11.6	173	0.3	109	7.65	50 *U*
HW1	Integral	Weekly Field Data	10/1/2009	15:19	8.7	198	6.45	114	7.67	50 *U*
HW1	Integral	Weekly Field Data	10/7/2009	16:50	10.5	294	7.44	-10	7.78	65
HW1	Integral	October 2009	10/18/2009	14:15	9.05	307	9.64	4.1	7.58	70
HW1	Integral	November 2009	10/31/2009	09:30	4.95	239	10.09	4.7	7.73	--
HW1	Integral	Weekly Field Data	11/8/2009	15:00	5.6	228	7.52	14	7.62	50 *U*
HW1	Integral	Weekly Field Data	11/27/2009	15:45	3.8	216	7.82	0	7.39	50 *U*
HW1	Integral	December 2009 I	12/18/2009	14:05	1.18	228	9.94	8.7	6.17	--
HW1	Integral	December 2009 II	12/29/2009	12:10	2.99	275	10.29	5.4	7.28	50
HW1	Integral	Weekly Field Data	1/6/2010	14:50	3.6	192	7.76	-10	6.94	80
HW1	Integral	January 2010	1/16/2010	11:10	5.57	227	9.85	6.3	7.68	--
HW1	Integral	Weekly Field Data	1/23/2010	15:40	5.8	242	8.72	2	6.59	75
HW1	Integral	Weekly Field Data	1/30/2010	15:42	6.1	197	18.35	0	7	50 *U*
HW1	Integral	Weekly Field Data	2/6/2010	15:15	6.7	278	6.8	-10	7.03	55

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
HW1	Integral	February 2010	2/12/2010	16:30	4.77	217	11.07	--	6.46	--
HW1	Integral	Weekly Field Data	2/19/2010	16:17	2	218	12.99	0	7	50 *U*
HW1	Integral	March 2010	3/5/2010	13:40	2.4	365	9.62	1.6	6.83	--
HW1	Integral	Weekly Field Data	3/14/2010	17:10	4.8	326	19.99	4	7.26	50 *U*
HW1	Integral	Weekly Field Data	3/20/2010	15:10	6.6	252	19.34	3	7.52	50 *U*
HW1	Integral	Weekly Field Data	3/27/2010	18:19	5.5	280	16.68	0	7.24	50 *U*
HW1	Integral	Weekly Field Data	4/3/2010	15:56	5.5	281	16.4	0	7.21	50 *U*
HW1	Integral	Weekly Field Data	4/11/2010	15:05	11.1	244	15.41	2	7.63	55
HW1	Integral	Weekly Field Data	4/18/2010	18:16	7.3	385	9.63	-10	6.63	200
HW1	Integral	Weekly Field Data	4/24/2010	12:32	10.7	355	9.41	3	7.53	--
HW1	Integral	Weekly Field Data	5/2/2010	17:00	9.8	260	8.95	0	7.4	65
HW1	Integral	Weekly Field Data	5/12/2010	17:55	11.5	426	9.1	-10	7.7	125
HW1	Integral	May 2010	5/18/2010	09:50	10.9	999	9.71	1.6	7.47	--
HW1	Integral	Weekly Field Data	5/23/2010	17:47	9.2	592	8.66	0	6.78	125
HW1	Integral	Weekly Field Data	5/29/2010	16:41	14.4	560	6.61	0	7.32	125
HW1	Integral	Weekly Field Data	6/5/2010	15:05	18.4	517	7.85	2	7.04	125
HW1	Integral	Weekly Field Data	6/13/2010	15:00	8.8	287	7.32	3	6.46	90
HW1	Integral	Weekly Field Data	6/19/2010	14:25	19.6	208	6.35	2	7.15	50 *U*
HW1	Integral	June 2010	6/29/2010	15:10	9.3	602	9.87	3.3	7.62	150
HW1	Integral	Weekly Field Data	7/7/2010	15:25	16.8	569	9.78	3	7.83	150
HW1	Integral	July 2010	7/14/2010	10:15	13	622	9.28	1.2	7.97	--
HW1	Integral	Weekly Field Data	7/23/2010	15:30	12.1	438	7.86	3	6.32	200
HW1	Integral	Weekly Field Data	7/30/2010	17:30	12.1	397	7.86	2	6.3	200
HW1	Integral	Weekly Field Data	8/7/2010	14:10	14.6	660	6.44	1	6.16	200
HW1	Integral	August 2010	8/14/2010	11:35	22.3	--	0	2.1	8.62	200
HW1	Integral	Weekly Field Data	8/24/2010	18:35	13	490	6.4	1	6.62	190
HW1	Integral	September 2010	9/7/2010	10:35	10.5	436	9.51	4.9	7.92	--
HW1	Integral	Weekly Field Data	9/10/2010	15:30	16.1	391	2.09	1	7.37	200
HW1	Integral	Weekly Field Data	9/18/2010	12:40	16.3	391	2.09	1	7.37	200
HW1	Integral	Weekly Field Data	9/25/2010	16:35	11.1	307	6.04	1	7.12	100
HW1	Integral	Weekly Field Data	10/2/2010	15:00	--	300	6.27	1	7.12	--
HW1	Integral	October 2010	10/18/2010	15:00	8.8	403	9.76	6.7	8.43	--
HW1	Integral	Weekly Field Data	10/25/2010	17:25	4.6	217	5.52	0	7.69	50 *U*
HW1	Integral	Weekly Field Data	10/31/2010	9:42	5.1	235	7.37	0	7	70
HW1	Integral	Weekly Field Data	11/7/2010	10:27	6.6	224	7.83	7	6.83	70
HW1	Integral	Weekly Field Data	11/14/2010	14:05	8.2	202	7.08	0	7.34	70
HW1	Integral	Weekly Field Data	11/30/2010	12:15	2.6	236	0.09	0	7.46	50 *U*
HW1	Integral	Weekly Field Data	12/7/2010	12:15	4.8	199	0.37	0	7.3	50 *U*
HW1	Integral	December 2010	12/27/2010	10:20	0.8	311	10.98	11.8	7.4	--
HW1	Integral	Weekly Field Data	1/26/2011	14:42	5.5	192	--	1	7.15	--
HW1	Integral	Weekly Field Data	3/19/2011	14:38	4	172	8.5	0	6.93	50 *U*
HW1	Integral	Weekly Field Data	3/26/2011	15:46	12.7	282	8.31	7	7.47	100
HW1	Integral	Weekly Field Data	4/3/2011	18:03	3.3	250	8.58	17	6.96	70
HW1	Integral	Weekly Field Data	4/9/2011	10:21	4	220	8.17	0	6.76	50
HW1	Integral	April 2011	4/21/2011	10:10	4.46	270	12.51	5	7.2	50
HW1	Integral	Weekly Field Data	4/30/2011	11:06	5.8	469	7.72	2	7.24	200
HW1	Integral	Weekly Field Data	5/7/2011	10:31	7.3	259	8.15	1	6.93	90
HW1	Integral	Weekly Field Data	5/13/2011	18:15	12.8	237	8.2	1	6.92	60
HW1	Integral	Weekly Field Data	5/21/2011	18:09	10.1	298	8.5	2	7.47	90
HW1	Integral	June 2011	6/8/2011	14:02	14.53	850	10.73	0	6.8	200 >
HW1	Integral	Weekly Field Data	6/18/2011	12:41	12.7	966	6.56	0	7.15	200 >
HW1	Integral	Weekly Field Data	6/25/2011	13:52	14.1	755	6.9	0	7.73	200 >

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
HW1	Integral	Weekly Field Data	7/2/2011	17:00	9.6	360	--	3	7.28	170
HW1	Integral	Weekly Field Data	7/9/2011	14:11	15.4	295	--	0	7.38	115
HW1	Integral	July 2011 II	7/24/2011	11:45	13.9	760	10.18	3	7.8	200 >
HW1	Integral	Weekly Field Data	7/30/2011	12:18	12.7	366	--	12	7.05	115
HW1	Integral	Weekly Field Data	8/6/2011	13:57	14.5	334	--	0	7.27	50 *U*
HW1	Integral	Weekly Field Data	8/13/2011	16:12	14.7	720	6.45	--	7.13	200 >
HW1	Integral	Weekly Field Data	8/20/2011	11:00	15.4	173	6.69	--	6.81	150
HW1	Integral	Weekly Field Data	8/27/2011	15:03	15	198	5.82	0	7.36	130
HW1	Integral	September 2011	9/7/2011	10:15	12.98	150	9.9	2	7.7	50 *U*
HW1	Integral	Weekly Field Data	9/17/2011	14:02	11	284	6.53	3	7.11	90
HW1	Integral	Weekly Field Data	9/25/2011	9:54	7.4	193	7.42	0	7.25	90
HW1	Integral	Weekly Field Data	10/1/2011	11:11	7.6	191	7.47	0	7.28	95
HW1	Integral	Weekly Field Data	10/8/2011	10:27	7.8	2410	8.07	2	6.73	80
HW1	Integral	Weekly Field Data	10/14/2011	13:30	5.8	181	5.04	0	6.83	50 *U*
HW1	Integral	Weekly Field Data	10/22/2011	12:04	8.2	159	8.84	0	7.34	50 *U*
HW1	Integral	November 2011	11/10/2011	12:50	3.5	172	9.48	0	7.14	50
HW1	Integral	Weekly Field Data	11/19/2011	9:43	3.1	170	9.44	0	7.12	50 *U*
HW1	Integral	Weekly Field Data	11/28/2011	15:36	4	150	9.96	3	6.95	50 *U*
HW1	Integral	Weekly Field Data	12/3/2011	15:45	2.9	171	9.6	1	7.07	50 *U*
HW1	Integral	Weekly Field Data	12/12/2011	11:13	1.6	203	10.18	0	6.78	50 *U*
HW1	Integral	Weekly Field Data	12/17/2011	14:12	2.76	177	11.02	0	7.57	50 *U*
HW1	Integral	January 2012	1/8/2012	11:30	4.85	200	10.8	11	7.7	50 *U*
HW1	Integral	Weekly Field Data	1/9/2012	11:30	4.85	200	10.8	11	7.7	50 *U*
HW1	Integral	Weekly Field Data	2/25/2012	10:53	0.9	203	9.94	2	6.07	50 *U*
HW1	Integral	Weekly Field Data	3/4/2012	12:10	1	192	10.36	1	6.22	50 *U*
HW1	Integral	Weekly Field Data	3/10/2012	10:02	2.9	194	9.07	1	6.68	50 *U*
HW1	Integral	Weekly Field Data	3/18/2012	14:50	2	184	9.79	2	6.58	50 *U*
HW1	Integral	Weekly Field Data	3/26/2012	13:24	2.2	182	9.49	2	6.59	50 *U*
HW1	Integral	Weekly Field Data	4/1/2012	13:17	2.8	198	9.26	3	5.98	50 *U*
HW1	Integral	April 2012	4/6/2012	11:05	3.87	260	10.66	6	6.7	50 *U*
HW1	Integral	Weekly Field Data	4/21/2012	11:16	5.6	309	8.04	0	6.85	50 *U*
HW1	Integral	Weekly Field Data	4/28/2012	16:56	6.2	287	8.02	0	6.84	50 *U*
HW1	Integral	Weekly Field Data	5/7/2012	10:19	6.4	285	8.02	0	6.84	50 *U*
HW1	Integral	Weekly Field Data	5/13/2012	10:37	6.9	201	8.06	0	6.71	50 *U*
HW1	Integral	Weekly Field Data	5/19/2012	15:49	12.4	196	8.21	6	6.81	50 *U*
HW1	Integral	Weekly Field Data	5/26/2012	15:47	9.5	310	7.05	0	6.91	50 *U*
HW1	Integral	Weekly Field Data	6/2/2012	15:08	9.6	298	7.06	8	6.89	50 *U*
HW1	Integral	Weekly Field Data	6/9/2012	8:34	10.1	301	7.14	4	6.94	50 *U*
HW1	Integral	Weekly Field Data	6/16/2012	17:07	11.8	279	7.12	0	6.99	90
HW1	Integral	Weekly Field Data	6/25/2012	15:34	11	274	7.6	0	6.73	80
HW1	Integral	Weekly Field Data	6/30/2012	14:40	13.2	311	7.18	1	6.79	80
HW1	Integral	Weekly Field Data	7/8/2012	6:00	11.8	259	6.06	0	7.53	80
HW1	Integral	Weekly Field Data	7/14/2012	12:59	19	250	6.28	1	7.58	100
HW1	Integral	July 2012	7/22/2012	8:05	13.19	573	9.6	--	7.03	200
HW1	Integral	Weekly Field Data	8/4/2012	11:55	14.1	256	7.43	--	7.42	80
HW1	Integral	Weekly Field Data	8/12/2012	17:25	12.9	303	7.32	--	6.65	100
HW1	Integral	Weekly Field Data	8/17/2012	14:58	22.3	266	6.86	--	7.12	90
HW1	Integral	Weekly Field Data	8/25/2012	12:22	14.4	549	8.04	--	7.33	100
HW1	Integral	Weekly Field Data	9/2/2012	10:04	11.2	408	7.32	2	7.53	100
HW1	Integral	Weekly Field Data	9/8/2012	5:14	15.1	314	7.5	0	7.66	90
HW1	Integral	Weekly Field Data	9/14/2012	12:01	11.4	142	7.34	0	7.5	90
HW1	Integral	Weekly Field Data	9/22/2012	17:23	12.6	167	7.53	1	7.24	50 *J*

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
HW1	Integral	Weekly Field Data	9/30/2012	14:42	9.4	207	7.58	--	7.31	50 *J*
HW1	Integral	Weekly Field Data	10/6/2012	12:59	9.6	186	9.58	2	7.22	50 *J*
HW1	Integral	Weekly Field Data	10/14/2012	10:11	9.4	178	8.51	4	7.14	50 *J*
HW1	Integral	Weekly Field Data	10/20/2012	16:09	3.5	151	9.36	--	7.14	50 *J*
HW1	Integral	Weekly Field Data	11/3/2012	15:02	7	170	8.3	--	7.1	50 *J*
HW1	Integral	Weekly Field Data	11/11/2012	15:52	4.9	181	9.14	1	6.88	50 *J*
HW1	Integral	Weekly Field Data	11/17/2012	10:37	4.5	168	8.99	6	7.14	50 *J*
HW1	Integral	Weekly Field Data	11/24/2012	9:25	4.2	164	9.02	4	7.08	50 *J*
HW1	Integral	Weekly Field Data	12/2/2012	14:41	2.2	208	9.1	5	7.04	50 *J*
HW1	Integral	Weekly Field Data	12/17/2012	11:19	0.5	202	10.87	2	6.89	50 *J*
LO1	Integral	Weekly Field Data	1/21/2008	15:10	1.6	281	15.91	10	6.49	--
LO1	Integral	July 2008	7/25/2008	14:10	11.3	2200	2.52	8.9	8.63	--
LO1	Integral	August 2008	8/19/2008	15:40	12.3	995	5.08	2.9	7.99	--
LO1	Integral	September 2008	9/9/2008	16:40	12.2	957	9.6	1.8	8.1	--
LO1	Integral	October 2008	10/15/2008	17:40	8.3	883	10.28	4.3	7.68	--
LO1	Integral	Weekly Field Data	11/25/2008	15:00	4.5	656	15.17	180	6.28	--
LO1	Integral	Weekly Field Data	11/26/2008	11:50	4.9	396	13.92	50	6.9	--
LO1	Integral	Weekly Field Data	1/21/2009	15:10	1.6	281	15.91	--	6.49	--
LO1	Integral	Weekly Field Data	3/7/2009	14:25	0.2	461	15.58	10	6.63	--
LO1	Integral	Weekly Field Data	3/29/2009	15:00	1	280	5.5	-10	5.9	--
LO1	Integral	Weekly Field Data	4/4/2009	15:10	4	230	15.3	21	6.6	--
LO1	Integral	Weekly Field Data	4/11/2009	14:55	5	260	13.9	70	6	--
LO1	Integral	Weekly Field Data	4/18/2009	12:10	5	300	10.1	1	6	--
LO1	Integral	May 2009	5/14/2009	11:00	8.94	446	9.22	2.5	7.75	85
LO1	Integral	Weekly Field Data	5/23/2009	12:38	11.3	656	7.1	-10	7.44	150
LO1	Integral	Weekly Field Data	5/31/2009	11:25	13.1	693	7.31	-10	7.76	175
LO1	Integral	Weekly Field Data	6/9/2009	17:15	--	--	--	--	--	60
LO1	Integral	Weekly Field Data	6/14/2009	8:30	--	--	--	--	--	200
LO1	Integral	Weekly Field Data	6/21/2009	9:45	--	--	--	--	--	200
LO1	Integral	Weekly Field Data	6/28/2009	13:15	9.2	990	7.37	-10	7.53	190
LO1	Integral	Weekly Field Data	7/5/2009	10:45	18.4	959	10.31	-10	8.2	200 >
LO1	Integral	Weekly Field Data	7/11/2009	12:00	--	--	--	--	--	200 >
LO1	Integral	Weekly Field Data	8/2/2009	14:45	23.2	952	5.21	1	7.97	200
LO1	Integral	Weekly Field Data	8/13/2009	10:40	14.1	1100	10.73	3	7.66	200
LO1	Integral	Weekly Field Data	8/20/2009	17:55	12.7	1000	9.13	120	7.45	200
LO1	Integral	August 2009	8/31/2009	10:00	12.32	980	5.61	3.2	8.3	200 >
LO1	Integral	September 2009 I	9/8/2009	17:49	11.1	739	5.8	-10	7.84	200 >
LO1	Integral	Weekly Field Data	9/23/2009	16:25	11.5	628	0.43	107	7.66	160
LO1	Integral	Weekly Field Data	10/1/2009	15:10	9	532	6.14	115	7.67	150
LO1	Integral	Weekly Field Data	10/7/2009	16:35	10.5	473	6.83	-10	7.75	150
LO1	Integral	November 2009	10/31/2009	09:20	4.7	450	9.71	4.1	7.41	--
LO1	Integral	Weekly Field Data	11/8/2009	14:50	5.7	404	7.68	22	7.54	90
LO1	Integral	Weekly Field Data	11/27/2009	15:35	4	344	7	0	7.25	95
LO1	Integral	December 2009 I	12/18/2009	13:50	1.77	229	6.52	12.1	5.9	--
LO1	Integral	December 2009 II	12/29/2009	12:00	3.41	185	8.53	6.5	7.13	50 *U*
LO1	Integral	Weekly Field Data	1/6/2010	14:40	2.4	185	6.08	-10	6.84	50 *U*
LO1	Integral	January 2010	1/16/2010	11:00	5.62	324	8.5	7.3	7.56	--
LO1	Integral	Weekly Field Data	1/23/2010	15:40	6.61	329	7.31	0	5.8	75
LO1	Integral	Weekly Field Data	1/30/2010	15:27	6.3	332	15.4	0	6.98	90
LO1	Integral	Weekly Field Data	2/6/2010	15:05	6.9	335	7.34	-10	6.99	65
LO1	Integral	Weekly Field Data	2/19/2010	16:07	2.9	309	15.51	0	6.98	90
LO1	Integral	Weekly Field Data	4/24/2010	12:27	9.1	309	7.87	73	7.46	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
LO1	Integral	Weekly Field Data	5/2/2010	16:50	9.6	247	8.3	1	7.42	60
LO1	Integral	Weekly Field Data	5/12/2010	17:55	11.4	302	9.05	-10	7.85	90
LO1	Integral	May 2010	5/18/2010	09:40	10.9	677	9.88	2.3	7.12	--
LO1	Integral	Weekly Field Data	5/23/2010	15:35	9.2	554	8.36	37	6.61	90
LO1	Integral	Weekly Field Data	5/29/2010	16:22	14.3	489	6.85	1	7.27	90
LO1	Integral	Weekly Field Data	6/5/2010	14:53	17.4	469	7.88	21	6.93	--
LO1	Integral	Weekly Field Data	6/13/2010	14:50	9	304	7.11	2	6.36	55
LO1	Integral	Weekly Field Data	6/19/2010	14:10	19	291	7.03	3	6.7	85
LO1	Integral	June 2010	6/29/2010	15:08	9.4	583	9.23	10.1	7.6	150
LO1	Integral	Weekly Field Data	7/7/2010	15:15	16.4	526	9.56	3	7.68	150
LO1	Integral	July 2010	7/14/2010	10:00	12.8	517	9.33	2	7.86	--
LO1	Integral	Weekly Field Data	7/23/2010	15:20	12.2	312	7.96	4	6.2	150
LO1	Integral	Weekly Field Data	7/30/2010	17:18	12.2	312	7.96	4	6.18	150
LO1	Integral	Weekly Field Data	8/7/2010	13:52	14.9	503	7.14	3	5.97	150
LO1	Integral	August 2010	8/14/2010	11:26	21.4	1160	8.11	8.4	8.53	200
LO1	Integral	Weekly Field Data	8/24/2010	18:25	13.2	366	6.36	3	6.6	175
LO1	Integral	September 2010	9/7/2010	10:25	10.4	602	9.26	5.5	7.61	--
LO1	Integral	Weekly Field Data	9/10/2010	15:40	16.1	352	2.13	29	7.29	150
LO1	Integral	Weekly Field Data	9/18/2010	12:20	16.8	360	2.1	21	7.29	150
LO1	Integral	Weekly Field Data	9/25/2010	16:25	11.1	281	6.27	2	7.18	90
LO1	Integral	Weekly Field Data	10/2/2010	16:50	--	281	4.27	2	7.28	--
LO1	Integral	October 2010	10/18/2010	14:45	8.9	457	9.64	6.3	8.17	--
LO1	Integral	Weekly Field Data	10/25/2010	17:15	4.8	204	5.57	0	7.65	50 *U*
LO1	Integral	Weekly Field Data	10/31/2010	9:32	5.5	211	9.97	14	6.64	50
LO1	Integral	Weekly Field Data	11/7/2010	10:19	7	201	8.5	20	6.5	50
LO1	Integral	Weekly Field Data	11/14/2010	13:52	8.7	178	7.05	1	7.17	50
LO1	Integral	Weekly Field Data	11/30/2010	12:05	2.9	239	0.08	0	7.44	50 *U*
LO1	Integral	Weekly Field Data	12/7/2010	12:05	5	227	0.36	0	7.21	50 *U*
LO1	Integral	December 2010	12/27/2010	10:10	0.7	327	11.26	13	6.78	--
LO1	Integral	Weekly Field Data	1/26/2011	14:30	5.7	238	--	1	7	--
LO1	Integral	Weekly Field Data	3/19/2011	14:25	4.7	167	8.52	3	6.73	50 *U*
LO1	Integral	Weekly Field Data	3/26/2011	15:39	12.7	225	8.44	26	7.51	50
LO1	Integral	Weekly Field Data	4/3/2011	17:51	4.2	215	8.88	4	6.74	50
LO1	Integral	Weekly Field Data	4/9/2011	10:11	4.4	211	8.3	4	6.64	50 *U*
LO1	Integral	April 2011	4/21/2011	09:55	4.45	230	12.69	5	6.8	50 *U*
LO1	Integral	Weekly Field Data	4/30/2011	10:55	6.1	311	8.38	2	7.12	125
LO1	Integral	Weekly Field Data	5/7/2011	10:23	7.8	199	8.32	3	6.94	50 *U*
LO1	Integral	Weekly Field Data	5/13/2011	18:10	13.1	199	8.47	4	6.64	50 *U*
LO1	Integral	Weekly Field Data	5/21/2011	17:54	10.2	358	7.55	3	7.5	50 *U*
LO1	Integral	June 2011	6/8/2011	14:07	14.3	510	10.7	1	7.1	175
LO1	Integral	Weekly Field Data	6/18/2011	12:28	13	575	6.83	1	7.08	200
LO1	Integral	Weekly Field Data	6/25/2011	13:38	14.2	515	6.64	0	7.7	200 >
LO1	Integral	Weekly Field Data	7/2/2011	16:47	10	290	--	0	7.15	175
LO1	Integral	Weekly Field Data	7/9/2011	14:01	15.3	332	--	2	7.17	150
LO1	Integral	July 2011 II	7/24/2011	11:25	13.99	460	9.75	6	7.8	200
LO1	Integral	Weekly Field Data	7/30/2011	12:10	12.8	392	--	0	6.89	150
LO1	Integral	Weekly Field Data	8/6/2011	13:49	14.6	337	--	0	7.05	150
LO1	Integral	Weekly Field Data	8/13/2011	16:02	14.7	476	6.46	--	7	200
LO1	Integral	Weekly Field Data	8/20/2011	10:55	15.6	266	6.64	--	6.63	150
LO1	Integral	Weekly Field Data	8/27/2011	14:48	14.7	240	5.98	0	7.29	125
LO1	Integral	September 2011	9/7/2011	10:00	12.96	20	10.11	2	7.5	55
LO1	Integral	Weekly Field Data	9/17/2011	13:54	11.4	203	7.22	4	7.05	55

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
LO1	Integral	Weekly Field Data	9/25/2011	9:43	7.7	199	7.93	0	7.07	60
LO1	Integral	Weekly Field Data	10/1/2011	10:59	7.4	183	7.73	0	7.1	60
LO1	Integral	Weekly Field Data	10/8/2011	10:19	8.1	195	8.12	6	6.67	50
LO1	Integral	Weekly Field Data	10/14/2011	13:20	6.1	179	5.72	2	6.1	50 *U*
LO1	Integral	Weekly Field Data	10/22/2011	11:55	8.6	163	9.56	5	7.3	50 *U*
LO1	Integral	November 2011	11/10/2011	12:28	3.6	187	9.64	0	7.02	50
LO1	Integral	Weekly Field Data	11/19/2011	9:28	3.2	186	9.62	0	7.04	50 *U*
LO1	Integral	Weekly Field Data	11/28/2011	15:29	4.4	1560	10.39	5	6.64	50 *U*
LO1	Integral	Weekly Field Data	12/3/2011	15:03	3.3	159	9.85	2	6.85	50 *U*
LO1	Integral	Weekly Field Data	12/12/2011	11:05	2.3	191	10.17	3	6.61	50 *U*
LO1	Integral	Weekly Field Data	12/17/2011	14:05	3.3	163	11.17	4	6.68	50 *U*
LO1	Integral	January 2012	1/8/2012	11:15	4.87	220	11.5	11	7.5	50 *U*
LO1	Integral	Weekly Field Data	1/9/2012	11:15	4.87	220	11.5	11	7.5	50 *U*
LO1	Integral	Weekly Field Data	2/25/2012	10:46	1.5	215	9.72	5	5.95	50 *U*
LO1	Integral	Weekly Field Data	3/4/2012	12:03	1.8	169	9.89	3	6.08	50 *U*
LO1	Integral	Weekly Field Data	3/10/2012	9:52	3.3	187	9.14	0	6.43	50 *U*
LO1	Integral	Weekly Field Data	3/18/2012	14:41	2.5	196	9.31	1	6.45	50 *U*
LO1	Integral	Weekly Field Data	3/26/2012	13:18	2.4	189	9.27	1	6.48	50 *U*
LO1	Integral	Weekly Field Data	4/1/2012	13:17	2.8	198	9.26	3	5.98	50 *U*
LO1	Integral	April 2012	4/6/2012	10:50	3.45	250	11.21	6	6.4	50 *U*
LO1	Integral	Weekly Field Data	4/21/2012	11:07	5.9	271	8.1	0	6.72	50 *U*
LO1	Integral	Weekly Field Data	4/28/2012	16:38	6.8	273	8.11	1	6.81	50 *U*
LO1	Integral	Weekly Field Data	5/7/2012	10:04	6.9	235	8.13	0	6.7	50 *U*
LO1	Integral	Weekly Field Data	5/13/2012	10:23	7.1	198	8.1	1	6.64	50 *U*
LO1	Integral	Weekly Field Data	5/26/2012	15:28	9.7	212	7.42	0	6.81	60
LO1	Integral	Weekly Field Data	6/2/2012	14:15	9.8	199	7.4	2	6.79	70
LO1	Integral	Weekly Field Data	6/9/2012	8:46	10.2	205	7.36	1	6.73	50 *U*
LO1	Integral	Weekly Field Data	6/16/2012	17:00	12	253	7.6	0	6.77	70
LO1	Integral	Weekly Field Data	6/25/2012	15:27	11.3	280	7.44	0	6.55	75
LO1	Integral	Weekly Field Data	6/30/2012	14:36	13.1	293	7.94	1	6.73	75
LO1	Integral	Weekly Field Data	7/8/2012	5:48	11.9	240	6.18	0	7.39	70
LO1	Integral	Weekly Field Data	7/14/2012	12:47	19	207	6.06	1	7.39	80
LO1	Integral	July 2012	7/22/2012	7:45	13.52	377	9.74	--	6.65	90
LO1	Integral	Weekly Field Data	8/4/2012	11:47	14.1	282	7.58	--	7.18	75
LO1	Integral	Weekly Field Data	8/12/2012	17:23	13.1	311	7.35	--	6.32	100
LO1	Integral	Weekly Field Data	8/17/2012	14:51	21.5	278	7.19	--	6.77	125
LO1	Integral	Weekly Field Data	8/25/2012	12:08	14.7	389	6.98	--	7.2	150
LO1	Integral	Weekly Field Data	9/2/2012	9:46	11.4	327	7.98	1	7.23	150
LO1	Integral	Weekly Field Data	9/8/2012	5:07	15.3	364	7.34	1	7.32	125
LO1	Integral	Weekly Field Data	9/14/2012	11:52	11.6	252	8.16	2	7.23	100
LO1	Integral	Weekly Field Data	9/22/2012	17:18	12.8	319	7.28	2	6.87	75
LO1	Integral	Weekly Field Data	9/30/2012	14:26	9.6	250	7.5	--	7.08	55
LO1	Integral	Weekly Field Data	10/6/2012	12:53	9.8	204	8.63	4	6.91	55
LO1	Integral	Weekly Field Data	10/14/2012	10:07	9.7	221	8.66	7	6.8	50
LO1	Integral	Weekly Field Data	10/20/2012	16:00	3.8	186	9.39	--	6.97	50 *J*
LO1	Integral	Weekly Field Data	11/3/2012	14:50	8	170	8.9	--	6.9	50 *J*
LO1	Integral	Weekly Field Data	11/11/2012	15:37	5.2	194	9.25	2	6.78	50 *J*
LO1	Integral	Weekly Field Data	11/17/2012	10:30	5.2	190	9.73	18	6.89	50 *J*
LO1	Integral	Weekly Field Data	11/24/2012	9:19	5.2	198	9.64	18	6.79	50 *J*
LO1	Integral	Weekly Field Data	12/2/2012	14:33	2.4	216	9.52	18	6.83	50 *J*
LO1	Integral	Weekly Field Data	12/17/2012	11:09	0.8	185	11.18	3	6.62	50 *J*
LO2	Integral	Weekly Field Data	1/21/2008	15:00	0.9	91	17.16	412	6.67	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
LO2	Integral	July 2008	7/25/2008	14:30	11.2	2090	1.7	5.9	9.21	--
LO2	Integral	August 2008	8/19/2008	15:30	12.4	1170	3.83	2.2	7.94	--
LO2	Integral	September 2008	9/9/2008	16:30	12.5	764	5.03	1.8	8.21	--
LO2	Integral	October 2008	10/15/2008	17:20	8.3	373	5.8	4.1	7.69	--
LO2	Integral	Weekly Field Data	11/25/2008	14:45	4.4	1940	15.86	197	6.65	--
LO2	Integral	Weekly Field Data	11/26/2008	11:33	7.3	189	15.12	80	6.99	--
LO2	Integral	Weekly Field Data	1/21/2009	15:00	0.9	91	17.16	--	6.67	--
LO2	Integral	Weekly Field Data	3/7/2009	14:35	0.3	131	15.87	10	6.04	--
LO2	Integral	Weekly Field Data	3/29/2009	15:50	2	130	10.8	-10	6.5	--
LO2	Integral	Weekly Field Data	4/4/2009	15:00	5	110	11.2	0	6.6	--
LO2	Integral	Weekly Field Data	4/11/2009	14:50	5	120	12.3	0	6.1	--
LO2	Integral	Weekly Field Data	4/18/2009	11:55	5	150	11.2	1	6	--
LO2	Integral	May 2009	5/14/2009	11:15	8.8	333	9.45	2.4	8.19	53
LO2	Integral	Weekly Field Data	5/23/2009	12:30	11.5	385	7.11	-10	7.36	77
LO2	Integral	Weekly Field Data	5/31/2009	11:15	12.8	401	12.41	90	7.77	95
LO2	Integral	Weekly Field Data	6/9/2009	17:00	--	--	--	--	--	60
LO2	Integral	Weekly Field Data	6/21/2009	9:15	--	--	--	--	--	100
LO2	Integral	Weekly Field Data	7/5/2009	10:35	18.5	487	6.7	-10	8.23	125
LO2	Integral	Weekly Field Data	7/11/2009	11:50	16.5	502	10.03	27	7.79	150
LO2	Integral	Weekly Field Data	7/21/2009	15:30	13.2	546	6.95	0	7.68	200
LO2	Integral	Weekly Field Data	8/2/2009	15:30	21.1	491	9.29	0	7.84	135
LO2	Integral	Weekly Field Data	8/13/2009	10:30	--	--	--	--	--	200
LO2	Integral	Weekly Field Data	8/20/2009	17:45	12.8	525	10.05	133	7.56	200
LO2	Integral	August 2009	8/31/2009	10:00	13.32	524	11.5	2.4	8.52	200
LO2	Integral	September 2009 I	9/8/2009	17:49	11.2	390	7	-10	7.87	125
LO2	Integral	Weekly Field Data	9/23/2009	16:15	11.3	340	0.34	-10	7.6	80
LO2	Integral	Weekly Field Data	10/1/2009	14:45	9.1	276	4.25	8	7.61	57
LO2	Integral	Weekly Field Data	10/7/2009	16:25	11	249	7.2	-10	7.82	50 *U*
LO2	Integral	November 2009	10/31/2009	09:10	5.17	283	9.28	3.6	6.66	--
LO2	Integral	Weekly Field Data	11/8/2009	14:40	5.8	220	6.64	19	7.36	50 *U*
LO2	Integral	Weekly Field Data	11/27/2009	15:25	4.4	207	7.35	0	6.98	50 *U*
LO2	Integral	December 2009 I	12/18/2009	13:25	1.39	275	7.54	16.4	5.79	--
LO2	Integral	December 2009 II	12/29/2009	11:45	3.89	236	8.85	4.5	6.78	50
LO2	Integral	Weekly Field Data	1/7/2010	14:35	2.4	247	8.67	-10	6.72	50 *U*
LO2	Integral	January 2010	1/16/2010	10:55	5.65	248	10.46	5.7	7.34	--
LO2	Integral	Weekly Field Data	1/23/2010	15:50	5.9	241	7.44	1	5.63	50 *U*
LO2	Integral	Weekly Field Data	1/30/2010	15:17	6.3	250	14.98	0	6.78	50 *U*
LO2	Integral	Weekly Field Data	2/6/2010	14:53	6.9	261	7.67	-10	6.75	50 *U*
LO2	Integral	Weekly Field Data	2/19/2010	15:55	2.9	244	14.73	0	6.57	50 *U*
LO2	Integral	Weekly Field Data	3/14/2010	17:00	4.8	251	19.99	20	7.18	50 *U*
LO2	Integral	Weekly Field Data	3/20/2010	15:00	8.1	285	18.99	3	6.93	50 *U*
LO2	Integral	Weekly Field Data	3/27/2010	18:07	5.9	305	17.91	0	7.01	50 *U*
LO2	Integral	Weekly Field Data	4/3/2010	15:27	5.9	301	17.91	0	7.02	50 *U*
LO2	Integral	Weekly Field Data	4/24/2010	12:20	9.5	232	7.32	5	7.61	--
LO2	Integral	Weekly Field Data	5/2/2010	16:40	10.3	201	8.51	1	7.39	50 *U*
LO2	Integral	Weekly Field Data	5/12/2010	17:30	12.3	249	9.1	-10	7.91	63
LO2	Integral	May 2010	5/18/2010	09:30	11.1	483	10.16	1.2	6.69	--
LO2	Integral	Weekly Field Data	5/23/2010	17:25	9.2	357	8.69	1	6.51	65
LO2	Integral	Weekly Field Data	6/5/2010	14:38	18.2	334	7.61	2	6.72	60
LO2	Integral	Weekly Field Data	6/13/2010	14:35	9.1	214	7.45	3	6.29	55
LO2	Integral	Weekly Field Data	6/19/2010	14:00	19.8	220	6.93	5	6.42	50 *U*
LO2	Integral	June 2010	6/29/2010	15:05	9.6	471	10.08	3	7.71	70

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
LO2	Integral	Weekly Field Data	7/7/2010	15:00	16.4	312	9.86	2	7.89	80
LO2	Integral	July 2010	7/14/2010	09:45	13	322	9.64	1.4	7.99	--
LO2	Integral	Weekly Field Data	7/23/2010	15:10	12.3	321	6.44	3	6.1	150
LO2	Integral	Weekly Field Data	7/30/2010	16:55	12.1	355	6.55	3	6.05	150
LO2	Integral	Weekly Field Data	8/7/2010	13:39	15.4	361	8.13	1	5.83	150
LO2	Integral	August 2010	8/14/2010	11:22	21.2	639	8.63	7.1	8.59	150
LO2	Integral	Weekly Field Data	8/24/2010	18:15	13.5	370	6.24	2	6.56	150
LO2	Integral	September 2010	9/7/2010	10:15	10.6	312	9.98	3.8	7.72	--
LO2	Integral	Weekly Field Data	9/10/2010	15:40	17.3	245	2.11	2	7.21	75
LO2	Integral	Weekly Field Data	9/18/2010	12:20	16.5	251	2.1	2	7.21	75
LO2	Integral	Weekly Field Data	9/25/2010	16:15	11.1	211	6.49	1	7.24	53
LO2	Integral	Weekly Field Data	10/2/2010	16:40	10.8	190	4.83	1	7.5	--
LO2	Integral	October 2010	10/18/2010	14:25	8.8	364	9.9	5.9	7.88	--
LO2	Integral	Weekly Field Data	10/25/2010	17:05	5.1	170	5.35	0	7.71	50 *U*
LO2	Integral	Weekly Field Data	10/31/2010	9:23	6.9	171	9.5	14	6.43	50 *U*
LO2	Integral	Weekly Field Data	11/7/2010	10:15	8.5	202	9.61	58	6.17	50 *U*
LO2	Integral	Weekly Field Data	11/14/2010	13:45	9.9	164	8.09	5	6.84	50 *U*
LO2	Integral	Weekly Field Data	11/21/2010	15:54	3	299	14.72	57	7.02	--
LO2	Integral	Weekly Field Data	11/30/2010	11:40	5.3	239	0.07	2	7.18	80
LO2	Integral	Weekly Field Data	12/7/2010	11:50	5.4	185	0.35	0	7.04	50
LO2	Integral	December 2010	12/27/2010	9:55	1	319	12.46	10.4	6.38	--
LO2	Integral	Weekly Field Data	1/26/2011	14:21	7	177	--	1	6.91	--
LO2	Integral	Weekly Field Data	3/19/2011	14:18	6.6	163	8.6	6	6.5	50 *U*
LO2	Integral	Weekly Field Data	3/26/2011	15:25	15.2	198	8.7	0	7.08	50
LO2	Integral	Weekly Field Data	4/3/2011	17:45	5.9	193	8.53	10	6.42	50 *U*
LO2	Integral	Weekly Field Data	4/9/2011	9:59	5.8	172	10.8	42	6.4	50 *U*
LO2	Integral	April 2011	4/21/2011	09:40	4.64	200	12.9	5	6.2	50 *U*
LO2	Integral	Weekly Field Data	4/30/2011	10:30	7.7	236	8.59	50	6.71	55
LO2	Integral	Weekly Field Data	5/7/2011	10:07	9.4	180	9.15	19	6.49	50 *U*
LO2	Integral	Weekly Field Data	5/13/2011	18:01	13.6	186	8.51	2	6.58	50 *U*
LO2	Integral	Weekly Field Data	5/21/2011	16:42	10.4	219	8.54	4	7.43	50 *U*
LO2	Integral	June 2011	6/8/2011	14:12	14.97	350	10.49	7	7.4	95
LO2	Integral	Weekly Field Data	6/25/2011	13:24	14.8	436	6.85	12	7.76	200 >
LO2	Integral	Weekly Field Data	7/2/2011	16:34	11.3	235	--	3	6.82	110
LO2	Integral	Weekly Field Data	7/9/2011	14:01	4.37	176	--	1	6.97	50 *U*
LO2	Integral	July 2011 II	7/24/2011	11:15	13.59	340	9.84	3	7.9	100
LO2	Integral	Weekly Field Data	7/30/2011	12:01	13.3	221	--	2	6.65	50 *U*
LO2	Integral	Weekly Field Data	8/6/2011	13:40	15.4	196	--	0	6.71	50 *U*
LO2	Integral	Weekly Field Data	8/13/2011	15:53	15.7	286	7.08	--	6.71	105
LO2	Integral	Weekly Field Data	8/20/2011	10:45	16.1	174	7.25	--	6.18	50 *U*
LO2	Integral	Weekly Field Data	8/27/2011	14:35	14.9	116	9.32	0	7.24	50 *U*
LO2	Integral	September 2011	9/7/2011	9:45	13	140	10.14	2	7.4	50 *U*
LO2	Integral	Weekly Field Data	9/17/2011	14:17	11.9	307	7.6	4	7.22	105
LO2	Integral	Weekly Field Data	9/25/2011	9:31	8.6	147	8.6	2	6.74	50 *U*
LO2	Integral	Weekly Field Data	10/1/2011	10:43	8.2	132	8.65	1	6.89	50 *U*
LO2	Integral	Weekly Field Data	10/8/2011	10:09	9.3	189	8.57	22	6.42	50 *U*
LO2	Integral	Weekly Field Data	10/14/2011	13:11	6.9	164	6.25	7	5.75	50 *U*
LO2	Integral	Weekly Field Data	10/22/2011	11:45	9.9	143	9.63	12	6.75	50 *U*
LO2	Integral	November 2011	11/10/2011	12:10	4.8	151	9.46	2	6.7	50
LO2	Integral	Weekly Field Data	11/19/2011	9:11	4	150	9.44	2	6.8	50 *U*
LO2	Integral	Weekly Field Data	11/28/2011	15:14	6.2	129	9.04	18	6.32	50 *U*
LO2	Integral	Weekly Field Data	12/3/2011	14:52	5.3	1410	9.46	23	6.49	50 *U*

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
LO2	Integral	Weekly Field Data	12/12/2011	10:57	4.1	152	9.46	23	6.33	50 *U*
LO2	Integral	Weekly Field Data	12/17/2011	13:57	4.8	136	10.79	55	6.36	50 *U*
LO2	Integral	January 2012	1/8/2012	11:00	4.89	190	11.01	10	7.5	50 *U*
LO2	Integral	Weekly Field Data	1/9/2012	11:00	4.89	190	11.01	10	7.5	50 *U*
LO2	Integral	Weekly Field Data	2/25/2012	10:39	2.9	182	9.77	17	6	50 *U*
LO2	Integral	Weekly Field Data	3/4/2012	11:54	3.6	143	9.72	10	6	50 *U*
LO2	Integral	Weekly Field Data	3/10/2012	9:34	5.9	168	9.19	31	6.05	50 *U*
LO2	Integral	Weekly Field Data	3/18/2012	14:28	4.2	159	8.78	3	6.27	50 *U*
LO2	Integral	Weekly Field Data	3/26/2012	13:10	4.2	158	8.76	2	6.25	50 *U*
LO2	Integral	Weekly Field Data	4/1/2012	13:08	4.5	167	8.86	2	6.02	50 *U*
LO2	Integral	April 2012	4/6/2012	10:35	3.37	300	11.77	6	6	50 *U*
LO2	Integral	Weekly Field Data	4/21/2012	11:01	6.8	187	8.33	1	6.53	50 *U*
LO2	Integral	Weekly Field Data	4/28/2012	16:25	7.1	185	8.25	3	6.58	50 *U*
LO2	Integral	Weekly Field Data	5/7/2012	9:50	7.2	184	8.28	2	6.52	50 *U*
LO2	Integral	Weekly Field Data	5/13/2012	10:11	7.6	182	8.21	1	6.48	50 *U*
LO2	Integral	Weekly Field Data	5/19/2012	15:38	12.2	157	8.18	13	6.48	50 *U*
LO2	Integral	Weekly Field Data	5/26/2012	15:15	10.4	183	8.23	0	6.38	50 *U*
LO2	Integral	Weekly Field Data	6/2/2012	14:44	10.5	186	8.23	3	6.31	50 *U*
LO2	Integral	Weekly Field Data	6/9/2012	8:52	11.8	182	8.2	3	6.28	50 *U*
LO2	Integral	Weekly Field Data	6/16/2012	16:53	12.7	174	7.51	1	6.4	50 *U*
LO2	Integral	Weekly Field Data	6/25/2012	15:18	11.9	178	7.55	0	6.48	50 *U*
LO2	Integral	Weekly Field Data	6/30/2012	14:30	13.9	207	7.64	2	6.5	50 *U*
LO2	Integral	Weekly Field Data	7/8/2012	5:38	12.1	163	6.57	0	7.28	50 *J*
LO2	Integral	Weekly Field Data	7/14/2012	12:38	20	160	6.58	13	7.17	50 *J*
LO2	Integral	July 2012	7/22/2012	7:25	13.8	302	10	3.3	6.18	60
LO2	Integral	Weekly Field Data	8/4/2012	11:36	14.8	198	6.64	--	6.91	70
LO2	Integral	Weekly Field Data	8/12/2012	17:19	13.4	178	7.61	--	6.03	55
LO2	Integral	Weekly Field Data	8/17/2012	14:48	21.9	174	6.42	--	6.41	55
LO2	Integral	Weekly Field Data	8/25/2012	11:58	17.1	279	7.07	--	6.81	90
LO2	Integral	Weekly Field Data	9/2/2012	9:36	11.9	246	7.69	2	6.97	100
LO2	Integral	Weekly Field Data	9/8/2012	4:55	15.9	192	7.16	2	7.02	60
LO2	Integral	Weekly Field Data	9/14/2012	11:46	12.6	162	6.71	1	6.91	60
LO2	Integral	Weekly Field Data	9/22/2012	17:12	13.3	195	7.6	2	6.47	50 *J*
LO2	Integral	Weekly Field Data	9/30/2012	14:17	10	162	9.8	--	6.66	50 *J*
LO2	Integral	Weekly Field Data	10/6/2012	12:46	10	156	8.89	16	6.63	150 *J*
LO2	Integral	Weekly Field Data	10/14/2012	9:59	9.9	137	9.14	12	6.5	50 *J*
LO2	Integral	Weekly Field Data	10/20/2012	15:43	6.2	127	8.95	--	6.42	50 *J*
LO2	Integral	Weekly Field Data	11/3/2012	14:40	9	140	9.2	--	6.5	50 *J*
LO2	Integral	Weekly Field Data	11/11/2012	15:20	5.9	161	9.92	6	6.37	50 *J*
LO2	Integral	Weekly Field Data	11/17/2012	10:22	6.4	151	10.13	59	6.5	50 *J*
LO2	Integral	Weekly Field Data	11/24/2012	9:08	6.2	150	10.1	34	6.49	50 *J*
LO2	Integral	Weekly Field Data	12/2/2012	14:27	3.8	178	9.85	86	6.56	50 *J*
LO2	Integral	Weekly Field Data	12/17/2012	10:57	1.7	177	10.89	10	6.28	50 *J*
PAG	Integral	August 2008	8/19/2008	16:15	13.6	1520	8.82	2.9	8.01	--
PAG	Integral	September 2008	9/9/2008	16:05	13.9	1050	10	3.2	7.44	--
PAG	Integral	October 2008	10/15/2008	17:00	9	607	10.21	9.4	7.38	--
PAG	Integral	Weekly Field Data	11/25/2008	14:30	5.9	1870	10.1	12	5.9	--
PAG	Integral	Weekly Field Data	11/26/2008	12:27	5.8	174	13.3	20	6.76	--
PAG	Integral	Weekly Field Data	12/2/2008	14:25	--	--	--	--	6.47	--
PAG	Integral	Weekly Field Data	12/9/2008	13:23	--	--	--	--	6.32	--
PAG	Integral	Weekly Field Data	12/16/2008	3:00	--	--	--	--	6.38	--
PAG	Integral	Weekly Field Data	2/2/2009	14:45	--	--	--	--	7.32	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
PAG	Integral	Weekly Field Data	3/7/2009	14:08	0.6	86	13.38	10	6.08	--
PAG	Integral	March 2009	3/9/2009	14:33	0.69	260	12.06	10.7	7.07	--
PAG	Integral	Weekly Field Data	4/4/2009	14:55	2	100	12.1	2	6.6	--
PAG	Integral	Weekly Field Data	4/11/2009	15:15	2	90	13.6	0	6	110
PAG	Integral	Weekly Field Data	4/18/2009	11:30	4	170	13.8	1	5.8	115
PAG	Integral	Weekly Field Data	5/9/2009	12:21	11	203	7.3	-10	8.46	--
PAG	Integral	Weekly Field Data	5/16/2009	14:30	8.1	371	10.1	1	7.66	150
PAG	Integral	Weekly Field Data	5/23/2009	13:00	15.6	575	7.98	-10	8.03	180
PAG	Integral	Weekly Field Data	5/31/2009	10:50	13.1	614	7.96	-10	7.42	185
PAG	Integral	Weekly Field Data	6/9/2009	17:45	23.5	695	8.02	1	8.83	100
PAG	Integral	Weekly Field Data	6/14/2009	9:15	20.7	694	9.91	2	8.97	125
PAG	Integral	June 2009	6/19/2009		13.5	504	8.7	2	8.8	150
PAG	Integral	Weekly Field Data	6/28/2009	14:00	8.7	627	7.46	-10	7.57	190
PAG	Integral	Weekly Field Data	7/5/2009	10:15	21.8	811	7.7	-10	8.66	195
PAG	Integral	Weekly Field Data	7/11/2009	12:35	22.9	855	8.83	37	9.22	160
PAG	Integral	July 2009	7/25/2009	9:00	14.87	796	12.21	2.8	8.25	200
PAG	Integral	Weekly Field Data	8/2/2009	17:20	28.2	914	9.93	8	8.99	200
PAG	Integral	Weekly Field Data	8/13/2009	11:10	16.1	769	7.95	-10	7.79	200
PAG	Integral	Weekly Field Data	8/20/2009	18:20	10.3	196	13.15	126	7.35	200
PAG	Integral	August 2009	8/31/2009	09:15	13.94	709	9.69	2.9	8.03	200
PAG	Integral	September 2009 I	9/7/2009	14:15	11.9	219	8.38	32	7.9	17
PAG	Integral	September 2009 I	9/8/2009	17:00	11.28	495	7.21	-10	7.65	125
PAG	Integral	September 2009 II	9/13/2009	13:30	13.88	505	11.34	3.6	6.28	--
PAG	Integral	Weekly Field Data	9/22/2009	16:01	10.7	-721	-0.52	-11	6.21	79
PAG	Integral	Weekly Field Data	9/23/2009	16:02	11.7	279	0.48	-10	7.21	80
PAG	Integral	Weekly Field Data	10/1/2009	14:40	10.7	270	4.85	114	7.6	80
PAG	Integral	Weekly Field Data	10/7/2009	16:01	10.8	339	7.08	-10	8.03	95
PAG	Integral	Weekly Field Data	10/14/2009	16:10	5.1	342	13.24	2	8.72	100
PAG	Integral	October 2009	10/18/2009	12:10	9.55	419	9.32	5	7.59	150
PAG	Integral	November 2009	10/31/2009	08:45	7.44	266	9.67	7.2	6.2	--
PAG	Integral	Weekly Field Data	11/8/2009	14:25	7.2	277	8.57	18	7.03	75
PAG	Integral	Weekly Field Data	11/27/2009	15:00	6.3	227	8.33	4	6.67	65
PAG	Integral	Weekly Field Data	12/11/2009	13:50	2.3	304	11.33	-10	6.8	90
PAG	Integral	December 2009 I	12/19/2009	10:20	1.3	290	10.16	6	6.31	125
PAG	Integral	December 2009 II	12/29/2009	12:40	3.41	302	10.11	7	7.36	80
PAG	Integral	Weekly Field Data	1/7/2010	14:30	4.6	271	7.68	-10	6.57	80
PAG	Integral	January 2010	1/16/2010	10:30	5.32	270	10.63	9.8	6.84	--
PAG	Integral	Weekly Field Data	1/23/2010	15:19	5.8	242	8.72	2	6.59	75
PAG	Integral	Weekly Field Data	1/30/2010	15:00	6.9	211	18.5	3	6.61	60
PAG	Integral	Weekly Field Data	2/6/2010	14:43	6.4	233	8.36	-10	6.48	55
PAG	Integral	February 2010	2/12/2010	16:00	5.27	239	10.95	--	7.05	--
PAG	Integral	Weekly Field Data	2/19/2010	15:26	3.1	237	15.28	1	6.34	60
PAG	Integral	Weekly Field Data	2/27/2010	10:00	6.2	245	15.53	3	6.97	100
PAG	Integral	March 2010	3/5/2010	14:00	4.9	388	10.86	4.2	7.32	--
PAG	Integral	Weekly Field Data	3/14/2010	16:40	5.8	275	19.99	18	6.8	50 *U*
PAG	Integral	Weekly Field Data	3/20/2010	14:23	7.4	295	19.99	2	6.6	65
PAG	Integral	Weekly Field Data	3/27/2010	17:56	7.6	246	19.99	2	6.69	60
PAG	Integral	Weekly Field Data	4/3/2010	15:14	7.4	243	16.88	2	8.05	65
PAG	Integral	Weekly Field Data	4/11/2010	14:40	10.6	248	13.18	2	7.22	65
PAG	Integral	Weekly Field Data	4/18/2010	18:00	8.2	270	9.75	-10	6.73	85
PAG	Integral	April 2010	4/21/2010	10:30	9.9	535	10.89	2.2	6.68	--
PAG	Integral	Weekly Field Data	4/24/2010	11:51	12.6	0	9.16	1	7.71	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
PAG	Integral	Weekly Field Data	5/2/2010	16:25	12.7	345	9.15	2	7.2	125
PAG	Integral	Weekly Field Data	5/12/2010	17:00	14	313	9.65	-10	8.25	125
PAG	Integral	May 2010	5/18/2010	10:25	12.8	599	11	2.5	8.1	--
PAG	Integral	Weekly Field Data	5/23/2010	17:17	12	399	11.17	1	6.53	120
PAG	Integral	Weekly Field Data	5/29/2010	15:58	17.5	447	8.45	1	7.02	100
PAG	Integral	Weekly Field Data	6/5/2010	14:17	17.8	475	10.07	2	6.08	125
PAG	Integral	Weekly Field Data	6/13/2010	15:15	9.2	469	7.74	8	6.53	120
PAG	Integral	Weekly Field Data	6/19/2010	14:40	21.5	512	8.3	5	7.99	175
PAG	Integral	Weekly Field Data	6/27/2010	14:00	22.5	512	8.35	4	7.9	--
PAG	Integral	June 2010	6/29/2010	13:30	11.5	1180	11.19	3.3	7.06	--
PAG	Integral	Weekly Field Data	7/7/2010	14:30	18	658	10.23	3	7.96	180
PAG	Integral	July 2010	7/14/2010	09:15	16.1	913	11.77	2.2	8.46	--
PAG	Integral	Weekly Field Data	7/23/2010	14:50	13	465	7.05	5	6.08	190
PAG	Integral	Weekly Field Data	7/30/2010	16:18	13	430	7.02	5	6.05	190
PAG	Integral	Weekly Field Data	8/7/2010	14:20	17.9	643	7.31	2	6.82	190
PAG	Integral	August 2010	8/11/2010	06:00	16.1	892	10.38	1.7	7.18	--
PAG	Integral	August 2010	8/14/2010	11:10	22.2	988	9.58	3.4	8.79	200
PAG	Integral	Weekly Field Data	8/24/2010	18:05	14.7	803	7.48	1	6.45	200
PAG	Integral	Weekly Field Data	9/1/2010	15:37	15	590	7.7	0	6.5	200
PAG	Integral	September 2010	9/7/2010	09:50	11.9	684	9.38	5.1	7.18	--
PAG	Integral	Weekly Field Data	9/10/2010	16:35	14.6	531	2.14	1	7.99	200
PAG	Integral	Weekly Field Data	9/18/2010	11:42	15.1	525	2.25	1	7.8	--
PAG	Integral	Weekly Field Data	9/25/2010	15:50	12.1	442	7.75	2	7.12	190
PAG	Integral	Weekly Field Data	10/2/2010	16:20	12.3	440	5.69	4	7.9	--
PAG	Integral	Weekly Field Data	10/9/2010	12:35	11	266	4.78	22	7.07	--
PAG	Integral	Weekly Field Data	10/17/2010	14:28	10.4	235	5.58	5	7.08	100
PAG	Integral	October 2010	10/18/2010	14:00	9.8	500	9.73	10.5	7.33	--
PAG	Integral	Weekly Field Data	10/25/2010	16:35	6.5	302	5.74	2	7.76	95
PAG	Integral	Weekly Field Data	10/31/2010	10:08	6.2	327	9.25	9	7.11	150
PAG	Integral	November 2010	11/2/2010	13:30	8.7	414	10.29	10.5	6.7	--
PAG	Integral	Weekly Field Data	11/7/2010	10:44	7.8	257	7.26	2	6.96	15
PAG	Integral	Weekly Field Data	11/14/2010	14:38	7.2	243	6.85	2	7.76	25
PAG	Integral	Weekly Field Data	11/21/2010	16:03	6.3	247	7.35	2	6.84	15
PAG	Integral	Weekly Field Data	11/30/2010	11:40	5.3	318	0.07	2	7.18	80
PAG	Integral	Weekly Field Data	12/7/2010	11:30	7.2	281	0.32	2	6.86	80
PAG	Integral	Weekly Field Data	12/14/2010	14:30	7.2	280	--	2	6.8	85
PAG	Integral	December 2010	12/27/2010	9:30	2.8	361	10.72	15.6	6.46	--
PAG	Integral	Weekly Field Data	1/8/2011	11:15	2.3	286	--	1	7.22	85
PAG	Integral	January 2011	1/19/2011	14:00	2.2	484	12.88	11.6	7.18	--
PAG	Integral	January 2011	1/20/2011	13:41	1.1	282	10.6	24.4	7.03	--
PAG	Integral	Weekly Field Data	1/26/2011	14:55	4.3	250	--	4	7.2	85
PAG	Integral	February 2011	2/9/2011	7:35	1.1	220	13.11	8	5.7	--
PAG	Integral	March 2011	3/10/2011	16:15	0.96	10	13.41	8	4.3	--
PAG	Integral	Weekly Field Data	3/26/2011	16:36	4.1	220	8.41	2	7.35	80
PAG	Integral	Weekly Field Data	4/3/2011	18:37	3.2	235	9.55	8	7.03	70
PAG	Integral	Weekly Field Data	4/9/2011	10:46	4.8	241	8.96	1	6.91	125
PAG	Integral	Weekly Field Data	4/16/2011	11:09	8.8	258	8.73	1	6.7	90
PAG	Integral	April 2011	4/21/2011	09:00	6.3	280	13.24	5	6.3	90
PAG	Integral	Weekly Field Data	4/30/2011	11:30	8.8	287	8.59	1	7.76	150
PAG	Integral	Weekly Field Data	5/7/2011	10:49	8.9	280	8.95	1	6.94	125
PAG	Integral	Weekly Field Data	5/13/2011	18:27	10.8	290	9.56	1	7.35	100
PAG	Integral	May 2011	5/17/2011	17:40	10.79	320	13.35	4	6.9	85

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
PAG	Integral	Weekly Field Data	5/21/2011	15:45	11.6	284	8.59	3	7.18	125
PAG	Integral	June 2011	6/8/2011	13:10	18.26	440	10.02	4	7.1	175
PAG	Integral	Weekly Field Data	6/18/2011	12:08	14.8	157	7.03	2	7.05	150
PAG	Integral	Weekly Field Data	6/25/2011	14:28	16.3	515	7.79	1	8.28	200
PAG	Integral	Weekly Field Data	7/2/2011	17:21	9.8	367	--	3	7.25	200
PAG	Integral	Weekly Field Data	7/9/2011	16:30	18.5	628	--	2	7.96	200
PAG	Integral	July 2011	7/12/2011	14:40	27.7	770	9.94	1	7	200
PAG	Integral	Weekly Field Data	7/16/2011	14:20	20.3	153	--	3	6.86	200
PAG	Integral	July 2011 II	7/24/2011	11:00	14.27	600	10.29	4	7.9	200
PAG	Integral	Weekly Field Data	7/30/2011	12:37	12.8	359	--	1	7.04	200
PAG	Integral	Weekly Field Data	8/6/2011	14:12	16.2	670	--	1	7.85	200 >
PAG	Integral	Weekly Field Data	8/13/2011	16:35	15.7	701	7.51	--	7.78	200 >
PAG	Integral	Weekly Field Data	8/20/2011	11:35	15.2	515	7.08	--	7.32	200
PAG	Integral	August 2011	8/23/2011	11:10	11.68	390	10.62	5	6.4	200
PAG	Integral	Weekly Field Data	8/27/2011	14:10	16.5	339	8.26	1	7.24	200
PAG	Integral	Weekly Field Data	9/3/2011	11:18	11.9	195	6.75	111	7	200
PAG	Integral	September 2011	9/7/2011	9:15	12.4	280	10.21	5	7.2	100
PAG	Integral	Weekly Field Data	9/17/2011	14:17	11.9	307	7.6	4	7.22	105
PAG	Integral	Weekly Field Data	9/25/2011	10:19	9.3	322	7.92	1	7.38	150
PAG	Integral	Weekly Field Data	10/1/2011	11:28	10	301	8.27	2	6.14	125
PAG	Integral	Weekly Field Data	10/8/2011	10:56	8.2	284	10.7	2	7.03	175
PAG	Integral	Weekly Field Data	10/14/2011	13:45	7.8	311	6.44	0	7	130
PAG	Integral	Weekly Field Data	10/22/2011	12:19	9	247	8.08	1	7.3	100
PAG	Integral	Weekly Field Data	11/5/2011	16:31	8.6	233	9.17	3	6.62	90
PAG	Integral	November 2011	11/10/2011	13:25	5.2	218	8.14	1	7.21	90
PAG	Integral	Weekly Field Data	11/12/2011	10:08	6.5	181	9.3	8	7.4	90
PAG	Integral	Weekly Field Data	11/19/2011	10:03	5.1	202	10.11	3	6.72	90
PAG	Integral	Weekly Field Data	11/28/2011	16:03	4.2	218	9.82	3	6.55	90
PAG	Integral	Weekly Field Data	12/3/2011	15:27	3.2	208	9.79	0	7.17	90
PAG	Integral	Weekly Field Data	12/12/2011	11:25	2.6	206	9.76	0	7.17	90
PAG	Integral	Weekly Field Data	12/17/2011	14:29	2.7	218	10.9	0	7.68	80
PAG	Integral	December 2011	12/21/2011	9:35	2.87	300	11.18	20	6.8	90
PAG	Integral	Weekly Field Data	12/31/2011	9:18	3.7	225	10.99	13	7.2	100
PAG	Integral	January 2012	1/8/2012	10:30	4.62	240	11.09	13	7.3	50 *U*
PAG	Integral	Weekly Field Data	1/9/2012	10:30	4.62	240	11.09	13	7.3	50 *U*
PAG	Integral	Weekly Field Data	2/11/2012	12:28	2.1	136	10.47	1	6.51	90
PAG	Integral	February 2012	2/21/2012		5.1	184	8.51	13	5.73	80 *U*
PAG	Integral	Weekly Field Data	2/25/2012	11:09	1.8	263	9.87	0	5.73	90
PAG	Integral	Weekly Field Data	3/4/2012	12:26	2.3	243	9.58	0	6.39	90
PAG	Integral	Weekly Field Data	3/10/2012	10:20	2.5	193	10.02	2	6.7	60
PAG	Integral	Weekly Field Data	3/18/2012	15:06	3.5	180	8.42	0	6.71	70
PAG	Integral	March 2012	3/27/2012		5.5	198	9.01	3	6.16	--
PAG	Integral	Weekly Field Data	4/1/2012	14:10	5.6	192	8.86	3	6.68	70
PAG	Integral	April 2012	4/6/2012	11:30	6.4	280	10.83	5	6.8	80
PAG	Integral	Weekly Field Data	4/8/2012	11:30	6.4	280	10.83	5	6.8	80
PAG	Integral	Weekly Field Data	4/14/2012	14:02	9.8	258	7.91	0	7.16	80
PAG	Integral	Weekly Field Data	4/21/2012	11:36	5.9	288	9.07	2	6.98	90
PAG	Integral	Weekly Field Data	4/28/2012	17:15	6.1	282	9.04	3	6.96	90
PAG	Integral	Weekly Field Data	5/7/2012	10:11	5.8	262	9.01	4	6.42	70
PAG	Integral	Weekly Field Data	5/13/2012	10:57	6.3	275	9.1	2	6.35	60
PAG	Integral	Weekly Field Data	5/19/2012	5:30	9.8	268	9.04	2	6.74	85
PAG	Integral	Weekly Field Data	5/26/2012	15:57	13.2	278	7.85	0	7.08	100

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
PAG	Integral	Weekly Field Data	6/2/2012	15:24	13.6	281	7.86	1	7.01	100
PAG	Integral	Weekly Field Data	6/9/2012	9:22	14.2	294	7.93	1	7.06	100
PAG	Integral	Weekly Field Data	6/16/2012	17:24	11.1	334	6.89	1	7.05	150
PAG	Integral	Weekly Field Data	6/25/2012	15:48	14.8	369	7.77	0	6.82	150
PAG	Integral	Weekly Field Data	6/30/2012	14:54	13.4	413	8.35	1	7.06	125
PAG	Integral	Weekly Field Data	7/8/2012	5:10	13.7	398	7.57	0	7.36	150
PAG	Integral	Weekly Field Data	7/14/2012	1:47	20.2	423	7.55	4	7.79	200
PAG	Integral	July 2012	7/22/2012	8:45	15.72	590	10.05	--	6.34	150
PAG	Integral	Weekly Field Data	7/28/2012	14:40	19.8	455	7.35	--	7.71	150
PAG	Integral	Weekly Field Data	8/4/2012	12:15	15.8	510	8.06	--	7.57	150
PAG	Integral	Weekly Field Data	8/12/2012	17:36	13.8	480	7.37	--	6.86	125
PAG	Integral	Weekly Field Data	8/17/2012	15:17	21.7	512	7.31	--	7.3	150
PAG	Integral	Weekly Field Data	8/25/2012	12:35	16.9	491	8.17	--	7.67	200
PAG	Integral	Weekly Field Data	9/2/2012	3:12	15.5	566	6.81	1	7.15	200
PAG	Integral	Weekly Field Data	9/8/2012	5:36	15.5	648	7.51	0	7.78	200
PAG	Integral	Weekly Field Data	9/14/2012	15:26	13.2	436	8.07	2	7.41	200
PAG	Integral	Weekly Field Data	9/22/2012	17:54	13	491	8.37	1	7.45	200
PAG	Integral	Weekly Field Data	9/30/2012	15:02	10.3	451	8.08	--	7.34	200
PAG	Integral	Weekly Field Data	10/6/2012	13:12	9.6	478	8.63	0	7.2	150 *J*
PAG	Integral	Weekly Field Data	10/14/2012	10:29	9.9	391	7.75	1	7.09	125
PAG	Integral	Weekly Field Data	10/20/2012	16:40	5	340	9	--	7	125 *J*
PAG	Integral	October 2012	10/28/2012	15:00	3.46	452	12.59	15.8	6.17	150
PAG	Integral	Weekly Field Data	11/3/2012	15:13	6	330	8.6	--	7.2	150
PAG	Integral	Weekly Field Data	11/11/2012	16:45	6.5	254	9.29	85	6.33	125
PAG	Integral	Weekly Field Data	11/17/2012	10:52	5.6	266	9.67	2	7.12	125
PAG	Integral	Weekly Field Data	12/2/2012	14:58	4.1	268	7.84	0	7.07	80
PORTAL	Knight Piesold	June 2007	6/5/2007	08:00	6.83	179	9.27	21.2	6.38	--
PORTAL	Knight Piesold	July 2007 I	7/1/2007	16:00	7.4	161	12.52	4.8	7.29	--
PORTAL	Integral	July 2007 II	7/23/2007	15:45	7.54	161	13.01	26.3	7.5	--
PORTAL	Integral	August 2007 I	8/13/2007	14:50	6.64	171	12.25	32	7.38	--
PORTAL	Integral	August 2007 II	8/28/2007	11:00	6.25	167	12.33	7.6	7.35	--
PORTAL	Integral	September 2007 II	9/30/2007	07:15	7.44	169	12.74	8.8	7.09	--
PORTAL	Integral	October 2007	10/16/2007	07:00	8.32	186	12.58	23.1	6.92	--
PORTAL	Integral	January 2008	1/8/2008	10:50	5.6	184	10.86	18.5	7.77	--
PORTAL	Integral	Februrary 2008	2/14/2008	7:22	7.27	194	13.13	3.1	6.71	--
PORTAL	Integral	March 2008	3/14/2008	7:15	7.31	182	11.86	11.5	6.88	--
PORTAL	Integral	April 2008	4/14/2008	19:00	9.4	246	13.73	5.4	6.65	--
PORTAL	Integral	May 2008	5/8/2008	13:45	8.8	222	11.47	0.4	6.17	--
PORTAL	Integral	June 2008	6/27/2008	21:00	11.9	213	--	0.1	6.55	--
PORTAL	Integral	July 2008	7/25/2008	11:30	10.4	136	11.41	6.6	9.16	--
PORTAL	Integral	July 2008	7/25/2008	11:50	9.3	181	10.42	13.7	7.16	--
PORTAL	Integral	July 2008	7/25/2008	14:30	11.1	858	7.02	81	8.25	--
PORTAL	Integral	August 2008	8/19/2008	13:20	10.2	230	10.25	4.5	7.14	--
PORTAL	Integral	August 2008	8/19/2008	13:30	10.4	199	8.53	1.6	7.51	--
PORTAL	Integral	August 2008	8/19/2008	13:40	10.6	633	8.24	2.8	7.7	--
PORTAL	Integral	September 2008	9/9/2008		9.6	536	4.57	1.4	8.53	--
PORTAL	Integral	September 2008	9/9/2008	18:11	10.4	199	7.62	1.4	8.57	--
PORTAL	Integral	October 2008	10/16/2008	10:40	7.87	191	9.95	12.4	7.02	--
PORTAL	Integral	October 2008	10/16/2008	11:05	8.53	188	8.86	4.4	7.26	--
PORTAL	Integral	October 2008	10/16/2008	11:10	8.75	444	4.51	7.9	7.37	--
PORTAL	Integral	July 2009	7/23/2009	10:50	10.77	198	10.5	18	7.25	13
PORTAL	Integral	July 2009	7/24/2009	16:50	11.63	200	10.14	10.9	7.46	--

Table B2d. Water Quality *In Situ* Monitoring Data (2006-2012) – Effluent, PAG Pond, and Barrels

					In situ (field measurements)					
Station ID	Collection Contractor	Sample Event	Date	Time	Temperature (deg C)	Conductivity (µS/cm)	DO (mg/L)	Turbidity (NTU)	pH (SU)	Sulfate (mg/L)
PORTAL	Integral	July 2009	7/25/2009	8:15	11.47	210	9.9	2.8	7.23	14
PORTAL	Integral	August 2009	8/31/2009	14:15	8.52	270	2.38	4.8	6.68	15
PORTAL	Integral	September 2009 I	9/1/2009	16:20	13.65	219	11.07	47.8	7.35	10
PORTAL	Integral	September 2009 I	9/3/2009	17:00	9.42	235	10.31	226	6.57	14
PORTAL	Integral	September 2009 I	9/4/2009	17:00	9.46	245	3.86	48.3	7.08	25
PORTAL	Integral	September 2009 I	9/5/2009	14:15	9.4	244	9.5	18.4	6.45	16
PORTAL	Integral	September 2009 I	9/6/2009	16:40	11.6	213	9.74	73	7.27	16
PORTAL	Integral	September 2009 I	9/7/2009	14:15	11.6	216	8.55	14	7.08	14
PORTAL	Integral	September 2009 I	9/8/2009	17:00	10.4	227	9.21	-10	7.22	15
PORTAL	Integral	September 2009 I	9/9/2009	15:15	11.7	185	8.17	17	7.26	25
PORTAL	Integral	September 2009 I	9/10/2009	16:15	11.4	214	8.73	9	7.3	12
PORTAL	Integral	September 2009 I	9/11/2009	16:00	11.3	182	8.95	35	6.94	12
PORTAL	Integral	August 2010	8/11/2010	21:00	11.3	255	10.49	10.5	6.34	--
PORTAL	Integral	July 2012	7/22/2012	9:10	9.24	273	11.48	--	6.9	50 *U*
PORTAL	Integral	October 2012	10/28/2012	15:50	5.35	227	11.2	14.2	6.9	--

Table B-3a. Method Detection Limits (2006-2012) – Permit Stations – Surface Water

			Analytical Physical Tests			Dissolved Anions and Nutrients						
ALS Lab SDG	**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)**	**Sulfate (mg/L)**	**Ammonia as N (mg/L)**	**Nitrate+Nitrite as N (mg/L)**	**Nitrate (mg/L)**	**Nitrite (mg/L)**
X2213	Knight Piesold	February 2006 II	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
X5977	Knight Piesold	May 2006 II	10	0.54	3	2	0.5	0.5	0.02	--	0.005	0.001
Z2004	Knight Piesold	August 2006 II	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
Z3908	Knight Piesold	October 2006	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
Z6128	Knight Piesold	December 2006	10	0.66	3	2	0.5	0.5	--	--	0.005	0.001
L482967	Knight Piesold	February 2007	10	0.7	3	2	0.5	0.5	0.005	--	0.005	0.001
L495369	Knight Piesold	April 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L507191	Knight Piesold	May 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L515743	Knight Piesold	June 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L526591	Knight Piesold	July 2007 I	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
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	0.006	--	--
K0709804	Integral	October 2007	5	0.7	5	1	0.018	0.014	0.01	0.006	--	0.004
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	--	--
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	5 - 10	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	0.004	--	--
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	0.02	0.005	--	--
K0810253	Integral	October 2008	5	0.7	5	1	0.016	0.012	0.02	0.005	--	--
K0902142	Integral	March 2009	5	0.9	5	1	0.016	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	0.009	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	0.009	0.009	--	--
K0910115	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	0.01 - 0.02	0.009	0.009	--	--
K1004034	Integral	April 2010	5	0.8	5	3	0.06	0.02	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	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1011737	Integral	October 2010	10	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	--	0.009	--	--
K1100642	Integral	January 2011	5	0.8	5	1	0.06	0.02	--	0.009	--	--
K1100726	Integral	January 2011	10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1103541	Integral	April 2011	5 - 10	0.8	5	3	0.06	0.02	--	0.009	--	--
K1103545	Integral	April 2011	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1106865	Integral	July 2011 II	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1112358	Integral	December 2011	5	0.8	5	3	0.06	0.02	0.009	0.009	--	--
K1200245	Integral	January 2012	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1203282	Integral	April 2012	0	0.8	0	1	0.06	0.02	0.009	0.009	--	--
K1203283	Integral	April 2012	5	0.8	2.9	1	0.06	0.02	0.009	0.009	--	--
K1207121	Integral	July 2012	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1210890	Integral	October 2012	5 - 10	0.8	5	1	0.06	0.02	0.009	0.009	--	--

Table B-3a. Method Detection Limits (2006-2012) – Per

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
X2213	Knight Piesold	February 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
X5977	Knight Piesold	May 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z2004	Knight Piesold	August 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z3908	Knight Piesold	October 2006	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z6128	Knight Piesold	December 2006	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.1	0.001	0.001	0.001
L482967	Knight Piesold	February 2007	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.1	0.001	0.001	0.001
L495369	Knight Piesold	April 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L507191	Knight Piesold	May 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L515743	Knight Piesold	June 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L526591	Knight Piesold	July 2007 I	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
K0706569	Integral	July 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0707317	Integral	August 2007 I	0.2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0707782	Integral	August 2007 II	0.2	0.3	0.08	0.07	0.005	0.008	7	7	0.07	0.03	0.02
K0708240	Integral	September 2007 I	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0709126	Integral	September 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0709804	Integral	October 2007	0.2 - 2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0710773	Integral	November 2007	0.2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0711891	Integral	December 2007 I	0.2 - 30	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0800335	Integral	January 2008	0.2 - 20	0.2	0.06	0.08	0.007	0.005	30	30	0.03	0.07	0.02
K0801400	Integral	Februrary 2008	0.2 - 30	0.2	0.08	0.06	0.005	0.007	7	7	0.07	0.03	0.02
K0802328	Integral	March 2008	0.2	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0803239	Integral	April 2008	0.2	0.2	0.06	0.06	0.007	0.007	30	30	0.03	0.03	0.02
K0804080	Integral	May 2008	0.2	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0805877	Integral	June 2008	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0806880	Integral	July 2008	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0810253	Integral	October 2008	0.5	0.5	0.2	0.2	0.005	0.005	9 - 30	30	--	--	0.02
K0902142	Integral	March 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0904395	Integral	May 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0906701	Integral	July 2009	0.3 - 30	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0908299	Integral	September 2009 I	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0908619	Integral	September 2009 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K0910115	Integral	October 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1000512	Integral	January 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1004032	Integral	April 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1004034	Integral	April 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1008751	Integral	August 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1008752	Integral	August 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1011737	Integral	October 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K1011739	Integral	October 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1100642	Integral	January 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1100726	Integral	January 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1103541	Integral	April 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1103545	Integral	April 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1106865	Integral	July 2011 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1112358	Integral	December 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1200245	Integral	January 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1203282	Integral	April 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1203283	Integral	April 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1207121	Integral	July 2012	0.2	0.2	0.02	0.02	0.01	0.01	6	6	--	--	0.02
K1210890	Integral	October 2012	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02

Table B-3a. Method Detection Limits (2006-2012) – Per

			Trace Elements										
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**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**	**Nickel (µg/L), Total**	**Nickel (µg/L), Dissolved**
X2213	Knight Piesold	February 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
X5977	Knight Piesold	May 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z2004	Knight Piesold	August 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z3908	Knight Piesold	October 2006	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z6128	Knight Piesold	December 2006	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
L482967	Knight Piesold	February 2007	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
L495369	Knight Piesold	April 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L507191	Knight Piesold	May 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L515743	Knight Piesold	June 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
L526591	Knight Piesold	July 2007 I	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
K0706569	Integral	July 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707317	Integral	August 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707782	Integral	August 2007 II	0.02	3	3	0.009	0.003	0.7	0.7	0.03	0.03	0.04	0.07
K0708240	Integral	September 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0709126	Integral	September 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0709804	Integral	October 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0710773	Integral	November 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0711891	Integral	December 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0800335	Integral	January 2008	0.02	3	3	0.003	0.009	6	6	0.03	0.03	0.03	0.04
K0801400	Integral	Februrary 2008	0.02	3	3	0.009	0.003	0.7	0.7	0.03	0.03	0.04	0.03
K0802328	Integral	March 2008	0.02	3	3	0.009	0.009	6	6	0.03	0.03	0.04	0.04
K0803239	Integral	April 2008	0.02	3	3	0.003	0.003	6	6	0.03	0.03	0.03	0.03
K0804080	Integral	May 2008	0.02	4	4	0.009	0.009	2	2	0.03	0.03	0.04	0.04
K0805877	Integral	June 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0806880	Integral	July 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0810253	Integral	October 2008	0.02	2 - 4	4	0.006	0.006	0.7 - 2	2	0.05	0.05	0.04	0.04
K0902142	Integral	March 2009	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0904395	Integral	May 2009	0.02	4	4	0.006	0.006	2	2	0.02	0.02	0.04	0.04
K0906701	Integral	July 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908299	Integral	September 2009 I	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908619	Integral	September 2009 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K0910115	Integral	October 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1000512	Integral	January 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1004032	Integral	April 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1004034	Integral	April 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008751	Integral	August 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008752	Integral	August 2010	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1011737	Integral	October 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1011739	Integral	October 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1100642	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1100726	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1103541	Integral	April 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1103545	Integral	April 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106865	Integral	July 2011 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1112358	Integral	December 2011	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1200245	Integral	January 2012	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1203282	Integral	April 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1203283	Integral	April 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1207121	Integral	July 2012	0.02	3	3	0.002	0.002	2	2	0.02	0.02	0.01	0.01
K1210890	Integral	October 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.02	0.02

Table B-3a. Method Detection Limits (2006-2012) – Per

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements									
			Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
X2213	Knight Piesold	February 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
X5977	Knight Piesold	May 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z2004	Knight Piesold	August 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z3908	Knight Piesold	October 2006	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z6128	Knight Piesold	December 2006	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
L482967	Knight Piesold	February 2007	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
L495369	Knight Piesold	April 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001 - 0.003	0.001
L507191	Knight Piesold	May 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L515743	Knight Piesold	June 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L526591	Knight Piesold	July 2007 I	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
K0706569	Integral	July 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0707317	Integral	August 2007 I	900	900	0.1	0.1	0.009	0.009	50	50	0.05	0.05
K0707782	Integral	August 2007 II	900	900	0.6	0.2	0.005	0.003	50	50	0.1	0.06
K0708240	Integral	September 2007 I	900	900	0.2	0.2	0.009	0.009	50	50	0.1	0.1
K0709126	Integral	September 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0709804	Integral	October 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0710773	Integral	November 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0711891	Integral	December 2007 I	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0800335	Integral	January 2008	60	60	0.2	0.4	0.009	0.004	20	20	0.1	0.1
K0801400	Integral	Februrary 2008	900	900	0.4	0.2	0.005	0.009	50	50	0.1	0.05
K0802328	Integral	March 2008	60	60	0.4	0.4	0.005	0.005	20	20	0.1	0.1
K0803239	Integral	April 2008	60	60	0.2	0.2	0.009	0.009	20	20	0.05	0.05
K0804080	Integral	May 2008	100	100	0.4	0.4	0.005	0.005	70	70	0.1	0.1
K0805877	Integral	June 2008	100	100	0.5	0.5	0.009	0.009	70	70	0.1	0.1
K0806880	Integral	July 2008	100	100	0.4	0.4	0.009	0.009	70	70	0.1	0.1
K0810253	Integral	October 2008	30 - 50	50	0.5	0.5	0.009	0.009	20 - 70	70	0.08	0.08
K0902142	Integral	March 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0904395	Integral	May 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0906701	Integral	July 2009	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0908299	Integral	September 2009 I	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0908619	Integral	September 2009 II	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0910115	Integral	October 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1000512	Integral	January 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1004032	Integral	April 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1004034	Integral	April 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008751	Integral	August 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008752	Integral	August 2010	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1011737	Integral	October 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1011739	Integral	October 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100642	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100726	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1103541	Integral	April 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1103545	Integral	April 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106865	Integral	July 2011 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1112358	Integral	December 2011	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1200245	Integral	January 2012	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1203282	Integral	April 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1203283	Integral	April 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1207121	Integral	July 2012	50	50	0.2	0.2	0.005	0.005	20	20	0.08	0.08
K1210890	Integral	October 2012	50	50	0.2	0.2	0.006	0.006	20	20	0.2	0.2

Table B-3b. Method Detection Limits (2006-2012) – Permit Stations – Groundwater

			Analytical Physical Tests			Dissolved Anions and Nutrients						
ALS Lab SDG	**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)**	**Sulfate (mg/L)**	**Ammonia as N (mg/L)**	**Nitrate+Nitrite as N (mg/L)**	**Nitrate (mg/L)**	**Nitrite (mg/L)**
L482967	Knight Piesold	February 2007	10	0.7	3 - 11.25	2	0.5 - 2.5	0.5 - 2.5	0.005	--	0.005 - 0.025	0.001 - 0.005
L495369	Knight Piesold	April 2007	10	0.5	3 - 9	2	0.5	0.5	0.005	--	0.005	0.001
L507191	Knight Piesold	May 2007	10 - 40	0.5	3 - 9	1 - 2	0.5 - 5	0.5 - 5	0.005	--	0.005 - 0.05	0.001 - 0.01
L515743	Knight Piesold	June 2007	10	0.5	3 - 9	2	0.5	0.5	0.02	--	0.005	0.001
L526591	Knight Piesold	July 2007 I	10	0.5	3 - 6	2	0.5	0.5	0.005 - 0.02	--	0.005	0.001
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	0.006	--	--
K0709804	Integral	October 2007	5	0.7	5	1	0.018	0.014	0.01	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	--	--
K0800335	Integral	January 2008	5 - 10	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	5	0.7	5	1	0.018	0.014	0.01	0.005	--	--
K0803239	Integral	April 2008	5	0.7	5	1 - 5	0.018	0.007 - 0.014	0.01	0.005	--	--
K0804080	Integral	May 2008	5	0.7	5	1	0.016	0.04	0.01	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	0.02	0.005	--	--
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 - 0.03	0.02	0.005	--	--
K0810253	Integral	October 2008	5	0.7	5	1	0.016	0.012	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	0.009	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	--	--
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	--	--
K1008751	Integral	August 2010	10	0.8	5 - 10	1 - 3	0.06	0.02	0.009	0.009	--	--
K1011739	Integral	October 2010	10	0.8	5	3	0.06	0.02	--	0.009	--	--
K1100642	Integral	January 2011	5 - 10	0.8	5 - 9.1	1 - 3	0.06	0.02	--	0.009	--	--
K1103541	Integral	April 2011	5 - 10	0.8	5 - 10	3	0.06	0.02	--	0.009	--	--
K1106862	Integral	July 2011 II	5 - 10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1112358	Integral	December 2011	5 - 10	0.8	5 - 10	3	0.06	0.02	0.009	0.009	--	--
K1200245	Integral	January 2012	5 - 10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1203283	Integral	April 2012	5	0.8	2.9 - 6.7	1	0.06	0.02	0.009	0.009	--	--
K1207121	Integral	July 2012	5 - 10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1210890	Integral	October 2012	5 - 10	0.8	5	1	0.06 - 0.2	0.02 - 0.05	0.009	0.009	--	--

Table B-3b. Method Detection Limits (2006-2012) – Per

			Trace Elements										
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**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**	**Chromium (µg/L), Total**	**Chromium (µg/L), Dissolved**	**Copper (µg/L), Total**
L482967	Knight Piesold	February 2007	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.1	0.001	0.001	0.001
L495369	Knight Piesold	April 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L507191	Knight Piesold	May 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L515743	Knight Piesold	June 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L526591	Knight Piesold	July 2007 I	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
K0706569	Integral	July 2007 II	0.2 - 20	0.2 - 4	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0707317	Integral	August 2007 I	0.2 - 30	0.2 - 30	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0707782	Integral	August 2007 II	0.2 - 20	0.3 - 15	0.07 - 0.08	0.07	0.005 - 0.008	0.008	7	7	0.03 - 0.07	0.03	0.02
K0708240	Integral	September 2007 I	0.2 - 20	0.2 - 2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0709126	Integral	September 2007 II	0.2 - 20	0.2 - 4	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0709804	Integral	October 2007	0.2 - 20	0.2 - 4	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0710773	Integral	November 2007	0.2 - 10	0.2 - 4	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0711891	Integral	December 2007 I	0.2 - 30	0.2 - 30	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0800335	Integral	January 2008	0.2 - 20	0.2 - 20	0.06	0.08	0.007	0.005	30	30	0.03	0.07	0.02
K0801400	Integral	Februrary 2008	0.2 - 30	0.2 - 30	0.06 - 0.08	0.06	0.005 - 0.007	0.007	7	7	0.03 - 0.07	0.03	0.02
K0802328	Integral	March 2008	0.2 - 4	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0803239	Integral	April 2008	0.2 - 4	0.2 - 4	0.06	0.06	0.007	0.007	30	30	0.03	0.03	0.02
K0804080	Integral	May 2008	0.2 - 4	0.2	0.08 - 0.16	0.08	0.005 - 0.01	0.005	30	30	0.07 - 0.14	0.07	0.02 - 0.04
K0805877	Integral	June 2008	0.5 - 5	0.5 - 5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0806880	Integral	July 2008	0.5 - 4	0.5 - 4	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0807975	Integral	August 2008	0.5 - 30	0.5 - 30	0.2	0.2	0.005	0.005	9	9	--	--	0.02
K0808787	Integral	September 2008	30	30	0.2	0.2	0.005	0.005	9	9	--	--	0.02
K0810253	Integral	October 2008	0.5 - 5	0.5 - 5	0.2	0.2	0.005	0.005	9 - 30	9 - 30	--	--	0.02
K0902142	Integral	March 2009	0.5 - 2.5	0.5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0904395	Integral	May 2009	0.5 - 4	0.5 - 5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0906701	Integral	July 2009	30	0.3 - 30	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0908619	Integral	September 2009 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K0910115	Integral	October 2009	0.3 - 30	0.3 - 30	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1000512	Integral	January 2010	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1004032	Integral	April 2010	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1008751	Integral	August 2010	0.3 - 30	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1011739	Integral	October 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1100642	Integral	January 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1103541	Integral	April 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1106862	Integral	July 2011 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1112358	Integral	December 2011	2	2	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1200245	Integral	January 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1203283	Integral	April 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1207121	Integral	July 2012	0.2	0.2	0.02	0.02	0.01	0.01	6	6	--	--	0.02
K1210890	Integral	October 2012	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02

Table B-3b. Method Detection Limits (2006-2012) – Per

			Trace Elements										
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**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**	**Nickel (µg/L), Total**	**Nickel (µg/L), Dissolved**
L482967	Knight Piesold	February 2007	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
L495369	Knight Piesold	April 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L507191	Knight Piesold	May 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L515743	Knight Piesold	June 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
L526591	Knight Piesold	July 2007 I	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
K0706569	Integral	July 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707317	Integral	August 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707782	Integral	August 2007 II	0.02	3	3	0.003 - 0.009	0.003	0.7	0.7	0.03	0.03	0.04 - 0.07	0.07
K0708240	Integral	September 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0709126	Integral	September 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0709804	Integral	October 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0710773	Integral	November 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0711891	Integral	December 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0800335	Integral	January 2008	0.02	3	3	0.003	0.009	6	6	0.03	0.03	0.03	0.04
K0801400	Integral	Februrary 2008	0.02	3	3	0.003 - 0.009	0.003	0.7	0.7	0.03	0.03	0.03 - 0.04	0.03
K0802328	Integral	March 2008	0.02	3	3	0.009	0.009	6	6	0.03	0.03	0.04	0.04
K0803239	Integral	April 2008	0.02	3	3	0.003	0.003	6	6	0.03	0.03	0.03	0.03
K0804080	Integral	May 2008	0.02	4	4	0.003 - 0.018	0.003 - 0.009	2	2	0.03	0.03	0.04 - 0.08	0.04
K0805877	Integral	June 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0806880	Integral	July 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0807975	Integral	August 2008	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0808787	Integral	September 2008	0.02	2	2	0.006	0.006	0.7 - 4	0.7	0.05	0.05	0.04	0.04
K0810253	Integral	October 2008	0.02	2 - 4	2 - 4	0.006	0.006	0.7 - 2	0.7 - 2	0.05	0.05	0.04	0.04
K0902142	Integral	March 2009	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0904395	Integral	May 2009	0.02	4	4	0.006	0.006	2	2	0.02	0.02	0.04	0.04
K0906701	Integral	July 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908619	Integral	September 2009 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K0910115	Integral	October 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1000512	Integral	January 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1004032	Integral	April 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008751	Integral	August 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1011739	Integral	October 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1100642	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1103541	Integral	April 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106862	Integral	July 2011 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1112358	Integral	December 2011	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1200245	Integral	January 2012	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1203283	Integral	April 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1207121	Integral	July 2012	0.02	3	3	0.002	0.002	2	2	0.02	0.02	0.01	0.01
K1210890	Integral	October 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.02	0.02

Table B-3b. Method Detection Limits (2006-2012) – Per

			Trace Elements									
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**Potassium (µg/L), Total**	**Potassium (µg/L), Dissolved**	**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**
L482967	Knight Piesold	February 2007	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005 - 0.008	0.005
L495369	Knight Piesold	April 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001 - 0.005	0.001
L507191	Knight Piesold	May 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L515743	Knight Piesold	June 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001 - 0.01	0.001
L526591	Knight Piesold	July 2007 I	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001 - 0.007	0.001
K0706569	Integral	July 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0707317	Integral	August 2007 I	900	900	0.1	0.1	0.009	0.009	50	50	0.05	0.05
K0707782	Integral	August 2007 II	900	900	0.2 - 0.6	0.2	0.003 - 0.005	0.003	50	50	0.06 - 0.1	0.06
K0708240	Integral	September 2007 I	900	900	0.2	0.2	0.009	0.009	50	50	0.1	0.1
K0709126	Integral	September 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0709804	Integral	October 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0710773	Integral	November 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0711891	Integral	December 2007 I	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0800335	Integral	January 2008	60	60	0.2	0.4	0.009	0.004	20	20	0.1	0.1
K0801400	Integral	Februrary 2008	900	900	0.2 - 0.4	0.2	0.005 - 0.009	0.009	50	50	0.05 - 0.1	0.05
K0802328	Integral	March 2008	60	60	0.4	0.4	0.005	0.005	20	20	0.1	0.1
K0803239	Integral	April 2008	60	60	0.2	0.2	0.009	0.009	20	20	0.05	0.05
K0804080	Integral	May 2008	100	100	0.4 - 0.8	0.4	0.005 - 0.01	0.005	70	70	0.05 - 0.2	0.05 - 0.1
K0805877	Integral	June 2008	100	100	0.5	0.5	0.009	0.009	70	70	0.1	0.1
K0806880	Integral	July 2008	100	100	0.4	0.4	0.009	0.009	70	70	0.1	0.1
K0807975	Integral	August 2008	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0808787	Integral	September 2008	30	30	0.5	0.5	0.009	0.009	20	20	0.08	0.08
K0810253	Integral	October 2008	30 - 50	30 - 50	0.5	0.5	0.009	0.009	20 - 70	20 - 70	0.08	0.08
K0902142	Integral	March 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0904395	Integral	May 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0906701	Integral	July 2009	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0908619	Integral	September 2009 II	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0910115	Integral	October 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1000512	Integral	January 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1004032	Integral	April 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008751	Integral	August 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1011739	Integral	October 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100642	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1103541	Integral	April 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106862	Integral	July 2011 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1112358	Integral	December 2011	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1200245	Integral	January 2012	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1203283	Integral	April 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1207121	Integral	July 2012	50	50	0.2	0.2	0.005	0.005	20	20	0.08	0.08
K1210890	Integral	October 2012	50	50	0.2	0.2	0.006	0.006	20	20	0.2	0.2

Table B-3c. Method Detection Limits (2006-2012) – Offsite Surface Water

			Analytical Physical Tests			Dissolved Anions and Nutrients						
ALS Lab SDG	**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)**	**Sulfate (mg/L)**	**Ammonia as N (mg/L)**	**Nitrate+Nitrite as N (mg/L)**	**Nitrate (mg/L)**	**Nitrite (mg/L)**
X2213	Knight Piesold	February 2006 II	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
X5977	Knight Piesold	May 2006 II	10	0.54	3	2	0.5	0.5	0.02	--	0.005	0.001
Z2004	Knight Piesold	August 2006 II	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
Z3908	Knight Piesold	October 2006	10	0.54	3	2	0.5	0.5	0.005	--	0.005	0.001
Z6128	Knight Piesold	December 2006	10	0.66	3	2	0.5	0.5	--	--	0.005	0.001
L482967	Knight Piesold	February 2007	10	0.7	3	2	0.5	0.5	0.005	--	0.005	0.001
L495369	Knight Piesold	April 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L507191	Knight Piesold	May 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L526591	Knight Piesold	July 2007 I	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
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	--	--
K0710773	Integral	November 2007	5	0.7	5	1	0.018	0.014	0.006	0.006	--	--
K0802328	Integral	March 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	--	--
K0807967	Integral	August 2008	5	0.7	5	1	0.016	0.012	0.02	0.005	--	--
K0807975	Integral	August 2008	5	0.7	5	1	0.016	0.012	0.02	0.005	--	--
K0810253	Integral	October 2008	5	0.7	5	1	0.016	0.012	0.02	0.005	--	--
K0902142	Integral	March 2009	5	0.9	5	1	0.016	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	0.009	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	0.009	0.009	--	--
K0910635	Integral	November 2009	5	0.8	5	1	0.06	0.02	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	0.009	0.005	--	--
K1001408	Integral	February 2010	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1002122	Integral	March 2010	5	0.8	5	1	0.06	0.02	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	0.009	0.009	--	--
K1006773	Integral	June 2010	10	0.8	5	3	0.06	0.02	0.009	0.009	--	--
K1007431	Integral	July 2010	10	0.8	5	1 - 3	0.06	0.02	0.009	0.009	--	--
K1008752	Integral	August 2010	5 - 10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1009889	Integral	September 2010	10	0.8	5	3	0.06	0.02	0.009	0.009	--	--
K1011737	Integral	October 2010	5 - 10	0.8	5	3	0.06	0.02	0.01	0.009	--	--
K1014375	Integral	December 2010	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1100726	Integral	January 2011	10	0.8	5	3	0.06	0.02	0.009	0.009	--	--
K1101112	Integral	February 2011	5	0.8	5	3	0.06	0.02	0.009	0.009	--	--
K1102183	Integral	March 2011	5 - 10	0.8	5	1 - 3	0.06 - 0.2	0.02	0.009	0.009	--	--
K1103545	Integral	April 2011	10	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1104448	Integral	May 2011	5	0.8	5	3	0.06	0.02	--	0.009	--	--
K1105280	Integral	June 2011	10	0.8	5	1 - 3	0.06	0.02	0.009 - 0.05	0.009	--	--
K1106351	Integral	July 2011	10	0.8	5	3	0.06	0.02	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	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--
K1203282	Integral	April 2012	0	0.8	0	1	0.06	0.02	0.009	0.009	--	--
K1207118	Integral	July 2012	0	0.8	0	1	0.06	0.02	0.009	0.009	--	--
K1210889	Integral	October 2012	5	0.8	5	1	0.06	0.02	0.009	0.009	--	--

Table B-3c. Method Detection Limits (2006-2012) – Offs

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
X2213	Knight Piesold	February 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.05 - 0.1	0.05	0.001	0.001	0.001
X5977	Knight Piesold	May 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z2004	Knight Piesold	August 2006 II	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z3908	Knight Piesold	October 2006	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.05	0.001	0.001	0.001
Z6128	Knight Piesold	December 2006	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.1	0.001	0.001	0.001
L482967	Knight Piesold	February 2007	0.005	0.005	0.0005	0.0005	0.000017	0.000017	0.1	0.1	0.001	0.001	0.001
L495369	Knight Piesold	April 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L507191	Knight Piesold	May 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L526591	Knight Piesold	July 2007 I	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
K0706569	Integral	July 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0707317	Integral	August 2007 I	0.2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0707782	Integral	August 2007 II	0.2	0.3	0.08	0.07	0.005	0.008	7	7	0.07	0.03	0.02
K0708240	Integral	September 2007 I	0.2	0.2	0.06	0.06 - 0.08	0.007	0.005 - 0.007	7	7	0.03	0.03 - 0.07	0.02
K0709126	Integral	September 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0710773	Integral	November 2007	0.2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0802328	Integral	March 2008	0.2	0.2 - 1.5	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0804080	Integral	May 2008	0.2	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0807967	Integral	August 2008	0.5	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0807975	Integral	August 2008	0.5	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0810253	Integral	October 2008	0.5	0.5	0.2	0.2	0.005	0.005	9	30	--	--	0.02
K0902142	Integral	March 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0904395	Integral	May 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	--	--	0.02
K0906701	Integral	July 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0908796	Integral	September 2009 III	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K0910115	Integral	October 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K0910635	Integral	November 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1000085	Integral	December 2009 II	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1000512	Integral	January 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1001408	Integral	February 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1002122	Integral	March 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1004034	Integral	April 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1005179	Integral	May 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1006773	Integral	June 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K1007431	Integral	July 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1008752	Integral	August 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1009889	Integral	September 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1011737	Integral	October 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K1014375	Integral	December 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1100726	Integral	January 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1101112	Integral	February 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1102183	Integral	March 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1103545	Integral	April 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1104448	Integral	May 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1105280	Integral	June 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1106351	Integral	July 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1106865	Integral	July 2011 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1107897	Integral	August 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1203282	Integral	April 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1207118	Integral	July 2012	0.2	0.2	0.02	0.02	0.007	0.007	6	6	0.03	0.03	0.02
K1210889	Integral	October 2012	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02

Table B-3c. Method Detection Limits (2006-2012) – Offs

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
X2213	Knight Piesold	February 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
X5977	Knight Piesold	May 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z2004	Knight Piesold	August 2006 II	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z3908	Knight Piesold	October 2006	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
Z6128	Knight Piesold	December 2006	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
L482967	Knight Piesold	February 2007	0.001	0.03	0.03	0.0005	0.0005	0.1	0.1	0.00002	0.00002	0.001	0.001
L495369	Knight Piesold	April 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L507191	Knight Piesold	May 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00005	0.00005	0.0005	0.0005
L526591	Knight Piesold	July 2007 I	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
K0706569	Integral	July 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707317	Integral	August 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707782	Integral	August 2007 II	0.02	3	3	0.009	0.003	0.7	0.7	0.03	0.03	0.04	0.07
K0708240	Integral	September 2007 I	0.02	3	3	0.003	0.003 - 0.009	0.7	0.7	0.03	0.03	0.03	0.03 - 0.04
K0709126	Integral	September 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0710773	Integral	November 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0802328	Integral	March 2008	0.02	3	3	0.009	0.009	6	6	0.03	0.03	0.04	0.04
K0804080	Integral	May 2008	0.02	4	4	0.009	0.009	2	2	0.03	0.03	0.04	0.04
K0807967	Integral	August 2008	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0807975	Integral	August 2008	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0810253	Integral	October 2008	0.02	2	4	0.006	0.006	0.7	2	0.05	0.05	0.04	0.04
K0902142	Integral	March 2009	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0904395	Integral	May 2009	0.02	4	4	0.006	0.006	2	2	0.02	0.02	0.04	0.04
K0906701	Integral	July 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908796	Integral	September 2009 III	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K0910115	Integral	October 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0910635	Integral	November 2009	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1000085	Integral	December 2009 II	0.02	--	--	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1000512	Integral	January 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1001408	Integral	February 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1002122	Integral	March 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1004034	Integral	April 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1005179	Integral	May 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1006773	Integral	June 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1007431	Integral	July 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008752	Integral	August 2010	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1009889	Integral	September 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1011737	Integral	October 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1014375	Integral	December 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1100726	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1101112	Integral	February 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1102183	Integral	March 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1103545	Integral	April 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1104448	Integral	May 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1105280	Integral	June 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106351	Integral	July 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106865	Integral	July 2011 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1107897	Integral	August 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.05	0.02	0.03	0.03
K1203282	Integral	April 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1207118	Integral	July 2012	0.02	3	3	0.002	0.002	2	2	0.02	0.02	0.01	0.01
K1210889	Integral	October 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.02	0.02

Table B-3c. Method Detection Limits (2006-2012) – Offs

			Trace Elements									
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**Potassium (µg/L), Total**	**Potassium (µg/L), Dissolved**	**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**
X2213	Knight Piesold	February 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
X5977	Knight Piesold	May 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z2004	Knight Piesold	August 2006 II	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z3908	Knight Piesold	October 2006	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
Z6128	Knight Piesold	December 2006	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
L482967	Knight Piesold	February 2007	2	2	0.001	0.001	0.00002	0.00002	2	2	0.005	0.005
L495369	Knight Piesold	April 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L507191	Knight Piesold	May 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L526591	Knight Piesold	July 2007 I	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001 - 0.006	0.001
K0706569	Integral	July 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0707317	Integral	August 2007 I	900	900	0.1	0.1	0.009	0.009	50	50	0.05	0.05
K0707782	Integral	August 2007 II	900	900	0.6	0.2	0.005	0.003	50	50	0.1	0.06
K0708240	Integral	September 2007 I	900	900	0.2	0.2 - 0.4	0.009	0.009	50	50	0.1	0.1
K0709126	Integral	September 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0710773	Integral	November 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0802328	Integral	March 2008	60	60	0.4	0.4	0.005	0.005	20	20	0.1	0.1
K0804080	Integral	May 2008	100	100	0.4	0.4	0.005	0.005	70	70	0.1	0.1
K0807967	Integral	August 2008	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0807975	Integral	August 2008	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0810253	Integral	October 2008	30	50	0.5	0.5	0.009	0.009	20	70	0.08	0.08
K0902142	Integral	March 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0904395	Integral	May 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0906701	Integral	July 2009	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0908796	Integral	September 2009 III	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0910115	Integral	October 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0910635	Integral	November 2009	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1000085	Integral	December 2009 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1000512	Integral	January 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1001408	Integral	February 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1002122	Integral	March 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1004034	Integral	April 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1005179	Integral	May 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1006773	Integral	June 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1007431	Integral	July 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008752	Integral	August 2010	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1009889	Integral	September 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1011737	Integral	October 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1014375	Integral	December 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100726	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1101112	Integral	February 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1102183	Integral	March 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1103545	Integral	April 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1104448	Integral	May 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1105280	Integral	June 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106351	Integral	July 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106865	Integral	July 2011 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1107897	Integral	August 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1203282	Integral	April 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1207118	Integral	July 2012	50	50	0.2	0.2	0.005	0.005	20	20	0.08	0.08
K1210889	Integral	October 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2

Table B-3d. Method Detection Limits (2006-2012) – Effluent, PAG Pond, and Barrels

			Analytical Physical Tests			Dissolved Anions and Nutrients						
ALS Lab SDG	**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)**	**Sulfate (mg/L)**	**Ammonia as N (mg/L)**	**Nitrate+Nitrite as N (mg/L)**	**Nitrate (mg/L)**	**Nitrite (mg/L)**
L515743	Knight Piesold	June 2007	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
L526591	Knight Piesold	July 2007 I	10	0.5	3	2	0.5	0.5	0.005	--	0.005	0.001
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	--	--
K0709126	Integral	September 2007 II	5	0.7	5	0.8	0.018	0.014	0.006	0.006	--	--
K0709804	Integral	October 2007	5	0.7	5	1	0.018	0.014	0.01	0.006	--	--
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	0.03	--	--
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 - 0.035	0.01	0.005 - 0.01	--	--
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	0.018	0.014 - 0.035	0.01	0.005 - 0.025	--	--
K0804080	Integral	May 2008	5	0.7	5	1	0.016	0.04 - 0.1	0.01 - 0.02	0.004 - 0.02	--	--
K0805877	Integral	June 2008	5	0.7	5	1	0.016	0.012 - 0.03	0.02	0.005 - 0.05	--	--
K0806879	Integral	July 2008	--	0.7	--	1	--	0.12	--	0.25	--	--
K0806880	Integral	July 2008	5	0.7	5	1	0.016	0.012 - 0.3	0.02	0.005 - 0.025	--	--
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	--	0.005 - 0.1	--	--
K0807975	Integral	August 2008	5	0.7	5	1	0.016	0.06	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	0.008 - 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	--	--
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 - 0.12	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	--	--
K0908619	Integral	September 2009 II	5	0.8	5	1	0.06	1	0.009	0.009	--	--
K0910115	Integral	October 2009	5	0.8	5	1	0.06	1	0.009	0.009	--	--
K0910233	Integral	October 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	--	--
K0912614	Integral	December 2009 II	5	0.8	5	1	0.06	0.02 - 0.2	0.009	0.009	--	--
K1000512	Integral	January 2010	5	0.8	5	1	0.06	0.02 - 0.2	0.009	0.005	--	--
K1001411	Integral	February 2010	5	0.8	5	1	0.06	0.1 - 0.2	0.009	0.009	--	--
K1002121	Integral	March 2010	5	0.8	5	1	0.06	0.1 - 0.2	0.009	0.009	--	--
K1004032	Integral	April 2010	5	0.8	5	1	0.06	0.02 - 0.2	0.009	0.009	--	--
K1005179	Integral	May 2010	5	0.8	5	1	0.06	0.2	0.009	0.009	--	--
K1005182	Integral	May 2010	5	0.8	5	1	0.06	0.1 - 1	0.009	0.009	--	--
K1006773	Integral	June 2010	10	0.8	5	3	0.06	0.2	0.009	0.009	--	--
K1007431	Integral	July 2010	10	0.8	5	1 - 3	0.06	0.1	0.009	0.009	--	--
K1007635	Integral	July 2010	--	0.8	--	3	0.06	0.1 - 1	0.009	0.009	--	--
K1008751	Integral	August 2010	10	0.8	10	3	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	--	--
K1009890	Integral	September 2010	10	0.8	5	3	0.06	1	0.009	0.009	--	--
K1011739	Integral	October 2010	10	0.8	5 - 40	3	0.06	0.02 - 0.1	--	0.009	--	--
K1012347	Integral	November 2010	5	0.8	5	3	0.06	0.2	--	0.009	--	--
K1014374	Integral	December 2010	10	0.8	5	1	0.06	0.02 - 0.05	--	0.009	--	--
K1014375	Integral	December 2010	10	0.8	5	1	0.06	0.1	0.009	0.009	--	--
K1100642	Integral	January 2011	10	0.8	10	3	0.06	0.05	--	0.009	--	--
K1100726	Integral	January 2011	10	0.8	5	3	0.06	0.3	0.009	0.009	--	--

Table B-3d. Method Detection Limits (2006-2012) – Effluent, PAG Pond, and Barrels

			Analytical Physical Tests			Dissolved Anions and Nutrients						
ALS Lab SDG	**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)**	**Sulfate (mg/L)**	**Ammonia as N (mg/L)**	**Nitrate+Nitrite as N (mg/L)**	**Nitrate (mg/L)**	**Nitrite (mg/L)**
K1101112	Integral	February 2011	10	0.8	5	3	0.06	0.05 - 0.1	0.009	0.009	--	--
K1103541	Integral	April 2011	10	0.8	5	3	0.06	0.02 - 0.1	--	0.009	--	--
K1104448	Integral	May 2011	10	0.8	5	3	0.06	0.2	--	0.009	--	--
K1105280	Integral	June 2011	10	0.8	10 - 20	3	0.06	0.2	0.009	0.009	--	--
K1106351	Integral	July 2011	10	0.8	5	3	0.06	0.5	0.009	0.009	--	--
K1106862	Integral	July 2011 II	10	0.8	5	1	0.06	0.05	0.009	0.009	--	--
K1106865	Integral	July 2011 II	10	0.8	5	1	0.06	0.05 - 0.5	0.009	0.009	--	--
K1107897	Integral	August 2011	10	0.8	5	1	0.06	0.2	0.009	0.009	--	--
K1108476	Integral	September 2011	--	--	--	--	--	--	--	--	--	--
K1108477	Integral	September 2011	10	0.8	5 - 10	3	0.06	0.02 - 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	0.02 - 0.2	0.009	0.009	--	--
K1112358	Integral	December 2011	10	0.8	5	3	0.06	0.05 - 0.1	0.009	0.009	--	--
K1200245	Integral	January 2012	10	0.8	5	1	0.06	0.02 - 0.1	0.009	0.009	--	--
K1201605	Integral	February 2012	10	0.8	2.9	1	0.06	0.2	0.009	0.009	--	--
K1202763	Integral	March 2012	--	0.8	--	1	0.06	0.1	0.009	0.009	--	--
K1203283	Integral	April 2012	5	0.8	2.9	1	0.06	0.02 - 0.2	0.009	0.009	--	--
K1207121	Integral	July 2012	10	0.8 - 2	5	1	0.06	0.02 - 0.5	0.009	0.009	--	--
K1210890	Integral	October 2012	10	0.8 - 2	5	1	0.06 - 0.2	0.02 - 0.2	0.009	0.009	--	--

Table B-3d. Method Detection Limits (2006-2012) – Effl

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
L515743	Knight Piesold	June 2007	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
L526591	Knight Piesold	July 2007 I	0.001	0.001	0.0001	0.0001	0.000017	0.000017	0.05	0.05	0.0005	0.0005	0.0001
K0706569	Integral	July 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0707317	Integral	August 2007 I	0.2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0707782	Integral	August 2007 II	0.2	0.3	0.08	0.07	0.005	0.008	7	7	0.07	0.03	0.02
K0709126	Integral	September 2007 II	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0709804	Integral	October 2007	0.2	0.2	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0710773	Integral	November 2007	2	0.2	0.06	0.06	0.008	0.008	7	7	0.03	0.03	0.02
K0711443	Integral	December 2007 (Portal only)	20	20	0.06	0.06	0.007	0.007	30	30	0.03	0.03	0.02
K0711891	Integral	December 2007 I	30	30	0.06	0.06	0.007	0.007	7	7	0.03	0.03	0.02
K0800335	Integral	January 2008	0.2 - 20	0.2 - 20	0.06	0.08	0.007	0.005	30	30	0.03	0.07	0.02
K0801400	Integral	Februrary 2008	0.2 - 30	0.2	0.08	0.06	0.005	0.007	7	7	0.07	0.03	0.02
K0802328	Integral	March 2008	0.2 - 4	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0803239	Integral	April 2008	0.2 - 4	0.2 - 4	0.06	0.06	0.007	0.007	30	30	0.03	0.03	0.02
K0804080	Integral	May 2008	0.2 - 4	0.2	0.08	0.08	0.005	0.005	30	30	0.07	0.07	0.02
K0805877	Integral	June 2008	0.5 - 10	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0806879	Integral	July 2008	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0806880	Integral	July 2008	0.5 - 4	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0807967	Integral	August 2008	0.5 - 30	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0807974	Integral	August 2008	0.5	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0807975	Integral	August 2008	30	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0808787	Integral	September 2008	0.5 - 30	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0810253	Integral	October 2008	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0902142	Integral	March 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0903584	Integral	March 2009	0.5	0.5	0.2	0.2	0.005	0.005	9	9	0.05	0.05	0.02
K0904395	Integral	May 2009	0.5	0.5	0.2	0.2	0.005	0.005	30	30	0.05	0.05	0.02
K0904619	Integral	May 2009	0.5	0.5	0.2	0.2	0.005	0.005	60	60	0.03	0.03	0.03
K0905553	Integral	June 2009	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K0906701	Integral	July 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K0908166	Integral	August 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K0908619	Integral	September 2009 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K0910115	Integral	October 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0910233	Integral	October 2009	30	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0910640	Integral	November 2009	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K0912614	Integral	December 2009 II	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1000512	Integral	January 2010	0.3 - 3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1001411	Integral	February 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1002121	Integral	March 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1004032	Integral	April 2010	0.3 - 3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1005179	Integral	May 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1005182	Integral	May 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1006773	Integral	June 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K1007431	Integral	July 2010	30	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1007635	Integral	July 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1008751	Integral	August 2010	30	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1008755	Integral	August 2010	0.3 - 2	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1009890	Integral	September 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1011739	Integral	October 2010	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.6	--	0.02
K1012347	Integral	November 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1014374	Integral	December 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1014375	Integral	December 2010	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1100642	Integral	January 2011	6	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1100726	Integral	January 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02

Table B-3d. Method Detection Limits (2006-2012) – Effl

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved	Copper (µg/L), Total
K1101112	Integral	February 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1103541	Integral	April 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1104448	Integral	May 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1105280	Integral	June 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1106351	Integral	July 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1106862	Integral	July 2011 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02
K1106865	Integral	July 2011 II	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1107897	Integral	August 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1108476	Integral	September 2011	6	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1108477	Integral	September 2011	0.3 - 6	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1109861	Integral	October 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1111032	Integral	November 2011	0.2	0.2	0.02	0.02	0.007	0.007	6	6	--	--	0.02
K1112358	Integral	December 2011	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1200245	Integral	January 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1201605	Integral	February 2012	0.3	0.3	0.1	0.1	0.005	0.005	6	6	--	--	0.02
K1202763	Integral	March 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	--	--	0.02
K1203283	Integral	April 2012	0.3	0.3	0.07	0.07	0.003	0.003	6	6	0.04	0.04	0.02
K1207121	Integral	July 2012	0.2	0.2	0.02	0.02	0.01	0.01	6	6	0.03	0.03	0.02
K1210890	Integral	October 2012	0.3	0.3	0.1	0.1	0.005	0.005	6	6	0.02	0.02	0.02

Table B-3d. Method Detection Limits (2006-2012) – Effl

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
L515743	Knight Piesold	June 2007	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
L526591	Knight Piesold	July 2007 I	0.0001	0.03	0.03	0.00005	0.00005	0.1	0.1	0.00001	0.00001	0.0005	0.0005
K0706569	Integral	July 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707317	Integral	August 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0707782	Integral	August 2007 II	0.02	3	3	0.009	0.003	0.7	0.7	0.03	0.03	0.04	0.07
K0709126	Integral	September 2007 II	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0709804	Integral	October 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0710773	Integral	November 2007	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0711443	Integral	December 2007 (Portal only)	0.02	3	3	0.003	0.003	6	6	0.03	0.03	0.03	0.03
K0711891	Integral	December 2007 I	0.02	3	3	0.003	0.003	0.7	0.7	0.03	0.03	0.03	0.03
K0800335	Integral	January 2008	0.02	3	3	0.003	0.009	6	6	0.03	0.03	0.03	0.04
K0801400	Integral	Februrary 2008	0.02	3	3	0.009	0.003	0.7	0.7	0.03	0.03	0.04	0.03
K0802328	Integral	March 2008	0.02	3	3	0.009	0.009	6	6	0.03	0.03	0.04	0.04
K0803239	Integral	April 2008	0.02	3	3	0.003	0.003	6	6	0.03	0.03	0.03	0.03
K0804080	Integral	May 2008	0.02	4	4	0.003	0.003	2	2	0.03	0.03	0.04	0.04
K0805877	Integral	June 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0806879	Integral	July 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0806880	Integral	July 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0807967	Integral	August 2008	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0807974	Integral	August 2008	0.02	2	2	0.006	0.006	0.7 - 4	0.7 - 4	0.05	0.05	0.04	0.04
K0807975	Integral	August 2008	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0808787	Integral	September 2008	0.02	2	2	0.006	0.006	0.7 - 4	0.7 - 4	0.05	0.05	0.04	0.04
K0810253	Integral	October 2008	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0902142	Integral	March 2009	0.02	4	4	0.006	0.006	2	2	0.05	0.05	0.04	0.04
K0903584	Integral	March 2009	0.02	2	2	0.006	0.006	0.7	0.7	0.05	0.05	0.04	0.04
K0904395	Integral	May 2009	0.02	4	4	0.006	0.006	2	2	0.02	0.02	0.04	0.04
K0904619	Integral	May 2009	0.03	8	8	0.003	0.003	4	4	0.02	0.02	0.07	0.07
K0905553	Integral	June 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K0906701	Integral	July 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908166	Integral	August 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0908619	Integral	September 2009 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K0910115	Integral	October 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0910233	Integral	October 2009	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K0910640	Integral	November 2009	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K0912614	Integral	December 2009 II	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1000512	Integral	January 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1001411	Integral	February 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1002121	Integral	March 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1004032	Integral	April 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1005179	Integral	May 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1005182	Integral	May 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1006773	Integral	June 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1007431	Integral	July 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1007635	Integral	July 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008751	Integral	August 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1008755	Integral	August 2010	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1009890	Integral	September 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1011739	Integral	October 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1012347	Integral	November 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1014374	Integral	December 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1014375	Integral	December 2010	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1100642	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1100726	Integral	January 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03

Table B-3d. Method Detection Limits (2006-2012) – Effl

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements										
			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	Nickel (µg/L), Total	Nickel (µg/L), Dissolved
K1101112	Integral	February 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1103541	Integral	April 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1104448	Integral	May 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1105280	Integral	June 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106351	Integral	July 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1106862	Integral	July 2011 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1106865	Integral	July 2011 II	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.02	0.02
K1107897	Integral	August 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1108476	Integral	September 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1108477	Integral	September 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1109861	Integral	October 2011	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1111032	Integral	November 2011	0.02	3	3	0.002	0.002	2	2	0.02	0.02	0.01	0.01
K1112358	Integral	December 2011	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1200245	Integral	January 2012	0.02	0.8	0.8	0.005	0.005	0.3	0.3	0.02	0.02	0.03	0.03
K1201605	Integral	February 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.02	0.02
K1202763	Integral	March 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1203283	Integral	April 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.03	0.03
K1207121	Integral	July 2012	0.02	3	3	0.002	0.002	2	2	0.02	0.02	0.01	0.01
K1210890	Integral	October 2012	0.02	3	3	0.005	0.005	2	2	0.02	0.02	0.02	0.02

Table B-3d. Method Detection Limits (2006-2012) – Effl

			Trace Elements									
ALS Lab SDG	**Collection Contractor**	**Sample Event**	**Potassium (µg/L), Total**	**Potassium (µg/L), Dissolved**	**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**
L515743	Knight Piesold	June 2007	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
L526591	Knight Piesold	July 2007 I	2	2	0.001	0.001	0.00001	0.00001	2	2	0.001	0.001
K0706569	Integral	July 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0707317	Integral	August 2007 I	900	900	0.1	0.1	0.009	0.009	50	50	0.05	0.05
K0707782	Integral	August 2007 II	900	900	0.6	0.2	0.005	0.003	50	50	0.1	0.06
K0709126	Integral	September 2007 II	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0709804	Integral	October 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0710773	Integral	November 2007	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0711443	Integral	December 2007 (Portal only)	60	60	0.2	0.2	0.009	0.009	20	20	0.05	0.05
K0711891	Integral	December 2007 I	900	900	0.2	0.2	0.009	0.009	50	50	0.05	0.05
K0800335	Integral	January 2008	60	60	0.2	0.4	0.009	0.004	20	20	0.1	0.1
K0801400	Integral	Februrary 2008	900	900	0.4	0.2	0.005	0.009	50	50	0.1	0.05
K0802328	Integral	March 2008	60	60	0.4	0.4	0.005	0.005	20	20	0.1	0.1
K0803239	Integral	April 2008	60	60	0.2	0.2	0.009	0.009	20	20	0.05	0.05
K0804080	Integral	May 2008	100	100	0.4	0.4	0.005	0.005	70	70	0.05	0.05
K0805877	Integral	June 2008	100	100	0.5	0.5	0.009	0.009	70	70	0.1	0.1
K0806879	Integral	July 2008	100	100	0.4	0.4	0.009	0.009	70	70	0.1	0.1
K0806880	Integral	July 2008	100	100	0.4	0.4	0.009	0.009	70	70	0.1	0.1
K0807967	Integral	August 2008	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0807974	Integral	August 2008	30	30	0.2	0.2	0.009	0.009	20	20	0.08	0.08
K0807975	Integral	August 2008	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0808787	Integral	September 2008	30	30	0.2 - 0.5	0.2 - 0.5	0.009	0.009	20	20	0.08	0.08
K0810253	Integral	October 2008	50	50	0.5	0.5	0.009	0.009	70	70	0.08	0.08
K0902142	Integral	March 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0903584	Integral	March 2009	30	30	0.4	0.4	0.009	0.009	20	20	0.08	0.08
K0904395	Integral	May 2009	50	50	0.4	0.4	0.009	0.009	70	70	0.08	0.08
K0904619	Integral	May 2009	100	100	0.4	0.4	0.005	0.005	140	140	0.3	0.3
K0905553	Integral	June 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0906701	Integral	July 2009	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0908166	Integral	August 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0908619	Integral	September 2009 II	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K0910115	Integral	October 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0910233	Integral	October 2009	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0910640	Integral	November 2009	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K0912614	Integral	December 2009 II	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1000512	Integral	January 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1001411	Integral	February 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1002121	Integral	March 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1004032	Integral	April 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1005179	Integral	May 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1005182	Integral	May 2010	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K1006773	Integral	June 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1007431	Integral	July 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1007635	Integral	July 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008751	Integral	August 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1008755	Integral	August 2010	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1009890	Integral	September 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1011739	Integral	October 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1012347	Integral	November 2010	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K1014374	Integral	December 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1014375	Integral	December 2010	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100642	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1100726	Integral	January 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2

Table B-3d. Method Detection Limits (2006-2012) – Effl

ALS Lab SDG	Collection Contractor	Sample Event	Trace Elements									
			Potassium (µg/L), Total	Potassium (µg/L), Dissolved	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
K1101112	Integral	February 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1103541	Integral	April 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1104448	Integral	May 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1105280	Integral	June 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106351	Integral	July 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106862	Integral	July 2011 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1106865	Integral	July 2011 II	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1107897	Integral	August 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1108476	Integral	September 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1108477	Integral	September 2011	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1109861	Integral	October 2011	40	40	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K1111032	Integral	November 2011	50	50	0.08	0.08	0.005	0.005	20	20	0.08	0.08
K1112358	Integral	December 2011	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1200245	Integral	January 2012	40	40	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1201605	Integral	February 2012	50	50	0.2	0.2	0.004	0.004	20	20	0.2	0.2
K1202763	Integral	March 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1203283	Integral	April 2012	50	50	0.3	0.3	0.004	0.004	20	20	0.2	0.2
K1207121	Integral	July 2012	50	50	0.2	0.2	0.005	0.005	20	20	0.08	0.08
K1210890	Integral	October 2012	50	50	0.2	0.2	0.004 - 0.006	0.006	20	20	0.2	0.2

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ6	**WQ6**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**17**	**8.53**	**3 *U***	**9**	**4.84**	**1.61**	**0.02 *U***	--	**0.0399**	**0.001 *U***
WQ6	**WQ6 (Dup WQ16)**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**17**	**8.61**	**3 *U***	**6.6**	**4.88**	**1.65**	**0.02 *U***	--	**0.0397**	**0.001 *U***
	Sample Difference						0	0.08	NC	-2.4	0.04	0.04	NC	NC	-0.0002	NC
	RPD						0%	-1%	NC	31%	-1%	-2%	NC	NC	1%	NC
	abs (RPD)						0%	1%	NC	31%	1%	2%	NC	NC	1%	NC
WQ8	**WQ8**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**16**	**15**	**3 *U***	**14.4**	**2.32**	**1.48**	**0.005 *U***	--	**0.104**	**0.001 *U***
WQ8	**WQ20**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**20**	**15.1**	**3 *U***	**14.4**	**2.31**	**1.48**	**0.005 *U***	--	**0.103**	**0.001 *U***
	Sample Difference						4	0.1	NC	0	-0.01	0	NC	NC	-0.001	NC
	RPD						-22%	-1%	NC	0%	0%	0%	NC	NC	1%	NC
	abs (RPD)						22%	1%	NC	0%	0%	0%	NC	NC	1%	NC
WQ4	**WQ4**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**29**	**24.6**	**3 *U***	**20.3**	**4.23**	**3.18**	**0.005 *U***	--	**0.097**	**0.001 *U***
WQ4	**WQ20**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**32**	**23.9**	**3 *U***	**20.7**	**4.23**	**3.15**	**0.0051**	--	**0.0977**	**0.001 *U***
	Sample Difference						3	-0.7	NC	0.4	0	-0.03	NC	NC	0.0007	NC
	RPD						-10%	3%	NC	-2%	0%	1%	NC	NC	-1%	NC
	abs (RPD)						10%	3%	NC	2%	0%	1%	NC	NC	1%	NC
WQ13	**WQ13**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**18**	**9.34**	**3 *U***	**7.1**	**4.17**	**1.82**	**0.005 *U***	--	**0.0655**	**0.001 *U***
WQ13	**WQ20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**16**	**9.34**	**3 *U***	**7.1**	**4.15**	**1.81**	**0.005 *U***	--	**0.0639**	**0.001 *U***
	Sample Difference						-2	0	NC	0	-0.02	-0.01	NC	NC	-0.0016	NC
	RPD						12%	0%	NC	0%	0%	1%	NC	NC	2%	NC
	abs (RPD)						12%	0%	NC	0%	0%	1%	NC	NC	2%	NC
WQ4	**WQ4**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**21**	**10.6**	**3 *U***	**9.2**	**2.45**	**1.45**	**0.005 *U***	--	**0.0264**	**0.001 *U***
WQ4	**WQ20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**22**	**10.7**	**3 *U***	**8.5**	**2.44**	**1.45**	**0.0087**	--	**0.0267**	**0.001 *U***
	Sample Difference						1	0.1	NC	-0.7	-0.01	0	NC	NC	0.0003	NC
	RPD						-5%	-1%	NC	8%	0%	0%	NC	NC	-1%	NC
	abs (RPD)						5%	1%	NC	8%	0%	0%	NC	NC	1%	NC
WQ12	**WQ12**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**60**	**44.1**	**3 *U***	**37.1**	**4.9**	**3.99**	**0.36**	--	**1.17**	**0.0235**
WQ12	**WQ20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**63**	**45**	**3 *U***	**37.2**	**4.9**	**4.09**	**0.397**	--	**1.21**	**0.0249**
	Sample Difference						3	0.9	NC	0.1	0	0.1	0.037	NC	0.04	0.0014
	RPD						-5%	-2%	NC	0%	0%	-2%	-10%	NC	-3%	-6%
	abs (RPD)						5%	2%	NC	0%	0%	2%	10%	NC	3%	6%
WQ13	**WQ13**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**21**	**20.9**	**3 *U***	**16.6**	**2.06**	**2.92**	**0.005 *U***	--	**0.0749**	**0.001 *U***
WQ13	**WQ20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**22**	**20.6**	**3 *U***	**16.4**	**2.05**	**2.92**	**0.005 *U***	--	**0.0747**	**0.001 *U***
	Sample Difference						1	-0.3	NC	-0.2	-0.01	0	NC	NC	-0.0002	NC
	RPD						-5%	1%	NC	1%	0%	0%	NC	NC	0%	NC
	abs (RPD)						5%	1%	NC	1%	0%	0%	NC	NC	0%	NC
WQ4	**WQ4**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**43**	**26**	**5 *U***	**26**	**2.2**	**2.8**	**0.03 *U***	**0.12**	--	--
WQ4	**WQ20**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**53**	**27**	**5 *U***	**26**	**2.2**	**2.8**	**0.03 *U***	**0.12**	--	--
	Sample Difference						10	1	NC	0	0	0	NC	0	NC	NC
	RPD						-21%	-4%	NC	0%	0%	0%	NC	0%	NC	NC
	abs (RPD)						21%	4%	NC	0%	0%	0%	NC	0%	NC	NC
WQ7	**WQ7**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**29**	**16**	**5 *U***	**22**	**2.5**	**1.3**	**0.006 *U***	**0.13**	--	--
WQ7	**WQ20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**27**	**19**	**5 *U***	**20**	**2.5**	**1.4**	**0.006 *U***	**0.13**	--	--
	Sample Difference						-2	3	NC	-2	0	0.1	NC	0	NC	NC
	RPD						7%	-17%	NC	10%	0%	-7%	NC	0%	NC	NC
	abs (RPD)						7%	17%	NC	10%	0%	7%	NC	0%	NC	NC
WQ13	**WQ13**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**59 *U***	**36**	**5 *U***	**21**	**2**	**3**	**0.006 *U***	**0.16**	--	--
WQ13	**WQ20**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**47 *U***	**37**	**5 *U***	**23**	**2.1**	**3.1**	**0.01 *UJ***	**0.16**	--	--
	Sample Difference						NC	1	NC	2	0.1	0.1	NC	0	NC	NC
	RPD						NC	-3%	NC	-9%	-5%	-3%	NC	0%	NC	NC
	abs (RPD)						NC	3%	NC	9%	5%	3%	NC	0%	NC	NC
WQ10	**WQ10**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**18**	**27**	**5 *U***	**12**	**3.3**	**1.5**	**0.02 *UJ***	**0.07**	--	--
WQ10	**WQ20**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**20**	**29**	**5 *U***	**12**	**3.3**	**1.5**	**0.02 *UJ***	**0.07**	--	--
	Sample Difference						2	2	NC	0	0	0	NC	0	NC	NC
	RPD						-11%	-7%	NC	0%	0%	0%	NC	0%	NC	NC
	abs (RPD)						11%	7%	NC	0%	0%	0%	NC	0%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ12	**WQ12**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**23**	**17 *U***	**5 *U***	**14**	**3.5**	**1.4**	**0.03 *U***	**0.012 *J***	--	--
WQ12	**WQ20**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**25**	**18 *U***	**5 *U***	**15**	**3.5**	**1.4**	**0.03 *U***	**0.01 *J***	--	--
	Sample Difference						2	NC	NC	1	0	0	NC	NC	NC	NC
	RPD						-8%	NC	NC	-7%	0%	0%	NC	NC	NC	NC
	abs (RPD)						8%	NC	NC	7%	0%	0%	NC	NC	NC	NC
WQ6	**WQ6**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**7**	**14 *U***	**5 *U***	**1 *U***	**3.1**	**0.6**	**0.05 *UJ***	**0.032 *J***	--	--
WQ6	**WQ20**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**7**	**11 *U***	**5 *U***	**2 *UJ***	**3.1**	**0.6**	**0.02 *UJ***	**0.033 *J***	--	--
	Sample Difference						0	NC	NC	NC	0	0	NC	NC	NC	NC
	RPD						0%	NC	NC	NC	0%	0%	NC	NC	NC	NC
	abs (RPD)						0%	NC	NC	NC	0%	0%	NC	NC	NC	NC
WQ8	**WQ8**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**25**	**16**	**5 *U***	**8 *UJ***	**4.7**	**1.6**	**0.02 *UJ***	**0.07**	--	--
WQ8	**WQ20**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**14**	**17**	**5 *U***	**7 *UJ***	**4.7**	**1.6**	**0.014 *UJ***	**0.07**	--	--
	Sample Difference						-11	1	NC	NC	0	0	NC	0	NC	NC
	RPD						56%	-6%	NC	NC	0%	0%	NC	0%	NC	NC
	abs (RPD)						56%	6%	NC	NC	0%	0%	NC	0%	NC	NC
WQ6	**WQ6**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**18 *U***	**13 *U***	**5 *U***	**5**	**4.5**	**0.8**	**0.03 *UJ***	**0.34**	--	--
WQ6	**WQ20**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**11 *U***	**13 *U***	**5 *U***	**2 *J***	**4.4**	**0.8**	**0.04 *UJ***	**0.2**	--	--
	Sample Difference						NC	NC	NC	NC	-0.1	0	NC	-0.14	NC	NC
	RPD						NC	NC	NC	NC	2%	0%	NC	52%	NC	NC
	abs (RPD)						NC	NC	NC	NC	2%	0%	NC	52%	NC	NC
WQ13	**WQ13**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**22**	**28 *U***	**5 *U***	**14**	**7.1**	**3.6**	**0.01 *UJ***	**0.21**	--	--
WQ13	**WQ20**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**17**	**27 *U***	**5 *U***	**13**	**7.1**	**3.5**	**0.02 *UJ***	**0.2**	--	--
	Sample Difference						-5	NC	NC	-1	0	-0.1	NC	-0.01	NC	NC
	RPD						26%	NC	NC	7%	0%	3%	NC	5%	NC	NC
	abs (RPD)						26%	NC	NC	7%	0%	3%	NC	5%	NC	NC
WQ13	**WQ13**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**36 *UJ***	**17 *U***	**5 *U***	**5**	**6.7**	**1.9**	**0.07**	**0.46**	--	--
WQ13	**WQ20**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**32 *UJ***	**24 *U***	**5 *U***	**8**	**6.7**	**1.9**	**0.04 *J***	**0.47**	--	--
	Sample Difference						NC	NC	NC	3	0	0	NC	0.01	NC	NC
	RPD						NC	NC	NC	-46%	0%	0%	NC	-2%	NC	NC
	abs (RPD)						NC	NC	NC	46%	0%	0%	NC	2%	NC	NC
WQ10	**WQ10**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**41 *U***	**36 *U***	**5**	**5 *U***	**5.8**	**1.3**	**0.03 *UJ***	**0.1 *U***	--	--
WQ10	**WQ20**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**10 *U***	**23 *U***	**5 *U***	**4 *U***	**5.8**	**1.2**	**0.03 *UJ***	**0.11 *U***	--	--
	Sample Difference						NC	NC	NC	NC	0	-0.1	NC	NC	NC	NC
	RPD						NC	NC	NC	NC	0%	8%	NC	NC	NC	NC
	abs (RPD)						NC	NC	NC	NC	0%	8%	NC	NC	NC	NC
WQ7	**WQ7**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**61**	**25 *U***	**5 *U***	**7 *UJ***	**7.8**	**1.1**	**0.06 *UJ***	**0.06 *U***	--	--
WQ7	**WQ20**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**59**	**18 *U***	**5 *U***	**8 *UJ***	**7.9**	**1.1**	**0.02 *UJ***	**0.06 *U***	--	--
	Sample Difference						-2	NC	NC	NC	0.1	0	NC	NC	NC	NC
	RPD						3%	NC	NC	NC	-1%	0%	NC	NC	NC	NC
	abs (RPD)						3%	NC	NC	NC	1%	0%	NC	NC	NC	NC
WQ7	**WQ7**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**21**	**16 *U***	**5 *U***	**7 *UJ***	**4.5**	**1.1**	**0.03 *UJ***	**0.05**	--	--
WQ7	**WQ20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**6**	**13 *U***	**5 *U***	**6 *UJ***	**4.5**	**1.1**	**0.03 *UJ***	**0.049 *J***	--	--
	Sample Difference						-15	NC	NC	NC	0	0	NC	NC	NC	NC
	RPD						111%	NC	NC	NC	0%	0%	NC	NC	NC	NC
	abs (RPD)						111%	NC	NC	NC	0%	0%	NC	NC	NC	NC
WQ13	**WQ13**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**28 *U***	**19 *U***	**5 *U***	**11**	**1.9**	**1.9**	**0.02 *UJ***	**0.12**	--	--
WQ13	**WQ20**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**10 *U***	**15 *U***	**5 *U***	**10**	**1.9**	**1.9**	**0.03 *UJ***	**0.14**	--	--
	Sample Difference						NC	NC	NC	-1	0	0	NC	0.02	NC	NC
	RPD						NC	NC	NC	10%	0%	0%	NC	-15%	NC	NC
	abs (RPD)						NC	NC	NC	10%	0%	0%	NC	15%	NC	NC
WQ13	**WQ13**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**19**	**19**	**5 *U***	**15**	**2.2**	**3.3**	**0.02 *UJ***	**0.17**	--	--
WQ13	**WQ20**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**21**	**19**	**5 *U***	**15**	**2.2**	**3.3**	**0.03 *UJ***	**0.16**	--	--
	Sample Difference						2	0	NC	0	0	0	NC	-0.01	NC	NC
	RPD						-10%	0%	NC	0%	0%	0%	NC	6%	NC	NC
	abs (RPD)						10%	0%	NC	0%	0%	0%	NC	6%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ6	**WQ6**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**20**	**14**	**5 *U***	**6**	**2.3**	**0.8**	**0.04 *UJ***	**0.07**	--	--
WQ6	**WQ20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**16**	**10**	**5 *U***	**6**	**2.3**	**0.8**	**0.03 *UJ***	**0.09**	--	--
	Sample Difference						-4	-4	NC	0	0	0	NC	0.02	NC	NC
	RPD						22%	33%	NC	0%	0%	0%	NC	-25%	NC	NC
	abs (RPD)						22%	33%	NC	0%	0%	0%	NC	25%	NC	NC
WQ13	**WQ13**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**10:57**	**29**	**21**	**8**	**20**	**3.2**	**3.6**	**0.02 *U***	**0.28**	--	--
WQ13	**WQ20**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**09:00**	**28**	**21**	**5 *U***	**21**	**3.2**	**3.6**	**0.02 *U***	**0.31**	--	--
	Sample Difference						-1	0	NC	1	0	0	NC	0.03	NC	NC
	RPD						4%	0%	NC	-5%	0%	0%	NC	-10%	NC	NC
	abs (RPD)						4%	0%	NC	5%	0%	0%	NC	10%	NC	NC
WQ10	**WQ10**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**20**	**5**	**5 *U***	**10**	**2.1**	**1.6**	**0.031 *UJ***	**0.06**	--	--
WQ10	**WQ20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**24**	**7**	**5 *U***	**23**	**2.2**	**1.6**	**0.028 *UJ***	**0.05**	--	--
	Sample Difference						4	2	NC	13	0.1	0	NC	-0.01	NC	NC
	RPD						-18%	-33%	NC	-79%	-5%	0%	NC	18%	NC	NC
	abs (RPD)						18%	33%	NC	79%	5%	0%	NC	18%	NC	NC
WQ4	**WQ4**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**24**	**17.6**	**5 *U***	**19**	**2.35**	**2.81**	**0.067 *U***	**0.17**	--	--
WQ4	**WQ20**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**21**	**18**	**5 *U***	**19**	**2.35**	**2.85**	**0.043 *UJ***	**0.236**	--	--
	Sample Difference						-3	0.4	NC	0	0	0.04	NC	0.066	NC	NC
	RPD						13%	-2%	NC	0%	0%	-1%	NC	-33%	NC	NC
	abs (RPD)						13%	2%	NC	0%	0%	1%	NC	33%	NC	NC
WQ4	**WQ4**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**34 *U***	**16.8**	**5 *U***	**18.4**	**2.98**	**2.8**	**0.061 *UJ***	**0.179**	--	--
WQ4	**WQ20**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**38 *U***	**13.6**	**5 *U***	**18.1**	**2.98**	**2.78**	**0.032 *UJ***	**0.196**	--	--
	Sample Difference						NC	-3.2	NC	-0.3	0	-0.02	NC	0.017	NC	NC
	RPD						NC	21%	NC	2%	0%	1%	NC	-9%	NC	NC
	abs (RPD)						NC	21%	NC	2%	0%	1%	NC	9%	NC	NC
WQ10	**WQ10**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**39**	**21.6**	**5 *U***	**22.2**	**3.67**	**3.82**	**0.011 *UJ***	**0.084**	--	--
WQ10	**WQ20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**38.5**	**20.4**	**5 *U***	**22**	**3.66**	**3.85**	**0.009 *UJ***	**0.07**	--	--
	Sample Difference						-0.5	-1.2	NC	-0.2	-0.01	0.03	NC	-0.014	NC	NC
	RPD						1%	6%	NC	1%	0%	-1%	NC	18%	NC	NC
	abs (RPD)						1%	6%	NC	1%	0%	1%	NC	18%	NC	NC
WQ10	**WQ10**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**19.5 *UJ***	**10**	**5 *U***	**5.5**	**5.93**	**1.53**	**0.009 *UJ***	**0.05**	--	--
WQ10	**WQ20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**17.5 *UJ***	**7.6**	**5 *U***	**5.4**	**5.93**	**1.53**	**0.009 *UJ***	**0.026 *J***	--	--
	Sample Difference						NC	-2.4	NC	-0.1	0	0	NC	NC	NC	NC
	RPD						NC	27%	NC	2%	0%	0%	NC	NC	NC	NC
	abs (RPD)						NC	27%	NC	2%	0%	0%	NC	NC	NC	NC
WQ10	**WQ10**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**32**	**17.2**	**5 *U***	**11.2**	**10.5**	**3.63**	**0.011 *J***	**0.08 *UJ***	--	--
WQ10	**WQ20**	**K1004034**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**30**	**16**	**5 *U***	**13.7**	**10.5**	**3.62**	**0.02 *UJ***	**0.091 *UJ***	--	--
	Sample Difference						-2	-1.2	NC	2.5	0	-0.01	NC	NC	NC	NC
	RPD						6%	7%	NC	-20%	0%	0%	NC	NC	NC	NC
	abs (RPD)						6%	7%	NC	20%	0%	0%	NC	NC	NC	NC
WQ10	**WQ10**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**27**	**30.4**	**5 *U***	**23**	**5.23**	**5.76**	**0.041 *UJ***	**0.162 *UJ***	--	--
WQ10	**WQ20**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**66**	**30**	**5 *U***	**22**	**5.22**	**5.7**	**0.033 *UJ***	**0.16 *UJ***	--	--
	Sample Difference						39	-0.4	NC	-1	-0.01	-0.06	NC	NC	NC	NC
	RPD						-84%	1%	NC	4%	0%	1%	NC	NC	NC	NC
	abs (RPD)						84%	1%	NC	4%	0%	1%	NC	NC	NC	NC
WQ13	**WQ13**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**19**	**10.4**	**5 *U***	**6 *J***	**7.12**	**1.71**	**0.049 *J***	**0.11**	--	--
WQ13	**WQ20**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**22**	**10.8**	**5 *U***	**5 *J***	**7.08**	**1.73**	**0.014 *J***	**0.112**	--	--
	Sample Difference						3	0.4	NC	NC	-0.04	0.02	NC	0.002	NC	NC
	RPD						-15%	-4%	NC	NC	1%	-1%	NC	-2%	NC	NC
	abs (RPD)						15%	4%	NC	NC	1%	1%	NC	2%	NC	NC
WQ4	**WQ4**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**15:15**	**66**	**22**	**5 *U***	**9.1 *UJ***	**3.78**	**1.48**	**0.05 *UJ***	**0.162**	--	--
WQ4	**WQ20**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**13:00**	**20**	**20.4**	**9.5**	**8.2 *UJ***	**3.78**	**1.5**	**0.029 *UJ***	**0.162**	--	--
	Sample Difference						-46	-1.6	NC	NC	0	0.02	NC	0	NC	NC
	RPD						107%	8%	NC	NC	0%	-1%	NC	0%	NC	NC
	abs (RPD)						107%	8%	NC	NC	0%	1%	NC	0%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ10	**WQ10**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**28.5**	**12.8**	**5 *U***	**8.7**	**4.35**	**1.86**	**0.028 *U***	**0.084**	--	--
WQ10	**WQ20**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**25**	**24**	**5 *U***	**7.8**	**4.38**	**1.88**	**0.039 *U***	**0.076**	--	--
	Sample Difference						-3.5	11.2	NC	-0.9	0.03	0.02	NC	-0.008	NC	NC
	RPD						13%	-61%	NC	11%	-1%	-1%	NC	10%	NC	NC
	abs (RPD)						13%	61%	NC	11%	1%	1%	NC	10%	NC	NC
WQ13	**WQ13**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**41.5**	**13.6**	**5 *U***	**9**	**4.32**	**4.85 *J***	**0.033 *UJ***	**0.181**	--	--
WQ13	**WQ20**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**63**	**14**	**5 *U***	**8.8 *J***	**4.35**	**4.78 *J***	**0.03 *UJ***	**0.192**	--	--
	Sample Difference						21.5	0.4	NC	NC	0.03	NC	NC	0.011	NC	NC
	RPD						-41%	-3%	NC	NC	-1%	NC	NC	-6%	NC	NC
	abs (RPD)						41%	3%	NC	NC	1%	NC	NC	6%	NC	NC
WQ13	**WQ13**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**18.5 *UJ***	**12**	**5 *U***	**5.8**	**7.82**	**3.41**	**0.009 *U***	**0.117**	--	--
WQ13	**WQ20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**10 *UJ***	**12.8**	**5 *U***	**6.4**	**7.75**	**3.39**	**0.009 *U***	**0.117**	--	--
	Sample Difference						NC	0.8	NC	0.6	-0.07	-0.02	NC	0	NC	NC
	RPD						NC	-6%	NC	-10%	1%	1%	NC	0%	NC	NC
	abs (RPD)						NC	6%	NC	10%	1%	1%	NC	0%	NC	NC
WQ4	**WQ4**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**45**	**22**	**2.9 *U***	**15**	**8.36**	**2.78**	**0.024 *UJ***	**0.143**	--	--
WQ4	**WQ20**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**59.5**	**23.6**	**2.9 *U***	**17.1**	**8.42**	**2.76**	**0.009 *U***	**0.139**	--	--
	Sample Difference						14.5	1.6	NC	2.1	0.06	-0.02	NC	-0.004	NC	NC
	RPD						-28%	-7%	NC	-13%	-1%	1%	NC	3%	NC	NC
	abs (RPD)						28%	7%	NC	13%	1%	1%	NC	3%	NC	NC
WQ10	**WQ10**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:45**	**29.5 *J***	**22 *J***	**5 *U***	**19.9 *J***	**4.7**	**3.65**	**0.019 *J***	**0.128**	--	--
WQ10	**WQ20**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:00**	**29.5 *J***	**22.4 *J***	**5 *U***	**20 *J***	**4.71**	**3.7**	**0.009 *U***	**0.131**	--	--
	Sample Difference						NC	NC	NC	NC	0.01	0.05	NC	0.003	NC	NC
	RPD						NC	NC	NC	NC	0%	-1%	NC	-2%	NC	NC
	abs (RPD)						NC	NC	NC	NC	0%	1%	NC	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
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.

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
WQ6	**WQ6**	**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**	**1 *U***	**1 *U***
WQ6	**WQ6 (Dup WQ16)**	**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**	**1 *U***	**1 *U***
	Sample Difference						3.1	1.3	NC	NC	NC	NC	40	0	NC	NC
	RPD						-6%	-3%	NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)						6%	3%	NC	NC	NC	NC	2%	0%	NC	NC
WQ8	**WQ8**	**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**	**1 *U***	**1 *U***
WQ8	**WQ20**	**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**	**1 *U***	**1 *U***
	Sample Difference						-0.4	2.1	NC	NC	NC	NC	20	40	NC	NC
	RPD						1%	-4%	NC	NC	NC	NC	0%	-1%	NC	NC
	abs (RPD)						1%	4%	NC	NC	NC	NC	0%	1%	NC	NC
WQ4	**WQ4**	**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**	**1 *U***	**1 *U***
WQ4	**WQ20**	**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**	**1 *U***	**1 *U***
	Sample Difference						0.5	-0.3	NC	NC	NC	NC	-1010	-240	NC	NC
	RPD						-2%	1%	NC	NC	NC	NC	12%	3%	NC	NC
	abs (RPD)						2%	1%	NC	NC	NC	NC	12%	3%	NC	NC
WQ13	**WQ13**	**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**	**0.5 *U***	**0.5 *U***
WQ13	**WQ20**	**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**	**0.5 *U***	**0.5 *U***
	Sample Difference						-20.7	0	NC	NC	NC	NC	100	0	NC	NC
	RPD						38%	0%	NC	NC	NC	NC	-3%	0%	NC	NC
	abs (RPD)						38%	0%	NC	NC	NC	NC	3%	0%	NC	NC
WQ4	**WQ4**	**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**	**0.5 *U***	**0.5 *U***
WQ4	**WQ20**	**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**	**0.5 *U***	**0.5 *U***
	Sample Difference						-3	-0.8	NC	NC	NC	NC	-50	20	NC	NC
	RPD						3%	1%	NC	NC	NC	NC	1%	-1%	NC	NC
	abs (RPD)						3%	1%	NC	NC	NC	NC	1%	1%	NC	NC
WQ12	**WQ12**	**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**	**0.5 *U***	**0.5 *U***
WQ12	**WQ20**	**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**	**0.5 *U***	**0.5 *U***
	Sample Difference						25	4.4	NC	NC	NC	NC	200	300	NC	NC
	RPD						-16%	-6%	NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)						16%	6%	NC	NC	NC	NC	1%	2%	NC	NC
WQ13	**WQ13**	**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**	**0.5 *U***	**0.5 *U***
WQ13	**WQ20**	**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**	**0.5 *U***	**0.5 *U***
	Sample Difference						-0.7	-0.2	NC	NC	NC	NC	-70	-110	NC	NC
	RPD						2%	1%	NC	NC	NC	NC	1%	2%	NC	NC
	abs (RPD)						2%	1%	NC	NC	NC	NC	1%	2%	NC	NC
WQ4	**WQ4**	**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**	**0.34 *U***	**0.33 *U***
WQ4	**WQ20**	**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**	**0.32 *U***	**0.57 *U***
	Sample Difference						-4.3	1.3	NC	NC	NC	NC	0	-110	NC	NC
	RPD						9%	-4%	NC	NC	NC	NC	0%	1%	NC	NC
	abs (RPD)						9%	4%	NC	NC	NC	NC	0%	1%	NC	NC
WQ7	**WQ7**	**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**	**0.24 *U***	**0.34 *U***
WQ7	**WQ20**	**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**	**0.19 *U***	**0.41 *U***
	Sample Difference						0.6	0	NC	NC	NC	NC	-470	340	NC	NC
	RPD						-3%	0%	NC	NC	NC	NC	7%	-5%	NC	NC
	abs (RPD)						3%	0%	NC	NC	NC	NC	7%	5%	NC	NC
WQ13	**WQ13**	**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**	**0.4 *U***	**0.43 *U***
WQ13	**WQ20**	**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**	**0.33 *U***	**0.41 *U***
	Sample Difference						NC	-0.2	NC	NC	NC	NC	-30	-160	NC	NC
	RPD						NC	1%	NC	NC	NC	NC	0%	2%	NC	NC
	abs (RPD)						NC	1%	NC	NC	NC	NC	0%	2%	NC	NC
WQ10	**WQ10**	**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**	**0.41 *U***	**0.28 *U***
WQ10	**WQ20**	**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**	**0.4 *U***	**0.44 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-200	20	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	5%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	1%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
WQ12	**WQ12**	**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**	**0.44 *U***	**0.39 *U***
WQ12	**WQ20**	**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**	**0.46 *U***	**0.4 *U***
	Sample Difference						2.1	0.6	NC	NC	NC	NC	250	130	NC	NC
	RPD						-2%	-1%	NC	NC	NC	NC	-5%	-2%	NC	NC
	abs (RPD)						2%	1%	NC	NC	NC	NC	5%	2%	NC	NC
WQ6	**WQ6**	**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**	**0.46 *U***	**0.45 *U***
WQ6	**WQ20**	**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**	**0.42 *U***	**0.38 *U***
	Sample Difference						5.5	4.4	NC	NC	NC	NC	60	-20	NC	NC
	RPD						-6%	-5%	NC	NC	NC	NC	-4%	1%	NC	NC
	abs (RPD)						6%	5%	NC	NC	NC	NC	4%	1%	NC	NC
WQ8	**WQ8**	**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**	**0.48 *U***	**0.49 *U***
WQ8	**WQ20**	**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**	**0.58 *U***	**0.63 *U***
	Sample Difference						0.1	3.1	NC	NC	NC	NC	-60	-90	NC	NC
	RPD						0%	-12%	NC	NC	NC	NC	2%	3%	NC	NC
	abs (RPD)						0%	12%	NC	NC	NC	NC	2%	3%	NC	NC
WQ6	**WQ6**	**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**	**0.37 *U***	**0.36 *U***
WQ6	**WQ20**	**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**	**0.52 *U***	**0.39 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-80	-110	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	4%	6%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	4%	6%	NC	NC
WQ13	**WQ13**	**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**	**0.49 *U***	**0.36 *U***
WQ13	**WQ20**	**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**	**0.51 *U***	**0.35 *U***
	Sample Difference						-33.6	-1.4	NC	NC	NC	NC	-110	50	NC	NC
	RPD						45%	7%	NC	NC	NC	NC	2%	-1%	NC	NC
	abs (RPD)						45%	7%	NC	NC	NC	NC	2%	1%	NC	NC
WQ13	**WQ13**	**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**	**0.66 *U***	**0.37 *U***
WQ13	**WQ20**	**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**	**0.79 *U***	**0.35 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	200	-140	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-5%	4%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	4%	NC	NC
WQ10	**WQ10**	**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**	**0.55 *U***	**0.48 *U***
WQ10	**WQ20**	**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**	**0.76 *U***	**0.45 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-40	70	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	2%	-3%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	2%	3%	NC	NC
WQ7	**WQ7**	**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**	**0.58 *U***	**0.45 *U***
WQ7	**WQ20**	**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**	**0.38 *U***	**0.4 *U***
	Sample Difference						-1	-0.1	NC	NC	NC	NC	-10	80	NC	NC
	RPD						4%	0%	NC	NC	NC	NC	0%	-3%	NC	NC
	abs (RPD)						4%	0%	NC	NC	NC	NC	0%	3%	NC	NC
WQ7	**WQ7**	**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**	**0.91 *U***	**0.23 *U***
WQ7	**WQ20**	**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**	**0.3 *U***	**0.43 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-30	0	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	1%	0%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	0%	NC	NC
WQ13	**WQ13**	**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**	**0.63 *U***	**0.53 *U***
WQ13	**WQ20**	**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**	**0.43 *U***	**0.63 *U***
	Sample Difference						NC	0.6	NC	NC	NC	NC	80	20	NC	NC
	RPD						NC	-1%	NC	NC	NC	NC	-2%	-1%	NC	NC
	abs (RPD)						NC	1%	NC	NC	NC	NC	2%	1%	NC	NC
WQ13	**WQ13**	**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**	**0.48 *U***	**0.55 *U***
WQ13	**WQ20**	**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**	**0.54 *U***	**0.52 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-80	-290	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	1%	5%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	5%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
WQ6	**WQ6**	**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**	--	--
WQ6	**WQ20**	**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	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-8%	-14%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	8%	14%	NC	NC
WQ13	**WQ13**	**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**	--	--
WQ13	**WQ20**	**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	NC	NC
	RPD						-4%	1%	NC	NC	NC	NC	5%	-4%	NC	NC
	abs (RPD)						4%	1%	NC	NC	NC	NC	5%	4%	NC	NC
WQ10	**WQ10**	**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**	--	--
WQ10	**WQ20**	**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	NC	NC
	RPD						-3%	-3%	NC	NC	NC	NC	10%	3%	NC	NC
	abs (RPD)						3%	3%	NC	NC	NC	NC	10%	3%	NC	NC
WQ4	**WQ4**	**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**	--	--
WQ4	**WQ20**	**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	NC	NC
	RPD						5%	1%	NC	NC	NC	NC	-3%	2%	NC	NC
	abs (RPD)						5%	1%	NC	NC	NC	NC	3%	2%	NC	NC
WQ4	**WQ4**	**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***	--	--
WQ4	**WQ20**	**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	NC	NC
	RPD						-2%	2%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						2%	2%	NC	NC	NC	NC	NC	NC	NC	NC
WQ10	**WQ10**	**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**	--	--
WQ10	**WQ20**	**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	NC	NC
	RPD						-3%	0%	NC	NC	NC	NC	-3%	2%	NC	NC
	abs (RPD)						3%	0%	NC	NC	NC	NC	3%	2%	NC	NC
WQ10	**WQ10**	**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**	--	--
WQ10	**WQ20**	**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	NC	NC
	RPD						4%	-1%	NC	NC	NC	NC	1%	0%	NC	NC
	abs (RPD)						4%	1%	NC	NC	NC	NC	1%	0%	NC	NC
WQ10	**WQ10**	**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***	--	--
WQ10	**WQ20**	**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***	**0.43 *U***	**0.32 *U***
	Sample Difference						-3.5	-2.2	NC	NC	NC	NC	NC	NC	NC	NC
	RPD						9%	6%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						9%	6%	NC	NC	NC	NC	NC	NC	NC	NC
WQ10	**WQ10**	**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**	**0.25 *UJ***	**0.26 *UJ***
WQ10	**WQ20**	**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**	**0.26 *UJ***	**0.36 *UJ***
	Sample Difference						1.3	0.2	NC	NC	NC	NC	120	210	NC	NC
	RPD						-4%	-1%	NC	NC	NC	NC	-1%	-3%	NC	NC
	abs (RPD)						4%	1%	NC	NC	NC	NC	1%	3%	NC	NC
WQ13	**WQ13**	**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***	**0.77 *U***	**0.49 *U***
WQ13	**WQ20**	**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***	**0.55 *U***	**0.29 *U***
	Sample Difference						-0.7	-0.3	NC	NC	NC	NC	NC	NC	NC	NC
	RPD						1%	1%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						1%	1%	NC	NC	NC	NC	NC	NC	NC	NC
WQ4	**WQ4**	**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**	**1.07 *U***	**0.3 *U***
WQ4	**WQ20**	**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**	**1.04 *U***	**0.58 *U***
	Sample Difference						-1	-44.5	NC	NC	NC	NC	30	30	NC	NC
	RPD						0%	54%	NC	NC	NC	NC	-1%	-1%	NC	NC
	abs (RPD)						0%	54%	NC	NC	NC	NC	1%	1%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
WQ10	**WQ10**	**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**	**0.49 *UJ***	**0.23 *U***
WQ10	**WQ20**	**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**	**0.8**	**0.35 *U***
	Sample Difference						-0.7	0.5	NC	NC	NC	NC	-210	50	NC	NC
	RPD						1%	-1%	NC	NC	NC	NC	6%	-1%	NC	NC
	abs (RPD)						1%	1%	NC	NC	NC	NC	6%	1%	NC	NC
WQ13	**WQ13**	**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**	--	--
WQ13	**WQ20**	**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	NC	NC
	RPD						-15%	2%	NC	NC	NC	NC	-1%	1%	NC	NC
	abs (RPD)						15%	2%	NC	NC	NC	NC	1%	1%	NC	NC
WQ13	**WQ13**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**29.8**	**26.5**	**0.07 *U***	**0.07 *U***	**0.008 *UJ***	**0.011 *UJ***	**3820**	**3870**	--	--
WQ13	**WQ20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**32**	**26.8**	**0.07 *U***	**0.07 *U***	**0.005 *UJ***	**0.01 *UJ***	**3850**	**3760**	--	--
	Sample Difference						2.2	0.3	NC	NC	NC	NC	30	-110	NC	NC
	RPD						-7%	-1%	NC	NC	NC	NC	-1%	3%	NC	NC
	abs (RPD)						7%	1%	NC	NC	NC	NC	1%	3%	NC	NC
WQ4	**WQ4**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**20.5**	**15.9**	**0.11 *UJ***	**0.17 *UJ***	**0.003 *U***	**0.014 *UJ***	**6560**	**6520**	**0.26**	**0.35**
WQ4	**WQ20**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**18**	**15.8**	**0.15 *UJ***	**0.18 *UJ***	**0.003 *U***	**0.003 *U***	**6800**	**6560**	**0.24**	**0.24**
	Sample Difference						-2.5	-0.1	NC	NC	NC	NC	240	40	-0.02	-0.11
	RPD						13%	1%	NC	NC	NC	NC	-4%	-1%	8%	37%
	abs (RPD)						13%	1%	NC	NC	NC	NC	4%	1%	8%	37%
WQ10	**WQ10**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:45**	**28.5 *J***	**26.8 *J***	**0.1 *U***	**0.1 *U***	**0.005 *U***	**0.005 *U***	**6710**	**6540**	--	--
WQ10	**WQ20**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:00**	**28.6 *J***	**26 *J***	**0.1 *U***	**0.1 *U***	**0.024**	**0.048 *J***	**6700**	**6470**	--	--
	Sample Difference						NC	NC	NC	NC	NC	NC	-10	-70	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	0%	1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	0%	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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended s

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

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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	**WQ6**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**540**	**560**	**0.02 *U***	**0.02 *U***
WQ6	**WQ6 (Dup WQ16)**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**570**	**570**	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	30	10	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-5%	-2%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	2%	NC	NC
WQ8	**WQ8**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**1.3**	**1.3**	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**690**	**690**	**0.02 *U***	**0.02 *U***
WQ8	**WQ20**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**1.3**	**1.4**	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**690**	**690**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	0.1	NC	NC	NC	NC	0	0	NC	NC
	RPD						0%	-7%	NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)						0%	7%	NC	NC	NC	NC	0%	0%	NC	NC
WQ4	**WQ4**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**1010**	**980**	**0.02 *U***	**0.02 *U***
WQ4	**WQ20**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**1 *U***	**1 *U***	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**970**	**970**	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-40	-10	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	4%	1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	4%	1%	NC	NC
WQ13	**WQ13**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**1.36**	**1.09**	**30 *U***	**30 *U***	**0.05**	**0.05 *U***	**430**	**450**	**0.05 *U***	**0.05 *U***
WQ13	**WQ20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**1.21**	**1.07**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***	**450**	**450**	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.15	-0.02	NC	NC	NC	NC	20	0	NC	NC
	RPD						12%	2%	NC	NC	NC	NC	-5%	0%	NC	NC
	abs (RPD)						12%	2%	NC	NC	NC	NC	5%	0%	NC	NC
WQ4	**WQ4**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**1.43**	**0.95**	**125**	**30 *U***	**0.05 *U***	**0.05 *U***	**510**	**480**	**0.05 *U***	**0.05 *U***
WQ4	**WQ20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**1.4**	**0.88**	**115**	**30 *U***	**0.05 *U***	**0.05 *U***	**490**	**470**	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.03	-0.07	-10	NC	NC	NC	-20	-10	NC	NC
	RPD						2%	8%	8%	NC	NC	NC	4%	2%	NC	NC
	abs (RPD)						2%	8%	8%	NC	NC	NC	4%	2%	NC	NC
WQ12	**WQ12**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**1.89**	**1.17**	**243**	**135**	**0.053**	**0.05 *U***	**1790**	**1770**	**0.01 *U***	**0.101**
WQ12	**WQ20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**2.19**	**1.25**	**274**	**147**	**0.062**	**0.05 *U***	**1850**	**1820**	**0.01 *U***	**0.01 *U***
	Sample Difference						0.3	0.08	31	12	0.009	NC	60	50	NC	NC
	RPD						-15%	-7%	-12%	-9%	-16%	NC	-3%	-3%	NC	NC
	abs (RPD)						15%	7%	12%	9%	16%	NC	3%	3%	NC	NC
WQ13	**WQ13**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**1.07**	**0.99**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***	**700**	**710**	**0.01 *U***	**0.01 *U***
WQ13	**WQ20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**1.08**	**0.95**	**30 *U***	**30 *U***	**0.05 *U***	**0.05 *U***	**700**	**700**	**0.01 *U***	**0.01 *U***
	Sample Difference						0.01	-0.04	NC	NC	NC	NC	0	-10	NC	NC
	RPD						-1%	4%	NC	NC	NC	NC	0%	1%	NC	NC
	abs (RPD)						1%	4%	NC	NC	NC	NC	0%	1%	NC	NC
WQ4	**WQ4**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.92**	**0.79**	**25**	**11 *J***	**0.014 *U***	**0.015 *U***	**949**	**951**	**0.03 *U***	**0.03 *U***
WQ4	**WQ20**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.93**	**0.82**	**29**	**16 *J***	**0.02 *U***	**0.031 *U***	**947**	**939**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.01	0.03	4	NC	NC	NC	-2	-12	NC	NC
	RPD						-1%	-4%	-15%	NC	NC	NC	0%	1%	NC	NC
	abs (RPD)						1%	4%	15%	NC	NC	NC	0%	1%	NC	NC
WQ7	**WQ7**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.44 *UJ***	**0.44**	**8.4 *U***	**3.6 *U***	**0.01 *UJ***	**0.006 *U***	**1030**	**911**	**0.03 *U***	**0.03 *U***
WQ7	**WQ20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.47 *UJ***	**1.09**	**3 *U***	**4.7 *U***	**0.005 *UJ***	**0.044**	**965**	**954**	**0.03 *U***	**0.03 *U***
	Sample Difference						NC	0.65	NC	NC	NC	NC	-65	43	NC	NC
	RPD						NC	-85%	NC	NC	NC	NC	7%	-5%	NC	NC
	abs (RPD)						NC	85%	NC	NC	NC	NC	7%	5%	NC	NC
WQ13	**WQ13**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**1.45**	**1.27 *J***	**64**	**28 *J***	**0.018 *U***	**0.009 *U***	**688**	**678**	**0.03 *U***	**0.03 *U***
WQ13	**WQ20**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**1.32**	**1.27 *J***	**43**	**32 *J***	**0.009 *U***	**0.008 *U***	**681**	**669**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.13	NC	-21	NC	NC	NC	-7	-9	NC	NC
	RPD						9%	NC	39%	NC	NC	NC	1%	1%	NC	NC
	abs (RPD)						9%	NC	39%	NC	NC	NC	1%	1%	NC	NC
WQ10	**WQ10**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**1.07**	**1**	**52.1**	**37.2**	**0.008 *UJ***	**0.003 *UJ***	**774**	**764**	**0.03 *U***	**0.03 *U***
WQ10	**WQ20**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**1.14**	**0.93**	**46.6**	**39.7**	**0.006 *UJ***	**0.003 *U***	**733**	**769**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.07	-0.07	-5.5	2.5	NC	NC	-41	5	NC	NC
	RPD						-6%	7%	11%	-7%	NC	NC	5%	-1%	NC	NC
	abs (RPD)						6%	7%	11%	7%	NC	NC	5%	1%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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	**WQ12**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.99**	**0.82**	**99.7**	**59.6 *U***	**0.017 *U***	**0.014 *U***	**703**	**762**	**0.03 *U***	**0.03 *U***
WQ12	**WQ20**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.99**	**0.85**	**107**	**60.9 *U***	**0.017 *U***	**0.021 *U***	**740**	**780**	**0.03 *U***	**0.03 *U***
	Sample Difference						0	0.03	7.3	NC	NC	NC	37	18	NC	NC
	RPD						0%	-4%	-7%	NC	NC	NC	-5%	-2%	NC	NC
	abs (RPD)						0%	4%	7%	NC	NC	NC	5%	2%	NC	NC
WQ6	**WQ6**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**1.09**	**1.13**	**43.4**	**25.1 *UJ***	**0.018 *J***	**0.007 *J***	**335**	**340**	**0.03 *U***	**0.03 *U***
WQ6	**WQ20**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**1.28**	**1.13**	**42.3**	**29.9**	**0.02 *J***	**0.006 *J***	**345**	**333**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.19	0	-1.1	NC	NC	NC	10	-7	NC	NC
	RPD						-16%	0%	3%	NC	NC	NC	-3%	2%	NC	NC
	abs (RPD)						16%	0%	3%	NC	NC	NC	3%	2%	NC	NC
WQ8	**WQ8**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.61**	**0.59**	**10.5 *UJ***	**3.8 *UJ***	**0.003 *U***	**0.003 *U***	**681**	**714**	**0.03 *U***	**0.03 *U***
WQ8	**WQ20**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.6**	**0.63**	**14 *UJ***	**11.6 *UJ***	**0.003 *U***	**0.003 *U***	**669**	**688**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.01	0.04	NC	NC	NC	NC	-12	-26	NC	NC
	RPD						2%	-7%	NC	NC	NC	NC	2%	4%	NC	NC
	abs (RPD)						2%	7%	NC	NC	NC	NC	2%	4%	NC	NC
WQ6	**WQ6**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.84 *J***	**0.7 *J***	**49.2**	**16.5 *J***	**0.016 *UJ***	**0.012 *UJ***	**451**	**445**	**0.03 *U***	**0.03 *U***
WQ6	**WQ20**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.83 *J***	**0.61 *J***	**46.2**	**17.7 *J***	**0.013 *UJ***	**0.008 *UJ***	**438**	**433**	**0.03 *U***	**0.03 *U***
	Sample Difference						NC	NC	-3	NC	NC	NC	-13	-12	NC	NC
	RPD						NC	NC	6%	NC	NC	NC	3%	3%	NC	NC
	abs (RPD)						NC	NC	6%	NC	NC	NC	3%	3%	NC	NC
WQ13	**WQ13**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**1.3**	**0.61**	**158**	**19.9 *UJ***	**0.03 *UJ***	**0.009 *U***	**940 *J***	**919 *J***	**0.03 *U***	**0.03 *U***
WQ13	**WQ20**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**1.13**	**0.66**	**126**	**19.9 *UJ***	**0.015 *UJ***	**0.009 *U***	**909 *J***	**906 *J***	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.17	0.05	-32	NC	NC	NC	NC	NC	NC	NC
	RPD						14%	-8%	23%	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						14%	8%	23%	NC	NC	NC	NC	NC	NC	NC
WQ13	**WQ13**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**1.17**	**0.91**	**60.4**	**13.8 *UJ***	**0.019 *J***	**0.029**	**569**	**581**	**0.03 *U***	**0.03 *U***
WQ13	**WQ20**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**1.17**	**0.85**	**69.2**	**15.2 *UJ***	**0.018 *J***	**0.003 *U***	**598**	**556**	**0.03 *U***	**0.03 *U***
	Sample Difference						0	-0.06	8.8	NC	NC	NC	29	-25	NC	NC
	RPD						0%	7%	-14%	NC	NC	NC	-5%	4%	NC	NC
	abs (RPD)						0%	7%	14%	NC	NC	NC	5%	4%	NC	NC
WQ10	**WQ10**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**2.33**	**0.94**	**293**	**21 *UJ***	**0.051**	**0.009 *U***	**659 *J***	**525 *J***	**0.03 *U***	**0.03 *U***
WQ10	**WQ20**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**2.37**	**0.79**	**279**	**21.3 *UJ***	**0.056**	**0.009 *U***	**638 *J***	**520 *J***	**0.03 *U***	**0.03 *U***
	Sample Difference						0.04	-0.15	-14	NC	0.005	NC	NC	NC	NC	NC
	RPD						-2%	17%	5%	NC	-9%	NC	NC	NC	NC	NC
	abs (RPD)						2%	17%	5%	NC	9%	NC	NC	NC	NC	NC
WQ7	**WQ7**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.4**	**0.42**	**10.3 *UJ***	**6.3 *UJ***	**0.003 *UJ***	**0.027 *UJ***	**621**	**616**	**0.03 *U***	**0.03 *U***
WQ7	**WQ20**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.36**	**0.33**	**7.3 *UJ***	**7.2 *UJ***	**0.003 *UJ***	**0.016 *UJ***	**626**	**621**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.04	-0.09	NC	NC	NC	NC	5	5	NC	NC
	RPD						11%	24%	NC	NC	NC	NC	-1%	-1%	NC	NC
	abs (RPD)						11%	24%	NC	NC	NC	NC	1%	1%	NC	NC
WQ7	**WQ7**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.79 *U***	**0.97**	**16.8 *J***	**6.8 *UJ***	**0.022 *U***	**0.018 *UJ***	**517**	**511**	**0.03 *UJ***	**0.03 *UJ***
WQ7	**WQ20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.79 *U***	**0.82**	**14.4 *J***	**9 *UJ***	**0.027 *U***	**0.009 *UJ***	**507**	**513**	**0.03 *UJ***	**0.03 *UJ***
	Sample Difference						NC	-0.15	NC	NC	NC	NC	-10	2	NC	NC
	RPD						NC	17%	NC	NC	NC	NC	2%	0%	NC	NC
	abs (RPD)						NC	17%	NC	NC	NC	NC	2%	0%	NC	NC
WQ13	**WQ13**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**1.84 *U***	**1.6 *U***	**39.4**	**24.5**	**0.026**	**0.008 *UJ***	**409**	**398**	**0.05 *U***	**0.05 *U***
WQ13	**WQ20**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**1.74 *U***	**1.65 *U***	**38.1**	**24.1**	**0.012 *J***	**0.01 *UJ***	**416**	**399**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	-1.3	-0.4	NC	NC	7	1	NC	NC
	RPD						NC	NC	3%	2%	NC	NC	-2%	0%	NC	NC
	abs (RPD)						NC	NC	3%	2%	NC	NC	2%	0%	NC	NC
WQ13	**WQ13**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.96**	**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	**WQ20**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**1.05**	**0.86**	**34.7 *UJ***	**16.1 *UJ***	**0.016 *J***	**0.006 *U***	**575 *R***	**559 *R***	**0.05 *U***	**0.05 *U***
	Sample Difference						0.09	-0.01	NC	NC	NC	NC	NC	NC	NC	NC
	RPD						-9%	1%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						9%	1%	NC	NC	NC	NC	NC	NC	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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	**WQ6**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**1.16**	**0.81 *U***	**58**	**8.5 *UJ***	**0.043 *UJ***	**0.01 *UJ***	**440**	**409**	**0.05 *U***	**0.05 *U***
WQ6	**WQ20**	**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***	**467**	**465**	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.3	NC	NC	NC	NC	NC	27	56	NC	NC
	RPD						30%	NC	NC	NC	NC	NC	-6%	-13%	NC	NC
	abs (RPD)						30%	NC	NC	NC	NC	NC	6%	13%	NC	NC
WQ13	**WQ13**	**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***	**773**	**741**	**0.05 *U***	**0.05 *U***
WQ13	**WQ20**	**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***	**732**	**751**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-41	10	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	5%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	1%	NC	NC
WQ10	**WQ10**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**1.16**	**1.11**	**32.3 *UJ***	**19 *UJ***	**0.014 *UJ***	**0.006 *UJ***	**489**	**471**	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**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***	**442**	**456**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.04	0.04	NC	NC	NC	NC	-47	-15	NC	NC
	RPD						-3%	-4%	NC	NC	NC	NC	10%	3%	NC	NC
	abs (RPD)						3%	4%	NC	NC	NC	NC	10%	3%	NC	NC
WQ4	**WQ4**	**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***	**802**	**801**	**0.02 *U***	**0.02 *U***
WQ4	**WQ20**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**1.62**	**0.94**	**82.2**	**15.4 *J***	**0.022**	**0.005 *U***	**821**	**795**	**0.02 *J***	**0.02 *U***
	Sample Difference						0.24	0.01	1	NC	NC	NC	19	-6	NC	NC
	RPD						-16%	-1%	-1%	NC	NC	NC	-2%	1%	NC	NC
	abs (RPD)						16%	1%	1%	NC	NC	NC	2%	1%	NC	NC
WQ4	**WQ4**	**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***	**805**	**815**	**0.02 *U***	**0.02 *U***
WQ4	**WQ20**	**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***	**839**	**795**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.03	-0.04	-1.8	NC	NC	NC	34	-20	NC	NC
	RPD						-3%	5%	2%	NC	NC	NC	-4%	2%	NC	NC
	abs (RPD)						3%	5%	2%	NC	NC	NC	4%	2%	NC	NC
WQ10	**WQ10**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1.07**	**0.89**	**61.7**	**26.9 *UJ***	**0.055**	**0.008 *J***	**1080**	**1090**	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1.08**	**0.89**	**62.6**	**24.9 *UJ***	**0.054**	**0.008 *J***	**1100**	**1080**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.01	0	0.9	NC	-0.001	NC	20	-10	NC	NC
	RPD						-1%	0%	-1%	NC	2%	NC	-2%	1%	NC	NC
	abs (RPD)						1%	0%	1%	NC	2%	NC	2%	1%	NC	NC
WQ10	**WQ10**	**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***	**562 *J***	**582 *J***	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**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***	**553 *J***	**576 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						0.01	NC	-11.7	NC	NC	NC	NC	NC	NC	NC
	RPD						-1%	NC	22%	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						1%	NC	22%	NC	NC	NC	NC	NC	NC	NC
WQ10	**WQ10**	**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***	**1090 *J***	**1090 *J***	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**K1004034**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.74 *J***	**0.7 *J***	**35.1**	**31.4**	**0.016 *UJ***	**0.015 *UJ***	**1040 *J***	**1120 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	-1.2	-4.7	NC	NC	NC	NC	NC	NC
	RPD						NC	NC	3%	14%	NC	NC	NC	NC	NC	NC
	abs (RPD)						NC	NC	3%	14%	NC	NC	NC	NC	NC	NC
WQ10	**WQ10**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.81**	**0.81**	**67.5 *UJ***	**57.4 *UJ***	**0.005 *UJ***	**0.016 *UJ***	**1360**	**1380**	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.85**	**0.79**	**69.1 *UJ***	**54.2 *UJ***	**0.008 *UJ***	**0.009 *UJ***	**1390**	**1380**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.04	-0.02	NC	NC	NC	NC	30	0	NC	NC
	RPD						-5%	3%	NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)						5%	3%	NC	NC	NC	NC	2%	0%	NC	NC
WQ13	**WQ13**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**1.35**	**1.04**	**70.6**	**19.9 *UJ***	**0.018 *J***	**0.005 *UJ***	**521**	**489**	**0.02 *U***	**0.02 *U***
WQ13	**WQ20**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**1.33**	**1.05**	**69.5**	**19.2 *UJ***	**0.016 *J***	**0.005 *UJ***	**531**	**505**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.02	0.01	-1.1	NC	NC	NC	10	16	NC	NC
	RPD						1%	-1%	2%	NC	NC	NC	-2%	-3%	NC	NC
	abs (RPD)						1%	1%	2%	NC	NC	NC	2%	3%	NC	NC
WQ4	**WQ4**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**15:15**	**3.66**	**0.91**	**568**	**20.9 *UJ***	**0.075**	**0.009 *J***	**707**	**495**	**0.02 *U***	**0.02 *U***
WQ4	**WQ20**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**13:00**	**3.63**	**0.92**	**587**	**22.2 *UJ***	**0.08**	**0.009 *J***	**728**	**504**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.03	0.01	19	NC	0.005	NC	21	9	NC	NC
	RPD						1%	-1%	-3%	NC	-6%	NC	-3%	-2%	NC	NC
	abs (RPD)						1%	1%	3%	NC	6%	NC	3%	2%	NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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	**WQ10**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.93**	**0.79 *U***	**46.4 *UJ***	**20.7 *UJ***	**0.013 *UJ***	**0.009 *UJ***	**602**	**600**	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.9**	**0.8 *U***	**43.1 *UJ***	**22.4 *UJ***	**0.009 *UJ***	**0.008 *UJ***	**586**	**599**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.03	NC	NC	NC	NC	NC	-16	-1	NC	NC
	RPD						3%	NC	NC	NC	NC	NC	3%	0%	NC	NC
	abs (RPD)						3%	NC	NC	NC	NC	NC	3%	0%	NC	NC
WQ13	**WQ13**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.95**	**0.74**	**47.4**	**21.4**	**0.012 *UJ***	**0.009 *J***	**684**	**682**	**0.02 *U***	**0.02 *U***
WQ13	**WQ20**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.98**	**0.74**	**50.9**	**22.4**	**0.016 *UJ***	**0.005 *U***	**688**	**671**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.03	0	3.5	1	NC	NC	4	-11	NC	NC
	RPD						-3%	0%	-7%	-5%	NC	NC	-1%	2%	NC	NC
	abs (RPD)						3%	0%	7%	5%	NC	NC	1%	2%	NC	NC
WQ13	**WQ13**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**0.8**	**0.77**	**22.4 *U***	**13.7 *UJ***	**0.012 *UJ***	**0.013 *UJ***	**594**	**606**	**0.02 *U***	**0.02 *U***
WQ13	**WQ20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**0.8**	**0.77**	**21.6 *U***	**14 *UJ***	**0.006 *UJ***	**0.009 *UJ***	**598**	**592**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	0	NC	NC	NC	NC	4	-14	NC	NC
	RPD						0%	0%	NC	NC	NC	NC	-1%	2%	NC	NC
	abs (RPD)						0%	0%	NC	NC	NC	NC	1%	2%	NC	NC
WQ4	**WQ4**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.39**	**0.42 *J***	**9.1 *UJ***	**7.3 *UJ***	**0.005 *U***	**0.026**	**936**	**930**	**0.02 *U***	**0.02 *U***
WQ4	**WQ20**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.43**	**0.39 *J***	**7.2 *UJ***	**8.3 *UJ***	**0.005 *UJ***	**0.005 *UJ***	**943**	**951**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.04	NC	NC	NC	NC	NC	7	21	NC	NC
	RPD						-10%	NC	NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)						10%	NC	NC	NC	NC	NC	1%	2%	NC	NC
WQ10	**WQ10**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:45**	**0.6**	**0.56 *J***	**56.3**	**35.2**	**0.007 *J***	**0.005 *U***	**935**	**915**	**0.02 *U***	**0.02 *U***
WQ10	**WQ20**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:00**	**0.6**	**0.65 *J***	**58.6**	**36.9**	**0.031 *J***	**0.067 *J***	**944**	**916**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	NC	2.3	1.7	NC	NC	9	1	NC	NC
	RPD						0%	NC	-4%	-5%	NC	NC	-1%	0%	NC	NC
	abs (RPD)						0%	NC	4%	5%	NC	NC	1%	0%	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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended s

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

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
WQ6	**WQ6**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2700**	**2800**
WQ6	**WQ6 (Dup WQ16)**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2600**	**2700**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-100	-100
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	4%	4%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	4%	4%
WQ8	**WQ8**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2000 *U***	**2000**
WQ8	**WQ20**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**2000**	**2000**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	NC	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	NC	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	NC	0%
WQ4	**WQ4**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3600**	**3300**
WQ4	**WQ20**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3200**	**3300**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-400	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	12%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	12%	0%
WQ13	**WQ13**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2700**	**2800**
WQ13	**WQ20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2700**	**2800**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	0	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
WQ4	**WQ4**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2200**	**2200**
WQ4	**WQ20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2200**	**2300**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	0	100
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	0%	-4%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	0%	4%
WQ12	**WQ12**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3900**	**3900**
WQ12	**WQ20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3900**	**3900**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	0	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
WQ13	**WQ13**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2000 *U***	**2000 *U***
WQ13	**WQ20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**2000 *U***	**2000 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
WQ4	**WQ4**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.42 *U***	**0.46**	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *J***	**0.009 *U***	**0.017 *U***	**2810**	**2860**
WQ4	**WQ20**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**0.48**	**0.6**	**900 *U***	**900 *U***	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**2870**	**2870**
	Sample Difference						NC	0.14	NC	NC	NC	NC	NC	NC	60	10
	RPD						NC	-26%	NC	NC	NC	NC	NC	NC	-2%	0%
	abs (RPD)						NC	26%	NC	NC	NC	NC	NC	NC	2%	0%
WQ7	**WQ7**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**1.42 *UJ***	**1.32 *J***	**900 *U***	**900 *U***	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.009 *U***	**2760**	**2460**
WQ7	**WQ20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**1.5 *UJ***	**1.38 *J***	**900 *U***	**900 *U***	**0.5 *U***	**0.3 *U***	**0.013 *U***	**0.009 *U***	**2570**	**2550**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-190	90
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	7%	-4%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	7%	4%
WQ13	**WQ13**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.22**	**0.16 *J***	**1630 *U***	**1070 *U***	**0.6 *U***	**0.2 *U***	**0.005 *U***	**0.003 *U***	**2410**	**2380**
WQ13	**WQ20**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**0.2 *J***	**0.17 *J***	**1270 *U***	**948 *U***	**0.6 *U***	**0.2 *U***	**0.005 *U***	**0.008 *U***	**2420**	**2380**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	10	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	0%	0%
WQ10	**WQ10**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.31**	**0.38 *UJ***	**900 *U***	**900 *U***	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**3310**	**3280**
WQ10	**WQ20**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**0.17 *J***	**0.23 *UJ***	**900 *U***	**900 *U***	**0.3 *J***	**0.2 *J***	**0.009 *U***	**0.009 *U***	**3140**	**3280**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-170	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	5%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	5%	0%

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
WQ12	**WQ12**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.17 *U***	**0.3 *U***	**900 *U***	**900 *U***	**0.2 *J***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2980**	**3060**
WQ12	**WQ20**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**0.21 *U***	**0.31 *U***	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *J***	**0.009 *U***	**0.009 *U***	**3110**	**3150**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	130	90
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-4%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	4%	3%
WQ6	**WQ6**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.16 *J***	**0.13 *UJ***	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**1840**	**1870**
WQ6	**WQ20**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**0.12 *J***	**0.13 *UJ***	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**1880**	**1840**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	40	-30
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-2%	2%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	2%
WQ8	**WQ8**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.3**	**0.27**	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2770**	**2760**
WQ8	**WQ20**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**0.32**	**0.3**	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2750**	**2690**
	Sample Difference						0.02	0.03	NC	NC	NC	NC	NC	NC	-20	-70
	RPD						-6%	-11%	NC	NC	NC	NC	NC	NC	1%	3%
	abs (RPD)						6%	11%	NC	NC	NC	NC	NC	NC	1%	3%
WQ6	**WQ6**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.15 *UJ***	**0.13 *UJ***	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.016 *UJ***	**0.018 *UJ***	**2630**	**2600**
WQ6	**WQ20**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**0.17 *UJ***	**0.15 *UJ***	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.009 *U***	**0.009 *U***	**2510**	**2550**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-120	-50
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	5%	2%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	5%	2%
WQ13	**WQ13**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.73**	**0.21 *UJ***	**240 *UJ***	**160 *UJ***	**0.3 *J***	**0.4 *J***	**0.009 *J***	**0.01 *J***	**3870**	**3990**
WQ13	**WQ20**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**0.98**	**0.18 *UJ***	**216 *UJ***	**151 *UJ***	**0.3 *J***	**0.4 *U***	**0.009 *U***	**0.007 *J***	**3760**	**4010**
	Sample Difference						0.25	NC	NC	NC	NC	NC	NC	NC	-110	20
	RPD						-29%	NC	NC	NC	NC	NC	NC	NC	3%	-1%
	abs (RPD)						29%	NC	NC	NC	NC	NC	NC	NC	3%	1%
WQ13	**WQ13**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**1.04**	**0.25 *UJ***	**900 *U***	**900 *U***	**0.4 *U***	**0.2 *U***	**0.005 *UJ***	**0.009 *UJ***	**3960**	**4180**
WQ13	**WQ20**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**0.95**	**0.24 *UJ***	**900 *U***	**900 *U***	**0.5 *J***	**0.2 *U***	**0.005 *UJ***	**0.009 *UJ***	**4140**	**4010**
	Sample Difference						-0.09	NC	NC	NC	NC	NC	NC	NC	180	-170
	RPD						9%	NC	NC	NC	NC	NC	NC	NC	-4%	4%
	abs (RPD)						9%	NC	NC	NC	NC	NC	NC	NC	4%	4%
WQ10	**WQ10**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.31**	**0.24**	**232 *J***	**209 *J***	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.005 *UJ***	**3590**	**3470**
WQ10	**WQ20**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**0.31**	**0.21**	**226 *J***	**230 *J***	**0.4 *U***	**0.4 *U***	**0.023 *UJ***	**0.019 *UJ***	**3500**	**3540**
	Sample Difference						0	-0.03	NC	NC	NC	NC	NC	NC	-90	70
	RPD						0%	13%	NC	NC	NC	NC	NC	NC	3%	-2%
	abs (RPD)						0%	13%	NC	NC	NC	NC	NC	NC	3%	2%
WQ7	**WQ7**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.18 *UJ***	**0.2 *UJ***	**188 *J***	**175 *UJ***	**0.2 *U***	**0.2 *U***	**0.009 *R***	**0.099 *R***	**3940**	**3830**
WQ7	**WQ20**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.15 *UJ***	**0.17 *UJ***	**208 *J***	**203 *UJ***	**0.2 *U***	**0.2 *U***	**0.009 *R***	**0.009 *R***	**3980**	**3890**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	40	60
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	-2%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	2%
WQ7	**WQ7**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.35**	**0.2 *UJ***	**156 *J***	**151 *J***	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.005 *UJ***	**3200**	**3170**
WQ7	**WQ20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**0.19 *J***	**0.23 *UJ***	**192 *J***	**138 *J***	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.01 *UJ***	**3130**	**3150**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-70	-20
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	2%	1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	1%
WQ13	**WQ13**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.27 *UJ***	**0.04 *UJ***	**133 *J***	**113 *J***	**0.5 *U***	**0.5 *U***	**0.009 *UJ***	**0.009 *UJ***	**2090**	**2070**
WQ13	**WQ20**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**0.07 *UJ***	**0.04 *UJ***	**133 *J***	**107 *J***	**0.5 *U***	**0.5 *U***	**0.009 *UJ***	**0.009 *UJ***	**2130**	**2070**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	40	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-2%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
WQ13	**WQ13**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.29 *UJ***	**0.29 *UJ***	**100 *U***	**100 *U***	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2240**	**2190**
WQ13	**WQ20**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**0.29 *UJ***	**0.26 *UJ***	**100 *U***	**100 *U***	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2160**	**2160**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-80	-30
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	4%	1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	4%	1%

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
WQ6	**WQ6**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**0.04 *UJ***	**0.04 *UJ***	**115 *UJ***	**52 *UJ***	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**1730**	**1690**
WQ6	**WQ20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**0.04 *UJ***	**0.04 *UJ***	**66 *UJ***	**60 *UJ***	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**1860**	**1900**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	130	210
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-7%	-12%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	7%	12%
WQ13	**WQ13**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**10:57**	**0.24 *U***	**0.32 *UJ***	**174 *J***	**150 *J***	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.013 *UJ***	**2870**	**2730**
WQ13	**WQ20**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**09:00**	**0.2 *J***	**0.37 *UJ***	**152 *J***	**146 *J***	**0.4 *U***	**0.4 *U***	**0.009 *U***	**0.009 *U***	**2730**	**2860**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-140	130
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	5%	-5%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	5%	5%
WQ10	**WQ10**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**0.27**	**0.12 *J***	**160 *J***	**148 *J***	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**2250**	**2160**
WQ10	**WQ20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**0.13 *J***	**0.11 *J***	**116 *J***	**135 *J***	**0.4 *U***	**0.4 *U***	**0.009 *UJ***	**0.009 *UJ***	**1980**	**2060**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-270	-100
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	13%	5%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	13%	5%
WQ4	**WQ4**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**0.3 *J***	**0.29 *UJ***	**234 *J***	**281 *J***	**0.3 *U***	**0.3 *U***	**0.031 *UJ***	**0.004 *UJ***	**2400**	**2510**
WQ4	**WQ20**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**0.25 *J***	**0.27 *UJ***	**243 *J***	**265 *J***	**0.3 *U***	**0.3 *U***	**0.005 *UJ***	**0.004 *UJ***	**2460**	**2450**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	60	-60
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-2%	2%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	2%
WQ4	**WQ4**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**0.23**	**0.25**	**243 *J***	**270 *J***	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2610**	**2750**
WQ4	**WQ20**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**0.19 *J***	**0.23**	**264 *J***	**253 *J***	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2750**	**2610**
	Sample Difference						NC	-0.02	NC	NC	NC	NC	NC	NC	140	-140
	RPD						NC	8%	NC	NC	NC	NC	NC	NC	-5%	5%
	abs (RPD)						NC	8%	NC	NC	NC	NC	NC	NC	5%	5%
WQ10	**WQ10**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**0.16 *UJ***	**0.18 *J***	**284 *J***	**258 *J***	**0.3 *U***	**0.3 *U***	**0.053**	**0.004 *UJ***	**2980**	**2860**
WQ10	**WQ20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**0.15 *UJ***	**0.15 *J***	**275 *J***	**260 *J***	**0.3 *U***	**0.3 *U***	**0.012 *UJ***	**0.004 *UJ***	**3010**	**2940**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	30	80
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	3%
WQ10	**WQ10**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**0.21 *UJ***	**0.2 *UJ***	**200 *J***	**185 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3410**	**3560**
WQ10	**WQ20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**0.23 *UJ***	**0.21 *UJ***	**191 *J***	**175 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3360**	**3550**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-50	-10
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	1%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	0%
WQ10	**WQ10**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.17 *J***	**0.25**	**293 *J***	**299 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5500**	**5550**
WQ10	**WQ20**	**K1004034**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.17 *J***	**0.23**	**282 *J***	**338 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.005 *UJ***	**5310**	**5640**
	Sample Difference						NC	-0.02	NC	NC	NC	NC	NC	NC	-190	90
	RPD						NC	8%	NC	NC	NC	NC	NC	NC	4%	-2%
	abs (RPD)						NC	8%	NC	NC	NC	NC	NC	NC	4%	2%
WQ10	**WQ10**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.37**	**0.5**	**278 *J***	**269 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5100**	**5190**
WQ10	**WQ20**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.43**	**0.52**	**268 *J***	**255 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**5120**	**5130**
	Sample Difference						0.06	0.02	NC	NC	NC	NC	NC	NC	20	-60
	RPD						-15%	-4%	NC	NC	NC	NC	NC	NC	0%	1%
	abs (RPD)						15%	4%	NC	NC	NC	NC	NC	NC	0%	1%
WQ13	**WQ13**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.39 *U***	**0.29 *U***	**200 *J***	**151 *J***	**0.4 *J***	**0.4 *J***	**0.028**	**0.007 *J***	**3730**	**3650**
WQ13	**WQ20**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**0.43 *U***	**0.16 *U***	**194 *J***	**200 *J***	**0.3 *U***	**0.3 *U***	**0.022**	**0.01 *J***	**3830**	**3750**
	Sample Difference						NC	NC	NC	NC	NC	NC	-0.006	NC	100	100
	RPD						NC	NC	NC	NC	NC	NC	24%	NC	-3%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	24%	NC	3%	3%
WQ4	**WQ4**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**15:15**	**0.34 *UJ***	**0.13 *J***	**198 *J***	**190 *J***	**0.3 *U***	**0.3 *U***	**0.008 *UJ***	**0.004 *UJ***	**2930**	**2870**
WQ4	**WQ20**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**13:00**	**0.33 *UJ***	**0.19 *J***	**205 *J***	**170 *J***	**0.3 *U***	**0.3 *U***	**0.015 *UJ***	**0.004 *UJ***	**2920**	**2910**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-10	40
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	0%	-1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	0%	1%

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
WQ10	**WQ10**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.34 *UJ***	**0.19 *U***	**220 *UJ***	**208 *UJ***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3280**	**3160**
WQ10	**WQ20**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.41 *UJ***	**0.21 *U***	**187 *UJ***	**211 *UJ***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3310**	**3280**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	30	120
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	-4%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	4%
WQ13	**WQ13**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.27**	**0.3**	**82.7 *UJ***	**84 *UJ***	**0.3 *U***	**0.3 *J***	**0.004 *U***	**0.004 *U***	**3290**	**3290**
WQ13	**WQ20**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**0.24**	**0.25 *U***	**98.9 *UJ***	**84.5 *UJ***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**3300**	**3230**
	Sample Difference						-0.03	NC	NC	NC	NC	NC	NC	NC	10	-60
	RPD						12%	NC	NC	NC	NC	NC	NC	NC	0%	2%
	abs (RPD)						12%	NC	NC	NC	NC	NC	NC	NC	0%	2%
WQ13	**WQ13**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**0.25**	**0.25**	**147 *J***	**140 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**3860**	**3780**
WQ13	**WQ20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**0.22**	**0.24**	**156 *J***	**157 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**3840**	**3700**
	Sample Difference						-0.03	-0.01	NC	NC	NC	NC	NC	NC	-20	-80
	RPD						13%	4%	NC	NC	NC	NC	NC	NC	1%	2%
	abs (RPD)						13%	4%	NC	NC	NC	NC	NC	NC	1%	2%
WQ4	**WQ4**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.31**	**0.55**	**211 *J***	**210 *J***	**0.3 *U***	**0.3 *U***	**0.009 *UJ***	**0.004 *U***	**4240**	**4240**
WQ4	**WQ20**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.28**	**0.29**	**241 *J***	**192 *J***	**0.3 *U***	**0.3 *J***	**0.004 *U***	**0.006 *UJ***	**4310**	**4360**
	Sample Difference						-0.03	-0.26	NC	NC	NC	NC	NC	NC	70	120
	RPD						10%	62%	NC	NC	NC	NC	NC	NC	-2%	-3%
	abs (RPD)						10%	62%	NC	NC	NC	NC	NC	NC	2%	3%
WQ10	**WQ10**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:45**	**0.16 *UJ***	**0.12 *UJ***	**220 *J***	**204 *J***	**0.2 *U***	**0.2 *U***	**0.033 *J***	**0.03 *J***	**3480**	**3420**
WQ10	**WQ20**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:00**	**0.16 *UJ***	**0.27 *J***	**258 *J***	**268 *J***	**0.2 *U***	**0.2 *U***	**0.094 *J***	**0.172 *J***	**3530**	**3470**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	50	50
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	-1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	1%

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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended s

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

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ6	**WQ6**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:44**	**5 *U***	**5 *U***
WQ6	**WQ6 (Dup WQ16)**	**X5977**	**Knight Piesold**	**May 2006 II**	**5/16/2006**	**09:45**	**5 *U***	**5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ8	**WQ8**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**14:40**	**5 *U***	**5 *U***
WQ8	**WQ20**	**Z2004**	**Knight Piesold**	**August 2006 II**	**8/29/2006**	**15:00**	**5 *U***	**5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ4	**WQ4**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**08:41**	**5 *U***	**5 *U***
WQ4	**WQ20**	**L482967**	**Knight Piesold**	**February 2007**	**2/26/2007**	**09:00**	**5 *U***	**5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**08:52**	**3 *U***	**1.7**
WQ13	**WQ20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**17:00**	**1.4**	**1.2**
	Sample Difference						NC	-0.5
	RPD						NC	34%
	abs (RPD)						NC	34%
WQ4	**WQ4**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:05**	**1 *U***	**1 *U***
WQ4	**WQ20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**14:10**	**1 *U***	**1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ12	**WQ12**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:07**	**1 *U***	**1.1**
WQ12	**WQ20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**18:30**	**1 *U***	**1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:05**	**1**	**1.3**
WQ13	**WQ20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/1/2007**	**13:45**	**1.1**	**1.7**
	Sample Difference						0.1	0.4
	RPD						-10%	-27%
	abs (RPD)						10%	27%
WQ4	**WQ4**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**2.67 *U***	**16.7 *J***
WQ4	**WQ20**	**K0706569**	**Integral**	**July 2007 II**	**7/24/2007**	**14:12**	**2.95 *U***	**3.25 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ7	**WQ7**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**0.62 *U***	**1.78 *U***
WQ7	**WQ20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**14:50**	**1.82 *U***	**2.69 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**5.1 *U***	**10.9 *U***
WQ13	**WQ20**	**K0707782**	**Integral**	**August 2007 II**	**8/27/2007**	**09:10**	**3.4 *U***	**9.18 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**2.8 *U***	**6.3 *U***
WQ10	**WQ20**	**K0708240**	**Integral**	**September 2007 I**	**9/11/2007**	**11:50**	**2.5 *U***	**4.8 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ12	**WQ12**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**3.13 *U***	**2.37 *U***
WQ12	**WQ20**	**K0709126**	**Integral**	**September 2007 II**	**10/1/2007**	**09:15**	**5.33 *U***	**3.42 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ6	**WQ6**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**2.67 *U***	**4.67 *U***
WQ6	**WQ20**	**K0709804**	**Integral**	**October 2007**	**10/17/2007**	**09:40**	**4.72 *U***	**5.71 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ8	**WQ8**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**3.49 *U***	**2.59 *U***
WQ8	**WQ20**	**K0710773**	**Integral**	**November 2007**	**11/13/2007**	**13:00**	**1.77 *U***	**11.5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ6	**WQ6**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**8.66 *J***	**11.2 *J***
WQ6	**WQ20**	**K0711891**	**Integral**	**December 2007 I**	**12/15/2007**	**13:20**	**4.44 *U***	**4.3 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**7.9 *U***	**9.1 *U***
WQ13	**WQ20**	**K0800335**	**Integral**	**January 2008**	**1/9/2008**	**10:40**	**7.7 *U***	**5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**4 *U***	**4.08 *U***
WQ13	**WQ20**	**K0801400**	**Integral**	**Februrary 2008**	**2/14/2008**	**15:50**	**1.5 *U***	**4.29 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**3.8 *U***	**6 *U***
WQ10	**WQ20**	**K0802328**	**Integral**	**March 2008**	**3/15/2008**	**11:00**	**2.6 *U***	**5.9 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ7	**WQ7**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**0.63 *U***	**1.68 *U***
WQ7	**WQ20**	**K0803239**	**Integral**	**April 2008**	**4/14/2008**	**17:00**	**1.33 *U***	**4.38 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ7	**WQ7**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**4.6 *U***	**3.3 *U***
WQ7	**WQ20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**10:30**	**15.9 *U***	**1.9 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**9.2 *U***	**1.9 *U***
WQ13	**WQ20**	**K0805877**	**Integral**	**June 2008**	**6/27/2008**	**8:50**	**4.6 *U***	**6.9 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**1.5 *U***	**6.2 *U***
WQ13	**WQ20**	**K0806880**	**Integral**	**July 2008**	**7/25/2008**	**8:00**	**6.1 *U***	**2 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ6	**WQ6**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**1.57 *U***	**0.68 *U***
WQ6	**WQ20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**10:40**	**2 *U***	**0.84 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**10:57**	**7.25 *U***	**9.06 *J***
WQ13	**WQ20**	**K0902142**	**Integral**	**March 2009**	**3/8/2009**	**09:00**	**3.82 *U***	**10.9 *J***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**1.6 *U***	**2.29 *U***
WQ10	**WQ20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**14:30**	**2.2 *U***	**1.65 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ4	**WQ4**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**2.96 *U***	**1.98 *U***
WQ4	**WQ20**	**K0908299**	**Integral**	**September 2009 I**	**9/5/2009**	**11:25**	**4.4 *U***	**0.62 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ4	**WQ4**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**1 *U***	**0.6 *U***
WQ4	**WQ20**	**K0908619**	**Integral**	**September 2009 II**	**9/12/2009**	**16:25**	**4.7 *U***	**0.5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1.18 *U***	**0.86 *UJ***
WQ10	**WQ20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**12:40**	**1.27 *UJ***	**0.95 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**0.85 *U***	**1.09 *U***
WQ10	**WQ20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**14:30**	**2.48 *U***	**1.5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**0.75 *U***	**1.22 *U***
WQ10	**WQ20**	**K1004034**	**Integral**	**April 2010**	**4/22/2010**	**11:00**	**1.01 *U***	**1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**0.63 *U***	**0.74 *U***
WQ10	**WQ20**	**K1008752**	**Integral**	**August 2010**	**8/10/2010**	**13:30**	**3.31 *U***	**1.44 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**3.4 *U***	**1.9 *U***
WQ13	**WQ20**	**K1011737**	**Integral**	**October 2010**	**10/18/2010**	**16:50**	**1.4 *U***	**1.2 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ4	**WQ4**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**15:15**	**1.22 *U***	**0.42 *UJ***
WQ4	**WQ20**	**K1100726**	**Integral**	**January 2011**	**1/19/2011**	**13:00**	**1.12 *U***	**0.45 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4a. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statio

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ10	**WQ10**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.4 *U***	**0.28 *U***
WQ10	**WQ20**	**K1103545**	**Integral**	**April 2011**	**4/20/2011**	**16:10**	**0.31 *U***	**0.26 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**1.16 *UJ***	**1.08 *U***
WQ13	**WQ20**	**K1112358**	**Integral**	**December 2011**	**12/21/2011**	**9:10**	**7.07 *UJ***	**1.03 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ13	**WQ13**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**1.02 *U***	**1.15 *U***
WQ13	**WQ20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**8:30**	**1.17 *U***	**1.16 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ4	**WQ4**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.45 *UJ***	**1.27 *U***
WQ4	**WQ20**	**K1203282**	**Integral**	**April 2012**	**4/8/2012**	**10:20**	**0.44 *UJ***	**0.3 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ10	**WQ10**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:45**	**0.4 *UJ***	**0.4 *UJ***
WQ10	**WQ20**	**K1210890**	**Integral**	**October 2012**	**10/27/2012**	**15:00**	**0.5 *U***	**0.6 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended s

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

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Groundwater

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW4	**MW4**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**102**	**3.28**	**175**	**3.4**	**3.4**	**2.5 *U***	**0.0065**	--	**0.025 *U***	**0.0076**
MW4	**MW20**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**101**	**3.59**	**165**	**2.1**	**3.4**	**2.5 *U***	**0.008**	--	**0.025 *U***	**0.0108**
	Sample Difference						-1	0.31	-10	-1.3	0	NC	0.0015	NC	NC	0.0032
	RPD						1%	-9%	6%	47%	0%	NC	-21%	NC	NC	-35%
	abs (RPD)						1%	9%	6%	47%	0%	NC	21%	NC	NC	35%
MW7	**MW7**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**61**	**22**	**32.5**	**23.8**	**9.59**	**2.1**	**0.216**	--	**0.005 *U***	**0.001 *U***
MW7	**MW20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**60**	**22.1**	**43.5**	**23.7**	**9.53**	**1.46**	**0.186**	--	**0.005 *U***	**0.001 *U***
	Sample Difference						-1	0.1	11	-0.1	-0.06	-0.64	-0.03	NC	NC	NC
	RPD						2%	0%	-29%	0%	1%	36%	15%	NC	NC	NC
	abs (RPD)						2%	0%	29%	0%	1%	36%	15%	NC	NC	NC
MW3	**MW3**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**113**	**5.03**	**444**	**9.9**	**6.2**	**5 *U***	**0.0069**	--	**0.05 *U***	**0.01 *U***
MW3	**MW20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**149**	**4.54**	**286**	**7.9**	**5.9**	**5 *U***	**0.0072**	--	**0.051**	**0.016**
	Sample Difference						36	-0.49	-158	-2	-0.3	NC	0.0003	NC	NC	NC
	RPD						-27%	10%	43%	22%	5%	NC	-4%	NC	NC	NC
	abs (RPD)						27%	10%	43%	22%	5%	NC	4%	NC	NC	NC
MW1	**MW1**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**85**	**51.2**	**3 *U***	**45.6**	**4.9**	**3.97**	**0.02 *U***	--	**0.005 *U***	**0.001 *U***
MW1	**MW20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**81**	**50.7**	**5.3**	**45.4**	**4.92**	**3.87**	**0.027**	--	**0.005 *U***	**0.001 *U***
	Sample Difference						-4	-0.5	NC	-0.2	0.02	-0.1	NC	NC	NC	NC
	RPD						5%	1%	NC	0%	0%	3%	NC	NC	NC	NC
	abs (RPD)						5%	1%	NC	0%	0%	3%	NC	NC	NC	NC
MW9	**MW9**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**94**	**71.6**	**53.1**	**77.7**	**5.36**	**2.15**	**0.0078**	--	**0.0172**	**0.001 *U***
MW9	**MW20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**91**	**70.3**	**12.6**	**74.7**	**5.36**	**1.97**	**0.0066**	--	**0.013**	**0.001 *U***
	Sample Difference						-3	-1.3	-40.5	-3	0	-0.18	-0.0012	NC	-0.0042	NC
	RPD						3%	2%	123%	4%	0%	9%	17%	NC	28%	NC
	abs (RPD)						3%	2%	123%	4%	0%	9%	17%	NC	28%	NC
MW8	**MW8**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**96**	**40**	**5 *U***	**43**	**5**	**1.7**	**0.05 *U***	**0.06**	--	--
MW8	**MW20**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**66**	**44**	**5 *U***	**42**	**5**	**1.7**	**0.03 *U***	**0.012 *J***	--	--
	Sample Difference						-30	4	NC	-1	0	0	NC	NC	NC	NC
	RPD						37%	-10%	NC	2%	0%	0%	NC	NC	NC	NC
	abs (RPD)						37%	10%	NC	2%	0%	0%	NC	NC	NC	NC
MW1	**MW1**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**75**	**49**	**5 *U***	**46**	**3.7**	**8.2**	**0.028 *J***	**0.039 *J***	--	--
MW1	**MW20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**84**	**49**	**20**	**44**	**3.6**	**7.6**	**0.032 *J***	**0.033 *J***	--	--
	Sample Difference						9	0	NC	-2	-0.1	-0.6	NC	NC	NC	NC
	RPD						-11%	0%	NC	4%	3%	8%	NC	NC	NC	NC
	abs (RPD)						11%	0%	NC	4%	3%	8%	NC	NC	NC	NC
MW8	**MW8**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**71**	**47**	**5 *U***	**45**	**5.5**	**1.6**	**0.03 *UJ***	**0.006 *J***	--	--
MW8	**MW20**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**87**	**48**	**5 *U***	**43**	**5.6**	**1.6**	**0.01 *UJ***	**0.006 *U***	--	--
	Sample Difference						16	1	NC	-2	0.1	0	NC	NC	NC	NC
	RPD						-20%	-2%	NC	5%	-2%	0%	NC	NC	NC	NC
	abs (RPD)						20%	2%	NC	5%	2%	0%	NC	NC	NC	NC
MW7	**MW7**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**55**	**41**	**5 *U***	**36**	**2**	**0.091 *UJ***	**0.3**	**0.031 *J***	--	--
MW7	**MW20**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**53**	**44**	**5**	**36**	**2**	**0.08 *UJ***	**0.3**	**0.047 *J***	--	--
	Sample Difference						-2	3	NC	0	0	NC	0	NC	NC	NC
	RPD						4%	-7%	NC	0%	0%	NC	0%	NC	NC	NC
	abs (RPD)						4%	7%	NC	0%	0%	NC	0%	NC	NC	NC
MW8	**MW8**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**96**	**56**	**5 *U***	**45**	**4.5**	**2.3**	**0.1 *U***	**0.006 *U***	--	--
MW8	**MW20**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**48**	**55**	**5 *U***	**52**	**4.6**	**2.4**	**0.12 *U***	**0.006 *U***	--	--
	Sample Difference						-48	-1	NC	7	0.1	0.1	NC	NC	NC	NC
	RPD						67%	2%	NC	-14%	-2%	-4%	NC	NC	NC	NC
	abs (RPD)						67%	2%	NC	14%	2%	4%	NC	NC	NC	NC
MW1	**MW1**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**42**	**84**	**6**	**36**	**5**	**1.5**	**0.07 *UJ***	**0.006 *U***	--	--
MW1	**MW20**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**58**	**238**	**6**	**34**	**5**	**1.5**	**0.07 *UJ***	**0.006 *U***	--	--
	Sample Difference						16	154	0	-2	0	0	NC	NC	NC	NC
	RPD						-32%	-96%	0%	6%	0%	0%	NC	NC	NC	NC
	abs (RPD)						32%	96%	0%	6%	0%	0%	NC	NC	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Groundwater

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW4	**MW4**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**41**	**51**	**10**	**9 *UJ***	**5.3**	**0.4**	**0.18**	**0.06**	--	--
MW4	**MW20**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**75**	**143**	**12**	**7 *UJ***	**5.4**	**0.4**	**0.17**	**0.06**	--	--
	Sample Difference						34	92	2	NC	0.1	0	-0.01	0	NC	NC
	RPD						-59%	-95%	-18%	NC	-2%	0%	6%	0%	NC	NC
	abs (RPD)						59%	95%	18%	NC	2%	0%	6%	0%	NC	NC
MW1	**MW1**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**47 *U***	**104**	**40**	**22**	**4.3**	**8.3**	**0.1 *UJ***	**0.026 *UJ***	--	--
MW1	**MW20**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**62 *U***	**35**	**39**	**24**	**4.5**	**7.7**	**0.03 *UJ***	**0.023 *UJ***	--	--
	Sample Difference						NC	-69	-1	2	0.2	-0.6	NC	NC	NC	NC
	RPD						NC	99%	3%	-9%	-5%	8%	NC	NC	NC	NC
	abs (RPD)						NC	99%	3%	9%	5%	8%	NC	NC	NC	NC
MW3	**MW3**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**31**	**15 *U***	**17 *J***	**1 *U***	**10.1**	**1.3**	**0.04 *UJ***	**0.006 *U***	--	--
MW3	**MW20**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**21**	**10 *U***	**13**	**1 *U***	**10**	**1.3**	**0.03 *UJ***	**0.006 *U***	--	--
	Sample Difference						-10	NC	NC	NC	-0.1	0	NC	NC	NC	NC
	RPD						38%	NC	NC	NC	1%	0%	NC	NC	NC	NC
	abs (RPD)						38%	NC	NC	NC	1%	0%	NC	NC	NC	NC
MW8	**MW8**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**59**	**52**	**5 *U***	**45**	**5.7**	**3.7**	**0.04 *J***	**0.01 *UJ***	--	--
MW8	**MW20**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**55 *U***	**52**	**5 *U***	**59**	**5.7**	**3.6**	**0.02 *J***	**0.013 *UJ***	--	--
	Sample Difference						NC	0	NC	14	0	-0.1	NC	NC	NC	NC
	RPD						NC	0%	NC	-27%	0%	3%	NC	NC	NC	NC
	abs (RPD)						NC	0%	NC	27%	0%	3%	NC	NC	NC	NC
MW9	**MW9**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**89 *U***	**80**	**68**	**68**	**5.4**	**2.3**	**0.16 *UJ***	**0.048 *U***	--	--
MW9	**MW20**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**105 *U***	**88**	**14**	**75**	**5.4**	**2.1**	**0.05 *UJ***	**0.06 *U***	--	--
	Sample Difference						NC	8	-54	7	0	-0.2	NC	NC	NC	NC
	RPD						NC	-10%	132%	-10%	0%	9%	NC	NC	NC	NC
	abs (RPD)						NC	10%	132%	10%	0%	9%	NC	NC	NC	NC
MW7	**MW7**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**24**	**34 *U***	**14**	**11**	**10.4**	**0.9**	**0.12**	**0.014 *U***	--	--
MW7	**MW20**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**91**	**37 *U***	**15**	**14**	**10.5**	**0.8**	**0.1 *UJ***	**0.02 *U***	--	--
	Sample Difference						67	NC	1	3	0.1	-0.1	NC	NC	NC	NC
	RPD						-117%	NC	-7%	-24%	-1%	12%	NC	NC	NC	NC
	abs (RPD)						117%	NC	7%	24%	1%	12%	NC	NC	NC	NC
MW4	**MW4**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**28**	**17 *U***	**13**	**2 *UJ***	**8.5**	**1.8**	**0.09 *UJ***	**0.004 *UJ***	--	--
MW4	**MW20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**29**	**20 *U***	**15**	**4 *UJ***	**8.5**	**1.7**	**0.08 *UJ***	**0.004 *UJ***	--	--
	Sample Difference						1	NC	2	NC	0	-0.1	NC	NC	NC	NC
	RPD						-4%	NC	-14%	NC	0%	6%	NC	NC	NC	NC
	abs (RPD)						4%	NC	14%	NC	0%	6%	NC	NC	NC	NC
MW7	**MW7**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**33 *U***	**30**	**43**	**18**	**4.7**	**0.6**	**0.04 *UJ***	**0.025 *UJ***	--	--
MW7	**MW20**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**21 *U***	**147**	**33**	**20**	**4.7**	**0.6**	**0.15**	**0.031 *UJ***	--	--
	Sample Difference						NC	117	-10	2	0	0	NC	NC	NC	NC
	RPD						NC	-132%	26%	-11%	0%	0%	NC	NC	NC	NC
	abs (RPD)						NC	132%	26%	11%	0%	0%	NC	NC	NC	NC
MW1	**MW1**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**79**	**56**	**6**	**38**	**2.9**	**3.5**	**0.04 *UJ***	**0.029 *J***	--	--
MW1	**MW20**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**80**	**60**	**5**	**38**	**2.9**	**3.5**	**0.04 *UJ***	**0.025 *J***	--	--
	Sample Difference						1	4	-1	0	0	0	NC	NC	NC	NC
	RPD						-1%	-7%	18%	0%	0%	0%	NC	NC	NC	NC
	abs (RPD)						1%	7%	18%	0%	0%	0%	NC	NC	NC	NC
MW4	**MW4**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**59**	**11**	**19**	**5**	**2.8**	**20.7**	**0.19**	**0.11**	--	--
MW4	**MW20**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**43**	**15**	**10**	**3**	**2.8**	**21.4**	**0.19**	**0.14**	--	--
	Sample Difference						-16	4	-9	-2	0	0.7	0	0.03	NC	NC
	RPD						31%	-31%	62%	50%	0%	-3%	0%	-24%	NC	NC
	abs (RPD)						31%	31%	62%	50%	0%	3%	0%	24%	NC	NC
MW1	**MW1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**66**	**46**	**5 *U***	**25**	**2.6**	**2.4**	**0.02 *U***	**0.035 *UJ***	--	--
MW1	**MW20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**62**	**37**	**5 *U***	**36**	**2.6**	**2.5**	**0.03 *J***	**0.037 *UJ***	--	--
	Sample Difference						-4	-9	NC	11	0	0.1	NC	NC	NC	NC
	RPD						6%	22%	NC	-36%	0%	-4%	NC	NC	NC	NC
	abs (RPD)						6%	22%	NC	36%	0%	4%	NC	NC	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Groundwater

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW1	**MW1**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**60**	**59**	**6**	**28**	**2**	**1.9**	**0.09 *UJ***	**0.019 *J***	--	--
MW1	**MW20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**69**	**38**	**5 *U***	**27**	**4.4**	**2**	**0.03 *UJ***	**0.015 *J***	--	--
	Sample Difference						9	-21	NC	-1	2.4	0.1	NC	NC	NC	NC
	RPD						-14%	43%	NC	4%	-75%	-5%	NC	NC	NC	NC
	abs (RPD)						14%	43%	NC	4%	75%	5%	NC	NC	NC	NC
MW1	**MW1**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**46**	**31**	**10**	**23**	**2.1**	**8**	**0.03 *J***	**0.009 *U***	--	--
MW1	**MW20**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**48**	**29**	**6**	**26**	**2.1**	**8**	**0.02 *J***	**0.013 *J***	--	--
	Sample Difference						2	-2	-4	3	0	0	NC	NC	NC	NC
	RPD						-4%	7%	50%	-12%	0%	0%	NC	NC	NC	NC
	abs (RPD)						4%	7%	50%	12%	0%	0%	NC	NC	NC	NC
MW4	**MW4**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**46**	**9**	**8**	**1 *J***	**3.3**	**15.3**	**0.18 *UJ***	**0.06**	--	--
MW4	**MW20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**44**	**10**	**8**	**2 *J***	**3.3**	**15.2**	**0.17 *UJ***	**0.05**	--	--
	Sample Difference						-2	1	0	NC	0	-0.1	NC	-0.01	NC	NC
	RPD						4%	-11%	0%	NC	0%	1%	NC	18%	NC	NC
	abs (RPD)						4%	11%	0%	NC	0%	1%	NC	18%	NC	NC
MW4	**MW4**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**75**	**12**	**48**	**7**	**3**	**10.5**	**0.23**	**0.044 *UJ***	--	--
MW4	**MW20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**65**	**9**	**52**	**7**	**3**	**10.7**	**0.23**	**0.039 *UJ***	--	--
	Sample Difference						-10	-3	4	0	0	0.2	0	NC	NC	NC
	RPD						14%	29%	-8%	0%	0%	-2%	0%	NC	NC	NC
	abs (RPD)						14%	29%	8%	0%	0%	2%	0%	NC	NC	NC
MW4	**MW4**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**74.5**	**9.6**	**9**	**16.2**	**4.76**	**3.36**	**0.575**	**0.052**	--	--
MW4	**MW20**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**91**	**17.2**	**7.5**	**15.8**	**4.74**	**3.47**	**0.526**	**0.056**	--	--
	Sample Difference						16.5	7.6	-1.5	-0.4	-0.02	0.11	-0.049	0.004	NC	NC
	RPD						-20%	-57%	18%	2%	0%	-3%	9%	-7%	NC	NC
	abs (RPD)						20%	57%	18%	2%	0%	3%	9%	7%	NC	NC
MW1	**MW1**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:02**	**59**	**35.6**	**6**	**27.4**	**5.47**	**6.91**	**0.018 *UJ***	**0.024 *J***	--	--
MW1	**MW20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:10**	**71**	**33.2**	**5 *U***	**24.2**	**5.52**	**6.93**	**0.023 *UJ***	**0.009 *U***	--	--
	Sample Difference						12	-2.4	NC	-3.2	0.05	0.02	NC	NC	NC	NC
	RPD						-18%	7%	NC	12%	-1%	0%	NC	NC	NC	NC
	abs (RPD)						18%	7%	NC	12%	1%	0%	NC	NC	NC	NC
MW4	**MW4**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**36 *UJ***	**12.4**	**12**	**2.9**	**7.27**	**4.8**	**0.303**	**0.075**	--	--
MW4	**MW20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**36 *UJ***	**11.6**	**10.5**	**4.5**	**7.34**	**4.3**	**0.276**	**0.046 *J***	--	--
	Sample Difference						NC	-0.8	-1.5	1.6	0.07	-0.5	-0.027	NC	NC	NC
	RPD						NC	7%	13%	-43%	-1%	11%	9%	NC	NC	NC
	abs (RPD)						NC	7%	13%	43%	1%	11%	9%	NC	NC	NC
MW4	**MW4**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**55**	**14**	**8.1**	**13.4**	**5.7**	**10.1**	**0.213**	**0.074 *UJ***	--	--
MW4	**MW20**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**53**	**10.8**	**8.8**	**13**	**5.6**	**9.98**	**0.218**	**0.074 *UJ***	--	--
	Sample Difference						-2	-3.2	0.7	-0.4	-0.1	-0.12	0.005	NC	NC	NC
	RPD						4%	26%	-8%	3%	2%	1%	-2%	NC	NC	NC
	abs (RPD)						4%	26%	8%	3%	2%	1%	2%	NC	NC	NC
MW1	**MW1**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**77**	**49.2**	**5 *U***	**36.6**	**4.26**	**10.8**	**0.041 *UJ***	**0.061 *UJ***	--	--
MW1	**MW20**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**84**	**49.6**	**5 *U***	**39.3**	**4.25**	**11**	**0.045 *UJ***	**0.06 *UJ***	--	--
	Sample Difference						7	0.4	NC	2.7	-0.01	0.2	NC	NC	NC	NC
	RPD						-9%	-1%	NC	-7%	0%	-2%	NC	NC	NC	NC
	abs (RPD)						9%	1%	NC	7%	0%	2%	NC	NC	NC	NC
MW4	**MW4**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**118**	**24**	**10.5**	**15.5**	**10.4**	**3.96**	--	**0.014 *J***	--	--
MW4	**MW20**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**95**	**24.4**	**11.5**	**17.6**	**10.1**	**4.01**	--	**0.009 *J***	--	--
	Sample Difference						-23	0.4	1	2.1	-0.3	0.05	NC	NC	NC	NC
	RPD						22%	-2%	-9%	-13%	3%	-1%	NC	NC	NC	NC
	abs (RPD)						22%	2%	9%	13%	3%	1%	NC	NC	NC	NC
MW1	**MW1**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**83**	**37.6**	**6**	**23.7 *UJ***	**4.43**	**11.1**	--	**0.009 *U***	--	--
MW1	**MW20**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**31**	**38**	**9**	**23.6 *UJ***	**4.4**	**11.2**	--	**0.009 *U***	--	--
	Sample Difference						-52	0.4	3	NC	-0.03	0.1	NC	NC	NC	NC
	RPD						91%	-1%	-40%	NC	1%	-1%	NC	NC	NC	NC
	abs (RPD)						91%	1%	40%	NC	1%	1%	NC	NC	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Stations – Groundwater

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
MW4	**MW4**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**90**	**44.4**	**5 *U***	**28.2**	**5.17**	**12.2**	--	**0.045 *UJ***	--	--
MW4	**MW20**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**84**	**48**	**5 *U***	**28**	**5.1**	**12.5**	--	**0.045 *UJ***	--	--
	Sample Difference						-6	3.6	NC	-0.2	-0.07	0.3	NC	NC	NC	NC
	RPD						7%	-8%	NC	1%	1%	-2%	NC	NC	NC	NC
	abs (RPD)						7%	8%	NC	1%	1%	2%	NC	NC	NC	NC
MW4	**MW4**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**81**	**50**	**5 *U***	**39.9**	**3.87**	**16.8**	**0.291**	**0.043 *UJ***	--	--
MW4	**MW20**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**108**	**51.2**	**7**	**42**	**3.91**	**15.1**	**0.31**	**0.043 *UJ***	--	--
	Sample Difference						27	1.2	NC	2.1	0.04	-1.7	0.019	NC	NC	NC
	RPD						-29%	-2%	NC	-5%	-1%	11%	-6%	NC	NC	NC
	abs (RPD)						29%	2%	NC	5%	1%	11%	6%	NC	NC	NC
MW4	**MW4**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**75**	**24.8**	**16 *J***	**26**	**3.65**	**1.71 *J***	**0.327**	**0.046 *UJ***	--	--
MW4	**MW20**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**94**	**24**	**7 *J***	**26.2**	**3.39**	**1.69 *J***	**0.447**	**0.038 *UJ***	--	--
	Sample Difference						19	-0.8	NC	0.2	-0.26	NC	0.12	NC	NC	NC
	RPD						-22%	3%	NC	-1%	7%	NC	-31%	NC	NC	NC
	abs (RPD)						22%	3%	NC	1%	7%	NC	31%	NC	NC	NC
MW1	**MW1**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**91**	**39.2**	**5 *U***	**20.6**	**13.7**	**10.6**	**0.009 *U***	**0.009 *U***	--	--
MW1	**MW20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**61**	**40**	**5 *U***	**22.4**	**13.4**	**11.3**	**0.011 *UJ***	**0.013 *J***	--	--
	Sample Difference						-30	0.8	NC	1.8	-0.3	0.7	NC	NC	NC	NC
	RPD						39%	-2%	NC	-8%	2%	-6%	NC	NC	NC	NC
	abs (RPD)						39%	2%	NC	8%	2%	6%	NC	NC	NC	NC
MW1	**MW1**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**96**	**45.6**	**2.9 *U***	**29.8**	**10.7**	**16.1**	**0.014 *UJ***	**0.018 *J***	--	--
MW1	**MW20**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**88**	**48**	**2.9 *U***	**28**	**10.2**	**16.2**	**0.118**	**0.009 *J***	--	--
	Sample Difference						-8	2.4	NC	-1.8	-0.5	0.1	NC	NC	NC	NC
	RPD						9%	-5%	NC	6%	5%	-1%	NC	NC	NC	NC
	abs (RPD)						9%	5%	NC	6%	5%	1%	NC	NC	NC	NC
MW4	**MW4**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**10:15**	**55**	**45.6**	**5 *U***	**32.6**	**3.18**	**7.51**	**0.349**	**0.027 *J***	--	--
MW4	**MW20**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**15:15**	**63**	**46**	**5 *U***	**46.2**	**3.16**	**7.47**	**0.366**	**0.026 *J***	--	--
	Sample Difference						8	0.4	NC	13.6	-0.02	-0.04	0.017	NC	NC	NC
	RPD						-14%	-1%	NC	-35%	1%	1%	-5%	NC	NC	NC
	abs (RPD)						14%	1%	NC	35%	1%	1%	5%	NC	NC	NC
MW1	**MW1**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:30**	**87 *J***	**53.6**	**5 *U***	**30.8**	**4.8**	**19**	**0.016 *J***	**0.009 *U***	--	--
MW1	**MW20**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:00**	**88 *J***	**52**	**5 *U***	**32.4**	**4.8**	**18.9**	**0.009 *U***	**0.009 *U***	--	--
	Sample Difference						NC	-1.6	NC	1.6	0	-0.1	NC	NC	NC	NC
	RPD						NC	3%	NC	-5%	0%	1%	NC	NC	NC	NC
	abs (RPD)						NC	3%	NC	5%	0%	1%	NC	NC	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
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.

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
MW4	**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**	**71.5**	**1.9**
MW4	**MW20**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**6060**	**321**	**0.82**	**0.5 *U***	**0.062**	**0.017 *U***	**1590**	**790**	**86.2**	**1.4**
	Sample Difference						890	-136	0.11	NC	0.018	NC	350	90	14.7	-0.5
	RPD						-16%	35%	-14%	NC	-34%	NC	-25%	-12%	-19%	30%
	abs (RPD)						16%	35%	14%	NC	34%	NC	25%	12%	19%	30%
MW7	**MW7**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**845**	**217**	**0.76**	**0.53**	**0.152**	**0.017 *U***	**7330**	**7260**	**1.9**	**0.5 *U***
MW7	**MW20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**912**	**207**	**0.77**	**0.52**	**0.145**	**0.017 *U***	**7650**	**7250**	**1.99**	**0.5 *U***
	Sample Difference						67	-10	0.01	-0.01	-0.007	NC	320	-10	0.09	NC
	RPD						-8%	5%	-1%	2%	5%	NC	-4%	0%	-5%	NC
	abs (RPD)						8%	5%	1%	NC	5%	NC	4%	0%	5%	NC
MW3	**MW3**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**15300**	**903**	**1.34**	**0.87**	**0.07**	**0.017 *U***	**2720**	**1200**	**4.75**	**1.19**
MW3	**MW20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**6160**	**842**	**1.18**	**0.81**	**0.054**	**0.017 *U***	**2460**	**1050**	**2.93**	**1.23**
	Sample Difference						-9140	-61	-0.16	-0.06	-0.016	NC	-260	-150	-1.82	0.04
	RPD						85%	7%	13%	7%	26%	NC	10%	13%	47%	-3%
	abs (RPD)						85%	7%	13%	NC	26%	NC	10%	13%	47%	3%
MW1	**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**	**0.5 *U***	**0.5 *U***
MW1	**MW20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**293**	**201**	**0.28**	**0.21**	**0.017 *U***	**0.017 *U***	**17600**	**17600**	**0.5 *U***	**0.5 *U***
	Sample Difference						42	9	0.07	0.03	NC	NC	500	-200	NC	NC
	RPD						-15%	-5%	-29%	-15%	NC	NC	-3%	1%	NC	NC
	abs (RPD)						15%	5%	29%	NC	NC	NC	3%	1%	NC	NC
MW9	**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**	**1.54**	**0.5 *U***
MW9	**MW20**	**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**	**1.52**	**0.5 *U***
	Sample Difference						16	-3.5	-0.02	NC	NC	NC	-200	-400	-0.02	NC
	RPD						-3%	10%	13%	NC	NC	NC	1%	2%	1%	NC
	abs (RPD)						3%	10%	13%	NC	NC	NC	1%	2%	1%	NC
MW8	**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**	**0.4 *U***	**0.36 *U***
MW8	**MW20**	**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**	**0.27 *U***	**0.27 *U***
	Sample Difference						-3.6	-1.2	NC	NC	NC	NC	-200	300	NC	NC
	RPD						10%	14%	NC	NC	NC	NC	1%	-2%	NC	NC
	abs (RPD)						10%	14%	NC	NC	NC	NC	1%	2%	NC	NC
MW1	**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**	**0.37 *U***	**0.35 *U***
MW1	**MW20**	**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**	**0.37 *U***	**0.43 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-500	500	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	3%	-3%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	3%	3%	NC	NC
MW8	**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**	**0.38 *U***	**0.43 *U***
MW8	**MW20**	**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**	**0.33 *U***	**0.48 *U***
	Sample Difference						NC	NC	NC	NC	0	NC	500	400	NC	NC
	RPD						NC	NC	NC	NC	0%	NC	-4%	-3%	NC	NC
	abs (RPD)						NC	NC	NC	NC	0%	NC	4%	3%	NC	NC
MW7	**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**	**1.24 *U***	**1.04 *U***
MW7	**MW20**	**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**	**1.25 *U***	**0.98 *U***
	Sample Difference						NC	NC	0.09	0.02	0.001	NC	220	-280	NC	NC
	RPD						NC	NC	-10%	-2%	-2%	NC	-3%	4%	NC	NC
	abs (RPD)						NC	NC	10%	NC	2%	NC	3%	4%	NC	NC
MW8	**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**	**0.31 *U***	**0.25 *U***
MW8	**MW20**	**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**	**0.31**	**0.27 *U***
	Sample Difference						-0.9	NC	NC	NC	NC	NC	200	600	NC	NC
	RPD						8%	NC	NC	NC	NC	NC	-1%	-3%	NC	NC
	abs (RPD)						8%	NC	NC	NC	NC	NC	1%	3%	NC	NC
MW1	**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**	**0.78 *U***	**0.86 *U***
MW1	**MW20**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**361**	**318**	**0.18 *J***	**0.17 *J***	**0.021**	**0.007 *U***	**12300**	**12700**	**0.74 *U***	**1.07 *U***
	Sample Difference						15	-20	NC	NC	NC	NC	100	0	NC	NC
	RPD						-4%	6%	NC	NC	NC	NC	-1%	0%	NC	NC
	abs (RPD)						4%	6%	NC	NC	NC	NC	1%	0%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
MW4	**MW4**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**653**	**611**	**0.7**	**0.7**	**0.113**	**0.042 *UJ***	**1670**	**1620**	**6.16**	**5.86**
MW4	**MW20**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**685**	**617**	**0.73**	**0.7**	**0.086**	**0.054 *UJ***	**1750**	**1820**	**6.01**	**5.89**
	Sample Difference						32	6	0.03	0	-0.027	NC	80	200	-0.15	0.03
	RPD						-5%	-1%	-4%	0%	27%	NC	-5%	-12%	2%	-1%
	abs (RPD)						5%	1%	4%	NC	27%	NC	5%	12%	2%	1%
MW1	**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**	**3.44**	**0.56 *U***
MW1	**MW20**	**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**	**0.62 *U***	**0.49 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-2780	190	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	25%	-2%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	25%	2%	NC	NC
MW3	**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**	**0.65 *U***	**0.61 *U***
MW3	**MW20**	**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**	**0.77 *U***	**0.57 *U***
	Sample Difference						23	-8	NC	NC	NC	NC	-9	-47	NC	NC
	RPD						-5%	5%	NC	NC	NC	NC	1%	6%	NC	NC
	abs (RPD)						5%	5%	NC	NC	NC	NC	1%	6%	NC	NC
MW8	**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**	**0.59 *U***	**0.48 *U***
MW8	**MW20**	**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**	**0.47 *U***	**0.32 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	200	-200	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-1%	1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	1%	NC	NC
MW9	**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**	**2.38**	**0.51 *U***
MW9	**MW20**	**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**	**1.28 *U***	**0.47 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-1000	200	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	4%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	4%	1%	NC	NC
MW7	**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**	**0.83 *U***	**0.66 *U***
MW7	**MW20**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**175**	**105**	**0.1 *J***	**0.06 *U***	**0.093**	**0.013 *UJ***	**5180**	**5170**	**0.68 *U***	**0.78 *U***
	Sample Difference						-326	0	NC	NC	-0.002	NC	-70	140	NC	NC
	RPD						96%	0%	NC	NC	2%	NC	1%	-3%	NC	NC
	abs (RPD)						96%	0%	NC	NC	2%	NC	1%	3%	NC	NC
MW4	**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**	**1.67**	**1.36 *U***
MW4	**MW20**	**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**	**1.61**	**1.33 *U***
	Sample Difference						NC	NC	NC	NC	-0.003	NC	-50	-50	-0.06	NC
	RPD						NC	NC	NC	NC	13%	NC	4%	4%	4%	NC
	abs (RPD)						NC	NC	NC	NC	13%	NC	4%	4%	4%	NC
MW7	**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**	**1.73**	**0.9 *U***
MW7	**MW20**	**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**	**2.29**	**0.94 *U***
	Sample Difference						NC	-12	NC	NC	0.001	NC	90	-70	0.56	NC
	RPD						NC	7%	NC	NC	-1%	NC	-2%	1%	-28%	NC
	abs (RPD)						NC	7%	NC	NC	1%	NC	2%	1%	28%	NC
MW1	**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**	**0.72 *U***	**0.66 *U***
MW1	**MW20**	**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**	**0.72 *U***	**0.72 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	400	0	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-3%	0%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	3%	0%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						73%	0%	NC	NC	-2%	NC	3%	0%	NC	NC
	abs (RPD)						73%	0%	NC	NC	2%	NC	3%	0%	NC	NC
MW1	**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	**MW20**	**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	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-5%	7%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	7%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
MW1	**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	**MW20**	**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	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	1%	5%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	5%	NC	NC
MW1	**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	**MW20**	**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	NC	NC
	RPD						1%	2%	NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)						1%	2%	NC	NC	NC	NC	1%	2%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						-4%	16%	NC	NC	0%	14%	-8%	-3%	NC	NC
	abs (RPD)						4%	16%	NC	NC	0%	14%	8%	3%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						NC	NC	-3%	-7%	2%	NC	2%	0%	NC	NC
	abs (RPD)						NC	NC	3%	NC	2%	NC	2%	0%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						-3%	0%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						3%	0%	NC	NC	NC	NC	NC	NC	NC	NC
MW1	**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	**MW20**	**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	NC	NC
	RPD						5%	2%	NC	NC	NC	NC	0%	-3%	NC	NC
	abs (RPD)						5%	2%	NC	NC	NC	NC	0%	3%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						-2%	1%	NC	NC	4%	NC	-1%	-1%	NC	NC
	abs (RPD)						2%	1%	NC	NC	4%	NC	1%	1%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						0%	0%	4%	-7%	NC	NC	NC	NC	NC	NC
	abs (RPD)						0%	0%	4%	NC	NC	NC	NC	NC	NC	NC
MW1	**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	**MW20**	**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	NC	NC
	RPD						-1%	-1%	NC	NC	NC	NC	1%	-3%	NC	NC
	abs (RPD)						1%	1%	NC	NC	NC	NC	1%	3%	NC	NC
MW4	**MW4**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**231**	**177**	**0.6**	**0.6**	**0.029**	**0.005 *U***	**6030**	**5990**	--	--
MW4	**MW20**	**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	NC	NC
	RPD						-1%	2%	0%	0%	4%	NC	-3%	-3%	NC	NC
	abs (RPD)						1%	2%	0%	NC	4%	NC	3%	3%	NC	NC
MW1	**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	**MW20**	**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	NC	NC
	RPD						2%	1%	NC	NC	NC	NC	-2%	-3%	NC	NC
	abs (RPD)						2%	1%	NC	NC	NC	NC	2%	3%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
MW4	**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	**MW20**	**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	NC	NC
	RPD						-2%	-8%	NC	NC	NC	NC	1%	1%	NC	NC
	abs (RPD)						2%	8%	NC	NC	NC	NC	1%	1%	NC	NC
MW4	**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	**MW20**	**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	NC	NC
	RPD						3%	-11%	18%	-18%	NC	NC	3%	1%	NC	NC
	abs (RPD)						3%	11%	18%	NC	NC	NC	3%	1%	NC	NC
MW4	**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**	--	--
MW4	**MW20**	**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	NC	NC
	RPD						34%	2%	8%	NC	NC	NC	-1%	0%	NC	NC
	abs (RPD)						34%	2%	8%	NC	NC	NC	1%	0%	NC	NC
MW1	**MW1**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**102**	**114**	**0.1 *J***	**0.1 *J***	**0.008 *UJ***	**0.008 *UJ***	**12900**	**13500**	--	--
MW1	**MW20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**107**	**110**	**0.12 *J***	**0.1 *J***	**0.008 *UJ***	**0.007 *UJ***	**12700**	**13600**	--	--
	Sample Difference						5	-4	NC	NC	NC	NC	-200	100	NC	NC
	RPD						-5%	4%	NC	NC	NC	NC	2%	-1%	NC	NC
	abs (RPD)						5%	4%	NC	NC	NC	NC	2%	1%	NC	NC
MW1	**MW1**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**94.4**	**80.5**	**0.24 *UJ***	**0.19 *UJ***	**0.007 *UJ***	**0.005 *UJ***	**15100**	**14700**	--	--
MW1	**MW20**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**93.3**	**78.2**	**0.22 *UJ***	**0.22 *UJ***	**0.008 *UJ***	**0.007 *UJ***	**15900**	**15200**	--	--
	Sample Difference						-1.1	-2.3	NC	NC	NC	NC	800	500	NC	NC
	RPD						1%	3%	NC	NC	NC	NC	-5%	-3%	NC	NC
	abs (RPD)						1%	3%	NC	NC	NC	NC	5%	3%	NC	NC
MW4	**MW4**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**10:15**	**146**	**127**	**0.77**	**0.75**	**0.02**	**0.01 *J***	**11900**	**12000**	--	--
MW4	**MW20**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**15:15**	**146**	**132**	**0.79**	**0.77**	**0.02 *J***	**0.01 *U***	**12200**	**12200**	--	--
	Sample Difference						0	5	0.02	0.02	NC	NC	300	200	NC	NC
	RPD						0%	-4%	-3%	-3%	NC	NC	-2%	-2%	NC	NC
	abs (RPD)						0%	4%	3%	NC	NC	NC	2%	2%	NC	NC
MW1	**MW1**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:30**	**168 *J***	**126 *J***	**0.1 *U***	**0.1 *U***	**0.012 *J***	**0.021 *J***	**17200**	**17800**	--	--
MW1	**MW20**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:00**	**146 *J***	**116 *J***	**0.2 *J***	**0.1 *U***	**0.005 *U***	**0.011 *UJ***	**17700**	**17900**	--	--
	Sample Difference						NC	NC	NC	NC	NC	NC	500	100	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-3%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	3%	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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
MW4	**MW4**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**7.6**	**2.6**	**6000**	**699**	**2.24**	**0.5 *U***	**3800**	**370**	**0.025**	**0.02 *U***
MW4	**MW20**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**8.9**	**2.4**	**9220**	**465**	**2.9**	**0.5 *U***	**5410**	**390**	**0.03**	**0.02 *U***
	Sample Difference						1.3	-0.2	3220	-234	0.66	NC	1610	20	0.005	NC
	RPD						-16%	8%	-42%	40%	-26%	NC	-35%	-5%	-18%	NC
	abs (RPD)						16%	8%	42%	40%	26%	NC	35%	5%	18%	NC
MW7	**MW7**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**7.9**	**1.16**	**4070**	**3600**	**1.52**	**0.21**	**1160**	**950**	**0.05 *U***	**0.05 *U***
MW7	**MW20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**7.44**	**1.09**	**4410**	**3530**	**1.55**	**0.194**	**1230**	**970**	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.46	-0.07	340	-70	0.03	-0.016	70	20	NC	NC
	RPD						6%	6%	-8%	2%	-2%	8%	-6%	-2%	NC	NC
	abs (RPD)						6%	6%	8%	2%	2%	8%	6%	2%	NC	NC
MW3	**MW3**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**18.5**	**2.98**	**10900**	**3210**	**5.61**	**1.59**	**3510**	**490**	**0.05 *U***	**0.05 *U***
MW3	**MW20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**11.2**	**2.39**	**7700**	**3060**	**4.86**	**1.55**	**1920**	**460**	**0.05 *U***	**0.05 *U***
	Sample Difference						-7.3	-0.59	-3200	-150	-0.75	-0.04	-1590	-30	NC	NC
	RPD						49%	22%	34%	5%	14%	3%	59%	6%	NC	NC
	abs (RPD)						49%	22%	34%	5%	14%	3%	59%	6%	NC	NC
MW1	**MW1**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**2.71**	**0.86**	**2190**	**2280**	**0.789**	**0.301**	**1580**	**1630**	**0.01 *U***	**0.01 *U***
MW1	**MW20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**2.4**	**0.9**	**2310**	**2360**	**0.881**	**0.309**	**1620**	**1620**	**0.01 *U***	**0.01 *U***
	Sample Difference						-0.31	0.04	120	80	0.092	0.008	40	-10	NC	NC
	RPD						12%	-5%	-5%	-3%	-11%	-3%	-3%	1%	NC	NC
	abs (RPD)						12%	5%	5%	3%	11%	3%	3%	1%	NC	NC
MW9	**MW9**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**5.22**	**0.53**	**841**	**30 *U***	**0.424**	**0.05 *U***	**1780**	**1370**	**0.01 *U***	**0.01 *U***
MW9	**MW20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**4.73**	**0.43**	**921**	**30 *U***	**0.39**	**0.05 *U***	**1800**	**1340**	**0.01 *U***	**0.01 *U***
	Sample Difference						-0.49	-0.1	80	NC	-0.034	NC	20	-30	NC	NC
	RPD						10%	21%	-9%	NC	8%	NC	-1%	2%	NC	NC
	abs (RPD)						10%	21%	9%	NC	8%	NC	1%	2%	NC	NC
MW8	**MW8**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1.49**	**1.02**	**36**	**37**	**0.031 *U***	**0.019 *U***	**1030**	**996**	**0.03 *U***	**0.03 *U***
MW8	**MW20**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1.42**	**1.03**	**30**	**5.2 *J***	**0.021 *U***	**0.027 *U***	**1000**	**995**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.07	0.01	-6	NC	NC	NC	-30	-1	NC	NC
	RPD						5%	-1%	18%	NC	NC	NC	3%	0%	NC	NC
	abs (RPD)						5%	1%	18%	NC	NC	NC	3%	0%	NC	NC
MW1	**MW1**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**1.52**	**0.81**	**1760**	**1730**	**0.467**	**0.218**	**1440**	**1400**	**0.03 *U***	**0.03 *U***
MW1	**MW20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**3.11**	**0.83**	**1690**	**1760**	**0.617**	**0.203**	**1410**	**1440**	**0.03 *U***	**0.03 *U***
	Sample Difference						1.59	0.02	-70	30	0.15	-0.015	-30	40	NC	NC
	RPD						-69%	-2%	4%	-2%	-28%	7%	2%	-3%	NC	NC
	abs (RPD)						69%	2%	4%	2%	28%	7%	2%	3%	NC	NC
MW8	**MW8**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**1.48 *J***	**1.06 *J***	**40 *J***	**30 *J***	**0.022 *U***	**0.014 *U***	**891**	**884**	**0.03 *U***	**0.03 *U***
MW8	**MW20**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**1.29 *J***	**1.01 *J***	**36 *J***	**7.5 *U***	**0.024 *U***	**0.017 *U***	**932**	**914**	**0.03 *U***	**0.03 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	41	30	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-4%	-3%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	4%	3%	NC	NC
MW7	**MW7**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**2.6**	**1.36**	**4860**	**4880**	**0.485**	**0.194**	**969**	**962**	**0.03 *U***	**0.03 *U***
MW7	**MW20**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**2.45**	**1.91**	**4940**	**4740**	**0.426**	**0.203**	**993**	**929**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.15	0.55	80	-140	-0.059	0.009	24	-33	NC	NC
	RPD						6%	-34%	-2%	3%	13%	-5%	-2%	3%	NC	NC
	abs (RPD)						6%	34%	2%	3%	13%	5%	2%	3%	NC	NC
MW8	**MW8**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**1.23**	**1.08**	**19.2 *U***	**8.2 *U***	**0.007 *U***	**0.007 *U***	**1010**	**987**	**0.03 *U***	**0.03 *U***
MW8	**MW20**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**1.08**	**1.22**	**11.9 *U***	**6.9 *U***	**0.005 *U***	**0.004 *U***	**1020**	**1010**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.15	0.14	NC	NC	NC	NC	10	23	NC	NC
	RPD						13%	-12%	NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)						13%	12%	NC	NC	NC	NC	1%	2%	NC	NC
MW1	**MW1**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**2.57**	**1.78**	**2400**	**2530**	**1.35**	**1.04**	**1060**	**1100**	**0.03 *U***	**0.03 *U***
MW1	**MW20**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**2.68**	**1.71**	**2410**	**2360**	**1.38**	**0.964**	**1070**	**1090**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.11	-0.07	10	-170	0.03	-0.076	10	-10	NC	NC
	RPD						-4%	4%	0%	7%	-2%	8%	-1%	1%	NC	NC
	abs (RPD)						4%	4%	0%	7%	2%	8%	1%	1%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
MW4	**MW4**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**5.2**	**3.54**	**11500**	**10600**	**0.91**	**0.601**	**1030**	**989**	**0.03 *J***	**0.03 *U***
MW4	**MW20**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**5.27**	**3.5**	**11400**	**11100**	**0.856**	**0.675**	**1060**	**1030**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.07	-0.04	-100	500	-0.054	0.074	30	41	NC	NC
	RPD						-1%	1%	1%	-5%	6%	-12%	-3%	-4%	NC	NC
	abs (RPD)						1%	1%	1%	5%	6%	12%	3%	4%	NC	NC
MW1	**MW1**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**38.5 *J***	**1.1 *J***	**4670**	**1120**	**11.6**	**0.398**	**1630**	**909**	**0.03 *J***	**0.03 *U***
MW1	**MW20**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**1.83 *J***	**0.99 *J***	**1510**	**1110**	**0.816**	**0.335**	**1040**	**922**	**0.03 *U***	**0.03 *U***
	Sample Difference						NC	NC	-3160	-10	-10.784	-0.063	-590	13	NC	NC
	RPD						NC	NC	102%	1%	174%	17%	44%	-1%	NC	NC
	abs (RPD)						NC	NC	102%	1%	174%	17%	44%	1%	NC	NC
MW3	**MW3**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**1.12**	**0.88**	**1020**	**833**	**0.266**	**0.129**	**643 *J***	**559 *J***	**0.03 *U***	**0.03 *U***
MW3	**MW20**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**1.23**	**0.82**	**1030**	**744**	**0.284**	**0.12**	**633 *J***	**566 *J***	**0.03 *U***	**0.03 *U***
	Sample Difference						0.11	-0.06	10	-89	0.018	-0.009	NC	NC	NC	NC
	RPD						-9%	7%	-1%	11%	-7%	7%	NC	NC	NC	NC
	abs (RPD)						9%	7%	1%	11%	7%	7%	NC	NC	NC	NC
MW8	**MW8**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**1.59**	**1.25**	**14.2 *UJ***	**10.2 *UJ***	**0.012 *J***	**0.003 *U***	**1010**	**1030**	**0.03 *U***	**0.03 *U***
MW8	**MW20**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**1.38**	**1.29**	**12.4 *UJ***	**4.6 *UJ***	**0.003 *U***	**0.007 *J***	**1020**	**1010**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.21	0.04	NC	NC	NC	NC	10	-20	NC	NC
	RPD						14%	-3%	NC	NC	NC	NC	-1%	2%	NC	NC
	abs (RPD)						14%	3%	NC	NC	NC	NC	1%	2%	NC	NC
MW9	**MW9**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**9.94**	**0.55**	**3780**	**25.7**	**1.2**	**0.031 *J***	**2930 *J***	**1040 *J***	**0.03 *U***	**0.03 *U***
MW9	**MW20**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**4.22**	**0.59**	**1330**	**29.7**	**1.48**	**0.052**	**1750 *J***	**1020 *J***	**0.03 *U***	**0.03 *U***
	Sample Difference						-5.72	0.04	-2450	4	0.28	NC	NC	NC	NC	NC
	RPD						81%	-7%	96%	-14%	-21%	NC	NC	NC	NC	NC
	abs (RPD)						81%	7%	96%	14%	21%	NC	NC	NC	NC	NC
MW7	**MW7**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**1.72**	**0.51**	**3050**	**2940**	**0.564**	**0.167**	**588**	**547**	**0.03 *U***	**0.03 *U***
MW7	**MW20**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**1.79**	**0.47**	**3110**	**3060**	**0.575**	**0.144**	**586**	**565**	**0.03 *U***	**0.03 *U***
	Sample Difference						0.07	-0.04	60	120	0.011	-0.023	-2	18	NC	NC
	RPD						-4%	8%	-2%	-4%	-2%	15%	0%	-3%	NC	NC
	abs (RPD)						4%	8%	2%	4%	2%	15%	0%	3%	NC	NC
MW4	**MW4**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**1.56 *U***	**0.89**	**1830**	**1730**	**0.13 *U***	**0.072 *UJ***	**833**	**769**	**0.03 *UJ***	**0.03 *UJ***
MW4	**MW20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**1.07 *U***	**0.9**	**1830**	**1710**	**0.111 *U***	**0.061 *UJ***	**834**	**776**	**0.03 *UJ***	**0.03 *UJ***
	Sample Difference						NC	0.01	0	-20	NC	NC	1	7	NC	NC
	RPD						NC	-1%	0%	1%	NC	NC	0%	-1%	NC	NC
	abs (RPD)						NC	1%	0%	1%	NC	NC	0%	1%	NC	NC
MW7	**MW7**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**5.61 *J***	**0.98 *U***	**3970**	**3340**	**1.4**	**0.162**	**839**	**633**	**0.05 *U***	**0.05 *U***
MW7	**MW20**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**5.68 *J***	**0.81 *U***	**4100**	**3360**	**1.45**	**0.13**	**874**	**636**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	130	20	0.05	-0.032	35	3	NC	NC
	RPD						NC	NC	-3%	-1%	-4%	22%	-4%	0%	NC	NC
	abs (RPD)						NC	NC	3%	1%	4%	22%	4%	0%	NC	NC
MW1	**MW1**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**2.23**	**1.2**	**2150**	**2110**	**0.822**	**0.394**	**1120 *R***	**1090 *R***	**0.05 *U***	**0.05 *U***
MW1	**MW20**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**2.06**	**1.22**	**2180**	**2060**	**0.774**	**0.377**	**1130 *R***	**1070 *R***	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.17	0.02	30	-50	-0.048	-0.017	NC	NC	NC	NC
	RPD						8%	-2%	-1%	2%	6%	4%	NC	NC	NC	NC
	abs (RPD)						8%	2%	1%	2%	6%	4%	NC	NC	NC	NC
MW4	**MW4**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**5.01**	**2.89**	**2790**	**1850**	**0.75**	**0.287**	**1430**	**1090**	**0.05 *U***	**0.05 *U***
MW4	**MW20**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**4.57**	**2.91**	**2250**	**1760**	**0.486**	**0.305**	**1230**	**1080**	**0.05 *U***	**0.05 *U***
	Sample Difference						-0.44	0.02	-540	-90	-0.264	0.018	-200	-10	NC	NC
	RPD						9%	-1%	21%	5%	43%	-6%	15%	1%	NC	NC
	abs (RPD)						9%	1%	21%	5%	43%	6%	15%	1%	NC	NC
MW1	**MW1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**2.51 *J***	**1.43 *J***	**2260**	**2290**	**0.897**	**0.603**	**1030**	**1190**	**0.05 *U***	**0.05 *U***
MW1	**MW20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**2.36 *J***	**1.42 *J***	**2310**	**2120**	**0.842**	**0.602**	**1160**	**1140**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	50	-170	-0.055	-0.001	130	-50	NC	NC
	RPD						NC	NC	-2%	8%	6%	0%	-12%	4%	NC	NC
	abs (RPD)						NC	NC	2%	8%	6%	0%	12%	4%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
MW1	**MW1**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**2.12**	**0.98 *U***	**1920**	**1880**	**0.768**	**0.344**	**974**	**994**	**0.05 *U***	**0.05 *U***
MW1	**MW20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**2.21**	**1.52**	**1980**	**1820**	**0.786**	**0.457**	**1000**	**932**	**0.05 *U***	**0.05 *U***
	Sample Difference						0.09	NC	60	-60	0.018	0.113	26	-62	NC	NC
	RPD						-4%	NC	-3%	3%	-2%	-28%	-3%	6%	NC	NC
	abs (RPD)						4%	NC	3%	3%	2%	28%	3%	6%	NC	NC
MW1	**MW1**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**1.64**	**0.85 *U***	**1120**	**993**	**0.542**	**0.282**	**915**	**929**	**0.05 *U***	**0.05 *U***
MW1	**MW20**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**1.66**	**1.05 *U***	**1130**	**1030**	**0.527**	**0.277**	**940**	**966**	**0.05 *U***	**0.05 *U***
	Sample Difference						0.02	NC	10	37	-0.015	-0.005	25	37	NC	NC
	RPD						-1%	NC	-1%	-4%	3%	2%	-3%	-4%	NC	NC
	abs (RPD)						1%	NC	1%	4%	3%	2%	3%	4%	NC	NC
MW4	**MW4**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**1.59**	**0.94**	**808**	**620**	**0.253**	**0.067 *UJ***	**1320**	**1250**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**1.96**	**0.87**	**895**	**411**	**0.272**	**0.043 *UJ***	**1380**	**1260**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.37	-0.07	87	-209	0.019	NC	60	10	NC	NC
	RPD						-21%	8%	-10%	41%	-7%	NC	-4%	-1%	NC	NC
	abs (RPD)						21%	8%	10%	41%	7%	NC	4%	1%	NC	NC
MW4	**MW4**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**7.92**	**2.29**	**6950**	**5280**	**1.34**	**0.304**	**1490**	**1230**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**7.5**	**1.66**	**6810**	**5480**	**1.18**	**0.233**	**1490**	**1270**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.42	-0.63	-140	200	-0.16	-0.071	0	40	NC	NC
	RPD						5%	32%	2%	-4%	13%	26%	0%	-3%	NC	NC
	abs (RPD)						5%	32%	2%	4%	13%	26%	0%	3%	NC	NC
MW4	**MW4**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**1.88**	**1.46**	**10500**	**10900**	**0.228**	**0.156**	**1700**	**1780**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**1.91**	**1.53**	**10200**	**10300**	**0.226**	**0.16**	**1670**	**1700**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.03	0.07	-300	-600	-0.002	0.004	-30	-80	NC	NC
	RPD						-2%	-5%	3%	6%	1%	-3%	2%	5%	NC	NC
	abs (RPD)						2%	5%	3%	6%	1%	3%	2%	5%	NC	NC
MW1	**MW1**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:02**	**1.32**	**0.9**	**1210**	**1210**	**0.465**	**0.314**	**1090**	**1110**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:10**	**1.25**	**0.87**	**1200**	**1220**	**0.433**	**0.3**	**1090**	**1130**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.07	-0.03	-10	10	-0.032	-0.014	0	20	NC	NC
	RPD						5%	3%	1%	-1%	7%	5%	0%	-2%	NC	NC
	abs (RPD)						5%	3%	1%	1%	7%	5%	0%	2%	NC	NC
MW4	**MW4**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**2.2**	**1.41 *U***	**3600**	**3490**	**0.223 *U***	**0.111 *U***	**1050 *J***	**995 *J***	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**2.21**	**1.35 *U***	**3840**	**4010**	**0.228**	**0.093 *U***	**1060 *J***	**1060 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						0.01	NC	240	520	NC	NC	NC	NC	NC	NC
	RPD						0%	NC	-6%	-14%	NC	NC	NC	NC	NC	NC
	abs (RPD)						0%	NC	6%	14%	NC	NC	NC	NC	NC	NC
MW4	**MW4**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**1.75 *J***	**0.79 *J***	**9900**	**9950**	**0.189**	**0.11**	**1360 *J***	**1370 *J***	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**1.52 *J***	**0.71 *J***	**9680**	**9750**	**0.196**	**0.087**	**1340 *J***	**1360 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	-220	-200	0.007	-0.023	NC	NC	NC	NC
	RPD						NC	NC	2%	2%	-4%	23%	NC	NC	NC	NC
	abs (RPD)						NC	NC	2%	2%	4%	23%	NC	NC	NC	NC
MW1	**MW1**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**1.77**	**1.24**	**709**	**668**	**0.453**	**0.334**	**1510**	**1480**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**1.81**	**1.21**	**698**	**663**	**0.438**	**0.321**	**1490**	**1480**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.04	-0.03	-11	-5	-0.015	-0.013	-20	0	NC	NC
	RPD						-2%	2%	2%	1%	3%	4%	1%	0%	NC	NC
	abs (RPD)						2%	2%	2%	1%	3%	4%	1%	0%	NC	NC
MW4	**MW4**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1.9**	**0.69**	**10700 *J***	**10200 *J***	**0.285**	**0.097**	**1860**	**1820**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1.91**	**0.66**	**11100 *J***	**10500 *J***	**0.287**	**0.094**	**1910**	**1870**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.01	-0.03	NC	NC	0.002	-0.003	50	50	NC	NC
	RPD						-1%	4%	NC	NC	-1%	3%	-3%	-3%	NC	NC
	abs (RPD)						1%	4%	NC	NC	1%	3%	3%	3%	NC	NC
MW1	**MW1**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**1.65**	**0.91**	**386**	**320**	**0.462**	**0.218**	**1160**	**1140**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**1.72**	**0.9**	**396**	**339**	**0.468**	**0.219**	**1170**	**1160**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.07	-0.01	10	19	0.006	0.001	10	20	NC	NC
	RPD						-4%	1%	-3%	-6%	-1%	0%	-1%	-2%	NC	NC
	abs (RPD)						4%	1%	3%	6%	1%	0%	1%	2%	NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
MW4	**MW4**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.5**	**0.35 *U***	**5320 *J***	**5000 *J***	**0.041**	**0.03 *UJ***	**2420**	**2360**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.5**	**0.31 *U***	**5690 *J***	**6380 *J***	**0.041**	**0.028 *UJ***	**2390**	**2410**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	NC	NC	NC	0	NC	-30	50	NC	NC
	RPD						0%	NC	NC	NC	0%	NC	1%	-2%	NC	NC
	abs (RPD)						0%	NC	NC	NC	0%	NC	1%	2%	NC	NC
MW4	**MW4**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.81**	**1.69**	**6150**	**5700**	**0.138**	**0.112**	**2530**	**2470**	**0.02 *UJ***	**0.02 *UJ***
MW4	**MW20**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.73**	**0.62**	**5650**	**6880**	**0.03 *UJ***	**0.029 *UJ***	**2450**	**2500**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						-0.08	-1.07	-500	1180	NC	NC	-80	30	NC	NC
	RPD						10%	93%	8%	-19%	NC	NC	3%	-1%	NC	NC
	abs (RPD)						10%	93%	8%	19%	NC	NC	3%	1%	NC	NC
MW4	**MW4**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**2.43**	**0.6**	**7430**	**5540**	**0.911 *J***	**0.056**	**2070**	**1300**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**1.87**	**0.65**	**6900**	**5690**	**0.536 *J***	**0.057**	**1860**	**1300**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.56	0.05	-530	150	NC	0.001	-210	0	NC	NC
	RPD						26%	-8%	7%	-3%	NC	-2%	11%	0%	NC	NC
	abs (RPD)						26%	8%	7%	3%	NC	2%	11%	0%	NC	NC
MW1	**MW1**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**1.16**	**0.86**	**720**	**711**	**0.374**	**0.275**	**1300**	**1350**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**1.27**	**0.81**	**725**	**725**	**0.37**	**0.278**	**1270**	**1370**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.11	-0.05	5	14	-0.004	0.003	-30	20	NC	NC
	RPD						-9%	6%	-1%	-2%	1%	-1%	2%	-1%	NC	NC
	abs (RPD)						9%	6%	1%	2%	1%	1%	2%	1%	NC	NC
MW1	**MW1**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**0.98**	**1.05**	**620**	**581**	**0.295**	**0.219**	**1460**	**1410**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**0.93**	**0.65**	**667**	**599**	**0.285**	**0.183**	**1490**	**1440**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.05	-0.4	47	18	-0.01	-0.036	30	30	NC	NC
	RPD						5%	47%	-7%	-3%	3%	18%	-2%	-2%	NC	NC
	abs (RPD)						5%	47%	7%	3%	3%	18%	2%	2%	NC	NC
MW4	**MW4**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**10:15**	**0.79**	**0.53**	**7730**	**7590**	**0.066**	**0.039**	**1840**	**1850**	**0.02 *U***	**0.02 *U***
MW4	**MW20**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**15:15**	**0.77**	**0.55**	**8020**	**7970**	**0.063**	**0.04**	**1920**	**1890**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.02	0.02	290	380	-0.003	0.001	80	40	NC	NC
	RPD						3%	-4%	-4%	-5%	5%	-3%	-4%	-2%	NC	NC
	abs (RPD)						3%	4%	4%	5%	5%	3%	4%	2%	NC	NC
MW1	**MW1**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:30**	**1.01**	**0.65 *J***	**951**	**856**	**0.331 *J***	**0.2 *J***	**1570**	**1620**	**0.02 *U***	**0.02 *U***
MW1	**MW20**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:00**	**0.97**	**0.62 *J***	**946**	**870**	**0.307 *J***	**0.198 *J***	**1630**	**1650**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.04	NC	-5	14	NC	NC	60	30	NC	NC
	RPD						4%	NC	1%	-2%	NC	NC	-4%	-2%	NC	NC
	abs (RPD)						4%	NC	1%	2%	NC	NC	4%	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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
MW4	**MW4**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**9.7**	**1.6**	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.025**	**0.02 *U***	**4200**	**4500**
MW4	**MW20**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**12**	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.033**	**0.02 *U***	**4100**	**4700**
	Sample Difference						2.3	NC	NC	NC	NC	NC	0.008	NC	-100	200
	RPD						-21%	NC	NC	NC	NC	NC	-28%	NC	2%	-4%
	abs (RPD)						21%	NC	NC	NC	NC	NC	28%	NC	2%	4%
MW7	**MW7**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**5**	**1.39**	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.021**	**0.01 *U***	**8400**	**9300**
MW7	**MW20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**4**	**1.24**	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.022**	**0.01 *U***	**9100**	**9300**
	Sample Difference						-1	-0.15	NC	NC	NC	NC	0.001	NC	700	0
	RPD						22%	11%	NC	NC	NC	NC	-5%	NC	-8%	0%
	abs (RPD)						22%	11%	NC	NC	NC	NC	5%	NC	8%	0%
MW3	**MW3**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**3.79**	**1.88**	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.124**	**0.01 *U***	**9300**	**10000**
MW3	**MW20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**2.62**	**1.1**	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.05**	**0.01 *U***	**9900**	**10000**
	Sample Difference						-1.17	-0.78	NC	NC	NC	NC	-0.074	NC	600	0
	RPD						37%	52%	NC	NC	NC	NC	85%	NC	-6%	0%
	abs (RPD)						37%	52%	NC	NC	NC	NC	85%	NC	6%	0%
MW1	**MW1**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**4800**	**4900**
MW1	**MW20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**0.5 *U***	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**4900**	**4900**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	100	0
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-2%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
MW9	**MW9**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**2.06**	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3800**	**3900**
MW9	**MW20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**1.03**	**0.5 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.01 *U***	**0.01 *U***	**3800**	**3900**
	Sample Difference						-1.03	NC	NC	NC	NC	NC	NC	NC	0	0
	RPD						67%	NC	NC	NC	NC	NC	NC	NC	0%	0%
	abs (RPD)						67%	NC	NC	NC	NC	NC	NC	NC	0%	0%
MW8	**MW8**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1.08**	**1.15**	**900 *U***	**900 *U***	**0.5 *J***	**0.5 *J***	**0.015 *U***	**0.032 *U***	**5700**	**5530**
MW8	**MW20**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**1.03**	**1.2**	**900 *U***	**900 *U***	**0.5 *J***	**0.5 *J***	**0.009 *U***	**0.009 *U***	**5380**	**5240**
	Sample Difference						-0.05	0.05	NC	NC	NC	NC	NC	NC	-320	-290
	RPD						5%	-4%	NC	NC	NC	NC	NC	NC	6%	5%
	abs (RPD)						5%	4%	NC	NC	NC	NC	NC	NC	6%	5%
MW1	**MW1**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**4.03 *UJ***	**4.18 *J***	**900 *U***	**900 *U***	**0.5 *U***	**0.5 *U***	**0.018 *U***	**0.013 *U***	**4550**	**4400**
MW1	**MW20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**3.63 *UJ***	**3.21 *J***	**900 *U***	**968 *J***	**0.6 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**4420**	**4530**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-130	130
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	3%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	3%	3%
MW8	**MW8**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.42**	**0.47**	**1520 *U***	**1100 *U***	**0.2 *U***	**0.2 *U***	**0.01 *U***	**0.008 *U***	**5310**	**5370**
MW8	**MW20**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**0.42**	**0.6**	**1110 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.007 *U***	**0.003 *U***	**5700**	**5660**
	Sample Difference						0	0.13	NC	NC	NC	NC	NC	NC	390	290
	RPD						0%	-24%	NC	NC	NC	NC	NC	NC	-7%	-5%
	abs (RPD)						0%	24%	NC	NC	NC	NC	NC	NC	7%	5%
MW7	**MW7**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**0.97**	**0.96**	**900 *U***	**900 *U***	**0.4 *J***	**0.5 *J***	**0.019 *UJ***	**0.014 *UJ***	**6250**	**6290**
MW7	**MW20**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**0.77**	**0.73 *UJ***	**900 *U***	**900 *U***	**0.7 *J***	**0.6 *J***	**0.046 *UJ***	**0.009 *U***	**6680**	**6250**
	Sample Difference						-0.2	NC	NC	NC	NC	NC	NC	NC	430	-40
	RPD						23%	NC	NC	NC	NC	NC	NC	NC	-7%	1%
	abs (RPD)						23%	NC	NC	NC	NC	NC	NC	NC	7%	1%
MW8	**MW8**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.61**	**0.84**	**900 *U***	**900 *U***	**0.5 *J***	**0.6 *J***	**0.009 *U***	**0.009 *U***	**4860**	**4830**
MW8	**MW20**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**0.68**	**0.74**	**900 *U***	**900 *U***	**0.5 *J***	**0.6 *J***	**0.009 *U***	**0.009 *U***	**4970**	**4800**
	Sample Difference						0.07	-0.1	NC	NC	NC	NC	NC	NC	110	-30
	RPD						-11%	13%	NC	NC	NC	NC	NC	NC	-2%	1%
	abs (RPD)						11%	13%	NC	NC	NC	NC	NC	NC	2%	1%
MW1	**MW1**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.47**	**1.21**	**900 *U***	**900 *U***	**0.2 *U***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**6350**	**6890**
MW1	**MW20**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**0.51**	**0.63**	**900 *U***	**900 *U***	**0.2 *J***	**0.3 *J***	**0.009 *U***	**0.009 *U***	**6370**	**6520**
	Sample Difference						0.04	-0.58	NC	NC	NC	NC	NC	NC	20	-370
	RPD						-8%	63%	NC	NC	NC	NC	NC	NC	0%	6%
	abs (RPD)						8%	63%	NC	NC	NC	NC	NC	NC	0%	6%

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
MW4	**MW4**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**1.22**	**1.2**	**900 *U***	**900 *U***	**0.7 *J***	**0.8 *J***	**0.009 *UJ***	**0.009 *U***	**4680**	**4200**
MW4	**MW20**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**1.2**	**1.52**	**900 *U***	**900 *U***	**0.8 *J***	**0.8 *J***	**0.023 *UJ***	**0.01 *UJ***	**4480**	**4400**
	Sample Difference						-0.02	0.32	NC	NC	NC	NC	NC	NC	-200	200
	RPD						2%	-24%	NC	NC	NC	NC	NC	NC	4%	-5%
	abs (RPD)						2%	24%	NC	NC	NC	NC	NC	NC	4%	5%
MW1	**MW1**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**3.3**	**0.73**	**900 *U***	**900 *U***	**0.7 *J***	**0.2 *U***	**0.104**	**0.027 *UJ***	**5440**	**4960**
MW1	**MW20**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**0.59**	**0.53**	**900 *U***	**900 *U***	**0.2 *U***	**0.2 *U***	**0.017 *UJ***	**0.017 *UJ***	**5150**	**5050**
	Sample Difference						-2.71	-0.2	NC	NC	NC	NC	NC	NC	-290	90
	RPD						139%	32%	NC	NC	NC	NC	NC	NC	5%	-2%
	abs (RPD)						139%	32%	NC	NC	NC	NC	NC	NC	5%	2%
MW3	**MW3**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.36 *UJ***	**0.86**	**356 *UJ***	**263 *UJ***	**0.4 *J***	**0.4 *U***	**0.039 *J***	**0.006 *J***	**4570**	**4790**
MW3	**MW20**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**0.44 *UJ***	**0.54**	**376 *UJ***	**243 *UJ***	**0.3 *J***	**0.4 *U***	**0.013 *J***	**0.004 *U***	**4520**	**4780**
	Sample Difference						NC	-0.32	NC	NC	NC	NC	NC	NC	-50	-10
	RPD						NC	46%	NC	NC	NC	NC	NC	NC	1%	0%
	abs (RPD)						NC	46%	NC	NC	NC	NC	NC	NC	1%	0%
MW8	**MW8**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**5.11**	**0.94**	**900 *U***	**900 *U***	**1.2**	**0.4 *J***	**0.005 *UJ***	**0.009 *UJ***	**4440**	**4660**
MW8	**MW20**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**0.87**	**0.91**	**900 *U***	**900 *U***	**0.4 *J***	**0.5 *J***	**0.009 *UJ***	**0.009 *UJ***	**4610**	**4560**
	Sample Difference						-4.24	-0.03	NC	NC	NC	NC	NC	NC	170	-100
	RPD						142%	3%	NC	NC	NC	NC	NC	NC	-4%	2%
	abs (RPD)						142%	3%	NC	NC	NC	NC	NC	NC	4%	2%
MW9	**MW9**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**2.6**	**1.52**	**617 *J***	**431 *J***	**0.4 *U***	**0.6 *J***	**0.048 *UJ***	**0.08 *UJ***	**3560**	**3460**
MW9	**MW20**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**1.98**	**1.47**	**523 *J***	**415 *J***	**0.6 *J***	**0.4 *U***	**0.023 *UJ***	**0.005 *UJ***	**3580**	**3470**
	Sample Difference						-0.62	-0.05	NC	NC	NC	NC	NC	NC	20	10
	RPD						27%	3%	NC	NC	NC	NC	NC	NC	-1%	0%
	abs (RPD)						27%	3%	NC	NC	NC	NC	NC	NC	1%	0%
MW7	**MW7**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.46 *UJ***	**0.49**	**177 *J***	**164 *UJ***	**0.3 *J***	**0.2 *U***	**0.19 *R***	**0.009 *R***	**5370**	**5290**
MW7	**MW20**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**0.41 *UJ***	**0.46**	**188 *J***	**174 *UJ***	**0.2 *U***	**0.2 *U***	**0.049 *R***	**0.009 *R***	**5280**	**5500**
	Sample Difference						NC	-0.03	NC	NC	NC	NC	NC	NC	-90	210
	RPD						NC	6%	NC	NC	NC	NC	NC	NC	2%	-4%
	abs (RPD)						NC	6%	NC	NC	NC	NC	NC	NC	2%	4%
MW4	**MW4**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**0.7**	**0.82**	**276 *J***	**319 *J***	**0.4 *U***	**0.4 *U***	**0.005 *UJ***	**0.033 *UJ***	**5370**	**5420**
MW4	**MW20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**0.68**	**0.77**	**253 *J***	**224 *J***	**0.4 *U***	**0.4 *U***	**0.006 *UJ***	**0.005 *UJ***	**5450**	**5330**
	Sample Difference						-0.02	-0.05	NC	NC	NC	NC	NC	NC	80	-90
	RPD						3%	6%	NC	NC	NC	NC	NC	NC	-1%	2%
	abs (RPD)						3%	6%	NC	NC	NC	NC	NC	NC	1%	2%
MW7	**MW7**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**0.5 *UJ***	**0.36 *UJ***	**204 *J***	**209 *J***	**0.5 *U***	**0.5 *U***	**0.023 *UJ***	**0.009 *UJ***	**4920**	**5010**
MW7	**MW20**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**1.41**	**0.38 *UJ***	**225 *J***	**217 *J***	**0.5 *U***	**0.5 *U***	**0.022 *UJ***	**0.009 *UJ***	**5010**	**5060**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	90	50
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-2%	-1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	1%
MW1	**MW1**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.87**	**1.05**	**100 *U***	**100 *U***	**0.4 *U***	**0.4 *U***	**0.048 *UJ***	**0.054 *UJ***	**4120**	**3960**
MW1	**MW20**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**0.87**	**0.82**	**100 *U***	**100 *U***	**0.4 *J***	**0.4 *U***	**0.015 *UJ***	**0.01 *UJ***	**4170**	**4040**
	Sample Difference						0	-0.23	NC	NC	NC	NC	NC	NC	50	80
	RPD						0%	25%	NC	NC	NC	NC	NC	NC	-1%	-2%
	abs (RPD)						0%	25%	NC	NC	NC	NC	NC	NC	1%	2%
MW4	**MW4**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**1.02**	**0.73**	**1020 *J***	**985 *J***	**0.4 *UJ***	**0.4 *U***	**0.02 *UJ***	**0.009 *UJ***	**10800**	**10500**
MW4	**MW20**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**0.81**	**0.72**	**1030 *J***	**980 *J***	**0.4 *UJ***	**0.4 *U***	**0.037 *UJ***	**0.016 *UJ***	**10900**	**10900**
	Sample Difference						-0.21	-0.01	NC	NC	NC	NC	NC	NC	100	400
	RPD						23%	1%	NC	NC	NC	NC	NC	NC	-1%	-4%
	abs (RPD)						23%	1%	NC	NC	NC	NC	NC	NC	1%	4%
MW1	**MW1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**0.66**	**0.4 *UJ***	**133 *UJ***	**131 *UJ***	**0.5 *U***	**0.5 *U***	**0.012 *UJ***	**0.009 *UJ***	**4020**	**4260**
MW1	**MW20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**0.57 *UJ***	**0.4 *UJ***	**121 *UJ***	**153 *UJ***	**0.5 *U***	**0.5 *U***	**0.011 *UJ***	**0.009 *UJ***	**4210**	**3920**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	190	-340
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-5%	8%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	5%	8%

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
MW1	**MW1**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**0.79**	**0.04 *UJ***	**122 *UJ***	**52 *UJ***	**0.5 *U***	**0.5 *U***	**0.011 *J***	**0.009 *U***	**4050**	**4170**
MW1	**MW20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**0.24 *UJ***	**0.14 *UJ***	**99 *UJ***	**50 *UJ***	**0.5 *U***	**0.5 *U***	**0.009 *U***	**0.009 *U***	**3970**	**3930**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-80	-240
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	2%	6%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	6%
MW1	**MW1**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**0.44 *U***	**0.42 *UJ***	**50 *U***	**50 *U***	**0.4 *U***	**0.4 *U***	**0.016 *UJ***	**0.011 *UJ***	**3780**	**3980**
MW1	**MW20**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**0.4 *U***	**0.42 *UJ***	**50 *U***	**50 *U***	**0.4 *U***	**0.4 *U***	**0.019 *UJ***	**0.013 *UJ***	**3880**	**3930**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	100	-50
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-3%	1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	3%	1%
MW4	**MW4**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**0.86**	**1.06**	**531**	**520**	**0.4 *U***	**0.4 *U***	**0.012 *UJ***	**0.009 *UJ***	**4310**	**4310**
MW4	**MW20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**0.72**	**0.83**	**546**	**516**	**0.4 *U***	**0.4 *U***	**0.014 *UJ***	**0.009 *UJ***	**4460**	**4220**
	Sample Difference						-0.14	-0.23	15	-4	NC	NC	NC	NC	150	-90
	RPD						18%	24%	-3%	1%	NC	NC	NC	NC	-3%	2%
	abs (RPD)						18%	24%	NC	NC	NC	NC	NC	NC	3%	2%
MW4	**MW4**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**1.04**	**1.14**	**724**	**683**	**0.2 *U***	**0.2 *U***	**0.077**	**0.043 *UJ***	**4950**	**4940**
MW4	**MW20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**1.01**	**0.84**	**695**	**637**	**0.2 *U***	**0.2 *U***	**0.075**	**0.035 *UJ***	**5070**	**4970**
	Sample Difference						-0.03	-0.3	-29	-46	NC	NC	-0.002	NC	120	30
	RPD						3%	30%	4%	7%	NC	NC	3%	NC	-2%	-1%
	abs (RPD)						3%	30%	NC	NC	NC	NC	3%	NC	2%	1%
MW4	**MW4**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**0.81**	**1.2**	**842**	**860**	**0.4 *J***	**0.3 *J***	**0.019 *UJ***	**0.007 *UJ***	**4760**	**4670**
MW4	**MW20**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**0.82**	**0.87**	**842**	**821**	**0.3 *J***	**0.2 *J***	**0.009 *UJ***	**0.005 *UJ***	**4560**	**4530**
	Sample Difference						0.01	-0.33	0	-39	NC	NC	NC	NC	-200	-140
	RPD						-1%	32%	0%	5%	NC	NC	NC	NC	4%	3%
	abs (RPD)						1%	32%	NC	NC	NC	NC	NC	NC	4%	3%
MW1	**MW1**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:02**	**0.35 *UJ***	**0.4**	**47 *J***	**40 *U***	**0.3 *U***	**0.3 *U***	**0.128**	**0.109**	**4270**	**4240**
MW1	**MW20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:10**	**0.31 *UJ***	**0.36 *J***	**52 *J***	**46 *J***	**0.3 *U***	**0.3 *U***	**0.022 *UJ***	**0.021 *UJ***	**4200**	**4250**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-70	10
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
MW4	**MW4**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**0.67**	**0.82**	**420**	**409**	**0.5 *J***	**0.4 *J***	**0.012 *UJ***	**0.006 *UJ***	**4580**	**4460**
MW4	**MW20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**0.68**	**0.66**	**425**	**444**	**0.4 *J***	**0.5 *J***	**0.011 *UJ***	**0.005 *UJ***	**4640**	**4680**
	Sample Difference						0.01	-0.16	5	35	NC	NC	NC	NC	60	220
	RPD						-1%	22%	-1%	-8%	NC	NC	NC	NC	-1%	-5%
	abs (RPD)						1%	22%	NC	NC	NC	NC	NC	NC	1%	5%
MW4	**MW4**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**0.62**	**0.85**	**633**	**608**	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**6400**	**6530**
MW4	**MW20**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**0.64**	**0.65**	**608**	**614**	**0.3 *U***	**0.3 *J***	**0.004 *UJ***	**0.004 *UJ***	**6320**	**6470**
	Sample Difference						0.02	-0.2	-25	6	NC	NC	NC	NC	-80	-60
	RPD						-3%	27%	4%	-1%	NC	NC	NC	NC	1%	1%
	abs (RPD)						3%	27%	NC	NC	NC	NC	NC	NC	1%	1%
MW1	**MW1**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**0.6 *UJ***	**0.54 *UJ***	**70 *J***	**69 *J***	**0.3 *U***	**0.3 *U***	**0.016 *UJ***	**0.012 *UJ***	**5190**	**5310**
MW1	**MW20**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**0.62 *UJ***	**0.49 *UJ***	**64 *J***	**77 *J***	**0.3 *U***	**0.3 *U***	**0.018 *UJ***	**0.007 *UJ***	**5220**	**5030**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	30	-280
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	5%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	5%
MW4	**MW4**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**0.48 *U***	**0.7 *U***	**449**	**448**	**0.3 *UJ***	**0.4 *UJ***	**0.042**	**0.023 *UJ***	**5530**	**5470**
MW4	**MW20**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**0.48 *U***	**0.47 *U***	**447**	**458**	**0.3 *UJ***	**0.3 *UJ***	**0.041**	**0.02 *UJ***	**5690**	**5660**
	Sample Difference						NC	NC	-2	10	NC	NC	-0.001	NC	160	190
	RPD						NC	NC	0%	-2%	NC	NC	2%	NC	-3%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	2%	NC	3%	3%
MW1	**MW1**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**0.33 *UJ***	**0.41**	**41 *J***	**51 *J***	**0.3 *UJ***	**0.3 *UJ***	**0.004 *UJ***	**0.004 *UJ***	**4960**	**5020**
MW1	**MW20**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**0.42 *UJ***	**0.37 *J***	**57 *J***	**41 *J***	**0.3 *UJ***	**0.3 *UJ***	**0.004 *UJ***	**0.004 *UJ***	**5010**	**5100**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	50	80
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-1%	-2%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	2%

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
MW4	**MW4**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.67 *UJ***	**0.67 *U***	**602**	**599**	**0.3 *J***	**0.3 *U***	**0.007 *UJ***	**0.004 *UJ***	**4780**	**4790**
MW4	**MW20**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**0.46 *UJ***	**0.56 *U***	**604**	**579**	**0.3 *U***	**0.3 *U***	**0.005 *UJ***	**0.004 *UJ***	**4700**	**4730**
	Sample Difference						NC	NC	2	-20	NC	NC	NC	NC	-80	-60
	RPD						NC	NC	0%	3%	NC	NC	NC	NC	2%	1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	1%
MW4	**MW4**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.61 *UJ***	**0.6**	**607**	**578**	**0.3 *U***	**0.3 *U***	**0.007 *UJ***	**0.004 *UJ***	**4810**	**4720**
MW4	**MW20**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**0.6 *UJ***	**0.59**	**559**	**564**	**0.3 *U***	**0.3 *J***	**0.014 *UJ***	**0.004 *UJ***	**4490**	**4680**
	Sample Difference						NC	-0.01	-48	-14	NC	NC	NC	NC	-320	-40
	RPD						NC	2%	8%	2%	NC	NC	NC	NC	7%	1%
	abs (RPD)						NC	2%	NC	NC	NC	NC	NC	NC	7%	1%
MW4	**MW4**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**1.33**	**0.62**	**332 *J***	**277 *UJ***	**0.5 *J***	**0.5 *J***	**0.029 *U***	**0.008 *UJ***	**3830**	**3900**
MW4	**MW20**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**0.99**	**0.56**	**321 *J***	**326 *J***	**0.5 *J***	**0.5 *J***	**0.02 *U***	**0.008 *UJ***	**4010**	**3850**
	Sample Difference						-0.34	-0.06	NC	NC	NC	NC	NC	NC	180	-50
	RPD						29%	10%	NC	NC	NC	NC	NC	NC	-5%	1%
	abs (RPD)						29%	10%	NC	NC	NC	NC	NC	NC	5%	1%
MW1	**MW1**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**0.57**	**0.6**	**101 *J***	**101 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**6130**	**6430**
MW1	**MW20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**0.6**	**0.56**	**97 *J***	**105 *J***	**0.3 *U***	**0.3 *U***	**0.006 *UJ***	**0.004 *U***	**5840**	**6330**
	Sample Difference						0.03	-0.04	NC	NC	NC	NC	NC	NC	-290	-100
	RPD						-5%	7%	NC	NC	NC	NC	NC	NC	5%	2%
	abs (RPD)						5%	7%	NC	NC	NC	NC	NC	NC	5%	2%
MW1	**MW1**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**0.82**	**0.88**	**66.5 *J***	**88.7 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**5620**	**5460**
MW1	**MW20**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**0.72**	**0.95**	**50 *UJ***	**51.1 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**5740**	**5540**
	Sample Difference						-0.1	0.07	NC	NC	NC	NC	NC	NC	120	80
	RPD						13%	-8%	NC	NC	NC	NC	NC	NC	-2%	-1%
	abs (RPD)						13%	8%	NC	NC	NC	NC	NC	NC	2%	1%
MW4	**MW4**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**10:15**	**0.4**	**0.33**	**466**	**526**	**0.2 *U***	**0.2 *J***	**0.005 *U***	**0.005 *U***	**4610**	**4690**
MW4	**MW20**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**15:15**	**0.36**	**0.38**	**491**	**542**	**0.2 *U***	**0.2 *J***	**0.005 *J***	**0.005 *U***	**4820**	**4810**
	Sample Difference						-0.04	0.05	25	16	NC	NC	NC	NC	210	120
	RPD						11%	-14%	-5%	-3%	NC	NC	NC	NC	-4%	-3%
	abs (RPD)						11%	14%	NC	NC	NC	NC	NC	NC	4%	3%
MW1	**MW1**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:30**	**0.4**	**0.38 *J***	**234 *J***	**276 *J***	**0.2 *J***	**0.2 *U***	**0.115 *J***	**0.115 *J***	**4870**	**5030**
MW1	**MW20**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:00**	**0.33**	**0.33 *J***	**280 *J***	**238 *J***	**0.2 *U***	**0.2 *U***	**0.076 *J***	**0.084 *J***	**5030**	**5110**
	Sample Difference						-0.07	NC	NC	NC	NC	NC	NC	NC	160	80
	RPD						19%	NC	NC	NC	NC	NC	NC	NC	-3%	-2%
	abs (RPD)						19%	NC	NC	NC	NC	NC	NC	NC	3%	2%

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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW4	**MW4**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**08:39**	**20.7**	**8.1**
MW4	**MW20**	**L482967**	**Knight Piesold**	**February 2007**	**2/27/2007**	**09:00**	**24.9**	**6.4**
	Sample Difference						4.2	-1.7
	RPD						-18%	23%
	abs (RPD)						18%	23%
MW7	**MW7**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**14:24**	**23.6**	**9.9**
MW7	**MW20**	**L495369**	**Knight Piesold**	**April 2007**	**4/10/2007**	**15:30**	**23.5**	**8.9**
	Sample Difference						-0.1	-1
	RPD						0%	11%
	abs (RPD)						0%	11%
MW3	**MW3**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**11:57**	**22.6**	**8.6**
MW3	**MW20**	**L507191**	**Knight Piesold**	**May 2007**	**5/14/2007**	**12:10**	**15.8**	**5.9**
	Sample Difference						-6.8	-2.7
	RPD						35%	37%
	abs (RPD)						35%	37%
MW1	**MW1**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:06**	**3 *U***	**1 *U***
MW1	**MW20**	**L515743**	**Knight Piesold**	**June 2007**	**6/4/2007**	**13:15**	**3 *U***	**1.2**
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW9	**MW9**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:30**	**4 *U***	**1 *U***
MW9	**MW20**	**L526591**	**Knight Piesold**	**July 2007 I**	**7/2/2007**	**12:45**	**3 *U***	**1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW8	**MW8**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**4.05 *U***	**2.5 *U***
MW8	**MW20**	**K0706569**	**Integral**	**July 2007 II**	**7/23/2007**	**12:00**	**3.22 *U***	**3.07 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**4.02 *J***	**2.83 *U***
MW1	**MW20**	**K0707317**	**Integral**	**August 2007 I**	**8/14/2007**	**11:05**	**7.03 *J***	**2.1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW8	**MW8**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**1.97 *U***	**1.75 *U***
MW8	**MW20**	**K0707782**	**Integral**	**August 2007 II**	**8/28/2007**	**10:00**	**2.99 *U***	**1.93 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW7	**MW7**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**9.9 *U***	**7.3 *U***
MW7	**MW20**	**K0708240**	**Integral**	**September 2007 I**	**9/10/2007**	**12:25**	**9.8 *U***	**45.9 *J***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW8	**MW8**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**3.42 *U***	**3.38 *U***
MW8	**MW20**	**K0709126**	**Integral**	**September 2007 II**	**9/30/2007**	**10:45**	**2.27 *U***	**2.73 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**4.56 *U***	**3.9 *U***
MW1	**MW20**	**K0709804**	**Integral**	**October 2007**	**10/16/2007**	**12:25**	**4.81 *U***	**3.31 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW4	**MW4**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**9.99**	**9.83 *U***
MW4	**MW20**	**K0710773**	**Integral**	**November 2007**	**11/12/2007**	**11:50**	**13.5**	**15.1 *U***
	Sample Difference						3.51	NC
	RPD						-30%	NC
	abs (RPD)						30%	NC
MW1	**MW1**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**25.1 *J***	**5.93 *U***
MW1	**MW20**	**K0711891**	**Integral**	**December 2007 I**	**12/14/2007**	**13:00**	**8.66 *J***	**5.1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW3	**MW3**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**10.6 *J***	**7 *U***
MW3	**MW20**	**K0800335**	**Integral**	**January 2008**	**1/8/2008**	**13:18**	**7.4 *U***	**5.9 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW8	**MW8**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**2.4 *U***	**4.96 *U***
MW8	**MW20**	**K0801400**	**Integral**	**Februrary 2008**	**2/13/2008**	**10:00**	**2.6 *U***	**3.58 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW9	**MW9**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**7 *U***	**2.4 *U***
MW9	**MW20**	**K0802328**	**Integral**	**March 2008**	**3/13/2008**	**16:15**	**5.7 *U***	**3.7 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW7	**MW7**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**5.74 *U***	**3.2 *U***
MW7	**MW20**	**K0803239**	**Integral**	**April 2008**	**4/13/2008**	**15:45**	**6.3 *U***	**2.55 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**8.9 *U***	**21.5 *J***
MW4	**MW20**	**K0804080**	**Integral**	**May 2008**	**5/8/2008**	**15:50**	**8.3 *U***	**5.58 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW7	**MW7**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**25.3**	**5.2 *U***
MW7	**MW20**	**K0805877**	**Integral**	**June 2008**	**6/26/2008**	**13:30**	**14.6 *J***	**2.3 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**6.6 *U***	**1.6 *U***
MW1	**MW20**	**K0806880**	**Integral**	**July 2008**	**7/24/2008**	**13:35**	**19.3 *U***	**1.8 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**13.9 *U***	**15.8 *U***
MW4	**MW20**	**K0807975**	**Integral**	**August 2008**	**8/19/2008**	**10:15**	**15.9 *U***	**15.1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**6.31 *U***	**2.43 *U***
MW1	**MW20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**13:30**	**5.17 *U***	**2.3 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW1	**MW1**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**2.41 *U***	**1.25 *U***
MW1	**MW20**	**K0810253**	**Integral**	**October 2008**	**10/15/2008**	**15:00**	**1.82 *U***	**1.53 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**10 *J***	**6.11 *U***
MW1	**MW20**	**K0902142**	**Integral**	**March 2009**	**3/9/2009**	**10:10**	**4 *U***	**3.51 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**20.6 *J***	**20.9 *J***
MW4	**MW20**	**K0904395**	**Integral**	**May 2009**	**5/13/2009**	**11:00**	**13.4 *J***	**14.7 *J***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**9.4 *J***	**12.9 *J***
MW4	**MW20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**9:20**	**10.4 *J***	**8.69 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**4.4 *U***	**2.1 *U***
MW4	**MW20**	**K0908619**	**Integral**	**September 2009 II**	**9/13/2009**	**07:50**	**5.5 *U***	**2.6 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:02**	**1.58 *U***	**1.24 *U***
MW1	**MW20**	**K0910115**	**Integral**	**October 2009**	**10/17/2009**	**16:10**	**1.12 *U***	**1.1 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**13 *U***	**8.32 *U***
MW4	**MW20**	**K1000512**	**Integral**	**January 2010**	**1/15/2010**	**13:34**	**14.5 *U***	**10.3 *J***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**6.55 *U***	**5.51 *U***
MW4	**MW20**	**K1004032**	**Integral**	**April 2010**	**4/22/2010**	**10:00**	**3.73 *U***	**4.82 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**4.39 *U***	**4.26 *U***
MW1	**MW20**	**K1008751**	**Integral**	**August 2010**	**8/10/2010**	**16:00**	**11.6 *J***	**9.44 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1.1 *U***	**0.7 *U***
MW4	**MW20**	**K1011739**	**Integral**	**October 2010**	**10/19/2010**	**10:50**	**1 *U***	**0.5 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**2.34 *U***	**2.09 *U***
MW1	**MW20**	**K1100642**	**Integral**	**January 2011**	**1/20/2011**	**15:15**	**2.34 *U***	**1.97 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4b. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Permit Statior

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
MW4	**MW4**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**1.56 *U***	**1.87 *U***
MW4	**MW20**	**K1103541**	**Integral**	**April 2011**	**4/20/2011**	**11:15**	**1.66 *U***	**1.68 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**9.1 *J***	**1.7 *U***
MW4	**MW20**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**16:10**	**1.6 *U***	**1.6 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**3.24 *U***	**0.94 *U***
MW4	**MW20**	**K1112358**	**Integral**	**December 2011**	**12/20/2011**	**13:00**	**2.71 *U***	**1.46 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**1.2 *U***	**1.14 *U***
MW1	**MW20**	**K1200245**	**Integral**	**January 2012**	**1/9/2012**	**14:30**	**1.11 *U***	**1.88 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**1.98 *U***	**1.98 *U***
MW1	**MW20**	**K1203283**	**Integral**	**April 2012**	**4/7/2012**	**15:53**	**2.23 *U***	**1.85 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW4	**MW4**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**10:15**	**1.3 *U***	**1.2 *U***
MW4	**MW20**	**K1207121**	**Integral**	**July 2012**	**7/21/2012**	**15:15**	**1.21 *U***	**1.16 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
MW1	**MW1**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:30**	**1.4 *U***	**1.3 *UJ***
MW1	**MW20**	**K1210890**	**Integral**	**October 2012**	**10/28/2012**	**13:00**	**1.2 *U***	**1.1 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
WQ2	**WQ2**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**34**	**19.5**	**3 *U***	**13.5**	**5.31**	**4.58**	**0.005 *U***	--	**0.0319**	**0.001 *U***
WQ2	**WQ2 (Dup WQ12)**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**27**	**19.2**	**3 *U***	**13.7**	**5.31**	**4.6**	**0.005 *U***	--	**0.032**	**0.001 *U***
	Sample Difference						-7	-0.3	NC	0.2	0	0.02	NC	NC	0.0001	NC
	RPD						23%	2%	NC	-1%	0%	0%	NC	NC	0%	NC
	abs (RPD)						23%	2%	NC	1%	0%	0%	NC	NC	0%	NC
WQ2	**WQ2**	**K0807967**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**12**	**11**	**5 *U***	**5**	**1.8**	**1.7**	**0.05 *UJ***	**0.005 *UJ***	--	--
WQ2	**WQ20**	**K0807975**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**15 *U***	**16**	**5 *U***	**5**	**1.8**	**1.7**	**0.02 *UJ***	**0.005 *UJ***	--	--
	Sample Difference						NC	5	NC	0	0	0	NC	NC	NC	NC
	RPD						NC	-37%	NC	0%	0%	0%	NC	NC	NC	NC
	abs (RPD)						NC	37%	NC	0%	0%	0%	NC	NC	NC	NC
WQ14	**WQ14**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:30**	**32**	**14**	**5 *U***	**14.9**	**2.75**	**1.12**	**0.009 *UJ***	**0.009 *U***	--	--
WQ14	**WQ20**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:40**	**34**	**15.6**	**5 *U***	**14.9**	**2.74**	**1.11**	**0.043 *UJ***	**0.02 *J***	--	--
	Sample Difference						2	1.6	NC	0	-0.01	-0.01	NC	NC	NC	NC
	RPD						-6%	-11%	NC	0%	0%	1%	NC	NC	NC	NC
	abs (RPD)						6%	11%	NC	0%	0%	1%	NC	NC	NC	NC
WQ14	**WQ14**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**31.5**	**16**	**5 *U***	**19.7**	**4.43**	**1.2**	**0.021 *UJ***	**0.026 *UJ***	--	--
WQ14	**WQ20**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**21.5**	**16.8**	**5 *U***	**20.3**	**4.44**	**1.21**	**0.029 *UJ***	**0.041 *UJ***	--	--
	Sample Difference						-10	0.8	NC	0.6	0.01	0.01	NC	NC	NC	NC
	RPD						38%	-5%	NC	-3%	0%	-1%	NC	NC	NC	NC
	abs (RPD)						38%	5%	NC	3%	0%	1%	NC	NC	NC	NC
WQ14	**WQ14**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**61.5**	**23**	**5 *U***	**25.6**	**6.29**	**1.73**	**0.009 *U***	**0.048 *J***	--	--
WQ14	**WQ20**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**45**	**22**	**5 *U***	**23.6**	**6.26**	**1.73**	**0.011 *U***	**0.039 *J***	--	--
	Sample Difference						-16.5	-1	NC	-2	-0.03	0	NC	NC	NC	NC
	RPD						31%	4%	NC	8%	0%	0%	NC	NC	NC	NC
	abs (RPD)						31%	4%	NC	8%	0%	0%	NC	NC	NC	NC
WQ14	**WQ14**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**26**	**12**	**5 *U***	**12.8**	**3.62**	**1.17**	**0.009 *UJ***	**0.009 *U***	--	--
WQ14	**WQ20**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**25.5**	**12.8**	**5 *U***	**14.1**	**3.61**	**1.16**	**0.009 *UJ***	**0.009 *U***	--	--
	Sample Difference						-0.5	0.8	NC	1.3	-0.01	-0.01	NC	NC	NC	NC
	RPD						2%	-6%	NC	-10%	0%	1%	NC	NC	NC	NC
	abs (RPD)						2%	6%	NC	10%	0%	1%	NC	NC	NC	NC
WQ14	**WQ14**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**31 *U***	**28.8**	**5 *U***	**29.1**	**7.26**	**1.91**	**0.024 *UJ***	**0.009 *U***	--	--
WQ14	**WQ20**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**33 *U***	**29.2**	**5 *U***	**31.2**	**7.16**	**1.9**	**0.02 *UJ***	**0.02 *J***	--	--
	Sample Difference						NC	0.4	NC	2.1	-0.1	-0.01	NC	NC	NC	NC
	RPD						NC	-1%	NC	-7%	1%	1%	NC	NC	NC	NC
	abs (RPD)						NC	1%	NC	7%	1%	1%	NC	NC	NC	NC
WQ14	**WQ14**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**50**	**21.6**	**24**	**20.1 *UJ***	**3.68**	**1.64**	**0.019 *UJ***	**0.045 *UJ***	--	--
WQ14	**WQ20**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**77**	**20.8**	**5 *U***	**21.8 *UJ***	**3.47**	**1.54**	**0.012 *UJ***	**0.037 *UJ***	--	--
	Sample Difference						27	-0.8	NC	NC	-0.21	-0.1	NC	NC	NC	NC
	RPD						-43%	4%	NC	NC	6%	6%	NC	NC	NC	NC
	abs (RPD)						43%	4%	NC	NC	6%	6%	NC	NC	NC	NC
WQ14	**WQ14**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**12 *U***	**23.1**	**5 *U***	**23.8 *UJ***	**5.2**	**1.88**	**0.059 *UJ***	**0.026 *J***	--	--
WQ14	**WQ20**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**8.5 *U***	**22.7**	**5 *U***	**24 *UJ***	**5.25**	**1.88**	**0.035 *UJ***	**0.016 *J***	--	--
	Sample Difference						NC	-0.4	NC	NC	0.05	0	NC	NC	NC	NC
	RPD						NC	2%	NC	NC	-1%	0%	NC	NC	NC	NC
	abs (RPD)						NC	2%	NC	NC	1%	0%	NC	NC	NC	NC
WQ14	**WQ14**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**50**	**48**	**5.5**	**49**	**4.2**	**2.56**	**0.02 *UJ***	**0.009 *U***	--	--
WQ14	**WQ20**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**37**	**47.6**	**5 *U***	**47.8**	**4.21**	**2.58**	**0.044 *UJ***	**0.009 *U***	--	--
	Sample Difference						-13	-0.4	NC	-1.2	0.01	0.02	NC	NC	NC	NC
	RPD						30%	1%	NC	2%	0%	-1%	NC	NC	NC	NC
	abs (RPD)						30%	1%	NC	2%	0%	1%	NC	NC	NC	NC
WQ2	**WQ2**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**14:30**	**49**	**15.2 *J***	**5 *U***	**10.2**	**2.59**	**3.35**	**0.021 *UJ***	**0.028 *J***	--	--
WQ2	**WQ20**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**12:00**	**21.5**	**15.2 *J***	**5 *U***	**10**	**2.62**	**3.34**	**0.009 *U***	**0.021 *J***	--	--
	Sample Difference						-27.5	NC	NC	-0.2	0.03	-0.01	NC	NC	NC	NC
	RPD						78%	NC	NC	2%	-1%	0%	NC	NC	NC	NC
	abs (RPD)						78%	NC	NC	2%	1%	0%	NC	NC	NC	NC

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surface Water

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)

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
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.

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
WQ2	**WQ2**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**29**	**27.7**	**0.5 *U***	**0.5 *U***	**0.041**	**0.034**	**5830**	**6030**	**1 *U***	**1 *U***
WQ2	**WQ2 (Dup WQ12)**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**62.7**	**31.4**	**0.5 *U***	**0.5 *U***	**0.048**	**0.031**	**5370**	**5890**	**1 *U***	**1 *U***
	Sample Difference						33.7	3.7	NC	NC	0.007	-0.003	-460	-140	NC	NC
	RPD						-74%	-13%	NC	NC	-16%	9%	8%	2%	NC	NC
	abs (RPD)						74%	13%	NC	NC	16%	9%	8%	2%	NC	NC
WQ2	**WQ2**	**K0807967**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**190 *J***	**182 *J***	**0.2 *U***	**0.2 *U***	**0.054 *UJ***	**0.039 *UJ***	**2370**	**2320**	**1.07**	**0.68 *UJ***
WQ2	**WQ20**	**K0807975**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**190**	**174**	**0.2 *U***	**0.2 *U***	**0.051 *UJ***	**0.053 *UJ***	**2320**	**2330**	**0.84 *U***	**0.66 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-50	10	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	2%	0%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	2%	0%	NC	NC
WQ14	**WQ14**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:30**	**121 *J***	**109 *J***	**0.2 *UJ***	**0.2 *UJ***	**0.005 *UJ***	**0.005 *UJ***	**5150**	**5330**	--	--
WQ14	**WQ20**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:40**	**124 *J***	**114 *J***	**0.2 *UJ***	**0.1 *UJ***	**0.005 *UJ***	**0.005 *UJ***	**5260**	**5440**	--	--
	Sample Difference						NC	NC	NC	NC	NC	NC	110	110	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-2%	-2%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	2%	2%	NC	NC
WQ14	**WQ14**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**62**	**58.8**	**0.18 *UJ***	**0.15 *UJ***	**0.003 *UJ***	**0.004 *UJ***	**6290**	**6900**	**0.32 *U***	**0.28 *UJ***
WQ14	**WQ20**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**64.7**	**60.3**	**0.22 *UJ***	**0.17 *UJ***	**0.004 *UJ***	**0.004 *UJ***	**6320**	**6910**	**0.29 *U***	**0.39 *UJ***
	Sample Difference						2.7	1.5	NC	NC	NC	NC	30	10	NC	NC
	RPD						-4%	-3%	NC	NC	NC	NC	0%	0%	NC	NC
	abs (RPD)						4%	3%	NC	NC	NC	NC	0%	0%	NC	NC
WQ14	**WQ14**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**50.2 *J***	**45.5 *J***	**0.15 *J***	**0.17 *J***	**0.003 *U***	**0.003 *U***	**8850**	**8690**	**0.7 *U***	**0.77 *U***
WQ14	**WQ20**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**50.6 *J***	**43.8 *J***	**0.14 *J***	**0.16 *J***	**0.003 *U***	**0.003 *U***	**8440**	**8740**	**0.74 *U***	**0.63 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-410	50	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	5%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	5%	1%	NC	NC
WQ14	**WQ14**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**96.8**	**80.5**	**0.07 *J***	**0.07 *U***	**0.004 *UJ***	**0.003 *UJ***	**5220**	**4850**	**0.6 *U***	**0.68 *U***
WQ14	**WQ20**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**92.9**	**80.7**	**0.07 *U***	**0.07 *U***	**0.003 *UJ***	**0.003 *UJ***	**5020**	**5080**	**0.71 *U***	**0.7 *U***
	Sample Difference						-3.9	0.2	NC	NC	NC	NC	-200	230	NC	NC
	RPD						4%	0%	NC	NC	NC	NC	4%	-5%	NC	NC
	abs (RPD)						4%	0%	NC	NC	NC	NC	4%	5%	NC	NC
WQ14	**WQ14**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**47.9**	**41.2**	**0.13 *UJ***	**0.19 *UJ***	**0.003 *U***	**0.003 *J***	**11000**	**11000**	**0.78 *U***	**0.65 *U***
WQ14	**WQ20**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**49.2**	**43.8**	**0.21 *UJ***	**0.2 *UJ***	**0.007 *J***	**0.003 *U***	**10900**	**11200**	**0.79 *U***	**0.67 *U***
	Sample Difference						1.3	2.6	NC	NC	NC	NC	-100	200	NC	NC
	RPD						-3%	-6%	NC	NC	NC	NC	1%	-2%	NC	NC
	abs (RPD)						3%	6%	NC	NC	NC	NC	1%	2%	NC	NC
WQ14	**WQ14**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**151 *R***	**143 *R***	**0.14 *J***	**0.19 *J***	**0.004 *UJ***	**0.005 *UJ***	**6410**	**6580**	**0.35 *UJ***	**0.38 *UJ***
WQ14	**WQ20**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**153 *R***	**144 *R***	**0.23 *J***	**0.2 *J***	**0.005 *UJ***	**0.003 *UJ***	**6480**	**6720**	**0.45**	**0.37 *UJ***
	Sample Difference						NC	NC	NC	NC	NC	NC	70	140	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-1%	-2%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	2%	NC	NC
WQ14	**WQ14**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**72.5**	**65.6**	**0.14 *J***	**0.11 *J***	**0.003 *J***	**0.005 *J***	**7190**	**7190**	**0.74 *U***	**0.49 *UJ***
WQ14	**WQ20**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**72.6**	**72.8**	**0.17 *J***	**0.13 *J***	**0.003 *U***	**0.004 *J***	**7340**	**7170**	**0.41 *U***	**0.7 *UJ***
	Sample Difference						0.1	7.2	NC	NC	NC	NC	150	-20	NC	NC
	RPD						0%	-10%	NC	NC	NC	NC	-2%	0%	NC	NC
	abs (RPD)						0%	10%	NC	NC	NC	NC	2%	0%	NC	NC
WQ14	**WQ14**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**60.4**	**48.9**	**0.22 *J***	**0.28 *J***	**0.004 *UJ***	**0.003 *UJ***	**16900**	**16600**	**0.3 *U***	**0.28 *UJ***
WQ14	**WQ20**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**57.5**	**47.2**	**0.26 *J***	**0.22 *J***	**0.004 *UJ***	**0.008 *UJ***	**17000**	**16800**	**0.37 *U***	**0.28 *UJ***
	Sample Difference						-2.9	-1.7	NC	NC	NC	NC	100	200	NC	NC
	RPD						5%	4%	NC	NC	NC	NC	-1%	-1%	NC	NC
	abs (RPD)						5%	4%	NC	NC	NC	NC	1%	1%	NC	NC
WQ2	**WQ2**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**14:30**	**82.3**	**75.5**	**0.03 *J***	**0.05 *J***	**0.052**	**0.036**	**3780**	**3780**	**0.3**	**0.7 *J***
WQ2	**WQ20**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**12:00**	**85.1**	**76.3**	**0.04 *J***	**0.04 *J***	**0.043**	**0.029**	**3800**	**3790**	**0.32**	**0.28 *J***
	Sample Difference						2.8	0.8	NC	NC	-0.009	-0.007	20	10	0.02	NC
	RPD						-3%	-1%	NC	NC	19%	22%	-1%	0%	-6%	NC
	abs (RPD)						3%	1%	NC	NC	19%	22%	1%	0%	6%	NC

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved

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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended so

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 i

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
WQ2	**WQ2**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**1.4**	**1.5**	**30 *U***	**30 *U***	**0.5 *U***	**0.5 *U***	**1070**	**1080**	**0.02 *U***	**0.02 *U***
WQ2	**WQ2 (Dup WQ12)**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**1.4**	**1.6**	**30 *U***	**34**	**0.5 *U***	**0.5 *U***	**1080**	**1090**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	0.1	NC	NC	NC	NC	10	10	NC	NC
	RPD						0%	-6%	NC	NC	NC	NC	-1%	-1%	NC	NC
	abs (RPD)						0%	6%	NC	NC	NC	NC	1%	1%	NC	NC
WQ2	**WQ2**	**K0807967**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**5.65 *J***	**5.5 *J***	**157**	**140**	**0.067**	**0.051 *UJ***	**363**	**357**	**0.05 *U***	**0.05 *U***
WQ2	**WQ20**	**K0807975**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**5.6**	**5.21**	**151**	**139**	**0.061 *UJ***	**0.049 *UJ***	**355**	**358**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	-6	-1	NC	NC	-8	1	NC	NC
	RPD						NC	NC	4%	1%	NC	NC	2%	0%	NC	NC
	abs (RPD)						NC	NC	4%	1%	NC	NC	2%	0%	NC	NC
WQ14	**WQ14**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:30**	**0.77**	**0.7 *U***	**103 *J***	**84.7 *J***	**0.024 *UJ***	**0.01 *UJ***	**514**	**529**	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:40**	**0.77**	**0.98**	**100 *J***	**86.8 *J***	**0.018 *UJ***	**0.048 *UJ***	**518**	**530**	**0.02 *U***	**0.02 *U***
	Sample Difference						0	NC	NC	NC	NC	NC	4	1	NC	NC
	RPD						0%	NC	NC	NC	NC	NC	-1%	0%	NC	NC
	abs (RPD)						0%	NC	NC	NC	NC	NC	1%	0%	NC	NC
WQ14	**WQ14**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**0.41**	**0.45**	**64.5**	**52.9**	**0.012 *UJ***	**0.012 *UJ***	**742**	**738**	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**0.62**	**0.41**	**62.1**	**53.1**	**0.018 *UJ***	**0.009 *UJ***	**737**	**747**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.21	-0.04	-2.4	0.2	NC	NC	-5	9	NC	NC
	RPD						-41%	9%	4%	0%	NC	NC	1%	-1%	NC	NC
	abs (RPD)						41%	9%	4%	0%	NC	NC	1%	1%	NC	NC
WQ14	**WQ14**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.28**	**0.26**	--	--	**0.005 *U***	**0.005 *U***	**902 *J***	**891 *J***	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.31**	**0.27**	--	--	**0.005 *U***	**0.016 *J***	**863 *J***	**887 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						0.03	0.01	NC	NC	NC	NC	NC	NC	NC	NC
	RPD						-10%	-4%	NC	NC	NC	NC	NC	NC	NC	NC
	abs (RPD)						10%	4%	NC	NC	NC	NC	NC	NC	NC	NC
WQ14	**WQ14**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.47**	**0.46**	**112**	**64.6 *UJ***	**0.016 *J***	**0.018 *UJ***	**529**	**488**	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.46**	**0.46**	**95.1**	**74.5 *UJ***	**0.016 *J***	**0.009 *UJ***	**505**	**514**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.01	0	-16.9	NC	NC	NC	-24	26	NC	NC
	RPD						2%	0%	16%	NC	NC	NC	5%	-5%	NC	NC
	abs (RPD)						2%	0%	16%	NC	NC	NC	5%	5%	NC	NC
WQ14	**WQ14**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**0.33 *J***	**0.29 *J***	**35.8 *R***	**24.7 *R***	**0.005 *U***	**0.005 *U***	**1050**	**933**	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**0.48 *J***	**0.34 *J***	**37.8 *R***	**23.9 *R***	**0.027**	**0.005 *U***	**936**	**1040**	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	NC	NC	NC	NC	-114	107	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	11%	-11%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	11%	11%	NC	NC
WQ14	**WQ14**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**0.97**	**0.93**	**140 *J***	**110 *J***	**0.023 *UJ***	**0.022 *U***	**594**	**593**	**0.02 *UJ***	**0.02 *UJ***
WQ14	**WQ20**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**1.02**	**0.95**	**131 *J***	**116 *J***	**0.034**	**0.022 *U***	**591**	**609**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						0.05	0.02	NC	NC	NC	NC	-3	16	NC	NC
	RPD						-5%	-2%	NC	NC	NC	NC	1%	-3%	NC	NC
	abs (RPD)						5%	2%	NC	NC	NC	NC	1%	3%	NC	NC
WQ14	**WQ14**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.31**	**0.33**	**104**	**85.1**	**0.03**	**0.034 *UJ***	**625**	**623**	**0.02 *UJ***	**0.02 *UJ***
WQ14	**WQ20**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.29**	**0.29 *UJ***	**102**	**83.8**	**0.032**	**0.025 *UJ***	**640**	**621**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						-0.02	NC	-2	-1.3	0.002	NC	15	-2	NC	NC
	RPD						7%	NC	2%	2%	-6%	NC	-2%	0%	NC	NC
	abs (RPD)						7%	NC	2%	2%	6%	NC	2%	0%	NC	NC
WQ14	**WQ14**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.59**	**0.47**	**79.3**	**58.1**	**0.047**	**0.016 *UJ***	**1250**	**1220**	**0.02 *U***	**0.02 *U***
WQ14	**WQ20**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.57**	**0.4**	**74.6**	**58.3**	**0.025 *UJ***	**0.012 *UJ***	**1240**	**1240**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.02	-0.07	-4.7	0.2	NC	NC	-10	20	NC	NC
	RPD						3%	16%	6%	0%	NC	NC	1%	-2%	NC	NC
	abs (RPD)						3%	16%	6%	0%	NC	NC	1%	2%	NC	NC
WQ2	**WQ2**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**14:30**	**3.68**	**3.32**	**79.9**	**61.2**	**0.034**	**0.024**	**601**	**608**	**0.02 *U***	**0.02 *U***
WQ2	**WQ20**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**12:00**	**3.64**	**3.34**	**68.5**	**54.7**	**0.028**	**0.022**	**621**	**615**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.04	0.02	-11.4	-6.5	-0.006	-0.002	20	7	NC	NC
	RPD						1%	-1%	15%	11%	19%	9%	-3%	-1%	NC	NC
	abs (RPD)						1%	1%	15%	11%	19%	9%	3%	1%	NC	NC

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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

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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
WQ2	**WQ2**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3400**	**3500**
WQ2	**WQ2 (Dup WQ12)**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**1 *U***	**1 *U***	**2000 *U***	**2000 *U***	**1 *U***	**1 *U***	**0.02 *U***	**0.02 *U***	**3500**	**3600**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	100	100
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	-3%	-3%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	3%	3%
WQ2	**WQ2**	**K0807967**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**0.24 *UJ***	**0.17 *UJ***	**69 *J***	**86 *J***	**0.4 *U***	**0.4 *U***	**0.104**	**0.078 *UJ***	**2130**	**2140**
WQ2	**WQ20**	**K0807975**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**0.08 *UJ***	**0.09 *UJ***	**30 *U***	**30 *U***	**0.4 *UJ***	**0.4 *U***	**0.038 *UJ***	**0.015 *UJ***	**2080**	**2130**
	Sample Difference						NC	NC	NC	NC	NC	NC	NC	NC	-50	-10
	RPD						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	2%	0%
WQ14	**WQ14**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:30**	**0.33**	**0.32 *UJ***	**115 *J***	**124 *J***	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2510**	**2420**
WQ14	**WQ20**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:40**	**0.36**	**0.41 *UJ***	**122 *J***	**115 *J***	**0.2 *U***	**0.2 *U***	**0.004 *UJ***	**0.004 *UJ***	**2370**	**2440**
	Sample Difference						0.03	NC	NC	NC	NC	NC	NC	NC	-140	20
	RPD						-9%	NC	NC	NC	NC	NC	NC	NC	6%	-1%
	abs (RPD)						9%	NC	NC	NC	NC	NC	NC	NC	6%	1%
WQ14	**WQ14**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**0.31 *UJ***	**0.3**	**149 *J***	**145 *J***	**0.3 *UJ***	**0.3 *UJ***	**0.004 *UJ***	**0.005 *UJ***	**2840**	**2780**
WQ14	**WQ20**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**0.29 *UJ***	**0.35**	**146 *J***	**158 *J***	**0.4 *UJ***	**0.4 *UJ***	**0.005 *UJ***	**0.004 *UJ***	**2830**	**2840**
	Sample Difference						NC	0.05	NC	NC	NC	NC	NC	NC	-10	60
	RPD						NC	-15%	NC	NC	NC	NC	NC	NC	0%	-2%
	abs (RPD)						NC	15%	NC	NC	NC	NC	NC	NC	0%	2%
WQ14	**WQ14**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.88**	**1.02**	**148 *UJ***	**146 *UJ***	**0.3 *U***	**0.3 *U***	**0.017 *UJ***	**0.006 *UJ***	**3460**	**3340**
WQ14	**WQ20**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.92**	**0.95**	**166 *UJ***	**158 *UJ***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3250**	**3370**
	Sample Difference						0.04	-0.07	NC	NC	NC	NC	NC	NC	-210	30
	RPD						-4%	7%	NC	NC	NC	NC	NC	NC	6%	-1%
	abs (RPD)						4%	7%	NC	NC	NC	NC	NC	NC	6%	1%
WQ14	**WQ14**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.36**	**0.38**	**117 *J***	**91 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**2730**	**2490**
WQ14	**WQ20**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.35**	**0.38**	**104 *J***	**100 *J***	**0.3 *U***	**0.3 *U***	**0.004 *U***	**0.004 *U***	**2570**	**2650**
	Sample Difference						-0.01	0	NC	NC	NC	NC	NC	NC	-160	160
	RPD						3%	0%	NC	NC	NC	NC	NC	NC	6%	-6%
	abs (RPD)						3%	0%	NC	NC	NC	NC	NC	NC	6%	6%
WQ14	**WQ14**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**0.31**	**0.4**	**210 *J***	**166 *J***	**0.3 *U***	**0.4 *J***	**0.004 *UJ***	**0.004 *UJ***	**4180**	**4140**
WQ14	**WQ20**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**0.49**	**0.43**	**175 *J***	**182 *J***	**0.4 *J***	**0.3 *J***	**0.004 *UJ***	**0.004 *UJ***	**4130**	**4160**
	Sample Difference						0.18	0.03	NC	NC	NC	NC	NC	NC	-50	20
	RPD						-45%	-7%	NC	NC	NC	NC	NC	NC	1%	0%
	abs (RPD)						45%	7%	NC	NC	NC	NC	NC	NC	1%	0%
WQ14	**WQ14**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**0.35**	**0.35**	**121 *J***	**120 *J***	**0.3 *U***	**0.3 *J***	**0.004 *UJ***	**0.004 *UJ***	**3120**	**3080**
WQ14	**WQ20**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**0.38**	**0.34**	**119 *J***	**108 *J***	**0.3 *J***	**0.4 *J***	**0.004 *UJ***	**0.004 *UJ***	**3130**	**3090**
	Sample Difference						0.03	-0.01	NC	NC	NC	NC	NC	NC	10	10
	RPD						-8%	3%	NC	NC	NC	NC	NC	NC	0%	0%
	abs (RPD)						8%	3%	NC	NC	NC	NC	NC	NC	0%	0%
WQ14	**WQ14**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.44 *U***	**0.39**	**165 *J***	**170 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3320**	**3410**
WQ14	**WQ20**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.28 *U***	**0.45**	**161 *J***	**173 *J***	**0.3 *U***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3410**	**3320**
	Sample Difference						NC	0.06	NC	NC	NC	NC	NC	NC	90	-90
	RPD						NC	-14%	NC	NC	NC	NC	NC	NC	-3%	3%
	abs (RPD)						NC	14%	NC	NC	NC	NC	NC	NC	3%	3%
WQ14	**WQ14**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.62**	**0.5**	**145 *J***	**124 *J***	**0.3 *U***	**0.3 *J***	**0.004 *UJ***	**0.004 *UJ***	**3140**	**3270**
WQ14	**WQ20**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.64**	**0.54**	**145 *J***	**128 *J***	**0.3 *J***	**0.3 *U***	**0.004 *UJ***	**0.004 *UJ***	**3210**	**3290**
	Sample Difference						0.02	0.04	NC	NC	NC	NC	NC	NC	70	20
	RPD						-3%	-8%	NC	NC	NC	NC	NC	NC	-2%	-1%
	abs (RPD)						3%	8%	NC	NC	NC	NC	NC	NC	2%	1%
WQ2	**WQ2**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**14:30**	**0.24**	**0.44**	**93.3 *J***	**142 *J***	**0.2 *U***	**0.2 *U***	**0.017 *J***	**0.01 *J***	**2900**	**2960**
WQ2	**WQ20**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**12:00**	**0.23**	**0.2**	**50 *U***	**57.6 *J***	**0.2 *U***	**0.2 *U***	**0.015 *J***	**0.012 *J***	**3010**	**3000**
	Sample Difference						-0.01	-0.24	NC	NC	NC	NC	NC	NC	110	40
	RPD						4%	75%	NC	NC	NC	NC	NC	NC	-4%	-1%
	abs (RPD)						4%	75%	NC	NC	NC	NC	NC	NC	4%	1%

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved

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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
WQ2	**WQ2**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**8.5**	**8.9**
WQ2	**WQ2 (Dup WQ12)**	**X2213**	**Knight Piesold**	**February 2006 II**	**2/16/2006**		**8.7**	**12.2**
	Sample Difference						0.2	3.3
	RPD						-2%	-31%
	abs (RPD)						2%	31%
WQ2	**WQ2**	**K0807967**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**13.1 *J***	**11.1 *U***
WQ2	**WQ20**	**K0807975**	**Integral**	**August 2008**	**8/20/2008**	**10:40**	**13.1 *U***	**10.9 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:30**	**2.5 *U***	**0.9 *U***
WQ14	**WQ20**	**K0908796**	**Integral**	**September 2009 III**	**9/19/2009**	**12:40**	**7.2 *U***	**9.9 *J***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**0.54 *UJ***	**1.01 *UJ***
WQ14	**WQ20**	**K0910635**	**Integral**	**November 2009**	**11/1/2009**	**9:15**	**6.75 *UJ***	**0.9 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.33 *U***	**0.5 *U***
WQ14	**WQ20**	**K1000085**	**Integral**	**December 2009 II**	**12/29/2009**	**09:50**	**0.48 *U***	**0.3 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.75 *U***	**0.62 *U***
WQ14	**WQ20**	**K1001408**	**Integral**	**February 2010**	**2/12/2010**	**11:45**	**0.91 *U***	**0.51 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**1.36**	**0.33 *UJ***
WQ14	**WQ20**	**K1002122**	**Integral**	**March 2010**	**3/5/2010**	**11:45**	**7.9**	**1.96 *UJ***
	Sample Difference						6.54	NC
	RPD						-141%	NC
	abs (RPD)						141%	NC
WQ14	**WQ14**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**1.04 *U***	**0.5 *UJ***
WQ14	**WQ20**	**K1009889**	**Integral**	**September 2010**	**9/7/2010**	**12:10**	**2.47 *U***	**0.64 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.93 *U***	**1.49 *U***
WQ14	**WQ20**	**K1102183**	**Integral**	**March 2011**	**3/9/2011**	**15:20**	**0.66 *U***	**0.7 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ14	**WQ14**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.42 *U***	**0.28 *UJ***
WQ14	**WQ20**	**K1106351**	**Integral**	**July 2011**	**7/12/2011**	**11:30**	**0.28 *U***	**0.26 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
WQ2	**WQ2**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**14:30**	**5.68 *U***	**5.28 *U***
WQ2	**WQ20**	**K1207118**	**Integral**	**July 2012**	**7/22/2012**	**12:00**	**5.74 *U***	**5.48 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4c. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Offsite Surfac

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved

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 Gr
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved soli
TSS = total suspended sc

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 i

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, and Barrels

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
EFF1	**EFF1**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**112**	**57 *U***	**30**	**63**	**4.1**	**25.3**	**1.61**	**5.42**	--	--
EFF1	**EFF2**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**101**	**64**	**29**	**64**	**4**	**25.4**	**1.58**	**5.28**	--	--
	Sample Difference						-11	NC	-1	1	-0.1	0.1	-0.03	-0.14	NC	NC
	RPD						10%	NC	3%	-2%	2%	0%	2%	3%	NC	NC
	abs (RPD)						10%	NC	3%	2%	2%	0%	2%	3%	NC	NC
EFF1	**EFF1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**173**	**120**	**13**	**76**	**2.8**	**45**	**0.4**	**1.01**	--	--
EFF1	**WQ20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**154**	**112**	**13**	**75**	**2.8**	**49.2**	**0.38**	**0.94**	--	--
	Sample Difference						-19	-8	0	-1	0	4.2	-0.02	-0.07	NC	NC
	RPD						12%	7%	0%	1%	0%	-9%	5%	7%	NC	NC
	abs (RPD)						12%	7%	0%	1%	0%	9%	5%	7%	NC	NC
PORTAL	**PORTAL**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**98**	**80**	**5 *U***	**76**	**2.9**	**16.5**	**0.009 *U***	**0.13**	--	--
PORTAL	**WQ20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**99**	**79**	**5 *U***	**76**	**2.9**	**16.3**	**0.02 *UJ***	**0.13**	--	--
	Sample Difference						1	-1	NC	0	0	-0.2	NC	0	NC	NC
	RPD						-1%	1%	NC	0%	0%	1%	NC	0%	NC	NC
	abs (RPD)						1%	1%	NC	0%	0%	1%	NC	0%	NC	NC
PAG	**PAG**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**204**	**132**	**5 *U***	**47.2**	**3.11**	**95**	**0.024 *UJ***	**0.086 *UJ***	--	--
PAG	**WQ20**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**189**	**130**	**5 *U***	**48.2**	**3.12**	**95.6**	**0.009 *UJ***	**0.109 *UJ***	--	--
	Sample Difference						-15	-2	NC	1	0.01	0.6	NC	NC	NC	NC
	RPD						8%	2%	NC	-2%	0%	-1%	NC	NC	NC	NC
	abs (RPD)						8%	2%	NC	2%	0%	1%	NC	NC	NC	NC
PAG	**PAG**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**400**	**187**	**5**	**42.6**	**2.21**	**172**	**0.027 *UJ***	**0.116 *UJ***	--	--
PAG	**WQ20**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**241**	**187**	**5**	**42.3**	**2.18**	**169**	**0.009 *UJ***	**0.111 *UJ***	--	--
	Sample Difference						-159	0	0	-0.3	-0.03	-3	NC	NC	NC	NC
	RPD						50%	0%	0%	1%	1%	2%	NC	NC	NC	NC
	abs (RPD)						50%	0%	0%	1%	1%	2%	NC	NC	NC	NC
EFF1	**EFF1**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**63**	**103**	**13**	**80.5**	**3.51**	**20.8**	**0.009 *UJ***	**0.069 *UJ***	--	--
EFF1	**WQ20**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**110**	**110**	**20.5**	**83.5**	**3.19**	**20.8**	**0.009 *UJ***	**0.064 *UJ***	--	--
	Sample Difference						47	7	7.5	3	-0.32	0	NC	NC	NC	NC
	RPD						-54%	-7%	-45%	-4%	10%	0%	NC	NC	NC	NC
	abs (RPD)						54%	7%	45%	4%	10%	0%	NC	NC	NC	NC
PAG	**PAG**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**242**	**136**	**5 *U***	**50.6**	**9.48**	**72.8**	--	**0.087**	--	--
PAG	**WQ20**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**179**	**132**	**5 *U***	**49.5**	**9.53**	**72.4**	--	**0.081**	--	--
	Sample Difference						-63	-4	NC	-1.1	0.05	-0.4	NC	-0.006	NC	NC
	RPD						30%	3%	NC	2%	-1%	1%	NC	7%	NC	NC
	abs (RPD)						30%	3%	NC	2%	1%	1%	NC	7%	NC	NC
PAG	**PAG**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**9:30**	**323**	**109**	**5 *U***	**50.4**	**3.49**	**41.5**	**0.032 *UJ***	**0.04 *J***	--	--
PAG	**WQ20**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**11:00**	**191**	**101**	**5 *U***	**51.8**	**3.6**	**41.1**	**0.03 *UJ***	**0.041 *J***	--	--
	Sample Difference						-132	-8	NC	1.4	0.11	-0.4	NC	NC	NC	NC
	RPD						51%	8%	NC	-3%	-3%	1%	NC	NC	NC	NC
	abs (RPD)						51%	8%	NC	3%	3%	1%	NC	NC	NC	NC
PAG	**PAG**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**92**	**90.7**	**5 *U***	**48.2**	**3.61**	**36.3**	**0.036 *UJ***	**0.049 *J***	--	--
PAG	**WQ20**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**101**	**90.3**	**5 *U***	**47.3**	**3.44**	**37.3**	**0.033 *UJ***	**0.051**	--	--
	Sample Difference						9	-0.4	NC	-0.9	-0.17	1	NC	NC	NC	NC
	RPD						-9%	0%	NC	2%	5%	-3%	NC	NC	NC	NC
	abs (RPD)						9%	0%	NC	2%	5%	3%	NC	NC	NC	NC
PAG	**PAG**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**191**	**118**	**5 *U***	**49**	**3.4**	**69.3**	--	**0.039 *UJ***	--	--
PAG	**WQ20**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**170**	**121**	**5 *U***	**50.8**	**3.42**	**68**	--	**0.053 *UJ***	--	--
	Sample Difference						-21	3	NC	1.8	0.02	-1.3	NC	NC	NC	NC
	RPD						12%	-3%	NC	-4%	-1%	2%	NC	NC	NC	NC
	abs (RPD)						12%	3%	NC	4%	1%	2%	NC	NC	NC	NC
PAG	**PAG**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**265**	**175**	**244**	**54**	**3.4**	**125**	**0.01 *UJ***	**0.009 *U***	--	--
PAG	**WQ20**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**265**	**169**	**236**	**55.2**	**3.41**	**134**	**0.009 *UJ***	**0.031 *J***	--	--
	Sample Difference						0	-6	-8	1.2	0.01	9	NC	NC	NC	NC
	RPD						0%	3%	3%	-2%	0%	-7%	NC	NC	NC	NC
	abs (RPD)						0%	3%	3%	2%	0%	7%	NC	NC	NC	NC

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, and Barrels

							Analytical Physical Tests			Dissolved Anions and Nutrients						
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	TDS (mg/L)	Hardness as $CaCO_3$ (mg/L)	TSS (mg/L)	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)
EFF1	**EFF1**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**90**	**70**	**26.5**	**31**	**3.69**	**18**	**0.009 *UJ***	**0.041 *UJ***	--	--
EFF1	**WQ20**	**K1106865**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**93**	**70**	**26.5**	**57**	**3.61**	**18.4**	**0.009 *UJ***	**0.07 *UJ***	--	--
	Sample Difference						3	0	0	26	-0.08	0.4	NC	NC	NC	NC
	RPD						-3%	0%	0%	-59%	2%	-2%	NC	NC	NC	NC
	abs (RPD)						3%	0%	0%	59%	2%	2%	NC	NC	NC	NC
PAG	**PAG**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**170**	**141**	**5 *U***	**46**	**0.43**	**94.7**	**0.023 *UJ***	**0.143**	--	--
PAG	**WQ20**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**166**	**140**	**5 *U***	**48**	**0.41**	**95.9**	**0.015 *UJ***	**0.087**	--	--
	Sample Difference						-4	-1	NC	2	-0.02	1.2	NC	-0.056	NC	NC
	RPD						2%	1%	NC	-4%	5%	-1%	NC	49%	NC	NC
	abs (RPD)						2%	1%	NC	4%	5%	1%	NC	49%	NC	NC
EFF1	**EFF1**	**K1108476/K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**88**	**81.6**	**27**	**62.7**	**3.37**	**23.6**	**0.017 *UJ***	**0.022 *J***	--	--
EFF1	**WQ20**	**K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**84**	**81.6**	**25**	**62.8**	**3.38**	**23.8 *J***	**0.023 *UJ***	**0.009 *U***	--	--
	Sample Difference						-4	0	-2	0.1	0.01	NC	NC	NC	NC	NC
	RPD						5%	0%	8%	0%	0%	NC	NC	NC	NC	NC
	abs (RPD)						5%	0%	8%	0%	0%	NC	NC	NC	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

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.

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

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
EFF1	**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**	**35.3**	**33.4**
EFF1	**EFF2**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1070**	**291**	**0.84**	**0.5**	**0.049**	**0.022 *UJ***	**17900**	**15500**	**34.5**	**32.8**
	Sample Difference						10	4	-0.01	NC	NC	NC	-100	100	-0.8	-0.6
	RPD						-1%	-1%	1%	NC	NC	NC	1%	-1%	2%	2%
	abs (RPD)						1%	1%	1%	NC	NC	NC	1%	1%	2%	2%
EFF1	**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**	**1.85**	**1.08**
EFF1	**WQ20**	**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**	**1.78**	**0.91**
	Sample Difference						NC	NC	-0.03	NC	NC	NC	1300	-400	-0.07	-0.17
	RPD						NC	NC	3%	NC	NC	NC	-3%	1%	4%	17%
	abs (RPD)						NC	NC	3%	NC	NC	NC	3%	1%	4%	17%
PORTAL	**PORTAL**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**49.9 *J***	**41.9 *J***	**1.05**	**1.01**	**0.227**	**0.211**	**28500**	**27500**	--	--
PORTAL	**WQ20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**47.6 *J***	**42.4 *J***	**1**	**1.02**	**0.213**	**0.211**	**28800**	**28100**	--	--
	Sample Difference						NC	NC	-0.05	0.01	-0.014	0	300	600	NC	NC
	RPD						NC	NC	5%	-1%	6%	0%	-1%	-2%	NC	NC
	abs (RPD)						NC	NC	5%	NC	6%	0%	1%	2%	NC	NC
PAG	**PAG**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**35.2 *U***	**16.2**	**0.41 *UJ***	**0.39 *UJ***	**0.056**	**0.024 *UJ***	**47200**	**49800**	**0.14 *J***	**0.07 *J***
PAG	**WQ20**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**33.6 *U***	**15.6**	**0.39 *UJ***	**0.25 *UJ***	**0.057**	**0.025 *UJ***	**45900**	**47000**	**0.09 *J***	**0.08 *J***
	Sample Difference						NC	-0.6	NC	NC	0.001	NC	-1300	-2800	NC	NC
	RPD						NC	4%	NC	NC	-2%	NC	3%	6%	NC	NC
	abs (RPD)						NC	4%	NC	NC	2%	NC	3%	6%	NC	NC
PAG	**PAG**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**24.6 *J***	**11.4 *J***	**0.2 *UJ***	**0.2 *UJ***	**0.123**	**0.055**	**65800**	**68100**	**0.12 *UJ***	**0.12 *UJ***
PAG	**WQ20**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**23.3 *J***	**10.9 *J***	**0.3 *UJ***	**0.2 *UJ***	**0.113**	**0.046**	**65600**	**68600**	**0.13 *UJ***	**0.21 *UJ***
	Sample Difference						NC	NC	NC	NC	-0.01	-0.009	-200	500	NC	NC
	RPD						NC	NC	NC	NC	8%	18%	0%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	8%	18%	0%	1%	NC	NC
EFF1	**EFF1**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**557**	**24.9**	**0.72**	**0.57**	**0.024**	**0.009 *J***	**31200**	**31100**	**2.1**	**0.53 *UJ***
EFF1	**WQ20**	**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**	**1.96**	**0.52 *UJ***
	Sample Difference						NC	NC	-0.1	0.03	0	NC	-100	-400	-0.14	NC
	RPD						NC	NC	15%	-5%	0%	NC	0%	1%	7%	NC
	abs (RPD)						NC	NC	15%	NC	0%	NC	0%	1%	7%	NC
PAG	**PAG**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**71.1**	**15.5**	**0.41 *J***	**0.39 *J***	**0.084**	**0.072 *U***	**47600**	**47300**	--	--
PAG	**WQ20**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**77.6**	**15.9**	**0.46 *J***	**0.42 *J***	**0.082**	**0.075 *U***	**46300**	**47400**	--	--
	Sample Difference						6.5	0.4	NC	NC	-0.002	NC	-1300	100	NC	NC
	RPD						-9%	-3%	NC	NC	2%	NC	3%	0%	NC	NC
	abs (RPD)						9%	3%	NC	NC	2%	NC	3%	0%	NC	NC
PAG	**PAG**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**9:30**	**101**	**18.8**	**0.33 *J***	**0.31 *J***	**0.046**	**0.036**	**34400**	**34300**	**0.58 *U***	**0.4 *U***
PAG	**WQ20**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**11:00**	**108**	**18.4**	**0.34 *J***	**0.3 *J***	**0.05**	**0.043**	**30400**	**30600**	**0.52 *U***	**0.43 *U***
	Sample Difference						7	-0.4	NC	NC	0.004	0.007	-4000	-3700	NC	NC
	RPD						-7%	2%	NC	NC	-8%	-18%	12%	11%	NC	NC
	abs (RPD)						7%	2%	NC	NC	8%	18%	12%	11%	NC	NC
PAG	**PAG**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**28.5 *U***	**11.4**	**0.23 *J***	**0.24 *J***	**0.051**	**0.048**	**34600**	**35800**	**0.36 *U***	**0.56 *U***
PAG	**WQ20**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**28.6 *U***	**11.8**	**0.27 *J***	**0.18 *J***	**0.052**	**0.05**	**34600**	**35200**	**0.29 *U***	**0.43 *U***
	Sample Difference						NC	0.4	NC	NC	0.001	0.002	0	-600	NC	NC
	RPD						NC	-3%	NC	NC	-2%	-4%	0%	2%	NC	NC
	abs (RPD)						NC	3%	NC	NC	2%	4%	0%	2%	NC	NC
PAG	**PAG**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**33.3**	**16**	**0.34 *J***	**0.27 *J***	**0.066**	**0.049**	**44900**	**46800**	**0.29 *UJ***	**0.51 *UJ***
PAG	**WQ20**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**31.9**	**15.8**	**0.32 *J***	**0.29 *J***	**0.061**	**0.051**	**47000**	**46900**	**0.42 *UJ***	**0.56 *UJ***
	Sample Difference						-1.4	-0.2	NC	NC	-0.005	0.002	2100	100	NC	NC
	RPD						4%	1%	NC	NC	8%	-4%	-5%	0%	NC	NC
	abs (RPD)						4%	1%	NC	NC	8%	4%	5%	0%	NC	NC
PAG	**PAG**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**38**	**14.7**	**0.59**	**0.58**	**0.071**	**0.05**	**68800**	**67400**	**0.27 *UJ***	**0.43**
PAG	**WQ20**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**32.6**	**14.9**	**0.59**	**0.55**	**0.069**	**0.049**	**68900**	**67100**	**0.34 *UJ***	**0.22 *UJ***
	Sample Difference						-5.4	0.2	0	-0.03	-0.002	-0.001	100	-300	NC	NC
	RPD						15%	-1%	0%	5%	3%	2%	0%	0%	NC	NC
	abs (RPD)						15%	1%	0%	NC	3%	2%	0%	0%	NC	NC

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	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	Chromium (µg/L), Total	Chromium (µg/L), Dissolved
EFF1	**EFF1**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**870**	**68**	**0.5**	**0.4 *J***	**0.951**	**0.213**	**24500**	**24000**	**5.11**	**2.1**
EFF1	**WQ20**	**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	NC	NC
	RPD						5%	7%	NC	NC	4%	0%	-1%	0%	NC	NC
	abs (RPD)						5%	7%	NC	NC	4%	0%	1%	0%	NC	NC
PAG	**PAG**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**35.6 *J***	**15.6 *J***	**0.36 *J***	**0.34 *J***	**0.087**	**0.065**	**54500**	**54200**	**0.17 *J***	**0.15 *J***
PAG	**WQ20**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**38.2 *J***	**15.3 *J***	**0.35 *J***	**0.31 *J***	**0.081**	**0.029 *UJ***	**55000**	**53900**	**0.17 *J***	**0.11 *J***
	Sample Difference						NC	NC	NC	NC	-0.006	NC	500	-300	NC	NC
	RPD						NC	NC	NC	NC	7%	NC	-1%	1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	7%	NC	1%	1%	NC	NC
EFF1	**EFF1**	**K1108476/K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**821**	**38.7**	**0.56**	**0.37 *J***	**0.948**	**0.621**	**30200**	**29400**	**5.61**	**0.75**
EFF1	**WQ20**	**K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**795**	**36.1**	**0.54**	**0.4 *J***	**0.941**	**0.659**	**29100**	**29200**	**4.79**	**0.49 *UJ***
	Sample Difference						-26	-2.6	-0.02	NC	-0.007	0.038	-1100	-200	-0.82	NC
	RPD						3%	7%	4%	NC	1%	-6%	4%	1%	16%	NC
	abs (RPD)						3%	7%	4%	NC	1%	6%	4%	1%	16%	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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved sol
TSS = total suspended s

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 appro

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
EFF1	**EFF1**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**9.55**	**5.19**	**2070**	**67.1**	**1.68**	**0.025 *UJ***	**1420**	**494**	**0.03 *U***	**0.03 *U***
EFF1	**EFF2**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**9.48**	**5.1**	**2020**	**63.7**	**1.64**	**0.022 *UJ***	**1380**	**499**	**0.03 *U***	**0.03 *U***
	Sample Difference						-0.07	-0.09	-50	-3.4	-0.04	NC	-40	5	NC	NC
	RPD						1%	2%	2%	5%	2%	NC	3%	-1%	NC	NC
	abs (RPD)						1%	2%	2%	5%	2%	NC	3%	1%	NC	NC
EFF1	**EFF1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**4.45 *J***	**2.2 *J***	**574**	**95.6**	**0.87**	**0.164**	**3630**	**3490**	**0.05 *U***	**0.05 *U***
EFF1	**WQ20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**4.17 *J***	**2.15 *J***	**557**	**89.2**	**0.846**	**0.173**	**3720**	**3450**	**0.05 *U***	**0.05 *U***
	Sample Difference						NC	NC	-17	-6.4	-0.024	0.009	90	-40	NC	NC
	RPD						NC	NC	3%	7%	3%	-5%	-2%	1%	NC	NC
	abs (RPD)						NC	NC	3%	7%	3%	5%	2%	1%	NC	NC
PORTAL	**PORTAL**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**9.04**	**7.42**	**28.3 *UJ***	**11.9 *UJ***	**1.99**	**0.709**	**2350**	**2300**	**0.02 *U***	**0.02 *U***
PORTAL	**WQ20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**8.97**	**7.52**	**25.7 *UJ***	**7.9 *UJ***	**1.93**	**0.724**	**2370**	**2320**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.07	0.1	NC	NC	-0.06	0.015	20	20	NC	NC
	RPD						1%	-1%	NC	NC	3%	-2%	-1%	-1%	NC	NC
	abs (RPD)						1%	1%	NC	NC	3%	2%	1%	1%	NC	NC
PAG	**PAG**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**1.8 *J***	**1.23 *J***	**59.9**	**12.2 *UJ***	**0.112**	**0.04 *UJ***	**2670 *J***	**2770 *J***	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**1.79 *J***	**1.3 *J***	**62.2**	**12.5 *UJ***	**0.118**	**0.043 *UJ***	**2610 *J***	**2600 *J***	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	2.3	NC	0.006	NC	NC	NC	NC	NC
	RPD						NC	NC	-4%	NC	-5%	NC	NC	NC	NC	NC
	abs (RPD)						NC	NC	4%	NC	5%	NC	NC	NC	NC	NC
PAG	**PAG**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**2.41 *J***	**1.75 *J***	**31.6 *J***	**0.8 *UJ***	**0.071 *U***	**0.056 *UJ***	**3450**	**3490**	**0.02 *UJ***	**0.02 *UJ***
PAG	**WQ20**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**2.43 *J***	**1.86 *J***	**27 *J***	**3.7 *J***	**0.096 *U***	**0.018 *UJ***	**3470**	**3510**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						NC	NC	NC	NC	NC	NC	20	20	NC	NC
	RPD						NC	NC	NC	NC	NC	NC	-1%	-1%	NC	NC
	abs (RPD)						NC	NC	NC	NC	NC	NC	1%	1%	NC	NC
EFF1	**EFF1**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**3.78**	**0.36**	**831**	**10.9 *UJ***	**0.714**	**0.026 *U***	**4130**	**3750**	**0.02 *U***	**0.02 *U***
EFF1	**WQ20**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**3.58**	**0.36**	**740**	**16.7 *UJ***	**0.697**	**0.032 *U***	**4090**	**3680**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.2	0	-91	NC	-0.017	NC	-40	-70	NC	NC
	RPD						5%	0%	12%	NC	2%	NC	1%	2%	NC	NC
	abs (RPD)						5%	0%	12%	NC	2%	NC	1%	2%	NC	NC
PAG	**PAG**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**2.04**	**1.02**	**150 *J***	**2 *UJ***	**0.293**	**0.016 *U***	**2110**	**2040**	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**2.09**	**1.05**	**128 *J***	**3.7 *UJ***	**0.321**	**0.015 *U***	**2050**	**2050**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.05	0.03	NC	NC	0.028	NC	-60	10	NC	NC
	RPD						-2%	-3%	NC	NC	-9%	NC	3%	0%	NC	NC
	abs (RPD)						2%	3%	NC	NC	9%	NC	3%	0%	NC	NC
PAG	**PAG**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**9:30**	**1.96**	**0.81**	**168**	**15.5 *UJ***	**0.381**	**0.038 *U***	**1440**	**1380**	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**11:00**	**1.93**	**0.8**	**154**	**13.7 *UJ***	**0.381**	**0.031 *U***	**1290**	**1250**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.03	-0.01	-14	NC	0	NC	-150	-130	NC	NC
	RPD						2%	1%	9%	NC	0%	NC	11%	10%	NC	NC
	abs (RPD)						2%	1%	9%	NC	0%	NC	11%	10%	NC	NC
PAG	**PAG**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**1.12**	**0.86**	**35.9 *UJ***	**8.8 *UJ***	**0.078**	**0.02 *UJ***	**1430**	**1460**	**0.02 *UJ***	**0.02 *UJ***
PAG	**WQ20**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**1.1**	**0.81**	**36.4 *UJ***	**8.4 *UJ***	**0.078**	**0.023 *UJ***	**1430**	**1450**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						-0.02	-0.05	NC	NC	0	NC	0	-10	NC	NC
	RPD						2%	6%	NC	NC	0%	NC	0%	1%	NC	NC
	abs (RPD)						2%	6%	NC	NC	0%	NC	0%	1%	NC	NC
PAG	**PAG**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**1.8**	**1.23**	**42.3 *J***	**12.2 *UJ***	**0.092**	**0.027 *UJ***	**1770**	**1820**	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**1.72**	**1.23**	**45.2 *J***	**10.9 *UJ***	**0.097**	**0.024 *UJ***	**1830**	**1830**	**0.02 *U***	**0.02 *U***
	Sample Difference						-0.08	0	NC	NC	0.005	NC	60	10	NC	NC
	RPD						5%	0%	NC	NC	-5%	NC	-3%	-1%	NC	NC
	abs (RPD)						5%	0%	NC	NC	5%	NC	3%	1%	NC	NC
PAG	**PAG**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**2.63 *J***	**1.73 *J***	**87.3**	**53.6**	**0.06**	**0.016 *U***	**2870**	**2810**	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**2.54 *J***	**1.8 *J***	**79.9**	**15.3 *J***	**0.053**	**0.013 *U***	**2870**	**2790**	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	-7.4	NC	-0.007	NC	0	-20	NC	NC
	RPD						NC	NC	9%	NC	12%	NC	0%	1%	NC	NC
	abs (RPD)						NC	NC	9%	NC	12%	NC	0%	1%	NC	NC

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Copper (µg/L), Total	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
EFF1	**EFF1**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**63.5**	**6.39**	**1660**	**8.2 *UJ***	**0.342**	**0.005 *UJ***	**2800**	**2110**	**0.02 *UJ***	**0.02 *UJ***
EFF1	**WQ20**	**K1106865**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**57.3**	**5.53**	**1600**	**0.8 *UJ***	**0.332**	**0.005 *UJ***	**2710**	**2130**	**0.02 *UJ***	**0.02 *UJ***
	Sample Difference						-6.2	-0.86	-60	NC	-0.01	NC	-90	20	NC	NC
	RPD						10%	14%	4%	NC	3%	NC	3%	-1%	NC	NC
	abs (RPD)						10%	14%	4%	NC	3%	NC	3%	1%	NC	NC
PAG	**PAG**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**1.9 *J***	**1.03 *J***	**51.1**	**6.2 *UJ***	**0.11**	**0.018 *UJ***	**1860**	**1870**	**0.02 *U***	**0.02 *U***
PAG	**WQ20**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**1.8 *J***	**0.95 *J***	**53.2**	**5.6 *UJ***	**0.11**	**0.013 *UJ***	**1920**	**1850**	**0.02 *U***	**0.02 *U***
	Sample Difference						NC	NC	2.1	NC	0	NC	60	-20	NC	NC
	RPD						NC	NC	-4%	NC	0%	NC	-3%	1%	NC	NC
	abs (RPD)						NC	NC	4%	NC	0%	NC	3%	1%	NC	NC
EFF1	**EFF1**	**K1108476/K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**46.6**	**20.1**	**1770 *J***	**234 *J***	**0.27**	**0.052 *UJ***	**2580**	**1960**	**0.02 *U***	**0.02 *U***
EFF1	**WQ20**	**K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**46.9**	**20.3**	**1470 *J***	**235 *J***	**0.253**	**0.067 *UJ***	**2410**	**1940**	**0.02 *U***	**0.02 *U***
	Sample Difference						0.3	0.2	NC	NC	-0.017	NC	-170	-20	NC	NC
	RPD						-1%	-1%	NC	NC	7%	NC	7%	1%	NC	NC
	abs (RPD)						1%	1%	NC	NC	7%	NC	7%	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

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 appro

-- = data not available
ALS = ALS Laboratory G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved sol
TSS = total suspended s

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
EFF1	**EFF1**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1.96**	**0.78**	**5760**	**5580**	**1 *J***	**0.5 *J***	**0.009 *R***	**0.009 *R***	**21100**	**20400**
EFF1	**EFF2**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**1.77**	**0.68**	**5670**	**5680**	**1.1**	**0.6 *J***	**0.009 *R***	**0.009 *R***	**21000**	**20500**
	Sample Difference						-0.19	-0.1	-90	100	NC	NC	NC	NC	-100	100
	RPD						10%	14%	2%	-2%	NC	NC	NC	NC	0%	0%
	abs (RPD)						10%	14%	NC	NC	NC	NC	NC	NC	0%	0%
EFF1	**EFF1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**1.29**	**0.94**	**844 *J***	**826 *J***	**0.6 *J***	**0.6 *J***	**0.077 *UJ***	**0.02 *UJ***	**8010**	**8110**
EFF1	**WQ20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**1.12**	**0.95**	**850 *J***	**804 *J***	**0.5 *J***	**0.7 *J***	**0.081 *UJ***	**0.025 *UJ***	**8330**	**7830**
	Sample Difference						-0.17	0.01	NC	NC	NC	NC	NC	NC	320	-280
	RPD						14%	-1%	NC	NC	NC	NC	NC	NC	-4%	4%
	abs (RPD)						14%	1%	NC	NC	NC	NC	NC	NC	4%	4%
PORTAL	**PORTAL**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**0.21 *UJ***	**0.23 *UJ***	**509**	**471**	**0.7 *J***	**0.6 *J***	**0.004 *U***	**0.01 *UJ***	**5090**	**5030**
PORTAL	**WQ20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**0.17 *UJ***	**0.19 *UJ***	**478**	**467**	**0.6 *J***	**0.7 *J***	**0.004 *U***	**0.004 *U***	**5050**	**5000**
	Sample Difference						NC	NC	-31	-4	NC	NC	NC	NC	-40	-30
	RPD						NC	NC	6%	1%	NC	NC	NC	NC	1%	1%
	abs (RPD)						NC	NC	NC	NC	NC	NC	NC	NC	1%	1%
PAG	**PAG**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**0.8**	**0.82**	**3750**	**3960**	**0.8 *J***	**0.8 *J***	**0.004 *UJ***	**0.004 *UJ***	**6290 *J***	**6660 *J***
PAG	**WQ20**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**0.72**	**0.8**	**3640**	**3670**	**0.7 *J***	**0.5 *J***	**0.006 *UJ***	**0.004 *UJ***	**6090 *J***	**6190 *J***
	Sample Difference						-0.08	-0.02	-110	-290	NC	NC	NC	NC	NC	NC
	RPD						11%	2%	3%	8%	NC	NC	NC	NC	NC	NC
	abs (RPD)						11%	2%	NC	NC	NC	NC	NC	NC	NC	NC
PAG	**PAG**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**1.3**	**1.66**	**3950**	**3910**	**0.8 *UJ***	**1.2 *UJ***	**0.004 *U***	**0.004 *U***	**4910**	**4870**
PAG	**WQ20**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**1.44**	**1.73**	**3960**	**3960**	**1.4 *UJ***	**1 *UJ***	**0.004 *U***	**0.004 *U***	**4970**	**5020**
	Sample Difference						0.14	0.07	10	50	NC	NC	NC	NC	60	150
	RPD						-10%	-4%	0%	-1%	NC	NC	NC	NC	-1%	-3%
	abs (RPD)						10%	4%	NC	NC	NC	NC	NC	NC	1%	3%
EFF1	**EFF1**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**1.36**	**0.91**	**391 *J***	**379 *J***	**0.8 *J***	**0.7 *J***	**0.216**	**0.004 *UJ***	**5070**	**4910**
EFF1	**WQ20**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**1.33**	**0.86**	**411**	**367 *J***	**0.5 *J***	**0.8 *J***	**0.182**	**0.004 *UJ***	**5250**	**4850**
	Sample Difference						-0.03	-0.05	NC	NC	NC	NC	-0.034	NC	180	-60
	RPD						2%	6%	NC	NC	NC	NC	17%	NC	-3%	1%
	abs (RPD)						2%	6%	NC	NC	NC	NC	17%	NC	3%	1%
PAG	**PAG**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**1.31**	**1.29 *U***	**2520**	**2510**	**0.9 *J***	**0.8 *J***	**0.004 *U***	**0.004 *U***	**5140**	**5140**
PAG	**WQ20**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**1.45**	**1.83**	**2450**	**2500**	**0.8 *J***	**0.8 *J***	**0.004 *U***	**0.004 *U***	**5080**	**5140**
	Sample Difference						0.14	NC	-70	-10	NC	NC	NC	NC	-60	0
	RPD						-10%	NC	3%	0%	NC	NC	NC	NC	1%	0%
	abs (RPD)						10%	NC	NC	NC	NC	NC	NC	NC	1%	0%
PAG	**PAG**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**9:30**	**0.84**	**0.75**	**1970**	**2010**	**0.6 *J***	**0.6 *J***	**0.004 *UJ***	**0.004 *UJ***	**2980**	**3010**
PAG	**WQ20**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**11:00**	**0.8**	**0.75**	**1800**	**1770**	**0.6 *J***	**0.6 *J***	**0.004 *UJ***	**0.004 *UJ***	**2690**	**2670**
	Sample Difference						-0.04	0	-170	-240	NC	NC	NC	NC	-290	-340
	RPD						5%	0%	9%	13%	NC	NC	NC	NC	10%	12%
	abs (RPD)						5%	0%	NC	NC	NC	NC	NC	NC	10%	12%
PAG	**PAG**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**1.13**	**1.29**	**2110**	**2150**	**0.5 *J***	**0.6 *J***	**0.004 *UJ***	**0.004 *UJ***	**2970**	**2960**
PAG	**WQ20**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**1.08**	**1.19**	**2160**	**2150**	**0.6 *J***	**0.4 *J***	**0.004 *UJ***	**0.004 *UJ***	**2960**	**2950**
	Sample Difference						-0.05	-0.1	50	0	NC	NC	NC	NC	-10	-10
	RPD						5%	8%	-2%	0%	NC	NC	NC	NC	0%	0%
	abs (RPD)						5%	8%	NC	NC	NC	NC	NC	NC	0%	0%
PAG	**PAG**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**1.9**	**2.02**	**2460**	**2550**	**0.8 *J***	**0.7 *J***	**0.004 *UJ***	**0.004 *UJ***	**2530**	**2640**
PAG	**WQ20**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**1.96**	**1.96**	**2530**	**2500**	**0.8 *J***	**0.7 *J***	**0.004 *UJ***	**0.004 *UJ***	**2650**	**2590**
	Sample Difference						0.06	-0.06	70	-50	NC	NC	NC	NC	120	-50
	RPD						-3%	3%	-3%	2%	NC	NC	NC	NC	-5%	2%
	abs (RPD)						3%	3%	NC	NC	NC	NC	NC	NC	5%	2%
PAG	**PAG**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**1.7**	**1.75**	**4180**	**4180**	**0.9 *J***	**0.9 *J***	**0.004 *UJ***	**0.004 *UJ***	**3270**	**3230**
PAG	**WQ20**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**1.8**	**1.63**	**4250**	**4120**	**0.9 *J***	**0.7 *J***	**0.004 *UJ***	**0.004 *UJ***	**3340**	**3210**
	Sample Difference						0.1	-0.12	70	-60	NC	NC	NC	NC	70	-20
	RPD						-6%	7%	-2%	1%	NC	NC	NC	NC	-2%	1%
	abs (RPD)						6%	7%	NC	NC	NC	NC	NC	NC	2%	1%

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements									
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	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	Sodium (µg/L), Total	Sodium (µg/L), Dissolved
EFF1	**EFF1**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**1.34**	**0.33**	**675**	**654**	**0.5 *J***	**0.5 *J***	**0.374**	**0.004 *UJ***	**4330**	**4380**
EFF1	**WQ20**	**K1106865**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**1.19**	**0.34**	**688**	**654**	**0.4 *J***	**0.5 *J***	**0.366**	**0.004 *UJ***	**4680**	**4490**
	Sample Difference						-0.15	0.01	13	0	NC	NC	-0.008	NC	350	110
	RPD						12%	-3%	-2%	0%	NC	NC	2%	NC	-8%	-2%
	abs (RPD)						12%	3%	NC	NC	NC	NC	2%	NC	8%	2%
PAG	**PAG**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**0.79**	**0.74**	**2620**	**2630**	**0.8 *J***	**0.8 *J***	**0.004 *UJ***	**0.004 *UJ***	**2010**	**2050**
PAG	**WQ20**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**0.74**	**0.75**	**2730**	**2570**	**0.9 *J***	**0.8 *J***	**0.004 *UJ***	**0.004 *UJ***	**2070**	**1960**
	Sample Difference						-0.05	0.01	110	-60	NC	NC	NC	NC	60	-90
	RPD						7%	-1%	-4%	2%	NC	NC	NC	NC	-3%	4%
	abs (RPD)						7%	1%	NC	NC	NC	NC	NC	NC	3%	4%
EFF1	**EFF1**	**K1108476/K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**2.24**	**1.36**	**660**	**645**	**0.5 *J***	**0.4 *J***	**1.05**	**0.088 *UJ***	**4900**	**4610**
EFF1	**WQ20**	**K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**2.02**	**1.27**	**629**	**631**	**0.5 *J***	**0.4 *J***	**1**	**0.056 *UJ***	**4540**	**4720**
	Sample Difference						-0.22	-0.09	-31	-14	NC	NC	-0.05	NC	-360	110
	RPD						10%	7%	5%	2%	NC	NC	5%	NC	8%	-2%
	abs (RPD)						10%	7%	NC	NC	NC	NC	5%	NC	8%	2%

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

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 appro

-- = data not available
ALS = ALS Laboratory G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved sol
TSS = total suspended s

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
EFF1	**EFF1**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**8.18 *U***	**0.71 *U***
EFF1	**EFF2**	**K0803239**	**Integral**	**April 2008**	**4/15/2008**	**8:30**	**7.84 *U***	**1.04 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
EFF1	**EFF1**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**14.1 *U***	**7.7 *U***
EFF1	**WQ20**	**K0808787**	**Integral**	**September 2008**	**9/9/2008**	**15:30**	**11.4 *U***	**4.03 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PORTAL	**PORTAL**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**135**	**127**
PORTAL	**WQ20**	**K0906701**	**Integral**	**July 2009**	**7/23/2009**	**10:50**	**132**	**129**
	Sample Difference						-3	2
	RPD						2%	-2%
	abs (RPD)						2%	2%
PAG	**PAG**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**3.98 *U***	**3.18 *U***
PAG	**WQ20**	**K1005179**	**Integral**	**May 2010**	**5/18/2010**	**10:25**	**3.95 *U***	**1.94 *UJ***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PAG	**PAG**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**11.3 *J***	**5.7 *U***
PAG	**WQ20**	**K1006773**	**Integral**	**June 2010**	**6/29/2010**	**13:30**	**11.2 *J***	**5.8 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
EFF1	**EFF1**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**9.64 *J***	**1.14 *U***
EFF1	**WQ20**	**K1007431**	**Integral**	**July 2010**	**7/14/2010**	**08:30**	**8.97 *U***	**1.33 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PAG	**PAG**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**7.72**	**5.21**
PAG	**WQ20**	**K1012347**	**Integral**	**November 2010**	**11/2/2010**	**13:30**	**7.5**	**5.48**
	Sample Difference						-0.22	0.27
	RPD						3%	-5%
	abs (RPD)						3%	5%
PAG	**PAG**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**9:30**	**7.03 *U***	**4.82 *U***
PAG	**WQ20**	**K1014375**	**Integral**	**December 2010**	**12/27/2010**	**11:00**	**6.9 *U***	**4.09 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PAG	**PAG**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**3.98 *U***	**4.29 *U***
PAG	**WQ20**	**K1101112**	**Integral**	**February 2011**	**2/9/2011**	**7:35**	**3.98 *U***	**3.96 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PAG	**PAG**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**3.67 *U***	**2.59 *U***
PAG	**WQ20**	**K1104448**	**Integral**	**May 2011**	**5/17/2011**	**17:40**	**3.83 *U***	**2.51 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC
PAG	**PAG**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**2.47 *U***	**1.39 *U***
PAG	**WQ20**	**K1105280**	**Integral**	**June 2011**	**6/8/2011**	**13:10**	**2.06 *U***	**1.04 *U***
	Sample Difference						NC	NC
	RPD						NC	NC
	abs (RPD)						NC	NC

Table B-4d. QA/QC Replicate Results and Relative Percent Difference (2006-2012) – Effluent, PAG Pond, a

							Trace Elements	
Station ID	Sample ID	ALS Lab SDG	Collection Contractor	Sample Event	Date	Time	Zinc (µg/L), Total	Zinc (µg/L), Dissolved
EFF1	**EFF1**	**K1106862**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**110**	**10.3 *J***
EFF1	**WQ20**	**K1106865**	**Integral**	**July 2011 II**	**7/24/2011**	**10:15**	**107**	**10.6 *J***
	Sample Difference						-3	NC
	RPD						3%	NC
	abs (RPD)						3%	NC
PAG	**PAG**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**8.79**	**7.25**
PAG	**WQ20**	**K1107897**	**Integral**	**August 2011**	**8/23/2011**	**11:10**	**9.04**	**7.46**
	Sample Difference						0.25	0.21
	RPD						-3%	-3%
	abs (RPD)						3%	3%
EFF1	**EFF1**	**K1108476/K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**107**	**63.7**
EFF1	**WQ20**	**K1108477**	**Integral**	**September 2011**	**9/7/2011**	**8:20**	**108**	**63.5**
	Sample Difference						1	-0.2
	RPD						-1%	0%
	abs (RPD)						1%	0%

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 G
QA/QC = quality assuran
SDG = sample digestion
TDS = total dissolved sol
TSS = total suspended s

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 appro:

APPENDIX C

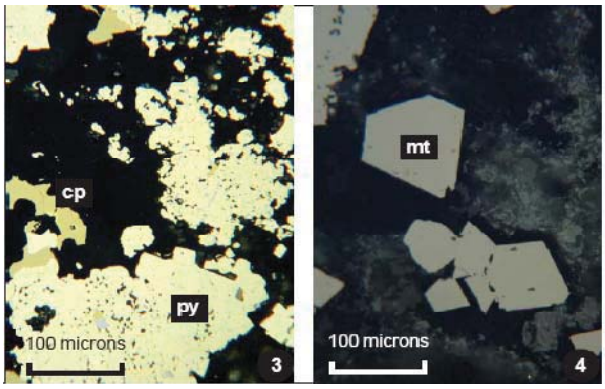
FIELD BARREL INFORMATION

FIELD BARREL: NIBLACK PROJECT, SAMPLE HW-1 (HANGING WALL UNIT)

Sobek Acid-Base Accounting		
Paste pH		8.73
TIC	%	0.29
CaCO3 NP		24.2
S(T)	%	0.92
S(SO4)	%	<0.01
S(S-2)	%	0.92
AP		28.8
Fizz Test		Slight
NP		39.3
Net NP		10.5
NP:AP		1.4
% NP as carb NP	%	62%

Metals by Multi-Acid Digestion with ICP Finish		
Ag	ppm	<1
Al	%	5.32
Ba	ppm	44
Be	ppm	8.3
Bi	ppm	<5
Ca	%	2.87
Cd	ppm	1
Co	ppm	51
Cr	ppm	95
Cu	ppm	224
Fe	%	7.67
K	%	0.06
Mg	%	2.27
Mn	ppm	2597
Mo	ppm	<2
Na	%	2.06
Ni	ppm	35
P	ppm	1055
Pb	ppm	16
Sr	ppm	91
Ti	%	0.71
V	ppm	235
W	ppm	<10
Zn	ppm	120

Results of quantitative phase analysis (wt.%) by XRD		
Mineral	**Ideal formula**	**wt %**
Quartz	SiO_2	36.7
Clinochlore	$(Mg,Fe^{2+})_5Al(Si_3Al)O_{10}(OH)_8$	16.7
Muscovite	$KAl_2AlSi_3O_{10}(OH)_2$	
Actinolite	$Ca_2(Mg,Fe^{2+})_5Si_8O_{22}(OH)_2$	5.1
K-feldspar	$KAlSi_3O_8$	2.1
Plagioclase	$NaAlSi_3O_8 – CaAl_2Si_2O_8$	27.8
Calcite	$CaCO_3$	2.4
Diopside	$CaMgSi_2O_6$	2.7
Pyrite	FeS_2	2
Marcasite	FeS_2	0.7
Magnetite	Fe_3O_4	1.4
Almandine	$Fe_3^{2+}Al_2(SiO_4)_3$	2.3
Total		100



LEHNE & ASSOCIATES
APPLIED MINERALOGY

August 2008 (08-08/63)

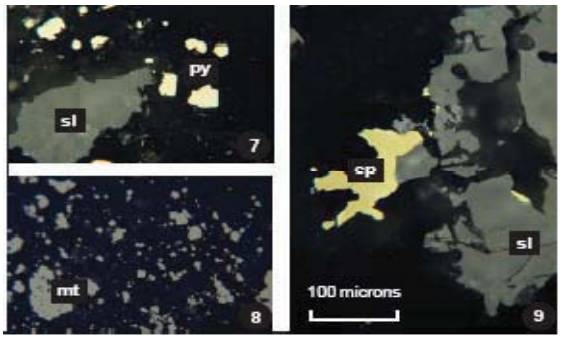
Contact: sshaw@phase-geochemistry.com

FIELD BARREL: NIBLACK PROJECT, SAMPLE LO-1 (LOOKOUT UNIT)

Sobek Acid-Base Accounting		
Paste pH		8.54
TIC	%	0.97
CaCO3 NP		80.8
S(T)	%	1.04
S(SO4)	%	<0.01
S(S-2)	%	1.04
AP		32.5
Fizz Test		Moderate
NP		87.2
Net NP		54.7
NP:AP		2.7
% NP as carb NP		93%

Metals by Multi-Acid Digestion with ICP Finish		
Ag	ppm	<1
Al	%	6.56
Ba	ppm	168
Be	ppm	4.8
Bi	ppm	<5
Ca	%	3.72
Cd	ppm	5
Co	ppm	21
Cr	ppm	82
Cu	ppm	217
Fe	%	4.58
K	%	0.52
Mg	%	4.82
Mn	ppm	2137
Mo	ppm	<2
Na	%	1.25
Ni	ppm	11
P	ppm	346
Pb	ppm	102
Sr	ppm	80
Ti	%	0.31
V	ppm	111
W	ppm	<10
Zn	ppm	1831

Results of quantitative phase analysis (wt.%) by XRD		
Mineral	**Ideal formula**	**wt %**
Quartz	SiO_2	34.8
Clinochlore	$(Mg,Fe^{2+})_5Al(Si_3Al)O_{10}(OH)_8$	27.6
Muscovite	$KAl_2AlSi_3O_{10}(OH)_2$	8.9
Actinolite	$Ca_2(Mg,Fe^{2+})_5Si_8O_{22}(OH)_2$	
K-feldspar	$KAlSi_3O_8$	2.5
Plagioclase	$NaAlSi_3O_8 – CaAl_2Si_2O_8$	15.3
Calcite	$CaCO_3$	9
Diopside	$CaMgSi_2O_6$	
Pyrite	FeS_2	2
Marcasite	FeS_2	
Magnetite	Fe_3O_4	
Almandine	$Fe_3^{2+}Al_2(SiO_4)_3$	
Total		100



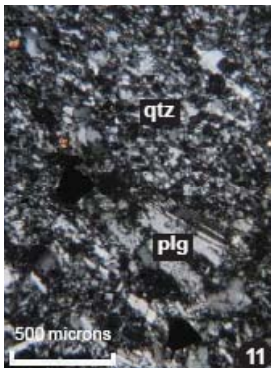
Contact: sshaw@phase-geochemistry.com

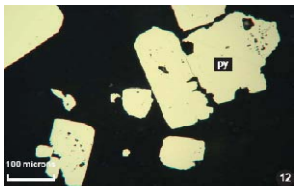
FIELD BARREL: NIBLACK PROJECT, SAMPLE LO-2 (LOOKOUT UNIT)

Sobek Acid-Base Accounting		
Paste pH		8.63
TIC	%	0.17
CaCO3 NP		14.2
S(T)	%	0.77
S(SO4)	%	<0.01
S(S-2)	%	0.77
AP		24.1
Fizz Test		Slight
NP		28.0
Net NP		3.9
NP:AP		1.2
% NP as carb NP	%	51

Metals by Multi-Acid Digestion with ICP Finish		
Ag	ppm	<1
Al	%	7.29
Ba	ppm	613
Be	ppm	5.4
Bi	ppm	<5
Ca	%	1.05
Cd	ppm	<1
Co	ppm	18
Cr	ppm	106
Cu	ppm	47
Fe	%	5.14
K	%	1.49
Mg	%	2.63
Mn	ppm	1114
Mo	ppm	<2
Na	%	1.18
Ni	ppm	14
P	ppm	345
Pb	ppm	<2
Sr	ppm	63
Ti	%	0.19
V	ppm	140
W	ppm	<10
Zn	ppm	225

Results of quantitative phase analysis (wt.%) by XRD		
Mineral	**Ideal formula**	**wt %**
Quartz	SiO_2	42.1
Clinochlore	$(Mg,Fe^{2+})_5Al(Si_3Al)O_{10}(OH)_8$	19.5
Muscovite	$KAl_2AlSi_3O_{10}(OH)_2$	18.8
Actinolite	$Ca_2(Mg,Fe^{2+})_5Si_8O_{22}(OH)_2$	
K-feldspar	$KAlSi_3O_8$	2.5
Plagioclase	$NaAlSi_3O_8 – CaAl_2Si_2O_8$	14.5
Calcite	$CaCO_3$	1.1
Diopside	$CaMgSi_2O_6$	
Pyrite	FeS_2	1.5
Marcasite	FeS_2	
Magnetite	Fe_3O_4	
Almandine	$Fe_3^{2+}Al_2(SiO_4)_3$	
Total		100





LEHNE & ASSOCIATES
APPLIED MINERALOGY

August 2008 (08-08/63)

Contact: sshaw@phase-geochemistry.com

APPENDIX D

VISUAL SITE INSPECTION FORMS

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 1-27-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Snow & cold
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	Snow on Ground
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	full of Snow
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	Snow
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	✓	Water Heater 24 HRS working slow

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 1-27-12

LAD SITE		
LAD Flow meter Reading	✓	some 1/2' ~~[illegible]~~ flowing in zone 1,2,3
Stress to Vegetation	—	none
Channellization	—	
Leakage	—	
Freezing	—	Some Line still Frozen
Active Zones	—	Partial 1, 2, 3
Weather Conditions	—	Day cold & snow
NAG SITE		not Inspected / safety
Settlement/Geotechnical Instability		
Erosion		
Sediment Ponds		
Blockages to Diversion Ditches		
Sediment Ponds		
Permit Condition Violations		
PAG SITE Frozen		
PAG Flowmeter Reading	✓	Flowing slow
Visible signs of Damage to Liner	—	
Liner Slippage	—	
Damage to the Facility From:		
Settlement	—	
Erosion	—	
Operator Negligence	—	
Freezing frozen	—	~~Some line and still frozen~~
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. [illegible]

Date of inspection: 20 JAN 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		1-2 FEET OF SNOW COVER
Geotechnical Stability		GOOD
Settlement		NONE
Erosion		NONE
Channelization		NONE
Thawing		NONE
Frost Action		NONE
PORTAL PAD/SHOP SITE		
General Surface Condition		1-2 FEET OF SNOW COVER
Ditches		
Settlement		NONE
Erosion		NONE
Thawing		NONE
Frost Action		NONE
SEDIMENT PONDS		
Liner		GOOD
Slippage		NONE SEEN
Anchors		NOT USABLE
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: MICHAEL S. [illegible]

Date of inspection: 20 JAN 2012

LAD SITE		DID NOT WALK LINES DUE TO HAZARDOUS CONDITIONS
LAD Flow meter Reading	✓	NO FLOW
Stress to Vegetation	✓	NONE SEEN
Channellization	✓	NONE SEEN
Leakage	✓	NONE SEEN
Freezing	✓	FROZEN
Active Zones	✓	NONE - FROZEN
Weather Conditions	✓	25° - 1-2 FEET OF SNOW
NAG SITE		
Settlement/Geotechnical Instability	✓	NONE
Erosion	✓	NONE
Sediment Ponds	✓	NONE
Blockages to Diversion Ditches	✓	NONE
Sediment Ponds	✓	NONE
Permit Condition Violations	✓	NONE
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	✓	NONE
Frost Action	✓	NONE
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	X	NONE

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 1-6-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Snow & Ice on Road
Geotechnical Stability	—	Good for winter
Settlement	—	
Erosion	—	
Channelization	—	
Thawing	—	
Frost Action	—	Ice Everywhere
PORTAL PAD/SHOP SITE		
General Surface Condition	—	
Ditches	—	covered in Snow
Settlement	—	
Erosion	—	
Thawing	—	
Frost Action	—	Lot of Ice
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: 1-6-17

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	Keeping up
Active Zones	✓	1, 2 3
Weather Conditions	✓	Cold, Snow, Ice
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Lots of Snow
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	✓	none
Erosion	✓	none
Operator Negligence	✓	none
Freezing Frozen	✓	~~[illegible]~~ 6" Pipe
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	In Place
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. NIBLACK

Date of inspection: 29 FEB 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition		COVERED IN SNOW/ICE
Geotechnical Stability		PLOWED AREAS LOOK
Settlement		GOOD
Erosion		
Channelization		
Thawing		
Frost Action		
PORTAL PAD/SHOP SITE		
General Surface Condition		COVERED IN SNOW.
Ditches		WHAT IS VISIBLE
Settlement		LOOKS FINE,
Erosion		WITH THE EXCEPTION
Thawing		OF PREVIOUS NOTED SPOTS AND
Frost Action		SLIDES IN THE DITCHES
SEDIMENT PONDS		
Liner		
Slippage		NONE
Anchors		~~[illegible]~~ FINE
Containment Structures		FINE
Retaining Walls		
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement		MOSTLY FROZEN UNDER TOP
Erosion		EVERYWHERE ELSE IS FINE
Frost Action		
Thawing		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Michael S. Hylton

Date of inspection: 29 FEB 2012

LAD SITE		
LAD Flow meter Reading		
Stress to Vegetation	✓	None
Channellization	✓	None
Leakage	✓	None
Freezing	✓	Heaters Running
Active Zones	✓	1-3
Weather Conditions	✓	Clear, 30°
NAG SITE		
Settlement/Geotechnical Instability	✓	None
Erosion	✓	None
Sediment Ponds	✓	Fine
Blockages to Diversion Ditches	✓	None
Sediment Ponds	✓	Fine
Permit Condition Violations	✓	None
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner	✓	None
Liner Slippage	✓	None
Damage to the Facility From:		
Settlement	✓	None
Erosion	✓	✓
Operator Negligence	✓	✓
Freezing	✓	✓
Frost Action	✓	✓
Permit Condition Violations	✓	✓
Escaped Leachate	✓	✓
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. HUSEMAN

Date of inspection: 23 FEB 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	FINE
Geotechnical Stability	✓	FINE
Settlement	✓	NONE
Erosion	✓	NONE
Channelization	✓	NONE
Thawing	✓	NOTICE ON ROADS / AREAS SNOW IS MELTING
Frost Action	✓	NONE
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	FINE
Ditches	✓	CONTROL STORMS AND SLIDES - REMAINS/CLEANED AGAINST
Settlement	✓	NONE
Erosion	✓	HILLSIDES HAVE SAME SLIDES
Thawing	✓	NONE
Frost Action	✓	NONE
SEDIMENT PONDS		
Liner	✓	FINE
Slippage	✓	NONE
Anchors	✓	HAVE
Containment Structures	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	NONE
Erosion	✓	
Frost Action	✓	
Thawing	✓	SNOW AND ICE MELTING

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HJELMER

Date of inspection: 23 FEB 2012

LAD SITE		
LAD Flow meter Reading		
Stress to Vegetation	✓	NONE
Channellization	✓	NONE
Leakage	✓	NONE
Freezing	✓	NONE
Active Zones	✓	1-3
Weather Conditions	✓	33° SLIGHTLY CLOUDY
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	SLIDES HAVING SMALL SLIDES
Sediment Ponds	✓	FINE
Blockages to Diversion Ditches	✓	SOME DEBRIS FROM SLIDES - PLANS FOR CLEANUP
Sediment Ponds	✓	FINE
Permit Condition Violations	✓	NONE
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner	✓	NONE
Liner Slippage	✓	NONE
Damage to the Facility From:		
Settlement	✓	NONE
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
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: Felix Matew

Date of inspection: 2-17-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Rough
Ditches	✓	obstucted / still flow
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	
SEDIMENT PONDS		
Liner		
Slippage	✓	
Anchors	✓	
Containment Structures	✓	
Retaining Walls	✓	Must Look at Back wall on 2nd Pond in Summer
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: 2-17-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1,2,3
Weather Conditions	✓	Overcast, Rain +34
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	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
Damage to or improper Operation of:		
Backwall	✓	Good
Diversion berm/stormwater structures	✓	
Containment structures	✓	
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: 2-10-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	good
Settlement	✓	
Erosion	✓	minor
Channelization	✓	
Thawing	✓	some
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Poor / need Repairs in Spring
Ditches	✓	Obstructed
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	✓	Heaters on 24 HR
Thawing		Heaters working very well

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 2-10-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	Good this week
Active Zones	✓	1, 2, 3
Weather Conditions	✓	+34 Over cast Lt Rain Lt Snow
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Some
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	✓	
Freezing	✓	not this week Some Snow Floatin
Frost Action	✓	Gravity Feed working
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
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: Felix mateu

Date of inspection: 2-3-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Some work need to be done in spring
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Obstructed - Land fall
Settlement	✓	
Erosion	✓	
Thawing	✓	Mostly
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	✓	Heaters on 24HRS

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VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 2-3-12

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	On & off 1/2 in freezing
Active Zones	✓	1,2,3
Weather Conditions	✓	036 overcast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	Some / clean up in spring
Sediment Ponds	N/A	
Permit Condition Violations	✓	non
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	✓	Been Good Gravity feed working
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
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: MICHAEL S. HSEEDER

Date of inspection: 30 MAR 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	OK	WILL NEED WORK WHEN SNOW IS GONE
Geotechnical Stability		
Settlement	NONE	
Erosion	YES	MINOR NOAR PORTAL SHOP
Channelization	NONE	
Thawing	YES	
Frost Action	NONE	
PORTAL PAD/SHOP SITE		
General Surface Condition	OK	
Ditches	X	NEEDS CLEANING & REPAIR
Settlement	Y	NEEDS REMOVAL
Erosion	X	MINOR ON ROAD BETWEEN SHOP & PAD
Thawing	YES	
Frost Action	NONE	
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	NONE	
Erosion		
Frost Action		
Thawing	YES	

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VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HSEIAS

Date of inspection: 30 MAR 2012

LAD SITE		
LAD Flow meter Reading		2 785 15.5
Stress to Vegetation	NONE	
Channellization		
Leakage		
Freezing		
Active Zones	X	1-3
Weather Conditions		42° RAINS LOWER OUT
NAG SITE		
Settlement/Geotechnical Instability	YES	ON HILLS
Erosion	YES	SLIDES ON HILLS
Sediment Ponds	X	
Blockages to Diversion Ditches	NONE	
Sediment Ponds	OK	
Permit Condition Violations	NONE	
PAG SITE		
PAG Flowmeter Reading	NONE	
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
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: Felix Matey

Date of inspection: 3-23-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Need Maintanace when snow is gone
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Some minor
Channelization	✓	none
Thawing	✓	Thawing is beginning Due to Rain
Frost Action	✓	non
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	fair
Ditches	✓	fair Amount of Debris
Settlement	✓	some
Erosion	✓	some
Thawing	✓	Yes
Frost Action	✓	none
SEDIMENT PONDS		
Liner		
Slippage	none	
Anchors	✓	Good
Containment Structures	✓	Good
Retaining Walls	✓	Good
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	
Geotechnical Stability		
Settlement	✓	
Erosion	✓	
Frost Action	✓	
Thawing	✓	Yes

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 3-23-12

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	none
Freezing	✓	none
Active Zones	✓	1-3
Weather Conditions	✓	41+ Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	need some maintenacer in summer
Erosion	✓	minor
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Have Been Clear
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	✓	no
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	✓	no Damages
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 Matey

Date of inspection: 3-14-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	obstructed by Land fall
Settlement	✓	
Erosion	✓	
Thawing	✓	
Frost Action	✓	Still flow
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	✓	Heaters working

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VISUAL SITE INSPECTION FORM

Inspected by: Felix matem

Date of inspection: 3-16-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	temp Above 32
Active Zones	✓	1, 2, 3
Weather Conditions	✓	Snow & Rain +34
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Some Rock in Ditches
Sediment Ponds	N/A	
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	✓	none
Escaped Leachate	✓	in Place
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: 3-9-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Lots of snow Some Rain
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	none
Thawing	✓	frozen
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	fair condition need Repairs
Ditches	✓	Need some clean up
Settlement	✓	
Erosion	✓	
Thawing	✓	Ice Everywhere
Frost Action	✓	frozen
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	✓	Heater working

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 3-9-12

LAD SITE		
LAD Flow meter Reading	✓	Daily
Stress to Vegetation	✓	none
Channellization	✓	none
Leakage	✓	
Freezing	✓	
Active Zones	✓	1, 2 & 3
Weather Conditions	✓	Snow / Rain °33
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	✓	
Freezing	✓	
Frost Action	✓	
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	✓	none
Death or Stress to:		
Fish, wildlife or vegetation	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 3-2-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Ice & Snow
Geotechnical Stability	—	
Settlement	—	
Erosion	—	
Channelization	—	
Thawing	—	none
Frost Action	—	Frozen
PORTAL PAD/SHOP SITE		
General Surface Condition	—	Rough
Ditches	—	Obstructed with Land fill
Settlement	—	
Erosion	—	
Thawing	—	Ice still on Road
Frost Action	—	Frozen
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	—	Back to Gravity feed

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 3-2-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1, 2, 3
Weather Conditions	✓	Snow °35
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Some
Sediment Ponds	N/A	
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	✓	in Place
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: MICHAEL S. ASCOLESE

Date of inspection: 8 APR 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	OK	~~Roads~~ MAINT. IS BEING DONE
Geotechnical Stability		
Settlement	NONE	
Erosion	MINOR	NEAR PORTAL SHOP
Channelization	MINOR	NEAR PORTAL SHOP
Thawing	NONE	
Frost Action	NONE	
PORTAL PAD/SHOP SITE		
General Surface Condition	OK	
Ditches	✓	NEEDS REPAIR AND CLEANING
Settlement	NONE	
Erosion	✓	MINOR ON ROAD
Thawing	NONE	
Frost Action	NONE	
SEDIMENT PONDS		
Liner		
Slippage	NONE	
Anchors	✓	
Containment Structures	OK	
Retaining Walls		
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement	✓	
Erosion	NONE	
Frost Action	NONE	
Thawing	NONE	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HUGHES

Date of inspection: 8 MAY 2012

LAD SITE		
LAD Flow meter Reading		279655.2
Stress to Vegetation	NONE	
Channellization	NONE	
Leakage	NONE	
Freezing	NONE	
Active Zones	1-3	
Weather Conditions	X	CLEAR
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	HILLSIDES HAVE MINOR SLIDES
Sediment Ponds	/	
Blockages to Diversion Ditches	NONE	
Sediment Ponds	/	
Permit Condition Violations	NONE	
PAG SITE		
PAG Flowmeter Reading	NA	
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
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: Felix Matey

Date of inspection: 4-27-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Some spring work need to be done
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Normal Winter Erosion
Channelization	✓	
Thawing	✓	most Roads are thawed
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	—	Roads Still need some work
Ditches	—	Cleared of obstructions - more work need to be Done
Settlement	—	
Erosion	—	Normal Winter Erosion
Thawing	—	
Frost Action	—	
SEDIMENT PONDS		Ponds in good condition
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 Matau

Date of inspection: 4-27-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	none
Active Zones	✓	All Zone We are trying to Drain Lines
Weather Conditions	✓	Overcast - Lt Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	Some Winter Erosion on Road
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	need Some work No Obstruction
Sediment Ponds	N/A	
Permit Condition Violations	✓	none
PAG SITE		
PAG Flowmeter Reading	N/A	
Visible signs of Damage to Liner	✓	Area where Pump is On Need Some Housekeeping
Liner Slippage	✓	none
Damage to the Facility From:		
Settlement	✓	
Erosion	✓	
Operator Negligence	✓	
Freezing	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
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: 4-21-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	—	Need some spring work
Geotechnical Stability	—	
Settlement	—	
Erosion	—	Normal Winter
Channelization	—	
Thawing	—	
Frost Action	—	
PORTAL PAD/SHOP SITE		
General Surface Condition	—	Road need work
Ditches	—	Obstruction fixed / Ditches are flowing
Settlement	—	
Erosion	—	
Thawing	—	Still some snow
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: 4-21-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	All zones open / spring cleaning
Weather Conditions	✓	Clear / overcast / Lt Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Some minor work need to Be Done
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	✓	in Place
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: 4-13-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Snow has melted in Lower Part of camp
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	Some work must Be Don
Channelization	✓	
Thawing	✓	Still Some frozen in top
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	Some obstructed Ditches Due to Land fill
Settlement	✓	
Erosion	✓	Some
Thawing	✓	Still Part frozen
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	✓	Most Ice Come

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 4-13-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	
Channellization	✓	minor
Leakage	✓	
Freezing	✓	not this week
Active Zones	✓	7, 8, 9
Weather Conditions	✓	Over cast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	Ditches need to be clean
Sediment Ponds	N/A	
Permit Condition Violations	N/A	
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	✓	
Frost Action	✓	
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
Damage to or improper Operation of:	✓	most Look in Area where Pump is
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: DREW TAKAHASHI

Date of inspection: MAY 24, 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	OK	ALL ROADS WELL MAINTAINED.
Geotechnical Stability		
Settlement	NO	ROAD SURFACES STABLE, NO MOVEMENT.
Erosion	NO	
Channelization	NO	
Thawing	N/A	THAWING COMPLETE.
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	OK	
Ditches	OK	CLEAR OF DERIS
Settlement	NO	
Erosion	NO	STABLE.
Thawing	N/A	THAWING COMPLETE.
Frost Action	N/A	
SEDIMENT PONDS		
Liner	OK	GOOD CONDITION,
Slippage	NO	
Anchors	OK	LINER SECURED, NOT MOVING.
Containment Structures	OK	
Retaining Walls	OK	
Erosion Control Structures	OK	
Run-on Control Structures	OK	
Diversion Structures	OK	
Geotechnical Stability	OK	STABLE, NO MOVEMENT
Settlement	NO	
Erosion	NO	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: DREW TAKAHASHI

Date of inspection: MAY 24, 2012

LAD SITE		
LAD Flow meter Reading		284557.0
Stress to Vegetation	NO	
Channellization	NO	
Leakage	NO	
Freezing	N/A	
Active Zones	1-10	
Weather Conditions	CLEAR	CLEAR MOST OF THE WEEK.
NAG SITE		
Settlement/Geotechnical Instability	NO	AREA IS STABLE, NO MOVEMENT.
Erosion	NO	NONE OBSERVED.
Sediment Ponds		
Blockages to Diversion Ditches	NO	
Sediment Ponds	OK	CLEARED OF SEDIMENT.
Permit Condition Violations	NO	
PAG SITE		
PAG Flowmeter Reading		
Visible signs of Damage to Liner	NO	
Liner Slippage	NO	LINER IN GOOD CONDITION
Damage to the Facility From:		
Settlement	NO	
Erosion	NO	
Operator Negligence	NO	
Freezing	N/A	ABOVE FREEZING TEMP
Frost Action	N/A	
Permit Condition Violations	NO	
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	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 5-18-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Road look Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
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: 5-16-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	non
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	1-10
Weather Conditions	✓	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	✓	
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	✓	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 5-12-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	
Ditches	✓	All Good
Settlement	✓	
Erosion	✓	minor - Lots of Repairs Have Been Done
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: 5-12-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	
Leakage	✓	
Freezing	✓	
Active Zones	✓	
Weather Conditions	✓	Rain
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	
Sediment Ponds	✓	
Permit Condition 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	✓	
Freezing	✓	none
Frost Action	✓	none
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 Matey

Date of inspection: 5-4-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Need Some after winter work
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	minor Normal For After winter
Channelization	✓	
Thawing	✓	Very Little Snow Left on Ground
Frost Action	✓	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Roads need a bit of work
Ditches	✓	have been cleaned
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	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 5-4-12

LAD SITE		
LAD Flow meter Reading	✓	
Stress to Vegetation	✓	none
Channellization	✓	minor
Leakage	✓	~~none~~ Some Lines in Zone 1
Freezing	✓	none
Active Zones	✓	All
Weather Conditions	✓	Over cast
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	
Sediment Ponds	N/A	
Permit Condition 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	✓	none
Freezing	✓	none
Frost Action	✓	none
Permit Condition Violations	✓	none
Escaped Leachate	✓	in Place
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: Aaron Schneider

Date of inspection: 6-29-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	good	
Geotechnical Stability	good	
Settlement	NO	
Erosion	NO	
Channelization	no	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	good	
Ditches	minior	Small slide 2nd switch Back
Settlement	no	
Erosion	no	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	NO	
Retaining Walls	good	
Erosion Control Structures	good	
Run-on Control Structures	good	
Diversion Structures	good	
Geotechnical Stability	good	
Settlement	NO	
Erosion	NO	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matew/Training Aaron Schnider

Date of inspection: 6-21-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement		
Erosion	NO	
Channelization	NO	
Thawing	NO	
Frost Action		
PORTAL PAD/SHOP SITE		
General Surface Condition	Very Good	
Ditches	All Clear	
Settlement	NO	
Erosion	NO	
Thawing	NO	
Frost Action	NO	
SEDIMENT PONDS		
Liner Slippage / Damage	NO	
Retaining Walls	NO	
Erosion Control Structures	All Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	NO	
Erosion	NO	
Frost Action	NO	
Thawing	NO	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 6-16-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Very Good	
Geotechnical Stability	Good	
Settlement		
Erosion	NO	
Channelization	NO	
Thawing	NO	
Frost Action	NO	
PORTAL PAD/SHOP SITE		
General Surface Condition	Very Good	
Ditches	All Clear	
Settlement	NO	
Erosion	NO	
Thawing	NO	
Frost Action	NO	
SEDIMENT PONDS		
Liner Slippage / Damage	NO	
Retaining Walls	NO	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Frost Action	NO	
Thawing	NO	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 6-16-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	Cleaned 6-15-12
Stress to Vegetation	None	
Channelization/Ponding	NO	
Leakage		
Freezing	none	
Active Zones		
Weather Conditions		Rain & Wind
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	NO	
Liner Slippage	Some	Back wall
Damage to the Facility From:		
Settlement	minor	Back wall
Erosion		
Operator Negligence	none	
Freezing	no	
Frost Action	NO	
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	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 6-9-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS	Good	Road Look very good
General Surface Condition	Good	
Geotechnical Stability		
Settlement		
Erosion	NO	
Channelization	NO	
Thawing	NO	
Frost Action	NO	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Very Good	All work on Ditches Completed
Settlement	NO	
Erosion	NO	
Thawing	NO	
Frost Action	NO	
SEDIMENT PONDS		
Liner Slippage / Damage	NO	
Retaining Walls	NO	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Frost Action	NO	
Thawing	NO	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mailey

Date of inspection: 6-9-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	
Stress to Vegetation	None	
Channelization/Ponding	NO	
Leakage		
Freezing	None	
Active Zones	1-4 & 7-10	
Weather Conditions	Clear	Sunny
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	None	
Sediment Ponds	Good	
Blockages to Diversion Ditches		
Drainage Control		
Permit Condition Violations		
PAG SITE		
Visible signs of Damage to Liner	NO	
Liner Slippage	Some	Back wall South of Pond
Damage to the Facility From:		
Settlement	Minor	Back wall
Erosion	Some	minor Erosion
Operator Negligence	None	
Freezing	NO	
Frost Action	NO	
Permit Condition Violations	NO	
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	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: GRAHAM/AN

Date of inspection: JUNE 1/12

LAD SITE		
LAD Outflow Valves	GOOD	
LAD Outflow Screen	CLEAN	
Stress to Vegetation	NO	
Channelization/Ponding	NO	
Leakage		END OF 21 NEEDS REPAIR DO NOT ACTIVATE
Freezing	NO	
Active Zones	3-10	
Weather Conditions		
NAG SITE		
Settlement/Geotechnical Instability	GOOD	
Erosion	NONE	
Sediment Ponds	GOOD	
Blockages to Diversion Ditches	NO	
Drainage Control	GOOD	
Permit Condition Violations	NO	
PAG SITE		
Visible signs of Damage to Liner	NO	
Liner Slippage	SLIGHT	BACKWALL + SOUTH OF POND
Damage to the Facility From:		
Settlement	SLIGHT	BACKWALL - REPAIR DURING SUMMER
Erosion	SLIGHT	
Operator Negligence	NO	
Freezing	NO	
Frost Action	SLIGHT	
Permit Condition Violations	NO	
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	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: _____

Date of inspection: _____

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	EXCELLENT	
Geotechnical Stability		
Settlement	GOOD	
Erosion	NO	
Channelization	NO	
Thawing	NO	
Frost Action	NO	
PORTAL PAD/SHOP SITE		
General Surface Condition	GOOD	SLOPE RECENTLY WORKED ON
Ditches	GOOD	
Settlement	NO	
Erosion	NO	
Thawing	NO	
Frost Action	NO	
SEDIMENT PONDS		
Liner Slippage / Damage	NO	
Retaining Walls	NO	
Erosion Control Structures	GOOD	
Run-on Control Structures	GOOD	
Diversion Structures	GOOD	
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Frost Action	NO	
Thawing	NO	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 7-27-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability		
Settlement		
Erosion	minor	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	OK	Some minor Debri need to Be Removed
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	✓	none
Retaining Walls	Good	Walls in very Good condition
Erosion Control Structures	OK	
Run-on Control Structures	OK	
Diversion Structures		
Geotechnical Stability		
Settlement	minor	Some settlement Back of 2nd Pond
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 7-27-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Clean	
Stress to Vegetation	none	
Channelization/Ponding	minor	in zone 8
Leakage	none	
Freezing	N/A	
Active Zones		4-10
Weather Conditions	Overcast	Lt Rain
NAG SITE		
Settlement/Geotechnical Instability	Some	settlement on High Wall
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	Retouch	Retouch need to be none
Drainage Control	Good	Drainage running very Good
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage		
Damage to the Facility From:		
Settlement	OK	
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	none	
Diversion berm/stormwater structures	fair	need a bit of work
Containment structures	fair	on Back End Anchors
Erosion control/run-on structures	fair	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 7-21-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability		
Settlement	none	
Erosion	minor	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	Good	Some Debris need to be cleaned
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	Good	
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement	Good	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 7-21-12

LAD SITE		
LAD Outflow Valves	✓	Good
LAD Outflow Screen	✓	Cleaned
Stress to Vegetation	✓	none
Channelization/Ponding	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones	N/A	
Weather Conditions		Clear & Sunny
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	none
Sediment Ponds	N/A	
Blockages to Diversion Ditches	Some	Some minor debris
Drainage Control	✓	Good
Permit Condition Violations	✓	none
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	Good	
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		
Damage to or improper Operation of:		
Backwall		need Repairs on Anchor
Diversion berm/stormwater structures	Good	
Containment structures	Good	
Erosion control/run-on structures	Good	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mated

Date of inspection: 7-7-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	Road are in Very Good Condition
Geotechnical Stability		
Settlement	NO	
Erosion	NO	
Channelization	NO	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	OK	
Ditches	Good	Ditches Clear of Debris
Settlement	NO	
Erosion	NO	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	Good	
Retaining Walls	NO	
Erosion Control Structures	OK	
Run-on Control Structures	Good	
Diversion Structures		
Geotechnical Stability		
Settlement	Good	
Erosion	NO	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 7-7-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Clean	
Stress to Vegetation	none	
Channelization/Ponding	no	
Leakage	no	
Freezing	N/A	
Active Zones		4, 5, 6, 7, 8, 9, 10
Weather Conditions	Clear	70 +
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	Ditches Clear of Debris
Drainage Control		
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	no	
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	no	
Damage to or improper Operation of:		
Backwall	no	
Diversion berm/stormwater structures	no	
Containment structures	no	
Erosion control/run-on structures	Good	

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NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 7-6-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	good	
Geotechnical Stability	good	
Settlement	no	
Erosion	no	
Channelization	no	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	good	
Ditches	good	cleaned out Past week
Settlement	no	
Erosion	no	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	no	
Retaining Walls	good	
Erosion Control Structures	good	
Run-on Control Structures	good	
Diversion Structures	good	
Geotechnical Stability	good	
Settlement	no	
Erosion	no	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 8-31-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	none
Channelization	✓	none
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Very Good
Ditches	✓	Clear
Settlement	✓	minor
Erosion	✓	None
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	✓	
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

Inspected by: Felix Matey

Date of inspection: 8-31-12

LAD SITE		
LAD Outflow Valves	✓	Working Good
LAD Outflow Screen	✓	Clean
Stress to Vegetation	✓	none
Channelization/Ponding	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones	N/A	
Weather Conditions	✓	Clear
NAG SITE		
Settlement/Geotechnical Instability	✓	
Erosion	✓	none
Sediment Ponds	✓	N/A
Blockages to Diversion Ditches	✓	Clear
Drainage Control	✓	Good
Permit Condition Violations	✓	none
PAG SITE		
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	Good
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		
Damage to or improper Operation of:		
Backwall	✓	none
Diversion berm/stormwater structures	✓	none
Containment structures	✓	none
Erosion control/run-on structures	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 8-25-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Very Good
Geotechnical Stability	✓	
Settlement	✓	
Erosion	✓	
Channelization	✓	
Thawing	✓	N/A
Frost Action	✓	N/A
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Very Good Condition
Ditches	✓	Clear
Settlement	✓	
Erosion	✓	none
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	✓	
Retaining Walls	✓	
Erosion Control Structures	✓	
Run-on Control Structures	✓	
Diversion Structures	✓	none
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: 8-25-12

LAD SITE		
LAD Outflow Valves	✓	
LAD Outflow Screen	✓	clean
Stress to Vegetation	✓	none
Channelization/Ponding	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones		
Weather Conditions	✓	Clear & Sunny
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	non
Sediment Ponds	N/A	
Blockages to Diversion Ditches	✓	clear ✓
Drainage Control	✓	Good
Permit Condition Violations	✓	no Violation
PAG SITE		
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	✓	Some Repair's on Anchors

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 8-17-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	good	
Geotechnical Stability	good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	good	
Ditches	good	Small Debris
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
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	good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 8-17-12

LAD SITE		
LAD Flow meter Reading		
Stress to Vegetation	none	
Channellization	none	
Leakage	none	
Freezing	N/A	
Active Zones	4-10	
Weather Conditions		clear / Sunny
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Sediment Ponds	N/A	
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:	none	
Fish, wildlife or vegetation	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 8-12-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	good	
Geotechnical Stability	good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	good	
Ditches	good	
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	good	
Erosion Control Structures	good	
Run-on Control Structures	good	
Diversion Structures	good	
Geotechnical Stability	good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 8-12-12

LAD SITE		
LAD Outflow Valves	good	
LAD Outflow Screen	good	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones	4 - 10	
Weather Conditions		over cast
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	good	
Drainage Control	good	
Permit Condition Violations	none	
PAG SITE		
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	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 8-3-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	minor	Minor Erosion on switchback
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Very Good	
Ditches	Good	No Debris
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	Good	Good Condition / Anchor Good
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 8-3-12

LAD SITE		
LAD Outflow Valves	Good	Very Good
LAD Outflow Screen	Clean	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones		5-10
Weather Conditions	Overcast	
NAG SITE		
Settlement/Geotechnical Instability		
Erosion		
Sediment Ponds		
Blockages to Diversion Ditches		
Drainage Control		Ditches
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	OK	
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	OK	
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: 9-30-12

Date of inspection: Felix Mateu

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	minor	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	OK	Need some maintenece
Settlement	none	
Erosion	minor	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 9-30-12

LAD SITE		
LAD Outflow Valves	good	
LAD Outflow Screen	Cleaned	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones	4-10	
Weather Conditions		Overcast
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	Some	minor Erosion
Sediment Ponds	N/A	
Blockages to Diversion Ditches	Some	Sediment Need Removal
Drainage Control	Good	
Permit Condition Violations	None	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage		
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		
Damage to or improper Operation of:		
Backwall	Good	
Diversion berm/stormwater structures	Good	
Containment structures	Good	
Erosion control/run-on structures	Good	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 9-23-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	good	
Geotechnical Stability	good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	good	
Ditches	good	small Rock slides
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	good	
Erosion Control Structures	good	
Run-on Control Structures	good	
Diversion Structures	good	
Geotechnical Stability	good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Aaron Schneider

Date of inspection: 9-23-12

LAD SITE		
LAD Outflow Valves	good	
LAD Outflow Screen	good	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones	5-10	
Weather Conditions	LT Rain	
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	no	
Drainage Control	good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	Small	Being worked on
Damage to the Facility From:		
Settlement	no	
Erosion	no	
Operator Negligence	no	
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	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 9-3-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Good Condition
Geotechnical Stability	✓	
Settlement	✓	none
Erosion	✓	none
Channelization	✓	none
Thawing	✓	N/A
Frost Action	✓	N/A
PORTAL PAD/SHOP SITE		
General Surface Condition	✓	Very Good
Ditches	✓	All Clear from Debris
Settlement	✓	none
Erosion	✓	none
Thawing	✓	N/A
Frost Action	✓	N/A
SEDIMENT PONDS		
Liner Slippage / Damage	✓	Good Condition
Retaining Walls	✓	Very Good
Erosion Control Structures	✓	none
Run-on Control Structures	✓	none
Diversion Structures	✓	Good
Geotechnical Stability	✓	
Settlement	✓	none
Erosion	✓	None
Frost Action	✓	N/A
Thawing	✓	N/A

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 9-3-12

LAD SITE		
LAD Outflow Valves	✓	
LAD Outflow Screen	✓	Clean
Stress to Vegetation	✓	none
Channelization/Ponding	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones		
Weather Conditions	✓	Clear No Rain
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	✓	minor
Sediment Ponds	✓	
Blockages to Diversion Ditches	✓	none
Drainage Control	✓	Good
Permit Condition Violations	✓	none
PAG SITE		
Visible signs of Damage to Liner	✓	none
Liner Slippage	✓	Good
Damage to the Facility From:		
Settlement	✓	none
Erosion	✓	none
Operator Negligence	✓	none
Freezing	✓	none 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	✓	none
Erosion control/run-on structures	✓	none

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HSEUGEN

Date of inspection: 10-27-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS	GOOD	
General Surface Condition		
Geotechnical Stability	NONE	
Settlement		
Erosion		
Channelization		
Thawing		
Frost Action		
PORTAL PAD/SHOP SITE		
General Surface Condition		
Ditches	GOOD	
Settlement	NONE	
Erosion		
Thawing		
Frost Action		
SEDIMENT PONDS		
Liner Slippage / Damage	NONE	
Retaining Walls	GOOD	
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement	NONE	
Erosion		
Frost Action		
Thawing		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HUEBER

Date of inspection: 10-27-2002

LAD SITE		
LAD Outflow Valves	GOOD	WEEKLY CLEANING AND
LAD Outflow Screen	GOOD	REPAIRS ARE DONE
Stress to Vegetation	NONE	
Channelization/Ponding		
Leakage		
Freezing		
Active Zones	1-5	
Weather Conditions	LIGHT SNOW	
NAG SITE		
Settlement/Geotechnical Instability	NONE	
Erosion	NONE	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	NONE	
Drainage Control	GOOD	
Permit Condition Violations	NONE	
PAG SITE		
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	NONE	
Diversion berm/stormwater structures		
Containment structures		
Erosion control/run-on structures		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 10-19-2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	Road Look very good After Some Rain Storm
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	Some Debris need to be Removed
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	Good	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	None	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 10-19-2012

LAD SITE		
LAD Outflow Valves	✓	All Zone working
LAD Outflow Screen	✓	Needs Replacing
Stress to Vegetation	✓	~~[illegible]~~ none
Channelization/Ponding	✓	none
Leakage	✓	none
Freezing	N/A	
Active Zones	1-10	
Weather Conditions	Clear	Some Rain Storm Earlier this week
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	non	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	Good	Ditch have been Cleared
Drainage Control	Very Good	New Ditch is very good
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 10-12-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	Road Look Ready for winter
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	All Look V Good - Some Housekeeping needed
Ditches	V-Good	All Ditches & Culverts Clear
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	none	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures		
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix maley

Date of inspection: 10-12-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Check	Clear of any Debris
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones	N/A	
Weather Conditions	Clear	
NAG SITE		
Settlement/Geotechnical Instability	Good	Ditches and Silt fenced Cleared
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	Worked on This week Look Very Good
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	Good	
Erosion control/run-on structures	Good	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 10-5-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	✓	Very Good
Geotechnical Stability	Good	
Settlement	none	
Erosion	Minor	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	Very Good /
Ditches	Good	
Settlement	none	
Erosion	Some	Minor Erosion on Road
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 10-5-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Clear	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	N/A	
Freezing	N/A	
Active Zones	1-10	
Weather Conditions		Over cast
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	Good	Sediment has been cleared
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. [illegible]

Date of inspection: NOV. 30, 2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	GOOD	
Geotechnical Stability		
Settlement	NONE	
Erosion		
Channelization		
Thawing		
Frost Action		
PORTAL PAD/SHOP SITE		SOME ROCK CLEAN UP
General Surface Condition	GOOD	NEEDED BEHIND
Ditches	GOOD	GENSET AT SHOP - MLC
Settlement	NONE	AREA
Erosion		
Thawing		
Frost Action		
SEDIMENT PONDS		
Liner Slippage / Damage	NONE	
Retaining Walls	GOOD	
Erosion Control Structures	GOOD	
Run-on Control Structures	GOOD	
Diversion Structures	GOOD	
Geotechnical Stability		
Settlement	NONE	
Erosion		
Frost Action		
Thawing		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. [illegible]

Date of inspection: 30 NOV. 2012

LAD SITE		
LAD Outflow Valves	GOOD	
LAD Outflow Screen	GOOD	
Stress to Vegetation	NONE	
Channelization/Ponding	NONE	
Leakage	NONE	
Freezing	NONE	
Active Zones	[illegible]	
Weather Conditions	LT. RAIN	
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	NONE	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	NONE	
Drainage Control	GOOD	
Permit Condition Violations	NONE	
PAG SITE		
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	NONE	
Diversion berm/stormwater structures		
Containment structures		
Erosion control/run-on structures		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matev

Date of inspection: 11-23-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		Lots of Rain & Wind for 3 Days
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	Free of Debris
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 11-23-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Cleaned	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	N/A	
Active Zones	1-4	
Weather Conditions		Lots of Rain & Wind 44°
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 11-14-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Very Good	Ditches by Portal has Been Clean up!!
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	none	Look's Good
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mateu

Date of inspection: 11-16-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Clean	Cleaned on 11-16-12
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	none	
Active Zones		2, 3, 4
Weather Conditions	Rain	
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	Ditches Look Very Good
Drainage Control	Very Good	
Permit Condition Violations	none	
PAG SITE		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	none	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: 11-12-12

Date of inspection: Felix Matev

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	N/A	
Frost Action	N/A	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	very Good	Re-Done
Settlement	none	
Erosion	none	
Thawing	N/A	
Frost Action	N/A	
SEDIMENT PONDS		
Liner Slippage / Damage	Good	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	N/A	
Thawing	N/A	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: 11-12-12

Date of inspection: Felix Matey

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	none	
Active Zones	1-3	
Weather Conditions	Rain	
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	Ditches Re Done
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
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		
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	Good	
Containment structures	Good	
Erosion control/run-on structures	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HJELDEN

Date of inspection: 11-3-2012

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	OK	HEAY RAIN PAST FEW DAYS
Geotechnical Stability		MINOR REPAIRS NEEDED
Settlement	NONE	MAINLY AT BARGE LANDING
Erosion	MINOR	|
Channelization	MINOR	
Thawing	NONE	
Frost Action	NONE	
PORTAL PAD/SHOP SITE		
General Surface Condition	GOOD	
Ditches	OK	NEEDS MINOR CLEANING
Settlement	NO	
Erosion	MINOR	-SMALL SLIDES ON UPPER
Thawing	NONE	POST SWITCH BACK
Frost Action	NONE	
SEDIMENT PONDS		
Liner Slippage / Damage	NONE	
Retaining Walls	GOOD	
Erosion Control Structures	|	
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability	GOOD	
Settlement	NONE	
Erosion	NONE	
Frost Action	NONE	
Thawing	NONE	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HSEEDEN

Date of inspection: 11-3-2012

LAD SITE		
LAD Outflow Valves	GOOD	
LAD Outflow Screen	GOOD	
Stress to Vegetation	NONE	
Channelization/Ponding		
Leakage		
Freezing		
Active Zones	1-3	
Weather Conditions	46°	DRY FOR 2 WEEKS / HEAVY RAIN PAST 2 DAYS
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	NONE	
Sediment Ponds	GOOD	
Blockages to Diversion Ditches	NONE	
Drainage Control	GOOD	
Permit Condition Violations	NONE	
PAG SITE		
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	NONE	
Diversion berm/stormwater structures		
Containment structures		
Erosion control/run-on structures		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Maley

Date of inspection: 12-28-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	Some Ice on Rods
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	Some	Temps Are Going Above Freezing
Frost Action	none	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	Lots of Ditches With Snow
Settlement	none	
Erosion	none	
Thawing	Some	Temps Are going up
Frost Action	none	
SEDIMENT PONDS		
Liner Slippage / Damage	none	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	Good	
Erosion	none	
Frost Action	none	
Thawing	Some	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 12-28-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	Yes	Ice over Pond
Active Zones	1-3	
Weather Conditions	Freezing	
NAG SITE		
Settlement/Geotechnical Instability	none	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	Good	
Damage to the Facility From:		
Settlement	none	
Erosion	non	
Operator Negligence	non	
Freezing	Yes	PAG Has a thick Layer of Ice
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	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Mated

Date of inspection: 12-21-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	With Some Ice
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	none	Temp are getting Below 0°3]
Frost Action	Some	1/4" of Ice on Roads
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	Still Water flowing
Settlement	none	
Erosion	none	
Thawing	none	
Frost Action	Some	
SEDIMENT PONDS		
Liner Slippage / Damage	[illegible]	none
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures		
Geotechnical Stability	Good	
Settlement	none	
Erosion	none	
Frost Action	Some	Thin Layer of Ice on 1st pond
Thawing	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 12-21-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	
Stress to Vegetation	none	
Channelization/Ponding	none	
Leakage	none	
Freezing	none	
Active Zones	1,2,3	
Weather Conditions	Cold	Heater working well good flow
NAG SITE		
Settlement/Geotechnical Instability	Good	
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage	Good	
Damage to the Facility From:		
Settlement	none	
Erosion	none	
Operator Negligence	none	
Freezing	Yes	1/2" ~~on~~ Layer of ice on Pond
Frost Action	Yes	
Permit Condition Violations	non	
Escaped Leachate	Good	
Damage to or improper Operation of:		
Backwall	none	
Diversion berm/stormwater structures	none	
Containment structures	Good	
Erosion control/run-on structures	none	

We Have Lt Flow in Pag with
Still Positive Flow to Effl

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix matey

Date of inspection: 12-17-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	Good	1" of Snow on the Ground Some
Geotechnical Stability	Good	Ice ALSO
Settlement	none	
Erosion	none	
Channelization	none	
Thawing	Some	Temps Low 30 High 38
Frost Action	Some	
PORTAL PAD/SHOP SITE		
General Surface Condition	Good	
Ditches	Good	Still flowing Some Thin Ice
Settlement	none	
Erosion	none	
Thawing	Some	Temp going up & Down
Frost Action	Some	Freezing
SEDIMENT PONDS		
Liner Slippage / Damage	Good	
Retaining Walls	Good	
Erosion Control Structures	Good	
Run-on Control Structures	Good	
Diversion Structures	Good	
Geotechnical Stability		
Settlement	none	
Erosion	none	
Frost Action	Some	
Thawing	Some	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: Felix Matey

Date of inspection: 12-17-12

LAD SITE		
LAD Outflow Valves	Good	
LAD Outflow Screen	Good	
Stress to Vegetation	none	
Channelization/Ponding	none	Lt Snow on Ground
Leakage	none	
Freezing	Some	1st Pond Lt thin layer of Ice
Active Zones	1-2-3	
Weather Conditions	30°	Lt Snow & Freezing Temp
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	none	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	none	
Drainage Control	Good	
Permit Condition Violations	none	
PAG SITE		
Visible signs of Damage to Liner	none	
Liner Slippage		
Damage to the Facility From:		
Settlement	none	
Erosion	none	
Operator Negligence	none	
Freezing	Yes	1/4" Layer of Ice
Frost Action	Some	
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	none	

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. HIGGINS

Date of inspection: 12-8-12

AREA	STATUS	OBSERVATIONS/COMMENTS
ROADS		
General Surface Condition	GOOD	
Geotechnical Stability		
Settlement	NONE	
Erosion		
Channelization		
Thawing		
Frost Action		
PORTAL PAD/SHOP SITE		
General Surface Condition	GOOD	
Ditches	GOOD	
Settlement	NONE	
Erosion		
Thawing		
Frost Action		
SEDIMENT PONDS		
Liner Slippage / Damage	NONE	
Retaining Walls	GOOD	
Erosion Control Structures		
Run-on Control Structures		
Diversion Structures		
Geotechnical Stability		
Settlement	NONE	
Erosion		
Frost Action		
Thawing		

NIBLACK PROJECT LLC

VISUAL SITE INSPECTION FORM

Inspected by: MICHAEL S. [illegible]

Date of inspection: 12-8-12

LAD SITE		
LAD Outflow Valves	GOOD	
LAD Outflow Screen	GOOD	
Stress to Vegetation	NONE	
Channelization/Ponding	NONE	
Leakage	NONE	
Freezing	NONE	
Active Zones	1-4	
Weather Conditions	15 MPH / SNOW	
NAG SITE		
Settlement/Geotechnical Instability		
Erosion	NONE	
Sediment Ponds	N/A	
Blockages to Diversion Ditches	NONE	
Drainage Control	GOOD	
Permit Condition Violations	NONE	
PAG SITE		
Visible signs of Damage to Liner	NONE	
Liner Slippage	NONE	
Damage to the Facility From:		
Settlement	NONE	
Erosion		
Operator Negligence		
Freezing		
Frost Action		
Permit Condition Violations		
Escaped Leachate		
Damage to or improper Operation of:		
Backwall	NONE	
Diversion berm/stormwater structures		
Containment structures		
Erosion control/run-on structures		