Climax Molybdenum
A Freeport-McMoRan Company

COLORADO OPERATIONS
Henderson Mine and Mill
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April 26, 2012

RECEIVED
APR 27 2012
To Division of Reclamation, Mining & Safety

Via UPS Tracking Number: 1Z 804 847 13 7032 8827

Mr. Peter Hays
Division of Reclamation Mining and Safety
1313 Sherman St., Rm. 215
Denver, CO 80203

Re: Permit M-1977-342, Submittal of Technical Revision 16 - Henderson Operations Groundwater Management Plan

TR16

Dear Mr. Hays:

Climax Molybdenum Company (CMC) has developed the enclosed Groundwater Management Plan (GWMP) for the Henderson Operations. The GWMP has been prepared pursuant to Rule 3.1.7(5) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations and is being formally submitted as Technical Revision 16 (TR-16) to the Henderson Mine and Mill Reclamation Permit No. M-1977-342. This TR supersedes TR-05 that was previously submitted to the Division of Reclamation, Mining and Safety (DRMS).

Please contact me at (303) 569-3221, ext. 1233 or Bryce Romig (ext. 1204) if you have any questions regarding this submittal, or if you would like to schedule a meeting or a site visit to further discuss any aspect of the GWMP.

Sincerely,

Miguel Hamarat
Chief Environmental Engineer
Climax Molybdenum Company
Henderson Operations

Attachments:

1. Groundwater Management Plan
2. Check #0000749918 in the amount of $1006.00.

cc (via email, w/o attachments):

B. Romig, Climax
N. Hall, Freeport-McMoRan
S. Deely, Freeport-McMoRan

TR16

Division of Reclamation, Mining, and Safety

Fee Receipt for M1977342

Climax Molybdenum Company

000000000

Receipt #: 12812
Date: 04/27/2012
Permit: M1977342

Payment Method	Revenue Code	Fee Description/Notes	Amount
0000749918 jwc	4300-11	Minerals Technical Revision M-1977-342, Paid By Freeport-McMoRan Copper & Gold	$1,006.00
		Receipt Total:	**$1,006.00**

CLIMAX MOLYBDENUM COMPANY
HENDERSON OPERATIONS

Technical Revision 16 (TR-16) to Permit M-1977-342
Groundwater Management Plan

April, 2012

Submitted To:

Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

Prepared by:

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Table of Contents

List of Tables

List of Appendices

List of Acronyms and Abbreviations

CBSG – Colorado Water Quality Control Commission Basic Standards for Groundwater (5 CCR 1002-41)

CDPHE – Colorado Department of Public Health and Environment

CDPS - Colorado Discharge Permit System

CRS – Colorado Revised Statute

DMO – Designated Mining Operation

EPF – Environmental Protection Facility

DRMS – Division of Reclamation, Mining and Safety

EPP – Environmental Protection Plan

HRMMR – DRMS Hard Rock Metal Mining Rule

mg/L – milligrams per liter

MOA – Memorandum of Agreement

NPL – Numeric Protection Level

POC – Point of Compliance

SPCC/MCP – Spill Prevention Control and Countermeasures / Materials Containment Plan

s.u. – standard units

SWMP – Storm Water Management Plan

TR – Total Recoverable

TR – Technical Revision

µg/L – microgram per liter

umhos/cm – micromhos per centimeter

WQCC – Water Quality Control Commission

WQCD – Water Quality Control Division

1.0 Purpose of Permitting Action

Climax Molybdenum Company - Henderson Operations (Henderson) is submitting this document concerning the protection of groundwater quality pursuant to Rule 3.1.7(5) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations. This section states as follows:

> *(5) Any Operator, on a voluntary basis, may submit information concerning the protection of the quality of groundwater affected by the operation to the Office. The Operator may submit such information and a plan for monitoring, where appropriate, including monitoring at points of compliance, for the Office's consideration. The information submitted must satisfy the requirements of Paragraphs 3.1.7(6) and (7). Such voluntary submission by an Operator shall be considered a Technical Revision provided the submittal satisfies Section 1.8, or NOI modification.*

This permitting action seeks to establish a formal plan for groundwater monitoring at the Henderson Mine and Mill. This document constitutes the Henderson Groundwater Management Plan, and is being formally submitted as Technical Revision 16 (TR-16) to the Henderson Mine and Mill Reclamation Permit No. M-1977-342, as required. This TR supersedes TR-05 that was previously submitted to the Division of Reclamation, Mining and Safety (DRMS).

TR-16 establishes the program by which the Henderson Mine and Mill will demonstrate compliance with applicable groundwater quality requirements and, by reference, Colorado Water Quality Control Commission (WQCC) standards. As such, this Technical Revision establishes permit conditions, including numeric protection levels (NPL) protective of groundwater. Once approved, this technical revision will become part of the existing permit.

Both the Henderson Mine and the Henderson Mill are represented in this Technical Revision. Figure 1 illustrates the general locations of the Henderson Mine and Mill and Figures 2 and 3 illustrate major site features and drainage basins. Specific conditions at each location are addressed individually throughout this document.

2.0 Site Descriptions

2.1 Henderson Mine

The Henderson Mine is located in Clear Creek County west of Empire, Colorado. The Henderson Mine is situated on the northern flanks of Red Mountain located in the Dailey-Jones Pass mining district along the eastern edge of the Continental Divide. Figure 1 provides an overview of Henderson operations.

The Henderson ore body was discovered in the early 1960's. Shortly thereafter mine development began and continues today. The main ore haulage from the underground mine is a 9.6 mile tunnel to the Henderson Mill site located on the western side of the Continental Divide in the Williams Fork Valley.

Currently, formally non-tributary developed water from rock fracture interception coupled with water intercepted by the Henderson glory hole is pumped from the mine workings to the surface where it is treated and discharged under the authority of the Colorado Discharge Permit Systems (CDPS) Wastewater Discharge Permit No. CO-0041467. Surface treatment consists of a high density sludge water treatment process. This process treats incoming water via lime neutralization, precipitation, settling and pH adjustment. Clarifier underflow is recycled to seed incoming untreated water. The balance of the sludge is pumped to two dewatering beds on an alternating basis. Dried sludge is collected and disposed of off-site in accordance with applicable solid waste regulations.

Storm water at the Henderson Mine is discharged under the authority of Storm Water General Permit COR-040079, as well as the previously identified CDPS wastewater discharge permit. Storm water not discharged under the wastewater discharge permit is discharged via identified storm water outfalls and via sheet flow to the West Fork of Clear Creek. In addition, storm water diversionary canals have been constructed on the south side of surface operations, around the west end and along the north side of the Henderson Mine property. These diversionary interceptors serve to deliver unimpacted storm water to the West Fork of Clear Creek.

Henderson currently maintains its operations of underground workings in a dewatered condition. This Groundwater Management Plan assumes post mining dewatering and treatment. Henderson will obtain the necessary authorizations to address the potential impacts of mine flooding prior to ceasing dewatering.

2.2 Henderson Mill

Henderson Mill is located in the upper Williams Fork River drainage basin just north of Ute Pass in Grand County, Colorado. The mill, located on the west side of the Continental Divide, is linked by a tunnel to the Henderson Mine on the east side of the Continental Divide. The major components associated with the mill facility include the mill, process water storage reservoir, and the main tailings storage facility. Figure 1 provides an overview of Henderson operations.

Tailings storage began at the Henderson Mill site in the mid 1970's. Tailings related seep water is currently collected downgradient of the storage area in a collection channel. The collected seep water is then pumped back up to the tailings storage facility for re-use.

Process water associated with the Henderson Mill may be discharged under the authority of CDPS Wastewater Discharge Permit No. CO-0000230; however, process water is customarily captured and reused in the milling circuit.

Storm water at the Henderson Mill is discharged under the authority of Storm Water General Permit COR-040079 and may be, in some circumstances, discharged under the previously identified CDPS wastewater discharge permit. Storm water not captured in the milling circuit or discharged under the wastewater discharge permit is discharged via identified storm water outfalls and via sheet flow to the Williams Fork River. To minimize the volume of storm water that comes into contact with the facility's industrial operations, interceptor canals have been constructed around the west and north end of the tailings pond to deliver unimpacted storm water to the Williams Fork River. A collection system has also been constructed for drainages southwest of the Henderson Mill property that transmits unimpacted storm water through an underground diversion pipe to the Williams Fork River.

2.3 Existing Monitoring Program

Henderson has been conducting routine groundwater quality monitoring at the Mine and Mill since 1995. Analytical data available since that time are provided in Appendix A for both the Mine (MNGW-1) and the Mill (MLGW-7) Point of Compliance (POC) wells (see related POC discussion in Section 3.0).

In addition to groundwater monitoring, Henderson has also performed sampling as part of an established surface water monitoring plan. The plan includes monitoring locations both upgradient and downgradient of the Mine and Mill as summarized in Table 2-1.

Table 2-1: Surface Water Monitoring Locations

Site	***Upgradient Sampling Locations***	***Downgradient Sampling Locations***
Henderson Mine	CC-10 and BG-20	CC-30
Henderson Mill	WFR-20	WFR-40

Analytical data from five quarterly surface water sampling events are provided in Appendix B. Surface water quality data indicate that Mine and Mill operations are not adversely impacting water quality downstream of the sites.

Historically, surface and groundwater monitoring locations have generally been sampled on a quarterly basis, weather and site conditions permitting. Note that Henderson has recently revised sampling location nomenclature to improve efficiencies. Sampling locations referenced in past correspondence with DRMS are likely still active but have been assigned a new name.

3.0 Drainage Basins and Selection of Monitoring Locations

This section provides a summary of:

- Classified stream segments;
- Existing and potential future uses of groundwater;
- Potential contamination sources;
- Geologic and hydrogeologic conditions at the Henderson Mine and Henderson Mill;
- Groundwater monitoring locations; and
- Surface water monitoring locations.

The geologic and hydrogeologic assessments presented herein are a summary of information previously provided to the Division of Reclamation, Mining and Safety (DRMS). The original source of the data presented is referenced as applicable.

POC monitoring locations were selected in accordance with Rule 3.1.7(6) of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations and related discussions in this section.

3.1 Henderson Mine

3.1.1 Location and Description of Classified Stream Segments

Adjacent to the Henderson Mine, Segment 4 of Clear Creek runs from the source of the West Fork of Clear Creek to the confluence with Woods Creek and is classified as Aquatic Life (cold) Class 1, Recreation E, Water Supply, and Agriculture. Downstream of the Henderson Mine, Segment 5 of Clear Creek runs from the confluence with Woods Creek to the confluence with Clear Creek and is classified as Aquatic Life (cold) Class 1, Recreation E, and Agriculture. Stream segments are noted, relative to mine operations, in Figure 3 of Appendix C.

3.1.2 Existing and Potential Future Uses of Groundwater

As discussed in Section 3.1.5, groundwater at the Henderson Mine is limited to a thin lens of alluvium that is bounded on all sides by low permeability Precambrian Silver Plume Granite. As the groundwater approaches the lower end of the drainage, the alluvium pinches out, and groundwater is forced to surface into the West Fork of Clear Creek. Therefore, the current and future groundwater use at the site is limited to recharge of the West Fork of Clear Creek. The site hydrogeologic conditions cannot support development of groundwater resources for any other beneficial use.

3.1.3 Potential Contamination Sources and Environmental Protection Facilities (EPFs)

Sources of potential contamination of groundwater from the Henderson Mine include infiltration of water from historical water treatment ponds and development rock piles. Potential contaminant sources and established EPFs at the Henderson Mine will be managed

in accordance with Section 7.1 of the revised Environmental Protection Plan (EPP), which is expected to be submitted for approval to the DRMS as TR-17 subsequent to this Groundwater Management Plan.

3.1.4 Geology

The bedrock of the area surrounding the Henderson Mine site is relatively shallow and is composed primarily of Precambrian Silver Plume Granite and Tertiary Period stock and dike granitic intrusions that are highly altered by hydrothermal activity. The intrusions are upgradient from the mine site and may produce significant naturally occurring background concentrations of dissolved metals in the groundwater. The Vasquez Fault and a related fracture zone may affect the groundwater flow, but the fate of any percolation into the fault would be recirculation into the established mine water system. The expected fate of all other potential contamination would be accumulation in the stream flow and shallow groundwater associated with the West Fork of Clear Creek (WW Wheeler and Associates, 1991).

3.1.5 Hydrogeology

Groundwater occurrence at the Henderson Mine is primarily limited to a thin, well-defined lens of alluvium which is bounded on all sides by the Precambrian Silver Plume Granite Formation. Groundwater occurrence within the Precambrian Silver Plume Granite is limited. The low permeability of the granite is evident in the mine workings where groundwater inflow has remained unchanged in the 36 year life of the Henderson operation. Additionally, because process water is pumped from the mine workings to the surface for treatment (as discussed in Section 2.1), increased exposure of sulfides to oxidation through the underground mining activities does not impact groundwater quality near the underground workings.

As shown in Figure 3 of Appendix C, groundwater flow direction within the alluvium generally flows from the upper end of the drainage to the lower end. Upgradient of the confluence with Woods Creek, the alluvium pinches out and groundwater is forced to surface into the West Fork of Clear Creek.

3.1.6 Groundwater Monitoring Locations

3.1.6.1 POC Groundwater Monitoring Locations

The groundwater quality for the West Fork of Clear Creek basin has historically been, and will continue to be, monitored at well MNGW-1, located downgradient of the Henderson Mine. MNGW-1 is constructed in the alluvium and is representative of shallow groundwater conditions downgradient of mine operations. Completion details for the well are not available. MNGW-1 will be analyzed for the constituents listed in Table 4-1 and monitored at the frequencies summarized in Section 6.0.

Henderson Mine installed MNGW-2, a deeper Precambrian bedrock well, in 1993. This well has been dry since its completion. Henderson also conducted a hydraulic conductivity study of the Precambrian Silver Plume Granite in the Urad Valley and determined that groundwater flow is limited (WW Wheeler and Associates, 1993). As a result of these

findings and consistent with Section 3.1.5, Henderson and the DRMS agreed that MNGW-1 was appropriate for characterizing groundwater at the Mine.

3.1.6.2 Internal Groundwater Monitoring

Internal monitoring wells include those monitoring wells not specifically defined as POC wells in this Groundwater Management Plan. Henderson will continue to monitor key internal monitoring wells on a routine basis as a part of its overall water monitoring program.

3.1.7 Surface Water Monitoring Locations

3.1.7.1 CDPS Permit Monitoring

The Henderson Mine wastewater treatment system manages, in part, groundwater that is pumped from the mine workings and discharges the effluent through Outfall 005. This surface water discharge is authorized under Colorado Discharge Permit System (CDPS) discharge permit No. CO-0041467. Surface water sampling at the outfall is performed in accordance with the permit and is not included in the scope of this Plan. Ongoing compliance with discharge requirements demonstrates the overall effectiveness of the collection and treatment facilities.

3.1.7.2 Clear Creek Surface Water Monitoring Locations

Henderson Mine will continue to monitor existing surface water monitoring locations: CC-10, upgradient of the Henderson Mine in the West Fork of Clear Creek; BG-20, upgradient of the Henderson Mine in Butler Gulch; and CC-30, downgradient of the Henderson Mine in the West Fork of Clear Creek. These sites will allow additional monitoring and trending of data and enable detection of potential changes in water quality from surface runoff in the vicinity of the mine facilities.

Surface water samples will be analyzed for the constituents listed in Table 4-4 and monitored at the frequencies summarized in Section 6.0. Figure 3 of Appendix C illustrates monitoring locations at the Henderson Mine.

3.2 Henderson Mill

3.2.1 Location and Description of Classified Stream Segments

Adjacent to the Henderson Mill, the Williams Fork River, from its source to the confluence with the Colorado River, is Segment 8 of the Upper Colorado River basin. This segment is classified as Aquatic Life (cold) Class 1, Recreation E, Water Supply, and Agriculture. Stream segment location is noted, relative to mill operations, in Figure 2 of Appendix C.

3.2.2 Existing and Potential Future Uses of Groundwater

Current and future groundwater uses at the Henderson Mill are limited. Groundwater within the Henderson Mill property boundary occurs primarily in the areas downstream of the tailings storage facility. Within these areas, current and future domestic and agricultural development of groundwater would not be likely given the site location and climate

conditions. The current and future groundwater use at the site is limited to recharge of the Williams Fork River.

3.2.3 Potential Contamination Sources and EPFs

Sources of potential contamination of groundwater from the Henderson Mill include infiltration of process water from the tailings storage facility and the East Branch Reservoir (a process water impoundment in the East Branch of Ute Creek). Potential contaminant sources and established EPFs at the Henderson Mine will be managed in accordance with Section 7.2 of the revised EPP, which is expected to be submitted for approval to the DRMS as TR-17 subsequent to this Groundwater Management Plan.

3.2.4 Site Geology

The Henderson Mill and tailings storage facilities are located in the Ute Creek Basin of the Williams Fork drainage basin. The Ute Creek Basin is bounded on the west by the Vasquez Mountain Range and bounded on the north, south and east by northwest trending Williams Fork Mountains. The Ute Creek Basin basement rocks consist of weathered and unweathered Precambrian gneiss and schist of the Idaho Springs Formation and Silver Plume Granite. In some areas of the basin, the Miocene-aged Troublesome Formation consists mostly of unconsolidated and semi-consolidated lensed clays, silts, sands, gravels and volcanic ash grading to consolidated siltstone, sandstone, conglomerate and claystone derived from the weathering of the Williams Fork Mountain Range. Pleistocene-aged glacial end-moraines, lake sediments and outwash material encroach on the Ute Creek Basin and overlie the Troublesome Formation. End-moraines are a conglomeration of boulders, cobbles, gravels, sands, silts and clays. Glacial lake sediments cover low flat sections while glacial outwash was deposited in braided stream beds. Glacial outwash consists of gravels, cobbles and sands. The Troublesome Formation is generally blanketed by a 2 to 10-foot thick layer of recent slopewash and residual soils. Alluvial material generally lies within the present stream valleys.

The Henderson Mill and adjacent facilities are constructed on the Idaho Springs Formation and Silver Plume Granite. The tailings storage area is located on the western slope of the Williams Fork River Valley and is constructed primarily on the Troublesome Formation although some areas overlay glacial and alluvial deposits.

3.2.5 Hydrogeology

Hydrogeologic conditions at the Henderson Mill were investigated by advancing seven borings into the alluvium and weathered bedrock in the fall of 1993. Of the seven borings, six borings were completed as monitoring wells (designated as GW-2 through GW-7). Based on the site geology, boring logs and observation of groundwater levels, three primary hydrostratigraphic units can be identified at the Henderson Mill site: 1) unconsolidated glacial and alluvial deposits, 2) the Troublesome Formation, and 3) the Idaho Springs Formation and Silver Plume Granite. The following sections summarize the hydraulic characteristics of each hydrostratigraphic unit. Within and downgradient of the tailings storage facility, groundwater primarily occurs within the glacial and alluvial deposits, while little groundwater flow is present in the Troublesome Formation, Idaho Springs

Formation and Silver Plume Granite.

Glacial and Alluvial Materials

Field data from test pits and borings advanced prior to and after tailings deposition (Woodward-Clyde, 1983, Hydrokenetics, 1993) show that the groundwater levels within the glacial and alluvial materials are hydraulically connected. Since both the glacial and alluvial materials consist of gravels, sands and clay deposits, and are hydraulically connected, these materials are considered a single hydrostratigraphic unit.

The groundwater levels measured within the glacial and alluvial materials vary considerably across the site. When correlated to geologic data, it is evident that the variability of the groundwater levels can be attributed to multiple perched water zones present within pervious layers which overlay impervious layers. Therefore, the groundwater levels and hydraulic properties of this hydrostratigraphic unit are expected to be highly variable.

Troublesome Formation

The Troublesome Formation has been documented to contain discontinuous sands, gravels, lensed clays, and silts underlain by semi-consolidated siltstones, sandstones, conglomerates and claystones. Data from test pits and borings within the Troublesome indicate that the presence of groundwater within this unit is highly variable. A site study conducted by Woodward-Clyde (1983) concluded that this formation is not considered to be a continuous aquifer because of the limited extent of the sand layers in the formation which would preclude significant groundwater flow.

Idaho Springs Formation and Silver Plume Granite

The weathered and unweathered Precambrian Idaho Springs Formation and Silver Plume Granite are considered to be relatively impermeable compared to the overlying glacial, alluvial and Troublesome Formation deposits. The low permeability nature of the Idaho Springs Formation and the Silver Plume Granite have been documented through packer and geophysical testing in the Precambrian bedrock. These data indicate that the Precambrian bedrock is not capable of transmitting significant quantities of groundwater as compared to the overlying glacial and alluvial deposits and show a defined decrease in hydraulic conductivity with depth.

As shown in Figure 2 of Appendix C, the primary groundwater flow path is generally from southwest and towards the Williams Fork River to the northeast. Data indicates that the direction of groundwater flow is essentially northward near GW-4, and bends northeastward (towards the William Fork River) in the area of well GW-7 (Hydrokinetics, 1993).

3.2.6 Groundwater Monitoring Locations

3.2.6.1 POC Groundwater Monitoring Locations

The groundwater quality for the Upper Colorado River drainage basin has historically been, and at the outset will be, monitored at well MLGW-7, located downgradient of the Henderson Mill. MLGW-7 is constructed in the alluvium and considered representative of

shallow groundwater conditions below the Henderson Mill. The geologic well log and construction details for MLGW-7 are included in Appendix D (Hydrokinetics, 1993). MLGW-7 will be analyzed for the constituents listed in Table 4-1 and monitored at the frequencies summarized in Section 6.0.

Henderson Mill also recognizes the potential need to establish new POC wells near the property line below 3-Dam and in the Potato Gulch drainage to provide adequate lateral coverage in areas downgradient of the tailings storage facility. Henderson further recognizes the potential merits of establishing nested wells at either one or both of these new POC locations, as well as at MLGW-7, to assess potential deeper groundwater conditions. As such, Henderson is in the process of conducting further groundwater studies at the Mill to determine:

- The appropriateness of MLGW-7's current location and the rationale for or against a nested well at this location;
- The appropriateness and recommended location of a POC well below 3-dam and the rationale for or against a nested well at this location; and
- The appropriateness and recommended location of a POC well in the Potato Gulch drainage and the rationale for or against a nested well at this location.

Upon completion, Henderson will present recommendations from these studies to DRMS for review and approval.

Segment 8 of the Upper Colorado River drainage basin has been classified as a water supply, however, the closest actual water supply use is a substantial distance downstream of the Henderson facility. As such, and as a result of related rulemaking hearings, the Water Quality Control Commission established the Aspen Canyon Ranch well[1] (Appendix E 5 CCR 1002-33) as the POC for water supply related parameters iron and manganese. Since sulfate (which is discussed here because it is included as an "indicator parameter" in Section 4.1) is only applicable because of a potential water supply classification, it follows that the POC would also be located at the Aspen Canyon Ranch well. As such, the Aspen Canyon Ranch well (MLGW-ACR) will serve as the POC for domestic water supply standards.

3.2.6.2 Internal Groundwater Monitoring

Internal monitoring wells include those monitoring wells not specifically defined as POC wells in this Groundwater Management Plan. Henderson will continue to monitor key internal monitoring wells on a routine basis as a part of its overall water monitoring program.

[1] Aspen Canyon Ranch well is a domestic water well located downstream of the Henderson Mill facility. Henderson has made proper arrangements with the property owners to ensure continuing access for monitoring purposes.

3.2.7 Surface Water Monitoring Locations

3.2.7.1 CDPS Permit Monitoring

The Henderson Mill process water may be discharged under the authority of CDPS Wastewater Discharge Permit No. CO-0000230. Periodic sampling has been conducted in accordance with the CDPS Permit, and is not included in the scope of this Plan. However, process water is customarily captured and reused in the milling circuit. Currently, no monitoring is being performed under the Permit as there is no discharge at the outfall.

3.2.7.2 Williams Fork Surface Water Monitoring Locations

Henderson will continue to monitor existing surface water monitoring locations: WFR-20, upgradient of the Henderson Mill in the Williams Fork River, and WFR-40, downgradient of the Henderson Mill in the Williams Fork River. These sites will allow additional monitoring and trending of data and enable the detection of potential changes in water quality from surface runoff in the vicinity of the mill facilities.

Surface water samples will be analyzed for the constituents listed in Table 4-4 and monitored at the frequencies summarized in Section 6.0. Figure 2 of Appendix C illustrates the location of monitoring locations at the Henderson Mill.

3.2.8 Groundwater Intercept System

The Henderson Mill tailings storage facility was constructed by the upstream deposition method and is comprised of tailings material. Some of the water from the tailings pond and dam migrates through the tailings material and is captured in seepage collection canals located at the toe of the tailings dam. The canals direct the water to the Ute Creek Pump Station and pumps process water back into the mill water circuit for reuse. This seep water collection and return system is identified as Mill EPF 1.5 and will be managed in accordance with the revised EPP, which is expected to be submitted for approval to the DRMS as TR-17 subsequent to this Groundwater Management Plan.

1-Dam was constructed over Ute Creek drainage and its alluvial channels which forms a shallow groundwater unit. Based on previous characterization studies, the Ute Creek alluvial channel was reported to be the primary water-bearing unit underlying and downgradient of the tailings dam. Seepage from the 1-Dam tailings facility that is not captured in the seepage collection canals reports to the buried Ute Creek alluvial channel. The historical Ute Creek channel exits the 1-Dam tailings facility near the Ute Creek pumping station where it is captured by the 1-Dam interceptor well field.

Henderson submitted Technical Revision TR-10, 1-Dam Wellfield Project on May 15, 2001, and the interceptor well field went into service in October 2002. The 1-Dam interceptor well field was installed in the summer of 2002 below the 1-Dam tailings to capture seepage-impacted groundwater migrating northeast and downgradient from the tailings facility. The interceptor wells are installed perpendicular and across the historical Ute Creek alluvial channel and glacial drift deposits and range in depth from 13 to 43 feet. Flows from all of the extraction wells are combined into a single underground header that

discharges to the Ute Park pump station. Flow rates and volumes are continuously measured and recorded with the use of electronic recording devices. The primary factors controlling flow rate are weather and seasonal conditions. The water combines with the surface seepage waters from the canals and is pumped back to the tailings pond for reuse in the milling circuit. The 1-Dam groundwater intercept system is identified as Mill EPF 1.6 and will be managed in accordance with the revised EPP, which is expected to be submitted for approval to the DRMS as TR-17 subsequent to this Groundwater Management Plan.

4.0 Monitoring Parameters

Monitoring under this Groundwater Management Plan is intended to provide data for:

- Demonstrating that EPP requirements are being met; and
- Evaluating changes in water quality that may be related to mining and milling operations at the site.

This section describes the selection of monitoring parameters.

4.1 Indicator Parameters

A Geochemical Evaluation and Sampling Plan (see Appendix F) was submitted and approved by the DRMS in May, 2010. Subsequent sampling was performed on June 14-15, 2010 at the Mine to identify those parameters that have a reasonable potential of being transported from mining materials to surface and groundwater systems. A DRMS representative was present and observed this sampling event.

Geochemical evaluation monitoring results (see Appendix G) were subsequently analyzed by Henderson and the DRMS with the goal of identifying a short list of indicator parameters that track overall water quality. An indicator parameters list was selected and approved by the DRMS and is summarized in Table 4-1.

Table 4-1: Groundwater Indicator Monitoring Parameters

Indicator Parameters	
Selenium (Dissolved, µg/L)	Conductivity (umhos/cm)
Iron (Dissolved, µg/L)	Sulfate (mg/L)
Manganese (Dissolved, µg/L)	pH (s.u.)
Zinc (Dissolved, µg/L)	

The following provides a brief rationale for indicator parameter selection based on related discussions and correspondence between Henderson and the DRMS:

- Iron, manganese and zinc were selected to provide a reasonable indication of how trace elemental cations are behaving;
- Sulfate was selected to provide a reasonable indication of how anionic species are behaving. Sulfate is a constituent associated with sulfide ore and is known to occur in the water fraction of the tailings. Sulfate is also a naturally occurring constituent in surface and groundwater in this area;
- Selenium was selected to provide an indication of how elements that exist in natural waters primarily as oxyanions (antimony, arsenic, molybdenum, selenium and uranium), which do not track with the metal cations, are behaving; and
- pH and conductivity provide an instantaneous snapshot of physical field data.

4.2 Baseline Parameters

Newly monitored or constructed groundwater monitoring locations including those being proposed for installation below 3-Dam, in the Potato Gulch drainage, nested with well MLGW-7 and the designated domestic water supply POC well at MLGW-ACR will, in addition to those indicator parameters listed in Section 4.1, be monitored for the baseline parameters summarized in Table 4-2 or Table 4-3, as appropriate. The baseline dataset will be collected over a period of time necessary to provide a minimum of 5 quarterly samples. Once five quarters of sampling has been completed, the indicator parameter list will be reviewed against the baseline data, and parameters may be added or removed from the lists for long-term monitoring. Henderson will present the results of this assessment to DRMS for review and approval. Upon approval, these monitoring locations will be added to the tables in Section 6.0, as appropriate, for long term monitoring. Upon completion of baseline monitoring at MLGW-ACR, only those indicator parameters that also appear in Colorado Basic Standards for Groundwater (CBSG) Tables 1 and 2 (Domestic Water Supply) will be monitored on an ongoing basis.

The baseline parameters in Table 4-2 are a compilation of those parameters listed in CBSG Table 3 Agricultural Standards, but excluding those parameters already included in the indicator parameter list in Table 4-1. The baseline parameters in Table 4-3 are a compilation of those parameters listed in CBSG Tables 1 and 2 for domestic water supply, but excluding those parameters already included in the indicator parameter list in Table 4-1 and excluding asbestos, cyanide [Free], total coliforms, odor, color and foaming agents as these constituents would not reasonably be expected to be present or necessary.

Table 4-2: Groundwater Baseline Monitoring Parameters

Groundwater Baseline Parameters	
Aluminum	Lithium
Arsenic	Manganese
Beryllium	Mercury
Boron	Nickel
Cadmium	Nitrite (NO_2-N)
Chromium	Nitrite & Nitrate (NO_2 + NO_3-N)
Cobalt	Selenium
Copper	Vanadium
Fluoride	Zinc
Iron	pH (field)
Lead	

Table 4-3: Groundwater Baseline Monitoring Parameters - Domestic Water Supply (CBSG Tables 1 and 2) at Aspen Canyon Ranch (MLGW-ACR)

Groundwater Baseline Parameters - Domestic Water Supply	
Inorganic	
Antimony	Mercury (inorganic)
Arsenic	Molybdenum
Barium	Nickel
Beryllium	Nitrate (NO_3)
Cadmium	Nitrite Nitrate (NO_2)
Chromium	Thallium
Fluoride	Uranium
Lead	
Radiological	
Gross Alpha Particle Activity	Beta and Photon Emitters
Drinking Water	
Chlorophenol	Corrosivity
Chloride	Phenol
Copper	

4.3 Surface Water Monitoring Parameters

Surface water monitoring locations will be monitored for the parameters listed in Table 4-4.

Table 4-4: Surface Water Monitoring Parameters

Surface Water Monitoring Parameters	
Selenium (Dissolved, µg/L)	Conductivity (umhos/cm)
Iron (Dissolved, µg/L)	Sulfate (mg/L)
Manganese (Dissolved, µg/L)	pH (s.u.)
Zinc (Dissolved, µg/L)	Hardness (mg/L [as CaCO3])*

* Hardness included in the surface water parameters list to allow for the calculation of table value standards.

5.0 NPLs, Data Analysis, Notification and Revisions to Groundwater Standards

This section presents the approach utilized to establish numeric protection levels (NPLs) at POC wells MNGW-1 at Henderson Mine, and MLGW-7 and MLGW-ACR at Henderson Mill. Also presented are the data analysis and reporting procedures established for the POC wells.

5.1 NPLs (Numeric Protection Levels) for POC Wells

Colorado Revised Statute (C.R.S.) 25-8-202(7) and the December 14, 2010 Memorandum of Agreement (MOA) between the Colorado Department of Public Health and Environment (CDPHE), the Water Quality Control Commission (WQCC), and DRMS clarify that WQCC is the entity solely responsible to adopt water quality standards and classifications for state waters. The MOA provides that DRMS will establish points of compliance for discharges to groundwater and must provide reasonable assurance to the Water Quality Control Division (WQCD) and WQCC that compliance with the C.R.S. 25-8-202(7) has been obtained by using the groundwater standards and classifications established by WQCC as the basis for setting enforceable performance standards, adopting rules and regulations to establish points of compliance for discharges to state waters other than point source discharges to surface water, and other requirements as included in the MOA. The WQCC has not established classified uses for groundwater at or near Henderson Mine or Mill for which standards specific to the area have been adopted, therefore the Interim Narrative Standard under CBSG is applicable. DRMS Hard Rock Metal Mining Rule (HRMMR) 3.1.7(2)(c), requires the use of the groundwater quality table values in the CBSG as a guide for establishing numeric protection limits or permit conditions. In situations where ambient groundwater exceeds groundwater table values, the rule requires establishing permit conditions to protect existing and reasonably potential future uses against further lowering of groundwater quality. The Interim Narrative Statewide Standard (CBSG Section 41.5(C)(6)(b)(i)) states that groundwater quality shall be maintained for each parameter at whichever of the following levels is least restrictive: existing ambient quality as of January 31, 1994, or the most stringent criteria set forth in Tables 1 through 4 of the CBSG.

Consistent with DRMS rules, NPLs will be established for POC groundwater wells using the CBSG Table Value Standards as a guide with consideration given to baseline data, where available. In instances where the existing groundwater quality exceeds a CBSG table value, an alternate NPL is selected based on the Interim Narrative Standard to protect against the further lowering of groundwater quality.

Where ambient data are to be used to establish protection limits, baseline concentrations will be established using baseline monitoring data, from a minimum of five representative quarterly sampling events (or more where data is available) collected subsequent to January 31, 1994. The NPL will be established using a methodology consistent with that summarized in the Technical Consulting Report – Establishing Background Threshold Values (BTVs) for Manganese included in Appendix H.

The NPLs are discussed below for each of the watersheds. The data analysis approach to be used in evaluating data against the NPLs is described in Section 5.2.

5.1.1 Henderson Mine

The POC for Henderson Mine is MNGW-1 (see Figure 3). The monitoring well is located downgradient, near the east end of the disturbed industrial area. Table 5-1 lists the parameters to be measured, applicable NPLs, and the basis for establishing the NPL.

Table 5-1: MNGW-1 Numeric Protection Limits

Analytical Parameter	*NPL (mg/L)*	*NPL Basis (see notes)*
Iron, dissolved	5	Table 3, CBSG
Manganese, dissolved	0.79	Ambient
Selenium, dissolved	0.02	Table 3, CBSG
Zinc, dissolved	2	Table 3, CBSG
Conductivity, umhos/cm	NA (report)	NA
pH, s.u.	6.5 – 8.5	Table 3, CBSG
Sulfate, mg/L	NA (report)	NA

Notes:
Table 3, CBSG: Agricultural Use Standards
Ambient: See Technical Consulting Report – Establishing Background Threshold Values (BTVs) for Manganese included in Appendix H

5.1.2 Henderson Mill

The POC for Henderson Mill is MLGW-7 (see Figure 2). The monitoring well is located downgradient, near the northeast end of the disturbed industrial area. Table 5-2 lists the parameters to be measured, applicable NPLs, and the basis for establishing the NPL.

Table 5-2: MLGW-7 Numeric Protection Limits

Analytical Parameter	*NPL (mg/L)*	*NPL Basis (see notes)*
Iron, dissolved	5	Table 3, CBSG
Manganese, dissolved	0.42	Ambient
Selenium, dissolved	0.02	Table 3, CBSG
Zinc, dissolved	2	Table 3, CBSG
Conductivity, umhos/cm	NA (report)	NA
pH, s.u.	6.5 – 8.5	Table 3, CBSG
Sulfate, mg/L	NA (report)	NA

Notes:
Table 3, CBSG: Agricultural Use Standards
Ambient: See Technical Consulting Report – Establishing Background Threshold Values (BTVs) for Manganese included in Appendix H

For any newly monitored or constructed wells, including those contemplated in Section 3.2.6.1, a baseline dataset will be collected prior to the establishment of the NPLs. Table 4-1, 4-2 and 4-3 lists the parameters to be measured during the baseline period, as appropriate. The baseline dataset will be collected over a period of time necessary to

provide a minimum of five quarterly samples. Once five quarters of sampling have been completed, the indicator parameter list will be reviewed against the baseline data and parameters may be added or removed from the list(s) for long-term monitoring. Henderson will present the results of this assessment to DRMS for review and approval. Upon approval, NPLs will be established and these monitoring locations will be added to the tables in Section 6.0, as appropriate, for long term monitoring. Upon completion of baseline monitoring at MLGW-ACR, only those indicator parameters that also appear in CBSG Tables 1 and 2 (Domestic Water Supply) will be monitored on an ongoing basis. NPLs will be established in accordance with this section of the Groundwater Management Plan.

5.2 Data Analysis

This section presents the data analysis and reporting procedures established for POC wells. The data evaluation for the POC wells involves a comparison against NPLs.

For POC wells, the first step in evaluating individual event results will be a simple comparison against the NPL. If a sample result exceeds the NPL, field forms will be reviewed and the laboratory will be contacted to check for potential errors. If the initial data quality review does not reveal any errors, the DRMS will be notified and the well will be resampled within 30 days of the receipt of the analytical data. If the second analytical result does not exceed the NPL, sampling will continue at the normally scheduled frequency. If the second sample confirms the first result, additional data evaluation including outlier tests and data distribution and trend analyses will be performed, along with the additional steps presented below.

5.3 Notification and Consultation

If a result is confirmed to have exceeded an NPL and Henderson's data trend analysis does not find the result to be anomalous, or an obvious outlier, the following steps outline the procedure that will be taken:

1. Henderson will verbally notify DRMS that an exceedance has occurred within 10 days of receiving the analytical results for the second sample and in writing within 30 days. Written notification will include, at a minimum, the following information:
    a. The constituent identified to be in excess of established action level or standard.
    b. The location at which the exceedance was identified.
    c. Analytical data, including the date the samples were collected and the concentrations at which the constituent was measured.
    d. Increased monitoring measures being undertaken.

    Notifications will be submitted to the following location:

    Division of Reclamation, Mining and Safety

1313 Sherman Street, Room 215
Denver, Colorado 80203

2. The increased-monitoring proposal will address a modified sampling frequency for the POC location. The proposal will include a schedule for reporting and follow up discussions with DRMS.
3. If the results of the additional monitoring data indicate that water quality may be affected, Henderson will notify DRMS and initiate timely discussions with DRMS on the appropriate actions to be implemented.

5.4 Additional Data Evaluation

5.4.1 Trend Evaluation

Henderson will evaluate water quality trends for the POC groundwater monitoring sites identified above on an annual basis, and report findings in accordance with Section 7.0. This trend evaluation will be performed by viewing and presenting the data graphically and evaluating any observable visual trend. Evaluation of trends can be complicated by seasonal changes in precipitation and recharge, and by delayed response to events. Therefore, the evaluation will consider short-term changes (such as seasonal effects) in determining whether a declining trend in water quality exists. In other words, if seasonal concentration peaks occur, the evaluation should be performed to determine if there are trends in the peak concentrations.

If graphical trends do not suggest declining water quality, no further action is required and monitoring will continue in accordance with Section 6.1 and 6.2, access and weather conditions permitting. However, if a trend that suggests increasing concentrations in parameters is observed, Henderson will evaluate downgradient data, consider potential sources or causes of the trend, and if necessary develop a plan for increased monitoring frequency or further actions.

5.4.2 Outlier Identification

Outlier results can and do occur in environmental monitoring. The general practice will be to not remove outliers from the water-quality data set, but to consider them in the visual and statistical trend evaluations. However, Henderson will perform outlier testing using Rosner's outlier or other applicable test, considering the size of the available sample set and the validity of statistical tests for the circumstance, and report the results in its annual monitoring report. Test results identified as "outlier" will be maintained in the monitoring database, but may be excluded in trend or statistical analyses.

5.5 Revisions to Water Quality Standards

The NPLs established in this section reflect the numeric water quality standards (5 CCR 1002-41 CBSG) in effect at the time this Groundwater Management Plan was submitted. In the event that the applicable water quality standards are revised, the NPLs established herein will default to the revised numeric standards. However, NPLs that have been established based on ambient water quality shall not be affected by changes to state water

quality standards, unless such changes reflect an increase in the standard above the established limitation.

6.0 Monitoring Summary

This section summarizes the long term monitoring locations, frequencies, sample types, parameters to be monitored for and applicable NPLs at the Henderson Mine and Mill. This section does not address baseline monitoring, which will, as summarized in other portions of this Plan, be conducted over a period of time necessary to provide a minimum of 5 quarterly samples. Upon completion of baseline monitoring for newly constructed or monitored locations and determination of appropriate parameter list, these locations will be added to the below tables for long-term monitoring. Monitoring shall commence upon approval of this Technical Revision.

6.1 Henderson Mine

Table 6-1: Mine Monitoring Frequencies

Monitoring Locations	*Frequency*	*Type*	*Parameters*	*NPLs*
MNGW-1	3x/year*	Groundwater	Table 4-1	Table 5-1
BG-20	3x/year*	Surface Water	Table 4-4	NA
CC-10	3x/year*	Surface Water	Table 4-4	NA
CC-30	3x/year*	Surface Water	Table 4-4	NA

Notes:

3x/year – samples shall be collected during spring run-off (Apr-May), summer months (July-Aug) and low flow (Sep-Dec).

6.2 Henderson Mill

Table 6-2: Mill Monitoring Frequencies

Monitoring Locations	*Frequency*	*Type*	*Parameters*	*NPLs*
MLGW-7	3x/year*	Groundwater	Table 4-1	Table 5-2
WFR-20	3x/year*	Surface Water	Table 4-4	NA
WFR-40	3x/year*	Surface Water	Table 4-4	NA

Notes:

3x/year – samples shall be collected during spring run-off (Apr-May), summer months (July-Aug) and low flow (Sep-Dec).

6.3 Triannual Monitoring

Due to the harsh winter weather conditions at Henderson, monitoring during the winter months has proved to be a logistical difficulty, and more importantly requires significant management to reduce safety risks. Sampling procedures during the middle of winter (normally January through March timeframe) are often complicated by deep powder snowshoe access, freezing conditions, equipment difficulties, avalanche concerns, communication requirements (radio/beacons) and increased staffing requirements (safety spotters). For these reasons, Henderson has developed a monitoring schedule that includes a sampling frequency of three (3) times per year (triannual) that limits sampling activities during these times while delivering equivalent data results when compared to the historic calendar quarter monitoring schedule. The three monitoring period will be spring runoff (April-June), summer months (July-August) and low flow conditions in the fall/winter (Sep-Dec). The following discussion provides the basis for this determination.

Using EPA's ProUCL, a number of statistical calculations were conducted that were designed to determine what impacts a reduced frequency of monitoring would have on the anticipated results. In order to do this, the full data set for Wells MLGW-7 and MNGW-1 were compared to reduced data sets generated when first, second, third, or fourth quarter data were removed. This produces comparisons that can be used to show what the impact of reduced sampling would have been in the past, and by extension, a likely projection of what it would be in the future.

This statistical analysis was performed to develop an indication of the likely effects of reduced sampling on all parameters. To perform a statistical test of this type, an appropriate null hypothesis is first established. In this case the null hypothesis is that the mean/median of data sets with one quarter's sampling removed is statistically equal to the mean/median of the full data set. If it is equal, then there is not any statistical impact of eliminating that quarter of sampling data.

The indicator parameter set was used to perform this evaluation. The indicator analytes include manganese, zinc, iron, selenium, conductivity, sulfate, and pH. Conductivity data was not available at the time and so TDS was used as a substitute. In addition, the number of data points available for selenium was not sufficient to allow a statistically significant evaluation and so it was not included in the evaluation. In its place, molybdenum was used since it is also a metal for which oxyanions predominate in solution.

Detailed results for all these parameters are shown in Appendix I. A summary of the results for each parameter is shown in Table 6-3 for MLGW-7 and for MNGW-1.

In the case of MNGW-1, sulfate had an insufficient number of points that did not cover all quarters of sampling, so the hypothesis test could not be performed for that analyte. For MLGW-7, iron, zinc and molybdenum had coverage of all quarters but the number of points is relatively small such that the statistical evaluation becomes less certain. Otherwise, the data clearly show that the mean/median for all sets with any single quarter removed is statistically equal to the full data set.

The exception to this is total dissolved solids, which displays a higher mean/median when the third quarter of data is removed for well MNGW-1 (highlighted in Table 6-3). The degree of this effect can be seen in the appropriate data table in Appendix I.

The conclusion that can be reached from these results is that a properly-designed sampling program in which samples are taken three times per year will produce equivalent results as the quarterly (i.e., four times per year) program in place at this time. This means that any seasonal fluctuations can be accounted for using a triannual frequency of sampling, and there is no evidence of any trend that would skew the results.

Table 6-3: Results of Hypothesis Test for Indicator Parameters in MNGW-1 and MLGW-7

Well	*Parameter*	*Data Points in Full Set*	*Result of Hypothesis Test, Q1 Removed*	*Result of Hypothesis Test, Q2 Removed*	*Result of Hypothesis Test, Q3 Removed*	*Result of Hypothesis Test, Q4 Removed*
MNGW-1	Manganese	66	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Iron	67	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Zinc	67	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Sulfate*	16	NA	NA	NA	NA
	Molybdenum	67	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	TDS	65	Equal to full set	Equal to full set	**Mean > Full Set**	Equal to full set
	pH	61	Equal to full set	Equal to full set	Equal to full set	Equal to full set
MLGW-7	Manganese	121	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Iron**	19	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Zinc**	17	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Sulfate	47	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	Molybdenum**	22	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	TDS	31	Equal to full set	Equal to full set	Equal to full set	Equal to full set
	pH	114	Equal to full set	Equal to full set	Equal to full set	Equal to full set

* The number of data points is not sufficient for sulfate in well MNGW-1 to provide coverage of all quarters and the hypothesis test was not run.

**For MLGW-7, iron, zinc, and molybdenum have a relatively small number of data points and the hypothesis test may be less reliable than for the other parameters in this well.

6.4 Reduced Monitoring

Where data indicate that water quality is consistently meeting NPLs established in the Groundwater Management Plan and that no trend of increased contamination is being observed over time, taking into account potential seasonal fluctuations, Henderson may submit a request to the DRMS for reduced monitoring until such time that monitoring under the Henderson Permit is no longer deemed necessary.

6.5 Access to Monitoring Locations and Personnel Safety

Monitoring shall not be required during periods where weather and access conditions pose a risk to personnel safety. Failure to monitor due to unsafe access conditions shall not be deemed a violation of this Groundwater Management Plan.

7.0 Reporting and Recordkeeping

7.1 Reporting

A copy of monitoring data gathered in accordance with the requirements contained herein will be submitted to the DRMS on an annual basis. This annual report will be submitted separately from the annual Reclamation Report, by May 31 of each year for the prior year's data. The report shall be submitted to DRMS at the following address:

Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

7.2 Recordkeeping

Henderson Mine and Henderson Mill will establish and maintain records. Records will include the following:

a. The date, type and location of sampling;
b. The individual who performed the sampling;
c. The date the analyses was performed;
d. The individual performing the analyses;
e. The analytical technique or methods; and
f. Results of analyses.

Records will be maintained for a minimum of three years and will be made available upon request of the DRMS.

8.0 Sampling and Analytical Methods

The Henderson Mine and Henderson Mill will establish, implement and maintain sampling procedures to meet the following minimum requirements:

- Generally, all ground and surface water samples shall be collected and analyzed in accordance with approved industry standards using methodologies, including quality assurance/quality control, similar to those required of major Federal and State monitoring programs and other programs of systematic monitoring or academic research;
- Surface water samples and measurements shall be representative of the nature of the monitored water body; and
- Groundwater samples will be collected and managed in accordance with the Colorado Department of Public Health and Environment's *Suggested Sampling Protocol for Groundwater Monitoring Wells*, as well as internally developed procedures.

Where possible, the analytical method selected for a parameter shall have a detection limit below the NPLs established in this Groundwater Management Plan. Where the most sensitive analytical method has a detection limit greater than or equal to a limit established herein, "less than (the detection limit)" shall be reported and will not be considered an exceedance of the applicable NPL.

References

Hydrokinetics, 1993, Well Construction and Flow Analysis – Troublesome Formation and Alluvial Materials

W.W. Wheeler and Associates, Inc., 1991, Recommendations for Groundwater Monitoring at the Henderson Minesite Near Empire.

W.W. Wheeler and Associates, Inc., 1993, Hydraulic Conductivity of Precambrian Granite in Upper Clear Creek Area

Woodward Clyde, 1983, Henderson Tailing Area Geohydrology, Report No. 20997-9407 to Amax, Inc.

Appendix A

Existing Monitoring Program – Groundwater Data

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2012	MNGW-1	02/01/2012	0	Alkalinity, Total	mg/l as CaCO3	48.4
1st - RY2012	MNGW-1	02/01/2012	1	Alkalinity, Total	mg/l as CaCO3	46.7
2nd - RY1995	MNGW-1	04/25/1995	0	Aluminum, Dissolved	ug/l as Al	<50
2nd - RY1995	MNGW-1	06/13/1995	0	Aluminum, Dissolved	ug/l as Al	120
3rd - RY1995	MNGW-1	08/09/1995	0	Aluminum, Dissolved	ug/l as Al	<50
4th - RY1995	MNGW-1	10/24/1995	0	Aluminum, Dissolved	ug/l as Al	<50
1st - RY1996	MNGW-1	03/04/1996	0	Aluminum, Dissolved	ug/l as Al	120
2nd - RY1996	MNGW-1	04/29/1996	0	Aluminum, Dissolved	ug/l as Al	<50
3rd - RY1996	MNGW-1	07/31/1996	0	Aluminum, Dissolved	ug/l as Al	50
4th - RY1996	MNGW-1	10/09/1996	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY1997	MNGW-1	05/12/1997	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY1997	MNGW-1	07/02/1997	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY1997	MNGW-1	12/11/1997	0	Aluminum, Dissolved	ug/l as Al	<200
1st - RY1998	MNGW-1	01/07/1998	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY1998	MNGW-1	05/06/1998	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY1998	MNGW-1	07/08/1998	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY1998	MNGW-1	10/14/1998	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY1999	MNGW-1	01/13/1999	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY1999	MNGW-1	04/07/1999	0	Aluminum, Dissolved	ug/l as Al	60
3rd - RY1999	MNGW-1	07/07/1999	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY1999	MNGW-1	10/13/1999	0	Aluminum, Dissolved	ug/l as Al	140
1st - RY2000	MNGW-1	01/13/2000	0	Aluminum, Dissolved	ug/l as Al	40
2nd - RY2000	MNGW-1	05/10/2000	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2000	MNGW-1	07/12/2000	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2000	MNGW-1	12/12/2000	0	Aluminum, Dissolved	ug/l as Al	<100
1st - RY2001	MNGW-1	03/07/2001	0	Aluminum, Dissolved	ug/l as Al	<100
2nd - RY2001	MNGW-1	04/04/2001	0	Aluminum, Dissolved	ug/l as Al	<100
3rd - RY2001	MNGW-1	07/11/2001	0	Aluminum, Dissolved	ug/l as Al	<100
4th - RY2001	MNGW-1	10/03/2001	0	Aluminum, Dissolved	ug/l as Al	<100
1st - RY2002	MNGW-1	01/02/2002	0	Aluminum, Dissolved	ug/l as Al	<100
2nd - RY2002	MNGW-1	04/03/2002	0	Aluminum, Dissolved	ug/l as Al	<100
3rd - RY2002	MNGW-1	09/04/2002	0	Aluminum, Dissolved	ug/l as Al	<100
4th - RY2002	MNGW-1	10/03/2002	0	Aluminum, Dissolved	ug/l as Al	<100
2nd - RY2003	MNGW-1	06/20/2003	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2003	MNGW-1	08/13/2003	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2003	MNGW-1	10/22/2003	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY2004	MNGW-1	02/18/2004	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY2004	MNGW-1	06/09/2004	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2004	MNGW-1	09/08/2004	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2004	MNGW-1	10/20/2004	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY2005	MNGW-1	03/09/2005	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2005	MNGW-1	07/20/2005	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2005	MNGW-1	09/14/2005	0	Aluminum, Dissolved	ug/l as Al	<60
4th - RY2005	MNGW-1	11/09/2005	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY2006	MNGW-1	02/08/2006	0	Aluminum, Dissolved	ug/l as Al	160
3rd - RY2006	MNGW-1	07/12/2006	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2006	MNGW-1	09/20/2006	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2006	MNGW-1	10/26/2006	0	Aluminum, Dissolved	ug/l as Al	60
1st - RY2007	MNGW-1	03/07/2007	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2007	MNGW-1	07/31/2007	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2007	MNGW-1	09/26/2007	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2007	MNGW-1	10/18/2007	0	Aluminum, Dissolved	ug/l as Al	40
1st - RY2008	MNGW-1	03/28/2008	0	Aluminum, Dissolved	ug/l as Al	60
3rd - RY2008	MNGW-1	07/30/2008	0	Aluminum, Dissolved	ug/l as Al	11.6
3rd - RY2008	MNGW-1	09/24/2008	0	Aluminum, Dissolved	ug/l as Al	15.8

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY22009	MNGW-1	02/18/2009	0	Aluminum, Dissolved	ug/l as Al	52.2
3rd - RY2009	MNGW-1	07/15/2009	0	Aluminum, Dissolved	ug/l as Al	14.1
3rd - RY2009	MNGW-1	09/09/2009	0	Aluminum, Dissolved	ug/l as Al	5.84
4th - RY2009	MNGW-1	11/04/2009	0	Aluminum, Dissolved	ug/l as Al	17
1st - RY2010	MNGW-1	02/17/2010	0	Aluminum, Dissolved	ug/l as Al	9.3
3rd - RY2010	MNGW-1	07/21/2010	0	Aluminum, Dissolved	ug/l as Al	134
3rd - RY2010	MNGW-1	09/22/2010	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2010	MNGW-1	10/13/2010	0	Aluminum, Dissolved	ug/l as Al	102
1st - RY2011	MNGW-1	02/22/2011	0	Aluminum, Dissolved	ug/l as Al	<11
3rd - RY2011	MNGW-1	07/20/2011	0	Aluminum, Dissolved	ug/l as Al	22.1
3rd - RY2011	MNGW-1	09/14/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
4th - RY2011	MNGW-1	10/19/2011	1	Aluminum, Dissolved	ug/l as Al	<9.6
1st - RY2012	MNGW-1	02/01/2012	0	Aluminum, Dissolved	ug/l as Al	136
1st - RY2012	MNGW-1	02/01/2012	1	Aluminum, Dissolved	ug/l as Al	79.6
1st - RY2012	MNGW-1	02/01/2012	0	Antimony, Dissolved	ug/l as Sb	0.21
1st - RY2012	MNGW-1	02/01/2012	1	Antimony, Dissolved	ug/l as Sb	0.08
2nd - RY1995	MNGW-1	04/25/1995	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY1995	MNGW-1	06/13/1995	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY1995	MNGW-1	08/09/1995	0	Arsenic, Dissolved	ug/l as As	<1
4th - RY1995	MNGW-1	10/24/1995	0	Arsenic, Dissolved	ug/l as As	2
1st - RY1996	MNGW-1	03/04/1996	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY1996	MNGW-1	04/29/1996	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY1996	MNGW-1	07/31/1996	0	Arsenic, Dissolved	ug/l as As	1
4th - RY1996	MNGW-1	10/09/1996	0	Arsenic, Dissolved	ug/l as As	1
2nd - RY1997	MNGW-1	05/12/1997	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY1997	MNGW-1	07/02/1997	0	Arsenic, Dissolved	ug/l as As	<1
4th - RY1997	MNGW-1	12/11/1997	0	Arsenic, Dissolved	ug/l as As	1
1st - RY1998	MNGW-1	01/07/1998	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY1998	MNGW-1	05/06/1998	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY1998	MNGW-1	07/08/1998	0	Arsenic, Dissolved	ug/l as As	<1
4th - RY1998	MNGW-1	10/14/1998	0	Arsenic, Dissolved	ug/l as As	<1
1st - RY1999	MNGW-1	01/13/1999	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY1999	MNGW-1	04/07/1999	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY1999	MNGW-1	07/07/1999	0	Arsenic, Dissolved	ug/l as As	<1
4th - RY1999	MNGW-1	10/13/1999	0	Arsenic, Dissolved	ug/l as As	<1
1st - RY2000	MNGW-1	01/13/2000	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY2000	MNGW-1	05/10/2000	0	Arsenic, Dissolved	ug/l as As	<1
3rd - RY2000	MNGW-1	07/12/2000	0	Arsenic, Dissolved	ug/l as As	<1
4th - RY2000	MNGW-1	12/12/2000	0	Arsenic, Dissolved	ug/l as As	<10
1st - RY2001	MNGW-1	03/07/2001	0	Arsenic, Dissolved	ug/l as As	<10
2nd - RY2001	MNGW-1	04/04/2001	0	Arsenic, Dissolved	ug/l as As	<10
3rd - RY2001	MNGW-1	07/11/2001	0	Arsenic, Dissolved	ug/l as As	<10
4th - RY2001	MNGW-1	10/03/2001	0	Arsenic, Dissolved	ug/l as As	<10
1st - RY2002	MNGW-1	01/02/2002	0	Arsenic, Dissolved	ug/l as As	<10
2nd - RY2002	MNGW-1	04/03/2002	0	Arsenic, Dissolved	ug/l as As	<10
3rd - RY2002	MNGW-1	09/04/2002	0	Arsenic, Dissolved	ug/l as As	<10
4th - RY2002	MNGW-1	10/03/2002	0	Arsenic, Dissolved	ug/l as As	<10
2nd - RY2003	MNGW-1	06/20/2003	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2003	MNGW-1	08/13/2003	0	Arsenic, Dissolved	ug/l as As	<0.05
4th - RY2003	MNGW-1	10/22/2003	0	Arsenic, Dissolved	ug/l as As	0.1
2nd - RY2004	MNGW-1	06/09/2004	0	Arsenic, Dissolved	ug/l as As	0.1
3rd - RY2004	MNGW-1	09/08/2004	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2004	MNGW-1	10/20/2004	0	Arsenic, Dissolved	ug/l as As	0.6
1st - RY2005	MNGW-1	03/09/2005	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2005	MNGW-1	07/20/2005	0	Arsenic, Dissolved	ug/l as As	<0.5

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2005	MNGW-1	11/09/2005	0	Arsenic, Dissolved	ug/l as As	<0.1
1st - RY2006	MNGW-1	02/08/2006	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2006	MNGW-1	07/12/2006	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2006	MNGW-1	09/20/2006	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY-2006	MNGW-1	10/26/2006	0	Arsenic, Dissolved	ug/l as As	<0.5
1st - RY2007	MNGW-1	03/07/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2007	MNGW-1	07/31/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2007	MNGW-1	09/26/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2007	MNGW-1	10/18/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
1st - RY2008	MNGW-1	03/28/2008	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2008	MNGW-1	07/30/2008	0	Arsenic, Dissolved	ug/l as As	50
3rd - RY2008	MNGW-1	09/24/2008	0	Arsenic, Dissolved	ug/l as As	<50
1st - RY2009	MNGW-1	02/18/2009	0	Arsenic, Dissolved	ug/l as As	<50
3rd - RY2009	MNGW-1	07/15/2009	0	Arsenic, Dissolved	ug/l as As	<0.5
3rd - RY2009	MNGW-1	09/09/2009	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2009	MNGW-1	11/04/2009	0	Arsenic, Dissolved	ug/l as As	<0.5
1st - RY2010	MNGW-1	02/17/2010	0	Arsenic, Dissolved	ug/l as As	<0.37
3rd - RY2010	MNGW-1	07/21/2010	0	Arsenic, Dissolved	ug/l as As	<0.74
3rd - RY2010	MNGW-1	09/22/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2010	MNGW-1	10/13/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
1st - RY2011	MNGW-1	02/22/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
3rd - RY2011	MNGW-1	07/20/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
3rd - RY2011	MNGW-1	09/14/2011	0	Arsenic, Dissolved	ug/l as As	0.49
4th - RY2011	MNGW-1	10/19/2011	1	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2012	MNGW-1	02/01/2012	0	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2012	MNGW-1	02/01/2012	1	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2012	MNGW-1	02/01/2012	0	Barium, Dissolved	ug/l as Ba	4
1st - RY2012	MNGW-1	02/01/2012	1	Barium, Dissolved	ug/l as Ba	3.7
1st - RY2012	MNGW-1	02/01/2012	0	Beryllium, Dissolved	ug/l as Be	0.34
1st - RY2012	MNGW-1	02/01/2012	1	Beryllium, Dissolved	ug/l as Be	0.33
2nd - RY1995	MNGW-1	04/25/1995	0	Cadmium, Dissolved	ug/l as Cd	<0.3
2nd - RY1995	MNGW-1	06/13/1995	0	Cadmium, Dissolved	ug/l as Cd	<0.3
3rd - RY1995	MNGW-1	08/09/1995	0	Cadmium, Dissolved	ug/l as Cd	<0.3
4th - RY1995	MNGW-1	10/24/1995	0	Cadmium, Dissolved	ug/l as Cd	<0.3
1st - RY1996	MNGW-1	03/04/1996	0	Cadmium, Dissolved	ug/l as Cd	0.4
2nd - RY1996	MNGW-1	04/29/1996	0	Cadmium, Dissolved	ug/l as Cd	0.7
3rd - RY1996	MNGW-1	07/31/1996	0	Cadmium, Dissolved	ug/l as Cd	0.3
4th - RY1996	MNGW-1	10/09/1996	0	Cadmium, Dissolved	ug/l as Cd	<3
2nd - RY1997	MNGW-1	05/12/1997	0	Cadmium, Dissolved	ug/l as Cd	<6
3rd - RY1997	MNGW-1	07/02/1997	0	Cadmium, Dissolved	ug/l as Cd	<3
4th - RY1997	MNGW-1	12/11/1997	0	Cadmium, Dissolved	ug/l as Cd	<20
1st - RY1998	MNGW-1	01/07/1998	0	Cadmium, Dissolved	ug/l as Cd	20
2nd - RY1998	MNGW-1	05/06/1998	0	Cadmium, Dissolved	ug/l as Cd	<3
3rd - RY1998	MNGW-1	07/08/1998	0	Cadmium, Dissolved	ug/l as Cd	<3
4th - RY1998	MNGW-1	10/14/1998	0	Cadmium, Dissolved	ug/l as Cd	<3
1st - RY1999	MNGW-1	01/13/1999	0	Cadmium, Dissolved	ug/l as Cd	<3
2nd - RY1999	MNGW-1	04/07/1999	0	Cadmium, Dissolved	ug/l as Cd	<3
3rd - RY1999	MNGW-1	07/07/1999	0	Cadmium, Dissolved	ug/l as Cd	<3
4th - RY1999	MNGW-1	10/13/1999	0	Cadmium, Dissolved	ug/l as Cd	<3
1st - RY2000	MNGW-1	01/13/2000	0	Cadmium, Dissolved	ug/l as Cd	<3
2nd - RY2000	MNGW-1	05/10/2000	0	Cadmium, Dissolved	ug/l as Cd	<3
3rd - RY2000	MNGW-1	07/12/2000	0	Cadmium, Dissolved	ug/l as Cd	<3
4th - RY2000	MNGW-1	12/12/2000	0	Cadmium, Dissolved	ug/l as Cd	<2
1st - RY2001	MNGW-1	03/07/2001	0	Cadmium, Dissolved	ug/l as Cd	<2
2nd - RY2001	MNGW-1	04/04/2001	0	Cadmium, Dissolved	ug/l as Cd	<2

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2001	MNGW-1	07/11/2001	0	Cadmium, Dissolved	ug/l as Cd	3
4th - RY2001	MNGW-1	10/03/2001	0	Cadmium, Dissolved	ug/l as Cd	<5
1st - RY2002	MNGW-1	01/02/2002	0	Cadmium, Dissolved	ug/l as Cd	<5
2nd - RY2002	MNGW-1	04/03/2002	0	Cadmium, Dissolved	ug/l as Cd	<5
3rd - RY2002	MNGW-1	09/04/2002	0	Cadmium, Dissolved	ug/l as Cd	<5
4th - RY2002	MNGW-1	10/03/2002	0	Cadmium, Dissolved	ug/l as Cd	<5
2nd - RY2003	MNGW-1	06/20/2003	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2003	MNGW-1	08/13/2003	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2003	MNGW-1	10/22/2003	0	Cadmium, Dissolved	ug/l as Cd	<0.1
1st - RY2004	MNGW-1	02/18/2004	0	Cadmium, Dissolved	ug/l as Cd	<0.1
2nd - RY2004	MNGW-1	06/09/2004	0	Cadmium, Dissolved	ug/l as Cd	0.1
3rd - RY2004	MNGW-1	09/08/2004	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2004	MNGW-1	10/20/2004	0	Cadmium, Dissolved	ug/l as Cd	<0.1
1st - RY2005	MNGW-1	03/09/2005	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2005	MNGW-1	07/20/2005	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2005	MNGW-1	09/14/2005	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2005	MNGW-1	11/09/2005	0	Cadmium, Dissolved	ug/l as Cd	<0.1
1st - RY2006	MNGW-1	02/08/2006	0	Cadmium, Dissolved	ug/l as Cd	0.2
3rd - RY2006	MNGW-1	07/12/2006	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2006	MNGW-1	09/20/2006	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2006	MNGW-1	10/26/2006	0	Cadmium, Dissolved	ug/l as Cd	0.1
1st - RY2007	MNGW-1	03/07/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2007	MNGW-1	07/31/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2007	MNGW-1	09/26/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2007	MNGW-1	10/18/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
1st - RY2008	MNGW-1	03/28/2008	0	Cadmium, Dissolved	ug/l as Cd	<0.1
3rd - RY2008	MNGW-1	09/24/2008	0	Cadmium, Dissolved	ug/l as Cd	<10
1st - RY2009	MNGW-1	02/18/2009	0	Cadmium, Dissolved	ug/l as Cd	<10
4th - RY2009	MNGW-1	11/04/2009	0	Cadmium, Dissolved	ug/l as Cd	<0.5
1st - RY2010	MNGW-1	02/17/2010	0	Cadmium, Dissolved	ug/l as Cd	0.05
3rd - RY2010	MNGW-1	07/21/2010	0	Cadmium, Dissolved	ug/l as Cd	0.28
3rd - RY2010	MNGW-1	09/22/2010	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2010	MNGW-1	10/13/2010	0	Cadmium, Dissolved	ug/l as Cd	0.18
1st - RY2011	MNGW-1	02/22/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
3rd - RY2011	MNGW-1	07/20/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
3rd - RY2011	MNGW-1	09/14/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2011	MNGW-1	10/19/2011	1	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2012	MNGW-1	02/01/2012	0	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2012	MNGW-1	02/01/2012	1	Cadmium, Dissolved	ug/l as Cd	0.14
3rd - RY2011	MNGW-1	09/14/2011	0	Calcium, Dissolved	ug/l as Ca	18,900
4th - RY2011	MNGW-1	10/19/2011	1	Calcium, Dissolved	ug/l as Ca	26,000
1st - RY2012	MNGW-1	02/01/2012	0	Calcium, Dissolved	ug/l as Ca	63,200
1st - RY2012	MNGW-1	02/01/2012	1	Calcium, Dissolved	ug/l as Ca	63,100
1st - RY2012	MNGW-1	02/01/2012	0	Carbon, Total Organic	mg/l as C	1.6
1st - RY2012	MNGW-1	02/01/2012	1	Carbon, Total Organic	mg/l as C	1.4
3rd - RY2007	MNGW-1	07/31/2007	0	Chloride,Total in Water	mg/l	2
3rd - RY2008	MNGW-1	07/30/2008	0	Chloride,Total in Water	mg/l	2.48
3rd - RY2008	MNGW-1	09/24/2008	0	Chloride,Total in Water	mg/l	2.4
1st - RY2009	MNGW-1	02/18/2009	0	Chloride,Total in Water	mg/l	9.3
3rd - RY2009	MNGW-1	07/15/2009	0	Chloride,Total in Water	mg/l	0.769
3rd - RY2009	MNGW-1	09/09/2009	0	Chloride,Total in Water	mg/l	0.97
1st - RY2010	MNGW-1	02/17/2010	0	Chloride,Total in Water	mg/l	10.8
3rd - RY2010	MNGW-1	07/21/2010	0	Chloride,Total in Water	mg/l	0.79
3rd - RY2010	MNGW-1	09/22/2010	0	Chloride,Total in Water	mg/l	1.5
4th - RY2010	MNGW-1	10/13/2010	0	Chloride,Total in Water	mg/l	2.1

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2011	MNGW-1	02/22/2011	0	Chloride,Total in Water	mg/l	4.6
3rd - RY2011	MNGW-1	07/20/2011	0	Chloride,Total in Water	mg/l	0.6
3rd - RY2011	MNGW-1	09/14/2011	0	Chloride,Total in Water	mg/l	0.62
4th - RY2011	MNGW-1	10/19/2011	1	Chloride,Total in Water	mg/l	0.59
1st - RY2012	MNGW-1	02/01/2012	0	Chloride,Total in Water	mg/l	7.1
1st - RY2012	MNGW-1	02/01/2012	1	Chloride,Total in Water	mg/l	6.5
1st - RY2012	MNGW-1	02/01/2012	0	Chromium, Dissolved	ug/l as Cr	<0.22
1st - RY2012	MNGW-1	02/01/2012	1	Chromium, Dissolved	ug/l as Cr	<0.22
1st - RY2012	MNGW-1	02/01/2012	0	Cobalt, Dissolved	ug/l as Co	0.11
1st - RY2012	MNGW-1	02/01/2012	1	Cobalt, Dissolved	ug/l as Co	<0.022
2nd - RY1995	MNGW-1	04/25/1995	0	Copper, Dissolved	ug/l as Cu	<20
2nd - RY1995	MNGW-1	06/13/1995	0	Copper, Dissolved	ug/l as Cu	6
3rd - RY1995	MNGW-1	08/09/1995	0	Copper, Dissolved	ug/l as Cu	<1
4th - RY1995	MNGW-1	10/24/1995	0	Copper, Dissolved	ug/l as Cu	<1
1st - RY1996	MNGW-1	03/04/1996	0	Copper, Dissolved	ug/l as Cu	12
2nd - RY1996	MNGW-1	35184	0	Copper, Dissolved	ug/l as Cu	2
3rd - RY1996	MNGW-1	35277	0	Copper, Dissolved	ug/l as Cu	13
4th - RY1996	MNGW-1	35347	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY1997	MNGW-1	35562	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY1997	MNGW-1	35613	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY1997	MNGW-1	35775	0	Copper, Dissolved	ug/l as Cu	<50
1st - RY1998	MNGW-1	35802	0	Copper, Dissolved	ug/l as Cu	<50
2nd - RY1998	MNGW-1	35921	0	Copper, Dissolved	ug/l as Cu	10
3rd - RY1998	MNGW-1	35984	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY1998	MNGW-1	36082	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY1999	MNGW-1	36173	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY1999	MNGW-1	36257	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY1999	MNGW-1	36348	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY1999	MNGW-1	36446	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2000	MNGW-1	36538	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY2000	MNGW-1	36656	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2000	MNGW-1	36719	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2000	MNGW-1	36872	0	Copper, Dissolved	ug/l as Cu	40
1st - RY2001	MNGW-1	36957	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY2001	MNGW-1	36985	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2001	MNGW-1	37083	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2001	MNGW-1	37167	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2002	MNGW-1	37258	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY202	MNGW-1	37349	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2002	MNGW-1	37503	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2002	MNGW-1	37532	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY203	MNGW-1	37792	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2003	MNGW-1	37846	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2003	MNGW-1	37916	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2004	MNGW-1	38035	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY2004	MNGW-1	38147	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2004	MNGW-1	38238	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2004	MNGW-1	38280	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2005	MNGW-1	38420	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2005	MNGW-1	38553	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2005	MNGW-1	38609	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2005	MNGW-1	38665	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2006	MNGW-1	38756	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2006	MNGW-1	38910	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2006	MNGW-1	38980	0	Copper, Dissolved	ug/l as Cu	<10

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2006	MNGW-1	39016	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2007	MNGW-1	39148	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2007	MNGW-1	39294	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2007	MNGW-1	39351	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2007	MNGW-1	39373	0	Copper, Dissolved	ug/l as Cu	<10
1st - RY2008	MNGW-1	39535	0	Copper, Dissolved	ug/l as Cu	<10
3rd - RY2008	MNGW-1	39715	0	Copper, Dissolved	ug/l as Cu	<5
1st - RY2009	MNGW-1	39862	0	Copper, Dissolved	ug/l as Cu	<5
4th - RY2009	MNGW-1	40121	0	Copper, Dissolved	ug/l as Cu	5
1st - RY2010	MNGW-1	40226	0	Copper, Dissolved	ug/l as Cu	0.68
3rd - RY2010	MNGW-1	40380	0	Copper, Dissolved	ug/l as Cu	132
3rd - RY2010	MNGW-1	40443	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2010	MNGW-1	40464	0	Copper, Dissolved	ug/l as Cu	11.2
1st - RY2011	MNGW-1	40596	0	Copper, Dissolved	ug/l as Cu	<0.71
3rd - RY2011	MNGW-1	40744	0	Copper, Dissolved	ug/l as Cu	0.69
3rd - RY2011	MNGW-1	40800	0	Copper, Dissolved	ug/l as Cu	<0.4
4th - RY2011	MNGW-1	40835	1	Copper, Dissolved	ug/l as Cu	0.43
1st - RY2012	MNGW-1	40940	0	Copper, Dissolved	ug/l as Cu	0.97
1st - RY2012	MNGW-1	40940	1	Copper, Dissolved	ug/l as Cu	0.88
1st - RY2012	MNGW-1	40940	0	Fluoride, Total	mg/l as F	0.49
1st - RY2012	MNGW-1	40940	1	Fluoride, Total	mg/l as F	0.48
2nd - RY1995	MNGW-1	34814	0	Iron, Dissolved	ug/l as Fe	<20
2nd - RY1995	MNGW-1	34863	0	Iron, Dissolved	ug/l as Fe	140
3rd - RY1995	MNGW-1	34920	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY1995	MNGW-1	34996	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY1996	MNGW-1	35128	0	Iron, Dissolved	ug/l as Fe	20
2nd - RY1996	MNGW-1	35184	0	Iron, Dissolved	ug/l as Fe	40
3rd - RY1996	MNGW-1	35277	0	Iron, Dissolved	ug/l as Fe	20
4th - RY1996	MNGW-1	35347	0	Iron, Dissolved	ug/l as Fe	10
2nd - RY1997	MNGW-1	35562	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY1997	MNGW-1	35613	0	Iron, Dissolved	ug/l as Fe	10
4th - RY1997	MNGW-1	35775	0	Iron, Dissolved	ug/l as Fe	<50
1st - RY1998	MNGW-1	35802	0	Iron, Dissolved	ug/l as Fe	10
2nd - RY1998	MNGW-1	35921	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY1998	MNGW-1	35984	0	Iron, Dissolved	ug/l as Fe	<10
4th - RY1998	MNGW-1	36082	0	Iron, Dissolved	ug/l as Fe	<10
1st - RY1999	MNGW-1	36173	0	Iron, Dissolved	ug/l as Fe	<10
2nd - RY1999	MNGW-1	36257	0	Iron, Dissolved	ug/l as Fe	40
3rd - RY1999	MNGW-1	36348	0	Iron, Dissolved	ug/l as Fe	<10
4th - RY1999	MNGW-1	36446	0	Iron, Dissolved	ug/l as Fe	120
1st - RY2000	MNGW-1	36538	0	Iron, Dissolved	ug/l as Fe	10
2nd - RY2000	MNGW-1	36656	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY2000	MNGW-1	36719	0	Iron, Dissolved	ug/l as Fe	<10
4th - RY2000	MNGW-1	36872	0	Iron, Dissolved	ug/l as Fe	160
1st - RY2001	MNGW-1	36957	0	Iron, Dissolved	ug/l as Fe	<30
2nd - RY2001	MNGW-1	36985	0	Iron, Dissolved	ug/l as Fe	<30
3rd - RY2001	MNGW-1	37083	0	Iron, Dissolved	ug/l as Fe	170
4th - RY2001	MNGW-1	37167	0	Iron, Dissolved	ug/l as Fe	<100
1st - RY2002	MNGW-1	37258	0	Iron, Dissolved	ug/l as Fe	<100
2nd - RY2002	MNGW-1	37349	0	Iron, Dissolved	ug/l as Fe	<100
3rd - RY2002	MNGW-1	37503	0	Iron, Dissolved	ug/l as Fe	<100
4th - RY2002	MNGW-1	37532	0	Iron, Dissolved	ug/l as Fe	<100
2nd - RY2003	MNGW-1	37792	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY2003	MNGW-1	37846	0	Iron, Dissolved	ug/l as Fe	<10
4th - RY2003	MNGW-1	37916	0	Iron, Dissolved	ug/l as Fe	<10

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2004	MNGW-1	38035	0	Iron, Dissolved	ug/l as Fe	50
2nd - RY2004	MNGW-1	38147	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY2004	MNGW-1	38238	0	Iron, Dissolved	ug/l as Fe	<10
4th - RY2004	MNGW-1	38280	0	Iron, Dissolved	ug/l as Fe	<10
1st - RY2005	MNGW-1	38420	0	Iron, Dissolved	ug/l as Fe	<10
3rd - RY2005	MNGW-1	38553	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2005	MNGW-1	38609	0	Iron, Dissolved	ug/l as Fe	<40
4th - RY2005	MNGW-1	38665	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY2006	MNGW-1	38756	0	Iron, Dissolved	ug/l as Fe	220
3rd - RY2006	MNGW-1	38910	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2006	MNGW-1	38980	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY2006	MNGW-1	39016	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY2007	MNGW-1	39148	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2007	MNGW-1	39294	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2007	MNGW-1	39351	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY2007	MNGW-1	39373	0	Iron, Dissolved	ug/l as Fe	30
1st - RY2008	MNGW-1	39535	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2008	MNGW-1	39659	0	Iron, Dissolved	ug/l as Fe	70
3rd - RY2008	MNGW-1	39715	0	Iron, Dissolved	ug/l as Fe	<70
1st - RY2009	MNGW-1	39862	0	Iron, Dissolved	ug/l as Fe	44.6
3rd - RY2009	MNGW-1	40009	0	Iron, Dissolved	ug/l as Fe	33.5
3rd - RY2009	MNGW-1	40065	0	Iron, Dissolved	ug/l as Fe	53.1
4th - RY2009	MNGW-1	40121	0	Iron, Dissolved	ug/l as Fe	128
1st - RY2010	MNGW-1	40226	0	Iron, Dissolved	ug/l as Fe	174
3rd - RY2010	MNGW-1	40380	0	Iron, Dissolved	ug/l as Fe	213
3rd - RY2010	MNGW-1	40443	0	Iron, Dissolved	ug/l as Fe	24.7
4th - RY2010	MNGW-1	40464	0	Iron, Dissolved	ug/l as Fe	301
1st - RY2011	MNGW-1	40596	0	Iron, Dissolved	ug/l as Fe	148
3rd - RY2011	MNGW-1	40744	0	Iron, Dissolved	ug/l as Fe	33.1
3rd - RY2011	MNGW-1	40800	0	Iron, Dissolved	ug/l as Fe	83.6
4th - RY2011	MNGW-1	40835	1	Iron, Dissolved	ug/l as Fe	135
1st - RY2012	MNGW-1	40940	0	Iron, Dissolved	ug/l as Fe	524
1st - RY2012	MNGW-1	40940	1	Iron, Dissolved	ug/l as Fe	488
2nd - RY1995	MNGW-1	34814	0	Lead, Dissolved	ug/l as Pb	<1
2nd - RY1995	MNGW-1	34863	0	Lead, Dissolved	ug/l as Pb	<1
3rd - RY1995	MNGW-1	34920	0	Lead, Dissolved	ug/l as Pb	<1
4th - RY1995	MNGW-1	34996	0	Lead, Dissolved	ug/l as Pb	<1
1st - RY1996	MNGW-1	35128	0	Lead, Dissolved	ug/l as Pb	<1
2nd - RY1996	MNGW-1	35184	0	Lead, Dissolved	ug/l as Pb	<1
3rd - RY19966	MNGW-1	35277	0	Lead, Dissolved	ug/l as Pb	1
4th - RY1996	MNGW-1	35347	0	Lead, Dissolved	ug/l as Pb	<20
2nd - RY1997	MNGW-1	35562	0	Lead, Dissolved	ug/l as Pb	<40
3rd - RY1997	MNGW-1	35613	0	Lead, Dissolved	ug/l as Pb	<40
4th - RY1997	MNGW-1	35775	0	Lead, Dissolved	ug/l as Pb	<200
1st - RY1998	MNGW-1	35802	0	Lead, Dissolved	ug/l as Pb	200
2nd - RY1998	MNGW-1	35921	0	Lead, Dissolved	ug/l as Pb	<40
3rd - RY1998	MNGW-1	35984	0	Lead, Dissolved	ug/l as Pb	<40
4th - RY1998	MNGW-1	36082	0	Lead, Dissolved	ug/l as Pb	<40
1st - RY1999	MNGW-1	36173	0	Lead, Dissolved	ug/l as Pb	<40
2nd - RY1999	MNGW-1	36257	0	Lead, Dissolved	ug/l as Pb	<40
3rd - RY1999	MNGW-1	36348	0	Lead, Dissolved	ug/l as Pb	<40
4th - RY1999	MNGW-1	36446	0	Lead, Dissolved	ug/l as Pb	<40
1st - RY2000	MNGW-1	36538	0	Lead, Dissolved	ug/l as Pb	<40
2nd - RY2000	MNGW-1	36656	0	Lead, Dissolved	ug/l as Pb	<40
3rd - RY2000	MNGW-1	36719	0	Lead, Dissolved	ug/l as Pb	<40

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2000	MNGW-1	36872	0	Lead, Dissolved	ug/l as Pb	<50
1st - RY2001	MNGW-1	36957	0	Lead, Dissolved	ug/l as Pb	<50
2nd - RY2001	MNGW-1	36985	0	Lead, Dissolved	ug/l as Pb	<50
3rd - RY2001	MNGW-1	37083	0	Lead, Dissolved	ug/l as Pb	<50
4th - RY2001	MNGW-1	37167	0	Lead, Dissolved	ug/l as Pb	<3
1st - RY2002	MNGW-1	37258	0	Lead, Dissolved	ug/l as Pb	<3
2nd - RY2002	MNGW-1	37349	0	Lead, Dissolved	ug/l as Pb	<3
3rd - RY2002	MNGW-1	37503	0	Lead, Dissolved	ug/l as Pb	<3
4th - RY2002	MNGW-1	37532	0	Lead, Dissolved	ug/l as Pb	<3
2nd - RY2003	MNGW-1	37792	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2003	MNGW-1	37846	0	Lead, Dissolved	ug/l as Pb	<0.1
4th - RY2003	MNGW-1	37916	0	Lead, Dissolved	ug/l as Pb	<0.1
1st - RY2004	MNGW-1	38035	0	Lead, Dissolved	ug/l as Pb	<0.1
2nd - RY2004	MNGW-1	38147	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2004	MNGW-1	38238	0	Lead, Dissolved	ug/l as Pb	0.1
4th - RY2004	MNGW-1	38280	0	Lead, Dissolved	ug/l as Pb	<0.1
1st - RY2005	MNGW-1	38420	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2005	MNGW-1	38553	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2005	MNGW-1	38609	0	Lead, Dissolved	ug/l as Pb	0.3
4th - RY2005	MNGW-1	38665	0	Lead, Dissolved	ug/l as Pb	<0.1
1st - RY2006	MNGW-1	38756	0	Lead, Dissolved	ug/l as Pb	7
3rd - RY2006	MNGW-1	38910	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2006	MNGW-1	38980	0	Lead, Dissolved	ug/l as Pb	<0.1
4th - RY2006	MNGW-1	39016	0	Lead, Dissolved	ug/l as Pb	<0.1
1st - RY2007	MNGW-1	39148	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2007	MNGW-1	39294	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2007	MNGW-1	39351	0	Lead, Dissolved	ug/l as Pb	<0.1
4th - RY2007	MNGW-1	39373	0	Lead, Dissolved	ug/l as Pb	0.3
1st - RY2008	MNGW-1	39535	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY2008	MNGW-1	39715	0	Lead, Dissolved	ug/l as Pb	<73
1st - RY2009	MNGW-1	39862	0	Lead, Dissolved	ug/l as Pb	<73
4th - RY2009	MNGW-1	40121	0	Lead, Dissolved	ug/l as Pb	0.317
1st - RY2010	MNGW-1	40226	0	Lead, Dissolved	ug/l as Pb	0.12
3rd - RY2010	MNGW-1	40380	0	Lead, Dissolved	ug/l as Pb	25.6
3rd - RY2010	MNGW-1	40443	0	Lead, Dissolved	ug/l as Pb	0.23
4th - RY2010	MNGW-1	40464	0	Lead, Dissolved	ug/l as Pb	5.8
1st - RY2011	MNGW-1	40596	0	Lead, Dissolved	ug/l as Pb	0.12
3rd - RY2011	MNGW-1	40744	0	Lead, Dissolved	ug/l as Pb	0.65
3rd - RY2011	MNGW-1	40800	0	Lead, Dissolved	ug/l as Pb	0.1
4th - RY2011	MNGW-1	40835	1	Lead, Dissolved	ug/l as Pb	<0.092
1st - RY2012	MNGW-1	40940	0	Lead, Dissolved	ug/l as Pb	2.4
1st - RY2012	MNGW-1	40940	1	Lead, Dissolved	ug/l as Pb	1.6
3rd - RY2008	MNGW-1	39659	0	Magnesium, Dissolved	ug/l as Mg	1,180
3rd - RY2011	MNGW-1	40800	0	Magnesium, Dissolved	ug/l as Mg	2,020
4th - RY2011	MNGW-1	40835	1	Magnesium, Dissolved	ug/l as Mg	2,140
1st - RY2012	MNGW-1	40940	0	Magnesium, Dissolved	ug/l as Mg	5,750
1st - RY2012	MNGW-1	40940	1	Magnesium, Dissolved	ug/l as Mg	5,770
2nd - RY1995	MNGW-1	34814	0	Manganese, Dissolved	ug/l as Mn	<20
2nd - RY1995	MNGW-1	34863	0	Manganese, Dissolved	ug/l as Mn	80
3rd - RY1995	MNGW-1	34920	0	Manganese, Dissolved	ug/l as Mn	<20
4th - RY1995	MNGW-1	34996	0	Manganese, Dissolved	ug/l as Mn	<20
1st - RY1996	MNGW-1	35128	0	Manganese, Dissolved	ug/l as Mn	60
2nd - RY1996	MNGW-1	35184	0	Manganese, Dissolved	ug/l as Mn	50
3rd - RY1996	MNGW-1	35277	0	Manganese, Dissolved	ug/l as Mn	30
4th - RY1996	MNGW-1	35347	0	Manganese, Dissolved	ug/l as Mn	<5

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY1997	MNGW-1	35562	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY1997	MNGW-1	35613	0	Manganese, Dissolved	ug/l as Mn	25
4th - RY1997	MNGW-1	35775	0	Manganese, Dissolved	ug/l as Mn	150
1st - RY1998	MNGW-1	35802	0	Manganese, Dissolved	ug/l as Mn	370
2nd - RY1998	MNGW-1	35921	0	Manganese, Dissolved	ug/l as Mn	168
3rd - RY1998	MNGW-1	35984	0	Manganese, Dissolved	ug/l as Mn	8
4th - RY1998	MNGW-1	36082	0	Manganese, Dissolved	ug/l as Mn	2,650
1st - RY1999	MNGW-1	36173	0	Manganese, Dissolved	ug/l as Mn	115
2nd - RY1999	MNGW-1	36257	0	Manganese, Dissolved	ug/l as Mn	93
3rd - RY1999	MNGW-1	36348	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY1999	MNGW-1	36446	0	Manganese, Dissolved	ug/l as Mn	1,300
1st - RY2000	MNGW-1	36538	0	Manganese, Dissolved	ug/l as Mn	10
2nd - RY2000	MNGW-1	36656	0	Manganese, Dissolved	ug/l as Mn	22
3rd - RY2000	MNGW-1	36719	0	Manganese, Dissolved	ug/l as Mn	6
4th - RY2000	MNGW-1	36872	0	Manganese, Dissolved	ug/l as Mn	490
1st - RY2001	MNGW-1	36957	0	Manganese, Dissolved	ug/l as Mn	20
2nd - RY2001	MNGW-1	36985	0	Manganese, Dissolved	ug/l as Mn	100
3rd - RY2001	MNGW-1	37083	0	Manganese, Dissolved	ug/l as Mn	2,120
4th - RY2001	MNGW-1	37167	0	Manganese, Dissolved	ug/l as Mn	<10
1st - RY2002	MNGW-1	37258	0	Manganese, Dissolved	ug/l as Mn	410
2nd - RY2002	MNGW-1	37349	0	Manganese, Dissolved	ug/l as Mn	15.4
3rd - RY2002	MNGW-1	37503	0	Manganese, Dissolved	ug/l as Mn	23
4th - RY2002	MNGW-1	37532	0	Manganese, Dissolved	ug/l as Mn	1,900
2nd - RY2003	MNGW-1	37792	0	Manganese, Dissolved	ug/l as Mn	19
3rd - RY2003	MNGW-1	37846	0	Manganese, Dissolved	ug/l as Mn	7
4th - RY2003	MNGW-1	37916	0	Manganese, Dissolved	ug/l as Mn	12
1st - RY2004	MNGW-1	38035	0	Manganese, Dissolved	ug/l as Mn	141
2nd - RY2004	MNGW-1	38147	0	Manganese, Dissolved	ug/l as Mn	17
3rd - RY2004	MNGW-1	38238	0	Manganese, Dissolved	ug/l as Mn	9
4th - RY2004	MNGW-1	38280	0	Manganese, Dissolved	ug/l as Mn	190
1st - RY2005	MNGW-1	38420	0	Manganese, Dissolved	ug/l as Mn	32
3rd - RY2005	MNGW-1	38553	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY2005	MNGW-1	38609	0	Manganese, Dissolved	ug/l as Mn	<10
4th - RY2005	MNGW-1	38665	0	Manganese, Dissolved	ug/l as Mn	20
1st - RY2006	MNGW-1	38756	0	Manganese, Dissolved	ug/l as Mn	434
3rd - RY2006	MNGW-1	38910	0	Manganese, Dissolved	ug/l as Mn	8
3rd - RY2006	MNGW-1	38980	0	Manganese, Dissolved	ug/l as Mn	61
4th - RY2006	MNGW-1	39016	0	Manganese, Dissolved	ug/l as Mn	520
1st - RY2007	MNGW-1	39148	0	Manganese, Dissolved	ug/l as Mn	175
3rd - RY2007	MNGW-1	39294	0	Manganese, Dissolved	ug/l as Mn	6
3rd - RY2007	MNGW-1	39351	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY2007	MNGW-1	39373	0	Manganese, Dissolved	ug/l as Mn	14
1st - RY2008	MNGW-1	39535	0	Manganese, Dissolved	ug/l as Mn	44
3rd - RY2008	MNGW-1	39715	0	Manganese, Dissolved	ug/l as Mn	17.1
1st - RY2009	MNGW-1	39862	0	Manganese, Dissolved	ug/l as Mn	168
3rd - RY2009	MNGW-1	40009	0	Manganese, Dissolved	ug/l as Mn	5.14
3rd - RY2009	MNGW-1	40065	0	Manganese, Dissolved	ug/l as Mn	6.23
4th - RY2009	MNGW-1	40121	0	Manganese, Dissolved	ug/l as Mn	13
1st - RY2010	MNGW-1	40226	0	Manganese, Dissolved	ug/l as Mn	4.7
3rd - RY2010	MNGW-1	40380	0	Manganese, Dissolved	ug/l as Mn	164
3rd - RY2010	MNGW-1	40443	0	Manganese, Dissolved	ug/l as Mn	15.8
4th - RY2010	MNGW-1	40464	0	Manganese, Dissolved	ug/l as Mn	218
1st - RY2011	MNGW-1	40596	0	Manganese, Dissolved	ug/l as Mn	37
3rd - RY2011	MNGW-1	40744	0	Manganese, Dissolved	ug/l as Mn	14
3rd - RY2011	MNGW-1	40800	0	Manganese, Dissolved	ug/l as Mn	9

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	MNGW-1	40835	1	Manganese, Dissolved	ug/l as Mn	115
1st - RY2012	MNGW-1	40940	0	Manganese, Dissolved	ug/l as Mn	35.9
1st - RY2012	MNGW-1	40940	1	Manganese, Dissolved	ug/l as Mn	25
2nd - RY1995	MNGW-1	34814	0	Molybdenum, Dissolved	ug/l as Mo	<20
2nd - RY1995	MNGW-1	34863	0	Molybdenum, Dissolved	ug/l as Mo	<20
3rd - RY1995	MNGW-1	34920	0	Molybdenum, Dissolved	ug/l as Mo	<20
4th - RY1995	MNGW-1	34996	0	Molybdenum, Dissolved	ug/l as Mo	<20
1st - RY1996	MNGW-1	35128	0	Molybdenum, Dissolved	ug/l as Mo	<20
2nd - RY1996	MNGW-1	35184	0	Molybdenum, Dissolved	ug/l as Mo	40
3rd - RY1996	MNGW-1	35277	0	Molybdenum, Dissolved	ug/l as Mo	20
4th - RY1996	MNGW-1	35347	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY1997	MNGW-1	35562	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY1997	MNGW-1	35613	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY1997	MNGW-1	35775	0	Molybdenum, Dissolved	ug/l as Mo	10
1st - RY1998	MNGW-1	35802	0	Molybdenum, Dissolved	ug/l as Mo	<50
2nd - RY1998	MNGW-1	35921	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY1998	MNGW-1	35984	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY1998	MNGW-1	36082	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY1999	MNGW-1	36173	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY1999	MNGW-1	36257	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY1999	MNGW-1	36348	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY1999	MNGW-1	36446	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2000	MNGW-1	36538	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY2000	MNGW-1	36656	0	Molybdenum, Dissolved	ug/l as Mo	10
3rd - RY2000	MNGW-1	36719	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2000	MNGW-1	36872	0	Molybdenum, Dissolved	ug/l as Mo	<100
1st - RY2001	MNGW-1	36957	0	Molybdenum, Dissolved	ug/l as Mo	<100
2nd - RY2001	MNGW-1	36985	0	Molybdenum, Dissolved	ug/l as Mo	<100
3rd - RY2001	MNGW-1	37083	0	Molybdenum, Dissolved	ug/l as Mo	<100
4th - RY2001	MNGW-1	37167	0	Molybdenum, Dissolved	ug/l as Mo	<20
1st - RY2002	MNGW-1	37258	0	Molybdenum, Dissolved	ug/l as Mo	<20
2nd - RY2002	MNGW-1	37349	0	Molybdenum, Dissolved	ug/l as Mo	<20
3rd - RY2002	MNGW-1	37503	0	Molybdenum, Dissolved	ug/l as Mo	<20
4th - RY2002	MNGW-1	37532	0	Molybdenum, Dissolved	ug/l as Mo	<20
2nd - RY2003	MNGW-1	37792	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2003	MNGW-1	37846	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2003	MNGW-1	37916	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2004	MNGW-1	38035	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY2004	MNGW-1	38147	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2004	MNGW-1	38238	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2004	MNGW-1	38280	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2005	MNGW-1	38420	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2005	MNGW-1	38553	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2005	MNGW-1	38609	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2005	MNGW-1	38665	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2006	MNGW-1	38756	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2006	MNGW-1	38910	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2006	MNGW-1	38980	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2006	MNGW-1	39016	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2007	MNGW-1	39148	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2007	MNGW-1	39294	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2007	MNGW-1	39351	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2007	MNGW-1	39373	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2008	MNGW-1	39535	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2008	MNGW-1	39659	0	Molybdenum, Dissolved	ug/l as Mo	5

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2008	MNGW-1	39715	0	Molybdenum, Dissolved	ug/l as Mo	3.91
1st - RY2009	MNGW-1	39862	0	Molybdenum, Dissolved	ug/l as Mo	13.5
3rd - RY2009	MNGW-1	40009	0	Molybdenum, Dissolved	ug/l as Mo	0.251
3rd - RY2009	MNGW-1	40065	0	Molybdenum, Dissolved	ug/l as Mo	0.211
4th - RY2009	MNGW-1	40121	0	Molybdenum, Dissolved	ug/l as Mo	0.209
1st - RY2010	MNGW-1	40226	0	Molybdenum, Dissolved	ug/l as Mo	0.14
3rd - RY2010	MNGW-1	40380	0	Molybdenum, Dissolved	ug/l as Mo	0.19
3rd - RY2010	MNGW-1	40443	0	Molybdenum, Dissolved	ug/l as Mo	0.24
4th - RY2010	MNGW-1	40464	0	Molybdenum, Dissolved	ug/l as Mo	4
1st - RY2011	MNGW-1	40596	0	Molybdenum, Dissolved	ug/l as Mo	0.35
3rd - RY2011	MNGW-1	40744	0	Molybdenum, Dissolved	ug/l as Mo	0.25
3rd - RY2011	MNGW-1	40800	0	Molybdenum, Dissolved	ug/l as Mo	0.17
4th - RY2011	MNGW-1	40835	1	Molybdenum, Dissolved	ug/l as Mo	0.53
1st - RY2012	MNGW-1	40940	0	Molybdenum, Dissolved	ug/l as Mo	2
1st - RY2012	MNGW-1	40940	1	Molybdenum, Dissolved	ug/l as Mo	1.8
2nd - RY1995	MNGW-1	34814	0	Nickel, Dissolved	ug/l as Ni	<20
2nd - RY1995	MNGW-1	34863	0	Nickel, Dissolved	ug/l as Ni	3
3rd - RY1995	MNGW-1	34920	0	Nickel, Dissolved	ug/l as Ni	<1
4th - RY1995	MNGW-1	34996	0	Nickel, Dissolved	ug/l as Ni	<1
1st - RY1996	MNGW-1	35128	0	Nickel, Dissolved	ug/l as Ni	<1
2nd - RY1996	MNGW-1	35184	0	Nickel, Dissolved	ug/l as Ni	<1
3rd - RY1996	MNGW-1	35277	0	Nickel, Dissolved	ug/l as Ni	2
4th - RY1996	MNGW-1	35347	0	Nickel, Dissolved	ug/l as Ni	<10
2nd - RY1997	MNGW-1	35562	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY1997	MNGW-1	35613	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY1997	MNGW-1	35775	0	Nickel, Dissolved	ug/l as Ni	<50
1st - RY1998	MNGW-1	35802	0	Nickel, Dissolved	ug/l as Ni	<10
2nd - RY1998	MNGW-1	35921	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY1998	MNGW-1	35984	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY1998	MNGW-1	36082	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY1999	MNGW-1	36173	0	Nickel, Dissolved	ug/l as Ni	<10
2nd - RY1999	MNGW-1	36257	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY1999	MNGW-1	36348	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY1999	MNGW-1	36446	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2000	MNGW-1	36538	0	Nickel, Dissolved	ug/l as Ni	<10
2nd - RY2000	MNGW-1	36656	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2000	MNGW-1	36719	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY2000	MNGW-1	36872	0	Nickel, Dissolved	ug/l as Ni	440
1st - RY2001	MNGW-1	36957	0	Nickel, Dissolved	ug/l as Ni	<20
2nd - RY2001	MNGW-1	36985	0	Nickel, Dissolved	ug/l as Ni	<20
3rd - RY2001	MNGW-1	37083	0	Nickel, Dissolved	ug/l as Ni	<20
4th - RY2001	MNGW-1	37167	0	Nickel, Dissolved	ug/l as Ni	<40
1st - RY2002	MNGW-1	37258	0	Nickel, Dissolved	ug/l as Ni	<40
2nd - RY2002	MNGW-1	37349	0	Nickel, Dissolved	ug/l as Ni	<40
3rd - RY2002	MNGW-1	37503	0	Nickel, Dissolved	ug/l as Ni	<40
4th - RY2002	MNGW-1	37532	0	Nickel, Dissolved	ug/l as Ni	<40
2nd - RY2003	MNGW-1	37792	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2003	MNGW-1	37846	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY2003	MNGW-1	37916	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2004	MNGW-1	38035	0	Nickel, Dissolved	ug/l as Ni	<10
2nd - RY2004	MNGW-1	38147	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2004	MNGW-1	38238	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY2004	MNGW-1	38280	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2005	MNGW-1	38420	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2005	MNGW-1	38553	0	Nickel, Dissolved	ug/l as Ni	<10

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2005	MNGW-1	38609	0	Nickel, Dissolved	ug/l as Ni	<20
4th - RY2005	MNGW-1	38665	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2006	MNGW-1	38756	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2006	MNGW-1	38910	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2006	MNGW-1	38980	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY2006	MNGW-1	39016	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2007	MNGW-1	39148	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2007	MNGW-1	39294	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2007	MNGW-1	39351	0	Nickel, Dissolved	ug/l as Ni	<10
4th - RY2007	MNGW-1	39373	0	Nickel, Dissolved	ug/l as Ni	<10
1st - RY2008	MNGW-1	39535	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2008	MNGW-1	39659	0	Nickel, Dissolved	ug/l as Ni	30
3rd - RY2008	MNGW-1	39715	0	Nickel, Dissolved	ug/l as Ni	<30
1st - RY2009	MNGW-1	39862	0	Nickel, Dissolved	ug/l as Ni	<30
3rd - RY2009	MNGW-1	40009	0	Nickel, Dissolved	ug/l as Ni	0.165
3rd - RY2009	MNGW-1	40065	0	Nickel, Dissolved	ug/l as Ni	0.573
4th - RY2009	MNGW-1	40121	0	Nickel, Dissolved	ug/l as Ni	1.23
1st - RY2010	MNGW-1	40226	0	Nickel, Dissolved	ug/l as Ni	1.5
3rd - RY2010	MNGW-1	40380	0	Nickel, Dissolved	ug/l as Ni	2.7
3rd - RY2010	MNGW-1	40443	0	Nickel, Dissolved	ug/l as Ni	1.2
4th - RY2010	MNGW-1	40464	0	Nickel, Dissolved	ug/l as Ni	4.4
1st - RY2011	MNGW-1	40596	0	Nickel, Dissolved	ug/l as Ni	1.8
3rd - RY2011	MNGW-1	40744	0	Nickel, Dissolved	ug/l as Ni	0.71
3rd - RY2011	MNGW-1	40800	0	Nickel, Dissolved	ug/l as Ni	0.83
4th - RY2011	MNGW-1	40835	1	Nickel, Dissolved	ug/l as Ni	1.1
1st - RY2012	MNGW-1	40940	0	Nickel, Dissolved	ug/l as Ni	6.3
1st - RY2012	MNGW-1	40940	1	Nickel, Dissolved	ug/l as Ni	6.1
4th - RY2010	MNGW-1	40464	0	Nitrate Nitrogen, Total	mg/l as N	0.35
1st - RY2011	MNGW-1	40596	0	Nitrate Nitrogen, Total	mg/l as N	0.77
3rd - RY2011	MNGW-1	40744	0	Nitrate Nitrogen, Total	mg/l as N	0.11
3rd - RY2011	MNGW-1	40800	0	Nitrate Nitrogen, Total	mg/l as N	0.056
4th - RY2011	MNGW-1	40835	1	Nitrate Nitrogen, Total	mg/l as N	0.047
1st - RY2012	MNGW-1	40940	0	Nitrate Nitrogen, Total	mg/l as N	0.75
1st - RY2012	MNGW-1	40940	1	Nitrate Nitrogen, Total	mg/l as N	0.7
4th - RY2010	MNGW-1	40464	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	MNGW-1	40596	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	MNGW-1	40744	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	MNGW-1	40800	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	MNGW-1	40835	1	Nitrite Nitrogen, Total	mg/l as N	<0.061
1st - RY2012	MNGW-1	40940	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
1st - RY2012	MNGW-1	40940	1	Nitrite Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	MNGW-1	40464	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2011	MNGW-1	40596	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	MNGW-1	40744	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	MNGW-1	40800	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	MNGW-1	40835	1	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2012	MNGW-1	40940	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2012	MNGW-1	40940	1	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	MNGW-1	40464	0	Nitrogen,total kjeldahl	mg/l	0.57
1st - RY2011	MNGW-1	40596	0	Nitrogen,total kjeldahl	mg/l	0.89
3rd - RY2011	MNGW-1	40744	0	Nitrogen,total kjeldahl	mg/l	<0.3
3rd - RY2011	MNGW-1	40800	0	Nitrogen,total kjeldahl	mg/l	0.3
4th - RY2011	MNGW-1	40835	1	Nitrogen,total kjeldahl	mg/l	<0.3
1st - RY2012	MNGW-1	40940	0	Nitrogen,total kjeldahl	mg/l	0.57
1st - RY2012	MNGW-1	40940	1	Nitrogen,total kjeldahl	mg/l	0.62

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2012	MNGW-1	40940	0	ORP	mV	178
1st - RY2012	MNGW-1	40940	0	Oxygen, Dissolved	mg/l	37.52
2nd - RY1995	MNGW-1	34863	0	pH, Field	Standard Units	7.2
3rd - RY1995	MNGW-1	34920	0	pH, Field	Standard Units	6.8
4th - RY1995	MNGW-1	34996	0	pH, Field	Standard Units	7.1
1st - RY1996	MNGW-1	35128	0	pH, Field	Standard Units	7
2nd - RY1996	MNGW-1	35184	0	pH, Field	Standard Units	7.1
3rd - RY1996	MNGW-1	35277	0	pH, Field	Standard Units	6.6
4th - RY1996	MNGW-1	35347	0	pH, Field	Standard Units	7
2nd - RY1997	MNGW-1	35562	0	pH, Field	Standard Units	7.07
3rd - RY1997	MNGW-1	35613	0	pH, Field	Standard Units	7.82
4th - RY1997	MNGW-1	35775	0	pH, Field	Standard Units	6.61
1st - RY1998	MNGW-1	35802	0	pH, Field	Standard Units	6.64
2nd - RY1998	MNGW-1	35921	0	pH, Field	Standard Units	7.08
3rd - RY1998	MNGW-1	35984	0	pH, Field	Standard Units	7
4th - RY1998	MNGW-1	36082	0	pH, Field	Standard Units	7.07
1st - RY1999	MNGW-1	36173	0	pH, Field	Standard Units	6.46
2nd - RY1999	MNGW-1	36257	0	pH, Field	Standard Units	6.41
3rd - RY1999	MNGW-1	36348	0	pH, Field	Standard Units	6.29
4th - RY1999	MNGW-1	36446	0	pH, Field	Standard Units	6.67
1st - RY2000	MNGW-1	36538	0	pH, Field	Standard Units	6.76
2nd - RY2000	MNGW-1	36656	0	pH, Field	Standard Units	7
3rd - RY2000	MNGW-1	36719	0	pH, Field	Standard Units	6.5
4th - RY2000	MNGW-1	36872	0	pH, Field	Standard Units	7.21
1st - RY2001	MNGW-1	36957	0	pH, Field	Standard Units	7.21
2nd - RY2001	MNGW-1	36985	0	pH, Field	Standard Units	7.09
3rd - RY2001	MNGW-1	37083	0	pH, Field	Standard Units	7.91
4th - RY2001	MNGW-1	37167	0	pH, Field	Standard Units	7.14
1st - RY2002	MNGW-1	37258	0	pH, Field	Standard Units	6.89
2nd - RY2002	MNGW-1	37349	0	pH, Field	Standard Units	7.63
3rd - RY2002	MNGW-1	37503	0	pH, Field	Standard Units	7.43
4th - RY2002	MNGW-1	37532	0	pH, Field	Standard Units	8.02
2nd - RY2003	MNGW-1	37792	0	pH, Field	Standard Units	7.47
3rd - RY2003	MNGW-1	37846	0	pH, Field	Standard Units	7.42
4th - RY2003	MNGW-1	37916	0	pH, Field	Standard Units	6.92
1st - RY2004	MNGW-1	38035	0	pH, Field	Standard Units	7.02
2nd - RY2004	MNGW-1	38147	0	pH, Field	Standard Units	6.86
3rd - RY2004	MNGW-1	38238	0	pH, Field	Standard Units	6.83
4th - RY2004	MNGW-1	38280	0	pH, Field	Standard Units	6.81
1st - RY2005	MNGW-1	38420	0	pH, Field	Standard Units	6.31
3rd - RY2005	MNGW-1	38553	0	pH, Field	Standard Units	6.81
4th - RY2005	MNGW-1	38665	0	pH, Field	Standard Units	6.9
1st - RY2006	MNGW-1	38756	0	pH, Field	Standard Units	6.85
3rd - RY2006	MNGW-1	38910	0	pH, Field	Standard Units	6.89
3rd - RY2006	MNGW-1	38980	0	pH, Field	Standard Units	6.88
4th - RY2006	MNGW-1	39016	0	pH, Field	Standard Units	7.72
1st - RY2007	MNGW-1	39148	0	pH, Field	Standard Units	6.84
3rd - RY2007	MNGW-1	39294	0	pH, Field	Standard Units	6.71
3rd - RY2007	MNGW-1	39351	0	pH, Field	Standard Units	6.97
4th - RY2007	MNGW-1	39373	0	pH, Field	Standard Units	6.9
1st - RY2008	MNGW-1	39535	0	pH, Field	Standard Units	6.43
1st - RY2009	MNGW-1	39862	0	pH, Field	Standard Units	6.5
3rd - RY2009	MNGW-1	40009	0	pH, Field	Standard Units	7.4
3rd - RY2009	MNGW-1	40065	0	pH, Field	Standard Units	7.5
4th - RY2009	MNGW-1	40121	0	pH, Field	Standard Units	6.04

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2010	MNGW-1	40226	0	pH, Field	Standard Units	6.4
3rd - RY2010	MNGW-1	40380	0	pH, Field	Standard Units	6.9
3rd - RY2010	MNGW-1	40443	0	pH, Field	Standard Units	7.1
4th - RY2010	MNGW-1	40464	0	pH, Field	Standard Units	7
1st - RY2011	MNGW-1	40596	0	pH, Field	Standard Units	6
3rd - RY2011	MNGW-1	40800	0	pH, Field	Standard Units	6.6
4th - RY2011	MNGW-1	40835	1	pH, Field	Standard Units	7
1st - RY2012	MNGW-1	40940	0	pH, Field	Standard Units	7.3
4th - RY2010	MNGW-1	40464	0	Phosphate, Ortho	mg/l as PO4	1.3
1st - RY2011	MNGW-1	40596	0	Phosphate, Ortho	mg/l as PO4	0.58
3rd - RY2011	MNGW-1	40744	0	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	MNGW-1	40800	0	Phosphate, Ortho	mg/l as PO4	<0.2
4th - RY2011	MNGW-1	40835	1	Phosphate, Ortho	mg/l as PO4	0.12
1st - RY2012	MNGW-1	40940	0	Phosphate, Ortho	mg/l as PO4	<0.5
1st - RY2012	MNGW-1	40940	1	Phosphate, Ortho	mg/l as PO4	<1
1st - RY212	MNGW-1	40940	0	Potassium, Dissolved	ug/l as K	4,170
1st - RY2012	MNGW-1	40940	1	Potassium, Dissolved	ug/l as K	4,140
4th - RY2010	MNGW-1	40464	0	Selenium, Dissolved	ug/l as Se	0.63
1st - RY2011	MNGW-1	40596	0	Selenium, Dissolved	ug/l as Se	<0.19
3rd - RY2011	MNGW-1	40744	0	Selenium, Dissolved	ug/l as Se	0.83
3rd - RY2011	MNGW-1	40800	0	Selenium, Dissolved	ug/l as Se	<0.64
4th - RY2011	MNGW-1	40835	1	Selenium, Dissolved	ug/l as Se	<0.64
1st - RY2012	MNGW-1	40940	0	Selenium, Dissolved	ug/l as Se	<0.64
1st - RY2012	MNGW-1	40940	1	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY1995	MNGW-1	34814	0	Silver, Dissolved	ug/l as Ag	<0.1
2nd - RY1995	MNGW-1	34863	0	Silver, Dissolved	ug/l as Ag	<0.1
3rd - RY1995	MNGW-1	34920	0	Silver, Dissolved	ug/l as Ag	<0.1
4th - RY1995	MNGW-1	34996	0	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY1996	MNGW-1	35128	0	Silver, Dissolved	ug/l as Ag	<0.1
2nd - RY1996	MNGW-1	35184	0	Silver, Dissolved	ug/l as Ag	<0.1
3rd - RY1996	MNGW-1	35277	0	Silver, Dissolved	ug/l as Ag	0.1
4th - RY1996	MNGW-1	35347	0	Silver, Dissolved	ug/l as Ag	5
2nd - RY1997	MNGW-1	35562	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY1997	MNGW-1	35613	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY1997	MNGW-1	35775	0	Silver, Dissolved	ug/l as Ag	<5
1st - RY1998	MNGW-1	35802	0	Silver, Dissolved	ug/l as Ag	<5
2nd - RY1998	MNGW-1	35921	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY1998	MNGW-1	35984	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY1998	MNGW-1	36082	0	Silver, Dissolved	ug/l as Ag	<5
1st - RY1999	MNGW-1	36173	0	Silver, Dissolved	ug/l as Ag	<5
2nd - RY1999	MNGW-1	36257	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY1999	MNGW-1	36348	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY1999	MNGW-1	36446	0	Silver, Dissolved	ug/l as Ag	<5
1st - RY2000	MNGW-1	36538	0	Silver, Dissolved	ug/l as Ag	<5
2nd - RY2000	MNGW-1	36656	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY2000	MNGW-1	36719	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY2000	MNGW-1	36872	0	Silver, Dissolved	ug/l as Ag	40
1st - RY2001	MNGW-1	36957	0	Silver, Dissolved	ug/l as Ag	20
2nd - RY2001	MNGW-1	36985	0	Silver, Dissolved	ug/l as Ag	<20
3rd - RY2001	MNGW-1	37083	0	Silver, Dissolved	ug/l as Ag	310
4th - RY2001	MNGW-1	37167	0	Silver, Dissolved	ug/l as Ag	<10
1st - RY2002	MNGW-1	37258	0	Silver, Dissolved	ug/l as Ag	<10
2nd - RY2002	MNGW-1	37349	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2002	MNGW-1	37503	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2002	MNGW-1	37532	0	Silver, Dissolved	ug/l as Ag	<10

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2003	MNGW-1	37792	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY2003	MNGW-1	37846	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY2003	MNGW-1	37916	0	Silver, Dissolved	ug/l as Ag	<5
1st - RY2004	MNGW-1	38035	0	Silver, Dissolved	ug/l as Ag	<5
2nd - RY2004	MNGW-1	38147	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY2004	MNGW-1	38238	0	Silver, Dissolved	ug/l as Ag	<5
4th - RY2004	MNGW-1	38280	0	Silver, Dissolved	ug/l as Ag	<5
1st - RY2005	MNGW-1	38420	0	Silver, Dissolved	ug/l as Ag	<5
3rd - RY2005	MNGW-1	38553	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2005	MNGW-1	38609	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2005	MNGW-1	38665	0	Silver, Dissolved	ug/l as Ag	<10
1st - RY2005	MNGW-1	38756	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2006	MNGW-1	38910	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2006	MNGW-1	38980	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2006	MNGW-1	39016	0	Silver, Dissolved	ug/l as Ag	<10
1st - RY2007	MNGW-1	39148	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2007	MNGW-1	39294	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2007	MNGW-1	39351	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2007	MNGW-1	39373	0	Silver, Dissolved	ug/l as Ag	<10
1st - RY2008	MNGW-1	39535	0	Silver, Dissolved	ug/l as Ag	<10
3rd - RY2008	MNGW-1	39659	0	Silver, Dissolved	ug/l as Ag	30
3rd - RY2008	MNGW-1	39715	0	Silver, Dissolved	ug/l as Ag	<30
1st - RY2009	MNGW-1	39862	0	Silver, Dissolved	ug/l as Ag	<30
3rd - RY2009	MNGW-1	40009	0	Silver, Dissolved	ug/l as Ag	<0.04
3rd - RY2009	MNGW-1	40065	0	Silver, Dissolved	ug/l as Ag	<0.04
4th - RY2009	MNGW-1	40121	0	Silver, Dissolved	ug/l as Ag	<0.04
1st - RY2010	MNGW-1	40226	0	Silver, Dissolved	ug/l as Ag	<0.078
3rd - RY2010	MNGW-1	40380	0	Silver, Dissolved	ug/l as Ag	<0.16
3rd - RY2010	MNGW-1	40443	0	Silver, Dissolved	ug/l as Ag	0.006
4th - RY2010	MNGW-1	40464	0	Silver, Dissolved	ug/l as Ag	0.008
1st - RY2011	MNGW-1	40596	0	Silver, Dissolved	ug/l as Ag	<0.0034
3rd - RY2011	MNGW-1	40744	0	Silver, Dissolved	ug/l as Ag	<0.1
3rd - RY2011	MNGW-1	40800	0	Silver, Dissolved	ug/l as Ag	<0.1
4th - RY2011	MNGW-1	40835	1	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY2012	MNGW-1	40940	0	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY2012	MNGW-1	40940	1	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY2012	MNGW-1	40940	0	Sodium, Dissolved	ug/l as Na	7,530
1st - RY2012	MNGW-1	40940	1	Sodium, Dissolved	ug/l as Na	7,480
1st - RY2012	MNGW-1	40940	0	Specific Conductance	umhos/cm @ 25C	346
3rd - RY2007	MNGW-1	39294	0	Sulfate, Total	mg/l as SO4	50
3rd - RY2008	MNGW-1	39659	0	Sulfate, Total	mg/l as SO4	39.1
3rd - RY2008	MNGW-1	39715	0	Sulfate, Total	mg/l as SO4	59.1
1st - RY2009	MNGW-1	39862	0	Sulfate, Total	mg/l as SO4	145
3rd - RY2009	MNGW-1	40009	0	Sulfate, Total	mg/l as SO4	31.1
3rd - RY2009	MNGW-1	40065	0	Sulfate, Total	mg/l as SO4	51.1
1st - RY2010	MNGW-1	40226	0	Sulfate, Total	mg/l as SO4	202
3rd - RY2010	MNGW-1	40380	0	Sulfate, Total	mg/l as SO4	46.1
3rd - RY2010	MNGW-1	40443	0	Sulfate, Total	mg/l as SO4	58.6
4th - RY2010	MNGW-1	40464	0	Sulfate, Total	mg/l as SO4	85
1st - RY2011	MNGW-1	40596	0	Sulfate, Total	mg/l as SO4	125
3rd - RY2011	MNGW-1	40744	0	Sulfate, Total	mg/l as SO4	30.9
3rd - RY2011	MNGW-1	40800	0	Sulfate, Total	mg/l as SO4	52.7
4th - RY2011	MNGW-1	40835	1	Sulfate, Total	mg/l as SO4	66.9
1st - RY2012	MNGW-1	40940	0	Sulfate, Total	mg/l as SO4	146
1st - RY2012	MNGW-1	40940	1	Sulfate, Total	mg/l as SO4	141

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY1995	MNGW-1	34814	0	TDS - Residue,Total Filtrable (Dried At	mg/l	910
2nd - RY1995	MNGW-1	34863	0	TDS - Residue,Total Filtrable (Dried At	mg/l	186
3rd - RY1995	MNGW-1	34920	0	TDS - Residue,Total Filtrable (Dried At	mg/l	81
4th - RY1995	MNGW-1	34996	0	TDS - Residue,Total Filtrable (Dried At	mg/l	100
1st - RY1996	MNGW-1	35128	0	TDS - Residue,Total Filtrable (Dried At	mg/l	988
2nd - RY1996	MNGW-1	35184	0	TDS - Residue,Total Filtrable (Dried At	mg/l	894
3rd - RY1996	MNGW-1	35277	0	TDS - Residue,Total Filtrable (Dried At	mg/l	88
4th - RY1996	MNGW-1	35347	0	TDS - Residue,Total Filtrable (Dried At	mg/l	100
3rd - RY1997	MNGW-1	35562	0	TDS - Residue,Total Filtrable (Dried At	mg/l	500
3rd - RY1997	MNGW-1	35613	0	TDS - Residue,Total Filtrable (Dried At	mg/l	70
4th - RY1997	MNGW-1	35775	0	TDS - Residue,Total Filtrable (Dried At	mg/l	830
1st - RY1998	MNGW-1	35802	0	TDS - Residue,Total Filtrable (Dried At	mg/l	860
2nd - RY1998	MNGW-1	35921	0	TDS - Residue,Total Filtrable (Dried At	mg/l	510
3rd - RY1998	MNGW-1	35984	0	TDS - Residue,Total Filtrable (Dried At	mg/l	50
4th - RY1998	MNGW-1	36082	0	TDS - Residue,Total Filtrable (Dried At	mg/l	110
1st - RY1999	MNGW-1	36173	0	TDS - Residue,Total Filtrable (Dried At	mg/l	560
2nd - RY1999	MNGW-1	36257	0	TDS - Residue,Total Filtrable (Dried At	mg/l	500
3rd - RY1999	MNGW-1	36348	0	TDS - Residue,Total Filtrable (Dried At	mg/l	70
4th - RY1999	MNGW-1	36446	0	TDS - Residue,Total Filtrable (Dried At	mg/l	120
1st - RY2000	MNGW-1	36538	0	TDS - Residue,Total Filtrable (Dried At	mg/l	380
2nd - RY2000	MNGW-1	36656	0	TDS - Residue,Total Filtrable (Dried At	mg/l	210
3rd - RY2000	MNGW-1	36719	0	TDS - Residue,Total Filtrable (Dried At	mg/l	90
2nd - RY2001	MNGW-1	36985	0	TDS - Residue,Total Filtrable (Dried At	mg/l	408
3rd - RY2001	MNGW-1	37083	0	TDS - Residue,Total Filtrable (Dried At	mg/l	105
4th - RY2001	MNGW-1	37167	0	TDS - Residue,Total Filtrable (Dried At	mg/l	122
1st - RY2002	MNGW-1	37258	0	TDS - Residue,Total Filtrable (Dried At	mg/l	318
2nd - RY2002	MNGW-1	37349	0	TDS - Residue,Total Filtrable (Dried At	mg/l	417
3rd - RY2002	MNGW-1	37503	0	TDS - Residue,Total Filtrable (Dried At	mg/l	190
4th - RY2002	MNGW-1	37532	0	TDS - Residue,Total Filtrable (Dried At	mg/l	130
2nd - RY2003	MNGW-1	37792	0	TDS - Residue,Total Filtrable (Dried At	mg/l	130
3rd - RY2003	MNGW-1	37846	0	TDS - Residue,Total Filtrable (Dried At	mg/l	100
4th - RY2003	MNGW-1	37916	0	TDS - Residue,Total Filtrable (Dried At	mg/l	130
1st - RY2004	MNGW-1	38035	0	TDS - Residue,Total Filtrable (Dried At	mg/l	380
2nd - RY2004	MNGW-1	38147	0	TDS - Residue,Total Filtrable (Dried At	mg/l	130
3rd - RY2004	MNGW-1	38238	0	TDS - Residue,Total Filtrable (Dried At	mg/l	150
4th - RY2004	MNGW-1	38280	0	TDS - Residue,Total Filtrable (Dried At	mg/l	250
1st - RY2005	MNGW-1	38420	0	TDS - Residue,Total Filtrable (Dried At	mg/l	440
3rd - RY2005	MNGW-1	38553	0	TDS - Residue,Total Filtrable (Dried At	mg/l	90
3rd - RY2005	MNGW-1	38609	0	TDS - Residue,Total Filtrable (Dried At	mg/l	110
4th - RY2005	MNGW-1	38665	0	TDS - Residue,Total Filtrable (Dried At	mg/l	240
1st - RY2006	MNGW-1	38756	0	TDS - Residue,Total Filtrable (Dried At	mg/l	360
3rd - RY2006	MNGW-1	38910	0	TDS - Residue,Total Filtrable (Dried At	mg/l	80
3rd - RY2006	MNGW-1	38980	0	TDS - Residue,Total Filtrable (Dried At	mg/l	130
4th - RY2006	MNGW-1	39016	0	TDS - Residue,Total Filtrable (Dried At	mg/l	230
1st - RY2007	MNGW-1	39148	0	TDS - Residue,Total Filtrable (Dried At	mg/l	420
3rd - RY2007	MNGW-1	39294	0	TDS - Residue,Total Filtrable (Dried At	mg/l	110
3rd - RY2007	MNGW-1	39351	0	TDS - Residue,Total Filtrable (Dried At	mg/l	120
4th - RY2007	MNGW-1	39373	0	TDS - Residue,Total Filtrable (Dried At	mg/l	160
1st - RY2008	MNGW-1	39535	0	TDS - Residue,Total Filtrable (Dried At	mg/l	320
3rd - RY2008	MNGW-1	39659	0	TDS - Residue,Total Filtrable (Dried At	mg/l	106
3rd - RY2008	MNGW-1	39715	0	TDS - Residue,Total Filtrable (Dried At	mg/l	137
1st - RY2009	MNGW-1	39862	0	TDS - Residue,Total Filtrable (Dried At	mg/l	338
3rd - RY2009	MNGW-1	40009	0	TDS - Residue,Total Filtrable (Dried At	mg/l	124
3rd - RY2009	MNGW-1	40065	0	TDS - Residue,Total Filtrable (Dried At	mg/l	122
4th - RY2009	MNGW-1	40121	0	TDS - Residue,Total Filtrable (Dried At	mg/l	204

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2010	MNGW-1	40226	0	TDS - Residue,Total Filtrable (Dried At	mg/l	416
3rd - RY2010	MNGW-1	40380	0	TDS - Residue,Total Filtrable (Dried At	mg/l	100
3rd - RY2010	MNGW-1	40443	0	TDS - Residue,Total Filtrable (Dried At	mg/l	128
4th - RY2010	MNGW-1	40464	0	TDS - Residue,Total Filtrable (Dried At	mg/l	186
1st - RY2011	MNGW-1	40596	0	TDS - Residue,Total Filtrable (Dried At	mg/l	292
3rd - RY2011	MNGW-1	40744	0	TDS - Residue,Total Filtrable (Dried At	mg/l	136
3rd - RY2011	MNGW-1	40800	0	TDS - Residue,Total Filtrable (Dried At	mg/l	156
4th - RY2011	MNGW-1	40835	1	TDS - Residue,Total Filtrable (Dried At	mg/l	148
1st - RY2012	MNGW-1	40940	0	TDS - Residue,Total Filtrable (Dried At	mg/l	302
1st - RY2012	MNGW-1	40940	1	TDS - Residue,Total Filtrable (Dried At	mg/l	308
2nd - RY1997	MNGW-1	35562	0	Temperature, Water	°C	5
3rd - RY1997	MNGW-1	35613	0	Temperature, Water	°C	7.4
4th - RY1997	MNGW-1	35775	0	Temperature, Water	°C	4.7
1st - RY1998	MNGW-1	35802	0	Temperature, Water	°C	5.3
2nd - RY1998	MNGW-1	35921	0	Temperature, Water	°C	5.4
3rd - RY1998	MNGW-1	35984	0	Temperature, Water	°C	6.6
4th - RY1998	MNGW-1	36082	0	Temperature, Water	°C	9.1
1st - RY1999	MNGW-1	36173	0	Temperature, Water	°C	4.4
2nd - RY1999	MNGW-1	36257	0	Temperature, Water	°C	6.7
3rd - RY1999	MNGW-1	36348	0	Temperature, Water	°C	5.7
4th - RY1999	MNGW-1	36446	0	Temperature, Water	°C	8.4
1st - RY2000	MNGW-1	36538	0	Temperature, Water	°C	40
2nd - RY2000	MNGW-1	36656	0	Temperature, Water	°C	6
3rd - RY2000	MNGW-1	36719	0	Temperature, Water	°C	7
4th - RY2000	MNGW-1	36872	0	Temperature, Water	°C	5.6
1st - RY2001	MNGW-1	36957	0	Temperature, Water	°C	5.6
2nd - RY2001	MNGW-1	36985	0	Temperature, Water	°C	5.6
3rd - RY2001	MNGW-1	37083	0	Temperature, Water	°C	8.3
4th - RY2001	MNGW-1	37167	0	Temperature, Water	°C	8.7
1st - RY2002	MNGW-1	37258	0	Temperature, Water	°C	2.3
2nd - RY2002	MNGW-1	37349	0	Temperature, Water	°C	8.4
3rd - RY2002	MNGW-1	37503	0	Temperature, Water	°C	10.2
4th - RY2002	MNGW-1	37532	0	Temperature, Water	°C	7.9
2nd - RY2003	MNGW-1	37792	0	Temperature, Water	°C	6.2
3rd - RY2003	MNGW-1	37846	0	Temperature, Water	°C	8.8
4th - RY2003	MNGW-1	37916	0	Temperature, Water	°C	6.4
1st - RY2004	MNGW-1	38035	0	Temperature, Water	°C	5.3
2nd - RY2004	MNGW-1	38147	0	Temperature, Water	°C	6.9
3rd - RY2004	MNGW-1	38238	0	Temperature, Water	°C	9.3
4th - RY2004	MNGW-1	38280	0	Temperature, Water	°C	7.3
1st - RY2005	MNGW-1	38420	0	Temperature, Water	°C	4.1
3rd - RY2005	MNGW-1	38553	0	Temperature, Water	°C	9.1
4th - RY2005	MNGW-1	38665	0	Temperature, Water	°C	7.6
1st - RY2006	MNGW-1	38756	0	Temperature, Water	°C	5.4
3rd - RY2006	MNGW-1	38910	0	Temperature, Water	°C	10.2
3rd - RY2006	MNGW-1	38980	0	Temperature, Water	°C	7.9
4th - RY2006	MNGW-1	39016	0	Temperature, Water	°C	6.9
1st - RY2007	MNGW-1	39148	0	Temperature, Water	°C	4
3rd - RY2007	MNGW-1	39294	0	Temperature, Water	°C	7.5

Appendix A
Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2007	MNGW-1	39351	0	Temperature, Water	°C	7.4
4th - RY2007	MNGW-1	39373	0	Temperature, Water	°C	7.1
1st - RY2008	MNGW-1	39535	0	Temperature, Water	°C	4.8
1st - RY2009	MNGW-1	39862	0	Temperature, Water	°C	3.6
3rd - RY2009	MNGW-1	40009	0	Temperature, Water	°C	4.5
3rd - RY2009	MNGW-1	40065	0	Temperature, Water	°C	6.6
4th - RY2009	MNGW-1	40121	0	Temperature, Water	°C	5.9
1st - RY2010	MNGW-1	40226	0	Temperature, Water	°C	4.4
3rd - RY2010	MNGW-1	40380	0	Temperature, Water	°C	6.2
3rd - RY2010	MNGW-1	40443	0	Temperature, Water	°C	7.1
4th - RY2010	MNGW-1	40464	0	Temperature, Water	°C	7.3
1st - RY2011	MNGW-1	40596	0	Temperature, Water	°C	3.7
3rd - RY2011	MNGW-1	40800	0	Temperature, Water	°C	7.3
4th - RY2011	MNGW-1	40835	1	Temperature, Water	°C	6.1
1st - RY2012	MNGW-1	40940	0	Thallium, Dissolved	ug/l as Tl	0.081
1st - RY2012	MNGW-1	40940	1	Thallium, Dissolved	ug/l as Tl	<0.068
1st - RY2012	MNGW-1	40940	0	Total Suspend Solids (Tot. Nonfilterab	mg	228
1st - RY2012	MNGW-1	40940	1	Total Suspend Solids (Tot. Nonfilterab	mg	277
1st - RY2012	MNGW-1	40940	0	Total Well Depth	Feet	15.29
2nd - RY1995	MNGW-1	34814	0	Uranium, Natural, Dissolved	ug/l	46
2nd - RY1995	MNGW-1	34863	0	Uranium, Natural, Dissolved	ug/l	4
3rd - RY1995	MNGW-1	34920	0	Uranium, Natural, Dissolved	ug/l	<2
4th - RY1995	MNGW-1	34996	0	Uranium, Natural, Dissolved	ug/l	<2
1st - RY1996	MNGW-1	35128	0	Uranium, Natural, Dissolved	ug/l	36
2nd - RY1996	MNGW-1	35184	0	Uranium, Natural, Dissolved	ug/l	30
3rd - RY1996	MNGW-1	35277	0	Uranium, Natural, Dissolved	ug/l	2
4th - RY2010	MNGW-1	40464	0	Uranium, Natural, Dissolved	ug/l	2.7
1st - RY2011	MNGW-1	40596	0	Uranium, Natural, Dissolved	ug/l	0.67
3rd - RY2011	MNGW-1	40744	0	Uranium, Natural, Dissolved	ug/l	0.22
3rd - RY2011	MNGW-1	40800	0	Uranium, Natural, Dissolved	ug/l	0.17
4th - RY2011	MNGW-1	40835	1	Uranium, Natural, Dissolved	ug/l	0.26
1st - RY2012	MNGW-1	40940	0	Uranium, Natural, Dissolved	ug/l	1.4
1st - RY2012	MNGW-1	40940	1	Uranium, Natural, Dissolved	ug/l	1.3
3rd - RY2009	MNGW-1	40009	0	Water Level,Distance From Measuring	Feet	4.6
1st - RY2012	MNGW-1	40940	0	Water Level,Distance From Measuring	Feet	14
2nd - RY1995	MNGW-1	34814	0	Zinc, Dissolved	ug/l as Zn	<20
2nd - RY1995	MNGW-1	34863	0	Zinc, Dissolved	ug/l as Zn	80
3rd - RY1995	MNGW-1	34920	0	Zinc, Dissolved	ug/l as Zn	<20
4th - RY1995	MNGW-1	34996	0	Zinc, Dissolved	ug/l as Zn	<20
1st - RY1996	MNGW-1	35128	0	Zinc, Dissolved	ug/l as Zn	<20
2nd - RY1996	MNGW-1	35184	0	Zinc, Dissolved	ug/l as Zn	<20
3rd - RY1996	MNGW-1	35277	0	Zinc, Dissolved	ug/l as Zn	20
4th - RY1996	MNGW-1	35347	0	Zinc, Dissolved	ug/l as Zn	<10
2nd - RY1997	MNGW-1	35562	0	Zinc, Dissolved	ug/l as Zn	10
3rd - RY1997	MNGW-1	35613	0	Zinc, Dissolved	ug/l as Zn	20
4th - RY1997	MNGW-1	35775	0	Zinc, Dissolved	ug/l as Zn	40
1st - RY1998	MNGW-1	35802	0	Zinc, Dissolved	ug/l as Zn	290
2nd - RY1998	MNGW-1	35921	0	Zinc, Dissolved	ug/l as Zn	50
3rd - RY1998	MNGW-1	35984	0	Zinc, Dissolved	ug/l as Zn	10
4th - RY1998	MNGW-1	36082	0	Zinc, Dissolved	ug/l as Zn	650
1st - RY1999	MNGW-1	36173	0	Zinc, Dissolved	ug/l as Zn	70
2nd - RY1999	MNGW-1	36257	0	Zinc, Dissolved	ug/l as Zn	60
3rd - RY1999	MNGW-1	36348	0	Zinc, Dissolved	ug/l as Zn	10

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY1999	MNGW-1	36446	0	Zinc, Dissolved	ug/l as Zn	340
1st - RY2000	MNGW-1	36538	0	Zinc, Dissolved	ug/l as Zn	20
2nd - RY2000	MNGW-1	36656	0	Zinc, Dissolved	ug/l as Zn	20
3rd - RY2000	MNGW-1	36719	0	Zinc, Dissolved	ug/l as Zn	10
4th - RY2000	MNGW-1	36872	0	Zinc, Dissolved	ug/l as Zn	59
1st - RY2001	MNGW-1	36957	0	Zinc, Dissolved	ug/l as Zn	44
2nd - RY2001	MNGW-1	36985	0	Zinc, Dissolved	ug/l as Zn	208
3rd - RY2001	MNGW-1	37083	0	Zinc, Dissolved	ug/l as Zn	24
4th - RY2001	MNGW-1	37167	0	Zinc, Dissolved	ug/l as Zn	20.9
1st - RY2002	MNGW-1	37258	0	Zinc, Dissolved	ug/l as Zn	34.4
2nd - RY2002	MNGW-1	37349	0	Zinc, Dissolved	ug/l as Zn	24
3rd - RY2002	MNGW-1	37503	0	Zinc, Dissolved	ug/l as Zn	<20
4th - RY2002	MNGW-1	37532	0	Zinc, Dissolved	ug/l as Zn	<20
2nd - RY2003	MNGW-1	37792	0	Zinc, Dissolved	ug/l as Zn	10
3rd - RY2003	MNGW-1	37846	0	Zinc, Dissolved	ug/l as Zn	20
4th - RY2003	MNGW-1	37916	0	Zinc, Dissolved	ug/l as Zn	20
1st - RY2004	MNGW-1	38035	0	Zinc, Dissolved	ug/l as Zn	40
2nd - RY2004	MNGW-1	38147	0	Zinc, Dissolved	ug/l as Zn	10
3rd - RY2004	MNGW-1	38238	0	Zinc, Dissolved	ug/l as Zn	10
4th - RY2004	MNGW-1	38280	0	Zinc, Dissolved	ug/l as Zn	20
1st - RY2005	MNGW-1	38420	0	Zinc, Dissolved	ug/l as Zn	20
3rd - RY2005	MNGW-1	38553	0	Zinc, Dissolved	ug/l as Zn	<10
3rd - RY2005	MNGW-1	38609	0	Zinc, Dissolved	ug/l as Zn	<20
4th - RY2005	MNGW-1	38665	0	Zinc, Dissolved	ug/l as Zn	20
1st - RY2006	MNGW-1	38756	0	Zinc, Dissolved	ug/l as Zn	40
3rd - RY2006	MNGW-1	38910	0	Zinc, Dissolved	ug/l as Zn	<10
3rd - RY2006	MNGW-1	38980	0	Zinc, Dissolved	ug/l as Zn	20
4th - RY2006	MNGW-1	39016	0	Zinc, Dissolved	ug/l as Zn	60
1st - RY2007	MNGW-1	39148	0	Zinc, Dissolved	ug/l as Zn	30
3rd - RY2007	MNGW-1	39294	0	Zinc, Dissolved	ug/l as Zn	<10
3rd - RY2007	MNGW-1	39351	0	Zinc, Dissolved	ug/l as Zn	<10
4th - RY2007	MNGW-1	39373	0	Zinc, Dissolved	ug/l as Zn	40
1st - RY2008	MNGW-1	39535	0	Zinc, Dissolved	ug/l as Zn	20
3rd - RY2008	MNGW-1	39659	0	Zinc, Dissolved	ug/l as Zn	12.7
3rd - RY2008	MNGW-1	39715	0	Zinc, Dissolved	ug/l as Zn	<30
1st - RY2009	MNGW-1	39862	0	Zinc, Dissolved	ug/l as Zn	19.7
3rd - RY2009	MNGW-1	40009	0	Zinc, Dissolved	ug/l as Zn	14.9
3rd - RY2009	MNGW-1	40065	0	Zinc, Dissolved	ug/l as Zn	8.27
4th - RY2009	MNGW-1	40121	0	Zinc, Dissolved	ug/l as Zn	13.2
1st - RY2010	MNGW-1	40226	0	Zinc, Dissolved	ug/l as Zn	24.4
3rd - RY2010	MNGW-1	40380	0	Zinc, Dissolved	ug/l as Zn	399
3rd - RY2010	MNGW-1	40443	0	Zinc, Dissolved	ug/l as Zn	9.3
4th - RY2010	MNGW-1	40464	0	Zinc, Dissolved	ug/l as Zn	80.2
1st - RY2011	MNGW-1	40596	0	Zinc, Dissolved	ug/l as Zn	20.4
3rd - RY2011	MNGW-1	40744	0	Zinc, Dissolved	ug/l as Zn	7.2
3rd - RY2011	MNGW-1	40800	0	Zinc, Dissolved	ug/l as Zn	8.8
4th - RY2011	MNGW-1	40835	1	Zinc, Dissolved	ug/l as Zn	19.8
1st - RY2012	MNGW-1	40940	0	Zinc, Dissolved	ug/l as Zn	24
1st - RY2012	MNGW-1	40940	1	Zinc, Dissolved	ug/l as Zn	24.3

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY1994	MLGW-7	03/28/1994	0	Alkalinity, Total	mg/l as CaCO3	48
2nd - RY1994	MLGW-7	06/23/1994	0	Alkalinity, Total	mg/l as CaCO3	58
3rd - RY1994	MLGW-7	09/28/1994	0	Alkalinity, Total	mg/l as CaCO3	40
4th - RY1994	MLGW-7	12/20/1994	0	Alkalinity, Total	mg/l as CaCO3	43
2nd - RY2007	MLGW-7	05/17/2007	0	Alkalinity, Total	mg/l as CaCO3	38
2nd - RY2007	MLGW-7	06/21/2007	0	Alkalinity, Total	mg/l as CaCO3	43
3rd - RY2007	MLGW-7	07/26/2007	0	Alkalinity, Total	mg/l as CaCO3	48
3rd - RY2007	MLGW-7	08/23/2007	0	Alkalinity, Total	mg/l as CaCO3	51
4th - RY2007	MLGW-7	10/30/2007	0	Alkalinity, Total	mg/l as CaCO3	55
4th - RY2007	MLGW-7	11/29/2007	0	Alkalinity, Total	mg/l as CaCO3	53
4th - RY2007	MLGW-7	12/20/2007	0	Alkalinity, Total	mg/l as CaCO3	51
1st - RY2008	MLGW-7	01/29/2008	0	Alkalinity, Total	mg/l as CaCO3	51
1st - RY2008	MLGW-7	02/28/2008	0	Alkalinity, Total	mg/l as CaCO3	54
2nd - RY2008	MLGW-7	05/29/2008	0	Alkalinity, Total	mg/l as CaCO3	41
3rd - RY2008	MLGW-7	09/30/2008	0	Alkalinity, Total	mg/l as CaCO3	43.8
4th - RY2008	MLGW-7	12/31/2008	0	Alkalinity, Total	mg/l as CaCO3	41.9
1st - RY2009	MLGW-7	02/26/2009	0	Alkalinity, Total	mg/l as CaCO3	41.2
2nd - RY2009	MLGW-7	06/11/2009	0	Alkalinity, Total	mg/l as CaCO3	38.4
3rd - RY2009	MLGW-7	08/18/2009	0	Alkalinity, Total	mg/l as CaCO3	46.3
3rd - RY2009	MLGW-7	09/29/2009	0	Alkalinity, Total	mg/l as CaCO3	45.3
4th - RY2009	MLGW-7	10/12/2009	0	Alkalinity, Total	mg/l as CaCO3	44.5
4th - RY2009	MLGW-7	12/08/2009	0	Alkalinity, Total	mg/l as CaCO3	47.5
1st - RY2010	MLGW-7	02/18/2010	0	Alkalinity, Total	mg/l as CaCO3	44.4
1st - RY2010	MLGW-7	03/16/2010	0	Alkalinity, Total	mg/l as CaCO3	43.5
2nd - RY2010	MLGW-7	06/22/2010	0	Alkalinity, Total	mg/l as CaCO3	39.7
2nd - RY2010	MLGW-7	06/29/2010	0	Alkalinity, Total	mg/l as CaCO3	38.7
3rd - RY2010	MLGW-7	08/10/2010	0	Alkalinity, Total	mg/l as CaCO3	47.6
4th - RY2010	MLGW-7	10/19/2010	0	Alkalinity, Total	mg/l as CaCO3	48.1
1st - RY2011	MLGW-7	02/15/2011	0	Alkalinity, Total	mg/l as CaCO3	48.2
2nd - RY2011	MLGW-7	06/14/2011	0	Alkalinity, Total	mg/l as CaCO3	42
3rd - RY2011	MLGW-7	08/16/2011	0	Alkalinity, Total	mg/l as CaCO3	45.3
4th - RY2011	MLGW-7	10/25/2011	0	Alkalinity, Total	mg/l as CaCO3	44.7
4th - RY2011	MLGW-7	10/25/2011	1	Alkalinity, Total	mg/l as CaCO3	44.5
1st - RY2000	MLGW-7	01/21/2000	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY2007	MLGW-7	05/17/2007	0	Aluminum, Dissolved	ug/l as Al	<30
2nd - RY2007	MLGW-7	06/21/2007	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2007	MLGW-7	07/26/2007	0	Aluminum, Dissolved	ug/l as Al	<30
3rd - RY2007	MLGW-7	08/23/2007	0	Aluminum, Dissolved	ug/l as Al	70
4th - RY2007	MLGW-7	10/30/2007	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2007	MLGW-7	11/29/2007	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2007	MLGW-7	12/20/2007	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY2008	MLGW-7	01/29/2008	0	Aluminum, Dissolved	ug/l as Al	<30
1st - RY2008	MLGW-7	02/28/2008	0	Aluminum, Dissolved	ug/l as Al	50
2nd - RY2008	MLGW-7	05/29/2008	0	Aluminum, Dissolved	ug/l as Al	<30
4th - RY2010	MLGW-7	10/19/2010	0	Aluminum, Dissolved	ug/l as Al	<11
1st - RY2011	MLGW-7	02/15/2011	0	Aluminum, Dissolved	ug/l as Al	<11
2nd - RY2011	MLGW-7	06/14/2011	0	Aluminum, Dissolved	ug/l as Al	<11
3rd - RY2011	MLGW-7	08/16/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
4th - RY2011	MLGW-7	10/25/2011	0	Aluminum, Dissolved	ug/l as Al	17.8
4th - RY2011	MLGW-7	10/25/2011	1	Aluminum, Dissolved	ug/l as Al	18.6
1st - RY2000	MLGW-7	01/21/2000	0	Arsenic, Dissolved	ug/l as As	<1
2nd - RY2007	MLGW-7	06/21/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2007	MLGW-7	10/30/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2007	MLGW-7	11/29/2007	0	Arsenic, Dissolved	ug/l as As	<0.5

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2007	MLGW-7	12/20/2007	0	Arsenic, Dissolved	ug/l as As	<0.5
2nd - RY2008	MLGW-7	05/29/2008	0	Arsenic, Dissolved	ug/l as As	<0.5
4th - RY2010	MLGW-7	10/19/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
1st - RY2011	MLGW-7	02/15/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
2nd - RY2011	MLGW-7	06/14/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
3rd - RY2011	MLGW-7	08/16/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
4th - RY2011	MLGW-7	10/25/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
4th - RY2011	MLGW-7	10/25/2011	1	Arsenic, Dissolved	ug/l as As	<0.38
3rd - RY1993	MLGW-7	09/30/1993	0	Cadmium, Dissolved	ug/l as Cd	<0.3
1st - RY1994	MLGW-7	03/28/1994	0	Cadmium, Dissolved	ug/l as Cd	<0.3
2nd - RY1994	MLGW-7	06/23/1994	0	Cadmium, Dissolved	ug/l as Cd	<0.3
3rd - RY1994	MLGW-7	09/28/1994	0	Cadmium, Dissolved	ug/l as Cd	<0.3
4th - RY1994	MLGW-7	12/20/1994	0	Cadmium, Dissolved	ug/l as Cd	<0.3
1st - RY2000	MLGW-7	01/21/2000	0	Cadmium, Dissolved	ug/l as Cd	<3
2nd - RY2007	MLGW-7	06/21/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2007	MLGW-7	10/30/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2007	MLGW-7	11/29/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2007	MLGW-7	12/20/2007	0	Cadmium, Dissolved	ug/l as Cd	<0.1
2nd - RY2008	MLGW-7	05/29/2008	0	Cadmium, Dissolved	ug/l as Cd	<0.1
4th - RY2010	MLGW-7	10/19/2010	0	Cadmium, Dissolved	ug/l as Cd	0.16
1st - RY2011	MLGW-7	02/15/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
2nd - RY2011	MLGW-7	06/14/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
3rd - RY2011	MLGW-7	08/16/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2011	MLGW-7	10/25/2011	0	Cadmium, Dissolved	ug/l as Cd	0.11
4th - RY2011	MLGW-7	10/25/2011	1	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY1994	MLGW-7	03/28/1994	0	Calcium, Dissolved	ug/l as Ca	25,300
2nd - RY1994	MLGW-7	06/23/1994	0	Calcium, Dissolved	ug/l as Ca	23,400
3rd - RY1994	MLGW-7	09/28/1994	0	Calcium, Dissolved	ug/l as Ca	22,600
4th - RY1994	MLGW-7	12/20/1994	0	Calcium, Dissolved	ug/l as Ca	23,300
2nd - RY2007	MLGW-7	05/17/2007	0	Calcium, Dissolved	ug/l as Ca	67,000
2nd - RY2007	MLGW-7	06/21/2007	0	Calcium, Dissolved	ug/l as Ca	62,300
3rd - RY2007	MLGW-7	07/26/2007	0	Calcium, Dissolved	ug/l as Ca	53,900
3rd - RY2007	MLGW-7	08/23/2007	0	Calcium, Dissolved	ug/l as Ca	46,400
4th - RY2007	MLGW-7	10/30/2007	0	Calcium, Dissolved	ug/l as Ca	41,100
4th - RY2007	MLGW-7	11/29/2007	0	Calcium, Dissolved	ug/l as Ca	43,600
4th - RY2007	MLGW-7	12/20/2007	0	Calcium, Dissolved	ug/l as Ca	46,600
1st - RY2008	MLGW-7	01/29/2008	0	Calcium, Dissolved	ug/l as Ca	50,100
1st - RY2008	MLGW-7	02/28/2008	0	Calcium, Dissolved	ug/l as Ca	47,200
2nd - RY2008	MLGW-7	05/29/2008	0	Calcium, Dissolved	ug/l as Ca	67,800
3rd - RY2009	MLGW-7	09/29/2009	0	Calcium, Dissolved	ug/l as Ca	70,000
4th - RY209	MLGW-7	12/08/2009	0	Calcium, Dissolved	ug/l as Ca	80,000
1st - RY2010	MLGW-7	03/16/2010	0	Calcium, Dissolved	ug/l as Ca	98,100
2nd - RY2010	MLGW-7	06/29/2010	0	Calcium, Dissolved	ug/l as Ca	67,100
3rd - RY2011	MLGW-7	08/16/2011	0	Calcium, Dissolved	ug/l as Ca	53,800
4th - RY2011	MLGW-7	10/25/2011	0	Calcium, Dissolved	ug/l as Ca	40,300
4th - RY2011	MLGW-7	10/25/2011	1	Calcium, Dissolved	ug/l as Ca	40,300
3rd - RY2009	MLGW-7	09/29/2009	0	Carbon, Total Organic	mg/l as C	1.6
4th - RY2009	MLGW-7	12/08/2009	0	Carbon, Total Organic	mg/l as C	1.4
1st - RY2010	MLGW-7	03/16/2010	0	Carbon, Total Organic	mg/l as C	2.4
2nd - RY2010	MLGW-7	06/29/2010	0	Carbon, Total Organic	mg/l as C	1.5
3rd - RY2011	MLGW-7	08/16/2011	0	Carbon, Total Organic	mg/l as C	2
4th - RY2011	MLGW-7	10/25/2011	0	Carbon, Total Organic	mg/l as C	1.7
4th - RY2011	MLGW-7	10/25/2011	1	Carbon, Total Organic	mg/l as C	1.7
1st - RY1994	MLGW-7	03/28/1994	0	Chloride,Total in Water	mg/l	9.3

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY1994	MLGW-7	06/23/1994	0	Chloride,Total in Water	mg/l	5.6
3rd - RY1994	MLGW-7	09/28/1994	0	Chloride,Total in Water	mg/l	6.9
4th - RY1994	MLGW-7	12/20/1994	0	Chloride,Total in Water	mg/l	7.1
4th - RY1995	MLGW-7	10/03/1995	0	Chloride,Total in Water	mg/l	7.1
2nd - RY1996	MLGW-7	06/04/1996	0	Chloride,Total in Water	mg/l	6.6
3rd - RY1996	MLGW-7	09/10/1996	0	Chloride,Total in Water	mg/l	8
2nd - RY2005	MLGW-7	06/08/2005	0	Chloride,Total in Water	mg/l	29
3rd - RY2005	MLGW-7	08/19/2005	0	Chloride,Total in Water	mg/l	17
4th - RY2005	MLGW-7	10/19/2005	0	Chloride,Total in Water	mg/l	17
1st - RY2006	MLGW-7	02/22/2006	0	Chloride,Total in Water	mg/l	15
2nd - RY2006	MLGW-7	06/28/2006	0	Chloride,Total in Water	mg/l	9
3rd - RY2006	MLGW-7	08/30/2006	0	Chloride,Total in Water	mg/l	11
4th - RY2006	MLGW-7	10/10/2006	0	Chloride,Total in Water	mg/l	14
1st - RY2007	MLGW-7	02/14/2007	0	Chloride,Total in Water	mg/l	79
2nd - RY2007	MLGW-7	05/17/2007	0	Chloride,Total in Water	mg/l	49
2nd - RY2007	MLGW-7	06/21/2007	0	Chloride,Total in Water	mg/l	42
3rd - RY2007	MLGW-7	07/26/2007	0	Chloride,Total in Water	mg/l	32
3rd - RY2007	MLGW-7	08/23/2007	0	Chloride,Total in Water	mg/l	24
4th - RY2007	MLGW-7	10/30/2007	0	Chloride,Total in Water	mg/l	21
4th - RY2007	MLGW-7	11/29/2007	0	Chloride,Total in Water	mg/l	21
4th - RY2007	MLGW-7	12/20/2007	0	Chloride,Total in Water	mg/l	24
1st - RY2008	MLGW-7	01/29/2008	0	Chloride,Total in Water	mg/l	25
1st - RY2008	MLGW-7	02/28/2008	0	Chloride,Total in Water	mg/l	31
1st - RY2008	MLGW-7	03/31/2008	0	Chloride,Total in Water	mg/l	38
2nd - RY2008	MLGW-7	05/29/2008	0	Chloride,Total in Water	mg/l	41
2nd - RY2008	MLGW-7	06/27/2008	0	Chloride,Total in Water	mg/l	45
3rd - RY2008	MLGW-7	09/30/2008	0	Chloride,Total in Water	mg/l	40
4th - RY2008	MLGW-7	12/31/2008	0	Chloride,Total in Water	mg/l	60.9
1st - RY2009	MLGW-7	02/26/2009	0	Chloride,Total in Water	mg/l	80.2
2nd - RY2009	MLGW-7	06/11/2009	0	Chloride,Total in Water	mg/l	59.5
3rd - RY2009	MLGW-7	08/18/2009	0	Chloride,Total in Water	mg/l	34.2
3rd - RY2009	MLGW-7	09/29/2009	0	Chloride,Total in Water	mg/l	40.4
4th - RY2009	MLGW-7	10/12/2009	0	Chloride,Total in Water	mg/l	40.1
1st - RY2010	MLGW-7	02/18/2010	0	Chloride,Total in Water	mg/l	53.6
1st - RY2010	MLGW-7	03/16/2010	0	Chloride,Total in Water	mg/l	57.7
2nd - RY2010	MLGW-7	06/22/2010	0	Chloride,Total in Water	mg/l	40.1
2nd - RY2010	MLGW-7	06/29/2010	0	Chloride,Total in Water	mg/l	36.7
3rd - RY2010	MLGW-7	08/10/2010	0	Chloride,Total in Water	mg/l	25.9
4th - RY2010	MLGW-7	10/19/2010	0	Chloride,Total in Water	mg/l	29.3
1st - RY2011	MLGW-7	02/15/2011	0	Chloride,Total in Water	mg/l	44.2
2nd - RY2011	MLGW-7	06/14/2011	0	Chloride,Total in Water	mg/l	44.5
3rd - RY2011	MLGW-7	08/16/2011	0	Chloride,Total in Water	mg/l	30.2
4th - RY2011	MLGW-7	10/25/2011	0	Chloride,Total in Water	mg/l	28.3
4th - RY2011	MLGW-7	10/25/2011	1	Chloride,Total in Water	mg/l	28.2
3rd - RY1993	MLGW-7	09/30/1993	0	Copper, Dissolved	ug/l as Cu	<20
1st - RY1994	MLGW-7	03/28/1994	0	Copper, Dissolved	ug/l as Cu	<20
2nd - RY1994	MLGW-7	06/23/1994	0	Copper, Dissolved	ug/l as Cu	<20
3rd - RY1994	MLGW-7	09/28/1994	0	Copper, Dissolved	ug/l as Cu	<20
4th - RY1994	MLGW-7	12/20/1994	0	Copper, Dissolved	ug/l as Cu	<20
1st - RY2000	MLGW-7	01/21/2000	0	Copper, Dissolved	ug/l as Cu	<10
2nd - RY2007	MLGW-7	06/21/2007	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2007	MLGW-7	10/30/2007	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2007	MLGW-7	11/29/2007	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2007	MLGW-7	12/20/2007	0	Copper, Dissolved	ug/l as Cu	<10

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2008	MLGW-7	05/29/2008	0	Copper, Dissolved	ug/l as Cu	<10
4th - RY2010	MLGW-7	10/19/2010	0	Copper, Dissolved	ug/l as Cu	1.8
1st - RY2011	MLGW-7	02/15/2011	0	Copper, Dissolved	ug/l as Cu	1.3
2nd - RY2011	MLGW-7	06/14/2011	0	Copper, Dissolved	ug/l as Cu	3.5
3rd - RY2011	MLGW-7	08/16/2011	0	Copper, Dissolved	ug/l as Cu	1.4
4th - RY2011	MLGW-7	10/25/2011	0	Copper, Dissolved	ug/l as Cu	3.2
4th - RY2011	MLGW-7	10/25/2011	1	Copper, Dissolved	ug/l as Cu	3.2
3rd - RY1993	MLGW-7	09/30/1993	0	Fluoride, Total	mg/l as F	0.3
4th - RY1993	MLGW-7	11/30/1993	0	Fluoride, Total	mg/l as F	0.2
1st - RY1994	MLGW-7	03/28/1994	0	Fluoride, Total	mg/l as F	0.3
2nd - RY1994	MLGW-7	06/23/1994	0	Fluoride, Total	mg/l as F	0.25
3rd - RY1994	MLGW-7	09/28/1994	0	Fluoride, Total	mg/l as F	0.26
4th - RY1994	MLGW-7	12/20/1994	0	Fluoride, Total	mg/l as F	0.3
2nd - RY2007	MLGW-7	05/17/2007	0	Fluoride, Total	mg/l as F	0.1
2nd - RY2007	MLGW-7	06/21/2007	0	Fluoride, Total	mg/l as F	<0.1
3rd - RY2007	MLGW-7	07/26/2007	0	Fluoride, Total	mg/l as F	0.4
3rd - RY2007	MLGW-7	08/23/2007	0	Fluoride, Total	mg/l as F	0.1
4th - RY2007	MLGW-7	10/30/2007	0	Fluoride, Total	mg/l as F	0.1
4th - RY2007	MLGW-7	11/29/2007	0	Fluoride, Total	mg/l as F	0.1
4th - RY2007	MLGW-7	12/20/2007	0	Fluoride, Total	mg/l as F	0.1
1st - RY2008	MLGW-7	01/29/2008	0	Fluoride, Total	mg/l as F	0.1
1st - RY2008	MLGW-7	02/28/2008	0	Fluoride, Total	mg/l as F	0.2
3rd - RY1993	MLGW-7	09/30/1993	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY1993	MLGW-7	11/30/1993	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY1994	MLGW-7	03/28/1994	0	Iron, Dissolved	ug/l as Fe	120
2nd - RY1994	MLGW-7	06/23/1994	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY1994	MLGW-7	09/28/1994	0	Iron, Dissolved	ug/l as Fe	20
4th - RY1994	MLGW-7	12/20/1994	0	Iron, Dissolved	ug/l as Fe	20
1st - RY2000	MLGW-7	01/21/2000	0	Iron, Dissolved	ug/l as Fe	<10
2nd - RY2007	MLGW-7	05/17/2007	0	Iron, Dissolved	ug/l as Fe	<20
2nd - RY2007	MLGW-7	06/21/2007	0	Iron, Dissolved	ug/l as Fe	20
3rd - RY2007	MLGW-7	07/26/2007	0	Iron, Dissolved	ug/l as Fe	<20
3rd - RY2007	MLGW-7	08/23/2007	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY2007	MLGW-7	10/30/2007	0	Iron, Dissolved	ug/l as Fe	20
4th - RY2007	MLGW-7	11/29/2007	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY2007	MLGW-7	12/20/2007	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY2008	MLGW-7	01/29/2008	0	Iron, Dissolved	ug/l as Fe	<20
1st - RY2008	MLGW-7	02/28/2008	0	Iron, Dissolved	ug/l as Fe	<20
2nd - RY2008	MLGW-7	05/29/2008	0	Iron, Dissolved	ug/l as Fe	<20
4th - RY2011	MLGW-7	10/25/2011	0	Iron, Dissolved	ug/l as Fe	292
4th - RY2011	MLGW-7	10/25/2011	1	Iron, Dissolved	ug/l as Fe	285
3rd - RY1993	MLGW-7	09/30/1993	0	Lead, Dissolved	ug/l as Pb	<1
1st - RY1994	MLGW-7	03/28/1994	0	Lead, Dissolved	ug/l as Pb	<1
2nd - RY1994	MLGW-7	06/23/1994	0	Lead, Dissolved	ug/l as Pb	<1
3rd - RY1994	MLGW-7	09/28/1994	0	Lead, Dissolved	ug/l as Pb	<1
4th - RY1994	MLGW-7	12/20/1994	0	Lead, Dissolved	ug/l as Pb	<1
1st - RY2000	MLGW-7	01/21/2000	0	Lead, Dissolved	ug/l as Pb	<40
2nd - RY207	MLGW-7	06/21/2007	0	Lead, Dissolved	ug/l as Pb	<0.1
4th - RY2007	MLGW-7	10/30/2007	0	Lead, Dissolved	ug/l as Pb	<0.1
4th - RY2007	MLGW-7	11/29/2007	0	Lead, Dissolved	ug/l as Pb	0.1
4th - RY2007	MLGW-7	12/20/2007	0	Lead, Dissolved	ug/l as Pb	<0.1
2nd - RY2008	MLGW-7	05/29/2008	0	Lead, Dissolved	ug/l as Pb	<0.1
3rd - RY1993	MLGW-7	09/30/1993	0	Magnesium, Dissolved	ug/l as Mg	4,390
4th - RY1993	MLGW-7	11/30/1993	0	Magnesium, Dissolved	ug/l as Mg	4,170

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY1994	MLGW-7	03/28/1994	0	Magnesium, Dissolved	ug/l as Mg	4,810
2nd - RY1994	MLGW-7	06/23/1994	0	Magnesium, Dissolved	ug/l as Mg	4,460
3rd - RY1994	MLGW-7	09/28/1994	0	Magnesium, Dissolved	ug/l as Mg	4,720
4th - RY1994	MLGW-7	12/20/1994	0	Magnesium, Dissolved	ug/l as Mg	4,640
2nd - RY2007	MLGW-7	05/17/2007	0	Magnesium, Dissolved	ug/l as Mg	13,700
2nd - RY2007	MLGW-7	06/21/2007	0	Magnesium, Dissolved	ug/l as Mg	12,700
3rd - RY2007	MLGW-7	07/26/2007	0	Magnesium, Dissolved	ug/l as Mg	11,000
3rd - RY2007	MLGW-7	08/23/2007	0	Magnesium, Dissolved	ug/l as Mg	9,300
4th - RY207	MLGW-7	10/30/2007	0	Magnesium, Dissolved	ug/l as Mg	8,200
4th - RY2007	MLGW-7	11/29/2007	0	Magnesium, Dissolved	ug/l as Mg	8,900
4th - RY2007	MLGW-7	12/20/2007	0	Magnesium, Dissolved	ug/l as Mg	9,400
1st - RY2008	MLGW-7	01/29/2008	0	Magnesium, Dissolved	ug/l as Mg	10,200
1st - RY2008	MLGW-7	02/28/2008	0	Magnesium, Dissolved	ug/l as Mg	9,600
2nd - RY2008	MLGW-7	05/29/2008	0	Magnesium, Dissolved	ug/l as Mg	13,900
3rd - RY2009	MLGW-7	09/29/2009	0	Magnesium, Dissolved	ug/l as Mg	14,000
4th - RY2009	MLGW-7	12/08/2009	0	Magnesium, Dissolved	ug/l as Mg	16,000
1st - RY2010	MLGW-7	03/16/2010	0	Magnesium, Dissolved	ug/l as Mg	18,200
2nd - RY2010	MLGW-7	06/29/2010	0	Magnesium, Dissolved	ug/l as Mg	13,900
3rd - RY2011	MLGW-7	08/16/2011	0	Magnesium, Dissolved	ug/l as Mg	10,300
4th - RY2011	MLGW-7	40841	0	Magnesium, Dissolved	ug/l as Mg	9,500
4th - RY2011	MLGW-7	40841	1	Magnesium, Dissolved	ug/l as Mg	9,620
3rd - RY1993	MLGW-7	34242	0	Manganese, Dissolved	ug/l as Mn	450
4th - RY1993	MLGW-7	34303	0	Manganese, Dissolved	ug/l as Mn	<20
1st - RY1994	MLGW-7	34421	0	Manganese, Dissolved	ug/l as Mn	200
2nd - RY1994	MLGW-7	34508	0	Manganese, Dissolved	ug/l as Mn	220
3rd - RY1994	MLGW-7	34605	0	Manganese, Dissolved	ug/l as Mn	<20
4th - RY1994	MLGW-7	34688	0	Manganese, Dissolved	ug/l as Mn	<20
4th - RY1995	MLGW-7	34975	0	Manganese, Dissolved	ug/l as Mn	<20
2nd - RY1996	MLGW-7	35220	0	Manganese, Dissolved	ug/l as Mn	60
3rd - RY1996	MLGW-7	35318	0	Manganese, Dissolved	ug/l as Mn	<20
2nd - RY1997	MLGW-7	35556	0	Manganese, Dissolved	ug/l as Mn	20
3rd - RY1997	MLGW-7	35612	0	Manganese, Dissolved	ug/l as Mn	190
3rd - RY1997	MLGW-7	35650	0	Manganese, Dissolved	ug/l as Mn	98
4th - RY1997	MLGW-7	35779	0	Manganese, Dissolved	ug/l as Mn	33
1st - RY1998	MLGW-7	35801	0	Manganese, Dissolved	ug/l as Mn	29
1st - RY1998	MLGW-7	35829	0	Manganese, Dissolved	ug/l as Mn	28
1st - RY1998	MLGW-7	35864	0	Manganese, Dissolved	ug/l as Mn	11
2nd - RY1998	MLGW-7	35893	0	Manganese, Dissolved	ug/l as Mn	22
2nd - RY1998	MLGW-7	35920	0	Manganese, Dissolved	ug/l as Mn	18
2nd - RY1998	MLGW-7	35948	0	Manganese, Dissolved	ug/l as Mn	11
3rd - RY1998	MLGW-7	35983	0	Manganese, Dissolved	ug/l as Mn	39
3rd - RY1998	MLGW-7	36011	0	Manganese, Dissolved	ug/l as Mn	21
3rd - RY1998	MLGW-7	36046	0	Manganese, Dissolved	ug/l as Mn	77
4th - RY1998	MLGW-7	36081	0	Manganese, Dissolved	ug/l as Mn	23
4th - RY1998	MLGW-7	36109	0	Manganese, Dissolved	ug/l as Mn	48
4th - RY1998	MLGW-7	36137	0	Manganese, Dissolved	ug/l as Mn	58
1st - RY1999	MLGW-7	36172	0	Manganese, Dissolved	ug/l as Mn	22
1st - RY1999	MLGW-7	36200	0	Manganese, Dissolved	ug/l as Mn	62
1st - RY1999	MLGW-7	36228	0	Manganese, Dissolved	ug/l as Mn	17
2nd - RY1999	MLGW-7	36256	0	Manganese, Dissolved	ug/l as Mn	14
2nd - RY1999	MLGW-7	36291	0	Manganese, Dissolved	ug/l as Mn	7
2nd - RY1999	MLGW-7	36314	0	Manganese, Dissolved	ug/l as Mn	68
3rd - RY1999	MLGW-7	36347	0	Manganese, Dissolved	ug/l as Mn	30
3rd - RY1999	MLGW-7	36384	0	Manganese, Dissolved	ug/l as Mn	26

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY1999	MLGW-7	36410	0	Manganese, Dissolved	ug/l as Mn	10
4th - RY1999	MLGW-7	36445	0	Manganese, Dissolved	ug/l as Mn	70
4th - RY1999	MLGW-7	36468	0	Manganese, Dissolved	ug/l as Mn	30
4th - RY1999	MLGW-7	36501	0	Manganese, Dissolved	ug/l as Mn	10
1st - RY2000	MLGW-7	36546	0	Manganese, Dissolved	ug/l as Mn	230
1st - RY2000	MLGW-7	36571	0	Manganese, Dissolved	ug/l as Mn	38
1st - RY2000	MLGW-7	36599	0	Manganese, Dissolved	ug/l as Mn	16
2nd - RY2000	MLGW-7	36634	0	Manganese, Dissolved	ug/l as Mn	19
2nd - RY2000	MLGW-7	36655	0	Manganese, Dissolved	ug/l as Mn	25
2nd - RY2000	MLGW-7	36692	0	Manganese, Dissolved	ug/l as Mn	9
3rd - RY2000	MLGW-7	36720	0	Manganese, Dissolved	ug/l as Mn	21
3rd - RY2000	MLGW-7	36748	0	Manganese, Dissolved	ug/l as Mn	32
3rd - RY2000	MLGW-7	36777	0	Manganese, Dissolved	ug/l as Mn	26
4th - RY2000	MLGW-7	36800	0	Manganese, Dissolved	ug/l as Mn	30
4th - RY2000	MLGW-7	36838	0	Manganese, Dissolved	ug/l as Mn	21
4th - RY2000	MLGW-7	36861	0	Manganese, Dissolved	ug/l as Mn	7
1st - RY2001	MLGW-7	36894	0	Manganese, Dissolved	ug/l as Mn	17
1st - RY2001	MLGW-7	36923	0	Manganese, Dissolved	ug/l as Mn	9
1st - RY2001	MLGW-7	36978	0	Manganese, Dissolved	ug/l as Mn	86
2nd - RY201	MLGW-7	36990	0	Manganese, Dissolved	ug/l as Mn	31
2nd - RY2001	MLGW-7	37014	0	Manganese, Dissolved	ug/l as Mn	26
2nd - RY2001	MLGW-7	37046	0	Manganese, Dissolved	ug/l as Mn	9
3rd - RY2001	MLGW-7	37074	0	Manganese, Dissolved	ug/l as Mn	52
3rd - RY2001	MLGW-7	37104	0	Manganese, Dissolved	ug/l as Mn	19
3rd - RY2011	MLGW-7	37141	0	Manganese, Dissolved	ug/l as Mn	26
4th - RY2001	MLGW-7	37165	0	Manganese, Dissolved	ug/l as Mn	19
4th - RY2001	MLGW-7	37201	0	Manganese, Dissolved	ug/l as Mn	2,040
4th - RY2001	MLGW-7	37230	0	Manganese, Dissolved	ug/l as Mn	32
1st - RY2002	MLGW-7	37264	0	Manganese, Dissolved	ug/l as Mn	63
1st - RY2002	MLGW-7	37294	0	Manganese, Dissolved	ug/l as Mn	21
1st - RY2002	MLGW-7	37322	0	Manganese, Dissolved	ug/l as Mn	32
2nd - RY2002	MLGW-7	37350	0	Manganese, Dissolved	ug/l as Mn	24
2nd - RY2002	MLGW-7	37385	0	Manganese, Dissolved	ug/l as Mn	23
2nd - RY2002	MLGW-7	37413	0	Manganese, Dissolved	ug/l as Mn	33
3rd - RY2002	MLGW-7	37447	0	Manganese, Dissolved	ug/l as Mn	265
3rd - RY2002	MLGW-7	37476	0	Manganese, Dissolved	ug/l as Mn	40
3rd - RY2002	MLGW-7	37511	0	Manganese, Dissolved	ug/l as Mn	37
4th - RY2002	MLGW-7	37537	0	Manganese, Dissolved	ug/l as Mn	209
4th - RY2002	MLGW-7	37574	0	Manganese, Dissolved	ug/l as Mn	58
4th - RY2002	MLGW-7	37602	0	Manganese, Dissolved	ug/l as Mn	34
1st - RY2003	MLGW-7	37630	0	Manganese, Dissolved	ug/l as Mn	39
1st - RY2003	MLGW-7	37658	0	Manganese, Dissolved	ug/l as Mn	9
1st - RY2003	MLGW-7	37692	0	Manganese, Dissolved	ug/l as Mn	62
2nd - RY2003	MLGW-7	37713	0	Manganese, Dissolved	ug/l as Mn	11
2nd - RY2003	MLGW-7	37753	0	Manganese, Dissolved	ug/l as Mn	22
4th - RY2003	MLGW-7	37902	0	Manganese, Dissolved	ug/l as Mn	<5
1st - RY2004	MLGW-7	38028	0	Manganese, Dissolved	ug/l as Mn	8
2nd - RY2004	MLGW-7	38153	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY2004	MLGW-7	38217	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY2004	MLGW-7	38273	0	Manganese, Dissolved	ug/l as Mn	<5
2nd - RY2005	MLGW-7	38511	0	Manganese, Dissolved	ug/l as Mn	16
3rd - RY2005	MLGW-7	38583	0	Manganese, Dissolved	ug/l as Mn	112
3rd - RY2005	MLGW-7	38583	0	Manganese, Dissolved	ug/l as Mn	112
4th - RY2005	MLGW-7	38644	0	Manganese, Dissolved	ug/l as Mn	6

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2005	MLGW-7	38644	0	Manganese, Dissolved	ug/l as Mn	6
1st - RY2006	MLGW-7	38770	0	Manganese, Dissolved	ug/l as Mn	6
1st - RY2006	MLGW-7	38770	0	Manganese, Dissolved	ug/l as Mn	6
2nd - RY2006	MLGW-7	38896	0	Manganese, Dissolved	ug/l as Mn	12
2nd - RY2006	MLGW-7	38896	0	Manganese, Dissolved	ug/l as Mn	12
3rd - RY2006	MLGW-7	38959	0	Manganese, Dissolved	ug/l as Mn	22
3rd - RY2006	MLGW-7	38959	0	Manganese, Dissolved	ug/l as Mn	22
4th - RY2006	MLGW-7	39000	0	Manganese, Dissolved	ug/l as Mn	11
1st - RY2007	MLGW-7	39127	0	Manganese, Dissolved	ug/l as Mn	8
2nd - RY2007	MLGW-7	39219	0	Manganese, Dissolved	ug/l as Mn	<5
2nd - RY2007	MLGW-7	39254	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY2007	MLGW-7	39289	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY2007	MLGW-7	39317	0	Manganese, Dissolved	ug/l as Mn	6
3rd - RY2007	MLGW-7	39352	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY2007	MLGW-7	39385	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY2007	MLGW-7	39415	0	Manganese, Dissolved	ug/l as Mn	<5
4th - RY2007	MLGW-7	39436	0	Manganese, Dissolved	ug/l as Mn	<5
1st - RY2008	MLGW-7	39476	0	Manganese, Dissolved	ug/l as Mn	<5
1st - RY2008	MLGW-7	39506	0	Manganese, Dissolved	ug/l as Mn	<5
1st - RY2008	MLGW-7	39538	0	Manganese, Dissolved	ug/l as Mn	196,000
2nd - RY2008	MLGW-7	39597	0	Manganese, Dissolved	ug/l as Mn	11
2nd - RY208	MLGW-7	39626	0	Manganese, Dissolved	ug/l as Mn	<5
3rd - RY2008	MLGW-7	39721	0	Manganese, Dissolved	ug/l as Mn	180
4th - RY2008	MLGW-7	39813	0	Manganese, Dissolved	ug/l as Mn	190
1st - RY2009	MLGW-7	39870	0	Manganese, Dissolved	ug/l as Mn	2,210
2nd - RY2009	MLGW-7	39975	0	Manganese, Dissolved	ug/l as Mn	58,400
3rd - RY2009	MLGW-7	40043	0	Manganese, Dissolved	ug/l as Mn	18.3
4th - RY2009	MLGW-7	40098	0	Manganese, Dissolved	ug/l as Mn	5.72
1st - RY2010	MLGW-7	40227	0	Manganese, Dissolved	ug/l as Mn	59,900
2nd - RY2010	MLGW-7	40351	0	Manganese, Dissolved	ug/l as Mn	1.7
3rd - RY2010	MLGW-7	40400	0	Manganese, Dissolved	ug/l as Mn	2.7
4th - RY2010	MLGW-7	40470	0	Manganese, Dissolved	ug/l as Mn	3.1
1st - RY2011	MLGW-7	40589	0	Manganese, Dissolved	ug/l as Mn	2.2
2nd - RY2011	MLGW-7	40708	0	Manganese, Dissolved	ug/l as Mn	2.3
3rd - RY2011	MLGW-7	40771	0	Manganese, Dissolved	ug/l as Mn	3.1
4th - RY2011	MLGW-7	40841	0	Manganese, Dissolved	ug/l as Mn	19.9
4th - RY2011	MLGW-7	40841	1	Manganese, Dissolved	ug/l as Mn	19.3
3rd - RY1993	MLGW-7	34242	0	Molybdenum, Dissolved	ug/l as Mo	<20
1st - RY1994	MLGW-7	34421	0	Molybdenum, Dissolved	ug/l as Mo	<20
2nd - RY1994	MLGW-7	34508	0	Molybdenum, Dissolved	ug/l as Mo	<20
3rd - RY1994	MLGW-7	34605	0	Molybdenum, Dissolved	ug/l as Mo	100
4th - RY1994	MLGW-7	34688	0	Molybdenum, Dissolved	ug/l as Mo	<20
1st - RY2000	MLGW-7	36546	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY2007	MLGW-7	39219	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY2007	MLGW-7	39254	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2007	MLGW-7	39289	0	Molybdenum, Dissolved	ug/l as Mo	<10
3rd - RY2007	MLGW-7	39317	0	Molybdenum, Dissolved	ug/l as Mo	10
4th - RY2007	MLGW-7	39385	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2007	MLGW-7	39415	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2007	MLGW-7	39436	0	Molybdenum, Dissolved	ug/l as Mo	20
1st - RY2008	MLGW-7	39476	0	Molybdenum, Dissolved	ug/l as Mo	<10
1st - RY2008	MLGW-7	39506	0	Molybdenum, Dissolved	ug/l as Mo	<10
2nd - RY2008	MLGW-7	39597	0	Molybdenum, Dissolved	ug/l as Mo	<10
4th - RY2010	MLGW-7	40470	0	Molybdenum, Dissolved	ug/l as Mo	0.22

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2011	MLGW-7	40589	0	Molybdenum, Dissolved	ug/l as Mo	0.18
2nd - RY2011	MLGW-7	40708	0	Molybdenum, Dissolved	ug/l as Mo	0.19
3rd - RY2011	MLGW-7	40771	0	Molybdenum, Dissolved	ug/l as Mo	0.33
4th - RY2011	MLGW-7	40841	0	Molybdenum, Dissolved	ug/l as Mo	0.43
4th - RY2011	MLGW-7	40841	1	Molybdenum, Dissolved	ug/l as Mo	0.49
1st - RY2000	MLGW-7	36546	0	Nickel, Dissolved	ug/l as Ni	<10
3rd - RY2009	MLGW-7	40085	0	Nitrate Nitrogen, Total	mg/l as N	0.162
1st - RY2010	MLGW-7	40253	0	Nitrate Nitrogen, Total	mg/l as N	0.21
2nd - RY2010	MLGW-7	40358	0	Nitrate Nitrogen, Total	mg/l as N	0.2
4th - RY2010	MLGW-7	40470	0	Nitrate Nitrogen, Total	mg/l as N	0.16
1st - RY2011	MLGW-7	40589	0	Nitrate Nitrogen, Total	mg/l as N	0.16
2nd - RY2011	MLGW-7	40708	0	Nitrate Nitrogen, Total	mg/l as N	0.41
3rd - RY2011	MLGW-7	40771	0	Nitrate Nitrogen, Total	mg/l as N	0.25
4th - RY2011	MLGW-7	40841	0	Nitrate Nitrogen, Total	mg/l as N	0.17
4th - RY2011	MLGW-7	40841	1	Nitrate Nitrogen, Total	mg/l as N	0.16
3rd - RY2009	MLGW-7	40085	0	Nitrite Nitrogen, Total	mg/l as N	0.31
4th - RY2009	MLGW-7	40155	0	Nitrite Nitrogen, Total	mg/l as N	<0.12
1st - RY2010	MLGW-7	40253	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
2nd - RY2010	MLGW-7	40358	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	MLGW-7	40470	0	Nitrite Nitrogen, Total	mg/l as N	<0.12
1st - RY2011	MLGW-7	40589	0	Nitrite Nitrogen, Total	mg/l as N	<0.12
2nd - RY2011	MLGW-7	40708	0	Nitrite Nitrogen, Total	mg/l as N	<0.31
3rd - RY2011	MLGW-7	40771	0	Nitrite Nitrogen, Total	mg/l as N	<0.12
4th - RY2011	MLGW-7	40841	0	Nitrite Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	MLGW-7	40841	1	Nitrite Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	MLGW-7	40470	0	Nitrogen, Ammonia, Total	mg/l as N	0.17
1st - RY2011	MLGW-7	40589	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	MLGW-7	40708	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	MLGW-7	40771	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	MLGW-7	40841	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	MLGW-7	40841	1	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	MLGW-7	40470	0	Nitrogen,total kjeldahl	mg/l	<0.3
1st - RY2011	MLGW-7	40589	0	Nitrogen,total kjeldahl	mg/l	<0.3
2nd - RY2011	MLGW-7	40708	0	Nitrogen,total kjeldahl	mg/l	<0.3
3rd - RY2011	MLGW-7	40771	0	Nitrogen,total kjeldahl	mg/l	<0.3
4th - RY2011	MLGW-7	40841	0	Nitrogen,total kjeldahl	mg/l	<0.3
4th - RY2011	MLGW-7	40841	1	Nitrogen,total kjeldahl	mg/l	<0.3
4th - RY2011	MLGW-7	34975	0	pH, Field	Standard Units	6.3
2nd - RY1996	MLGW-7	35220	0	pH, Field	Standard Units	6.2
3rd - RY1996	MLGW-7	35318	0	pH, Field	Standard Units	6.48
2nd - RY1997	MLGW-7	35556	0	pH, Field	Standard Units	6.8
3rd - RY1997	MLGW-7	35612	0	pH, Field	Standard Units	7.67
3rd - RY1997	MLGW-7	35650	0	pH, Field	Standard Units	6.78
4th - RY1997	MLGW-7	35779	0	pH, Field	Standard Units	6.68
1st - RY1998	MLGW-7	35801	0	pH, Field	Standard Units	6.76
1st - RY1998	MLGW-7	35829	0	pH, Field	Standard Units	6.17
1st - RY1998	MLGW-7	35864	0	pH, Field	Standard Units	6.43
2nd - RY1998	MLGW-7	35893	0	pH, Field	Standard Units	6.27
2nd - RY1998	MLGW-7	35920	0	pH, Field	Standard Units	6.39
2nd - RY1998	MLGW-7	35948	0	pH, Field	Standard Units	6.42
3rd - RY1998	MLGW-7	35983	0	pH, Field	Standard Units	6.43
3rd - RY1998	MLGW-7	36011	0	pH, Field	Standard Units	6.5
3rd - RY1998	MLGW-7	36046	0	pH, Field	Standard Units	6.28
4th - RY1998	MLGW-7	36081	0	pH, Field	Standard Units	6.66

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY1998	MLGW-7	36109	0	pH, Field	Standard Units	6.14
4th - RY1998	MLGW-7	36137	0	pH, Field	Standard Units	6.69
1st - RY1999	MLGW-7	36172	0	pH, Field	Standard Units	6.08
1st - RY1999	MLGW-7	36200	0	pH, Field	Standard Units	6.51
1st - RY1999	MLGW-7	36228	0	pH, Field	Standard Units	6
2nd - RY1999	MLGW-7	36256	0	pH, Field	Standard Units	6.15
2nd - RY1999	MLGW-7	36291	0	pH, Field	Standard Units	6.18
2nd - RY1999	MLGW-7	36314	0	pH, Field	Standard Units	6.4
3rd - RY1999	MLGW-7	36347	0	pH, Field	Standard Units	5.96
3rd - RY1999	MLGW-7	36384	0	pH, Field	Standard Units	6.22
3rd - RY1999	MLGW-7	36410	0	pH, Field	Standard Units	6.2
4th - RY1999	MLGW-7	36445	0	pH, Field	Standard Units	6.25
4th - RY1999	MLGW-7	36468	0	pH, Field	Standard Units	6.59
4th - RY1999	MLGW-7	36501	0	pH, Field	Standard Units	6.36
1st - RY2000	MLGW-7	36546	0	pH, Field	Standard Units	6.54
1st - RY2000	MLGW-7	36571	0	pH, Field	Standard Units	6.07
1st - RY2000	MLGW-7	36599	0	pH, Field	Standard Units	6.4
2nd - RY2000	MLGW-7	36634	0	pH, Field	Standard Units	6.3
2nd - RY2000	MLGW-7	36655	0	pH, Field	Standard Units	6.5
2nd - RY2000	MLGW-7	36692	0	pH, Field	Standard Units	6.6
3rd - RY2000	MLGW-7	36720	0	pH, Field	Standard Units	6.3
3rd - RY2000	MLGW-7	36748	0	pH, Field	Standard Units	8.2
3rd - RY2000	MLGW-7	36777	0	pH, Field	Standard Units	8.2
4th - RY2000	MLGW-7	36800	0	pH, Field	Standard Units	6.1
4th - RY2000	MLGW-7	36838	0	pH, Field	Standard Units	7.1
4th - RY2000	MLGW-7	36861	0	pH, Field	Standard Units	6.37
1st - RY2001	MLGW-7	36894	0	pH, Field	Standard Units	6.47
1st - RY2001	MLGW-7	36923	0	pH, Field	Standard Units	6.4
1st - RY2001	MLGW-7	36978	0	pH, Field	Standard Units	6.54
2nd - RY2001	MLGW-7	36990	0	pH, Field	Standard Units	6.4
2nd - RY2001	MLGW-7	37014	0	pH, Field	Standard Units	6.35
2nd - RY2001	MLGW-7	37046	0	pH, Field	Standard Units	6.6
3rd - RY2001	MLGW-7	37074	0	pH, Field	Standard Units	6.62
3rd - RY2001	MLGW-7	37104	0	pH, Field	Standard Units	6.47
3rd - RY2001	MLGW-7	37141	0	pH, Field	Standard Units	6.44
4th - RY2001	MLGW-7	37165	0	pH, Field	Standard Units	6.69
4th - RY2001	MLGW-7	37201	0	pH, Field	Standard Units	6.12
4th - RY2001	MLGW-7	37230	0	pH, Field	Standard Units	6.93
1st - RY2002	MLGW-7	37264	0	pH, Field	Standard Units	6.89
1st - RY2002	MLGW-7	37294	0	pH, Field	Standard Units	6.56
1st - RY2002	MLGW-7	37322	0	pH, Field	Standard Units	7.14
2nd - RY2002	MLGW-7	37350	0	pH, Field	Standard Units	7.27
2nd - RY2002	MLGW-7	37385	0	pH, Field	Standard Units	7.18
2nd - RY2002	MLGW-7	37413	0	pH, Field	Standard Units	6.81
3rd - RY2002	MLGW-7	37447	0	pH, Field	Standard Units	7.6
3rd - RY2002	MLGW-7	37476	0	pH, Field	Standard Units	6.97
3rd - RY2002	MLGW-7	37511	0	pH, Field	Standard Units	7.26
4th - RY2002	MLGW-7	37537	0	pH, Field	Standard Units	7.5
4th - RY2002	MLGW-7	37574	0	pH, Field	Standard Units	7.67
4th - RY2002	MLGW-7	37602	0	pH, Field	Standard Units	7.33
1st - RY2003	MLGW-7	37630	0	pH, Field	Standard Units	7.34
1st - RY2003	MLGW-7	37658	0	pH, Field	Standard Units	7.79
1st - RY2003	MLGW-7	37692	0	pH, Field	Standard Units	7.3
2nd - RY2003	MLGW-7	37713	0	pH, Field	Standard Units	7.34

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2003	MLGW-7	37753	0	pH, Field	Standard Units	7.86
4th - RY2003	MLGW-7	37902	0	pH, Field	Standard Units	6.6
1st - RY2004	MLGW-7	38028	0	pH, Field	Standard Units	7.2
2nd - RY2004	MLGW-7	38153	0	pH, Field	Standard Units	6.51
3rd - RY2004	MLGW-7	38217	0	pH, Field	Standard Units	6.15
4th - RY2004	MLGW-7	38273	0	pH, Field	Standard Units	6.58
4th - RY2004	MLGW-7	38273	0	pH, Field	Standard Units	6.6
2nd - RY2005	MLGW-7	38511	0	pH, Field	Standard Units	6.3
3rd - RY2005	MLGW-7	38583	0	pH, Field	Standard Units	6.2
3rd - RY2005	MLGW-7	38583	0	pH, Field	Standard Units	6.2
4th - RY2005	MLGW-7	38644	0	pH, Field	Standard Units	6.9
4th - RY2005	MLGW-7	38644	0	pH, Field	Standard Units	6.9
1st - RY2006	MLGW-7	38770	0	pH, Field	Standard Units	6.46
1st - RY2006	MLGW-7	38770	0	pH, Field	Standard Units	6.46
2nd - RY2006	MLGW-7	38896	0	pH, Field	Standard Units	6.58
2nd - RY2006	MLGW-7	38896	0	pH, Field	Standard Units	6.58
3rd - RY2006	MLGW-7	38959	0	pH, Field	Standard Units	6.66
3rd - RY2006	MLGW-7	38959	0	pH, Field	Standard Units	6.66
4th - RY2006	MLGW-7	39000	0	pH, Field	Standard Units	6.36
1st - RY2007	MLGW-7	39127	0	pH, Field	Standard Units	6.32
2nd - RY2007	MLGW-7	39254	0	pH, Field	Standard Units	6.39
3rd - RY2007	MLGW-7	39317	0	pH, Field	Standard Units	6.49
3rd - RY2007	MLGW-7	39352	0	pH, Field	Standard Units	6.43
4th - RY2007	MLGW-7	39385	0	pH, Field	Standard Units	6.46
4th - RY2007	MLGW-7	39415	0	pH, Field	Standard Units	6.45
4th - RY2007	MLGW-7	39436	0	pH, Field	Standard Units	7.14
1st - RY2008	MLGW-7	39476	0	pH, Field	Standard Units	6.44
1st - RY2008	MLGW-7	39506	0	pH, Field	Standard Units	6.11
1st - RY2008	MLGW-7	39538	0	pH, Field	Standard Units	6.5
2nd - RY2008	MLGW-7	39597	0	pH, Field	Standard Units	6.38
2nd - RY2008	MLGW-7	39626	0	pH, Field	Standard Units	5.9
3rd - RY2008	MLGW-7	39721	0	pH, Field	Standard Units	6.42
4th - RY2008	MLGW-7	39813	0	pH, Field	Standard Units	6.41
3rd - RY2009	MLGW-7	40043	0	pH, Field	Standard Units	6.48
1st - RY2010	MLGW-7	40227	0	pH, Field	Standard Units	6.3
1st - RY2010	MLGW-7	40253	0	pH, Field	Standard Units	<0.1
2nd - RY2010	MLGW-7	40351	0	pH, Field	Standard Units	6.45
3rd - RY2010	MLGW-7	40400	0	pH, Field	Standard Units	6.7
4th - RY2010	MLGW-7	40470	0	pH, Field	Standard Units	6.6
1st - RY2011	MLGW-7	40589	0	pH, Field	Standard Units	6.1
2nd - RY2011	MLGW-7	40708	0	pH, Field	Standard Units	6.4
2nd - RY2011	MLGW-7	40716	0	pH, Field	Standard Units	6.6
3rd - RY2011	MLGW-7	40771	0	pH, Field	Standard Units	6.5
4th - RY2011	MLGW-7	40841	0	pH, Field	Standard Units	6.5
4th - RY2010	MLGW-7	40470	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st - RY2011	MLGW-7	40589	0	Phosphate, Ortho	mg/l as PO4	0.25
2nd - RY2011	MLGW-7	40708	0	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	MLGW-7	40771	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	MLGW-7	40841	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	MLGW-7	40841	1	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2007	MLGW-7	39219	0	Potassium, Dissolved	ug/l as K	2,400
2nd - RY2007	MLGW-7	39254	0	Potassium, Dissolved	ug/l as K	2,500
3rd - RY2007	MLGW-7	39289	0	Potassium, Dissolved	ug/l as K	2,400
3rd - RY2007	MLGW-7	39317	0	Potassium, Dissolved	ug/l as K	2,300

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2007	MLGW-7	39385	0	Potassium, Dissolved	ug/l as K	2,300
4th - RY2007	MLGW-7	39415	0	Potassium, Dissolved	ug/l as K	2,200
4th - RY2007	MLGW-7	39436	0	Potassium, Dissolved	ug/l as K	2,200
1st - RY2008	MLGW-7	39476	0	Potassium, Dissolved	ug/l as K	2,400
1st - RY2008	MLGW-7	39506	0	Potassium, Dissolved	ug/l as K	2,200
2nd - RY2008	MLGW-7	39597	0	Potassium, Dissolved	ug/l as K	2,600
3rd - RY2009	MLGW-7	40085	0	Potassium, Dissolved	ug/l as K	2,800
4th - RY2009	MLGW-7	40155	0	Potassium, Dissolved	ug/l as K	3,100
1st - RY2010	MLGW-7	40253	0	Potassium, Dissolved	ug/l as K	2,940
2nd - RY2010	MLGW-7	40358	0	Potassium, Dissolved	ug/l as K	2,480
3rd - RY2011	MLGW-7	40771	0	Potassium, Dissolved	ug/l as K	2,090
4th - RY2011	MLGW-7	40841	0	Potassium, Dissolved	ug/l as K	2,240
4th - RY2011	MLGW-7	40841	1	Potassium, Dissolved	ug/l as K	2,270
4th - RY2010	MLGW-7	40470	0	Selenium, Dissolved	ug/l as Se	0.26
1st - RY2011	MLGW-7	40589	0	Selenium, Dissolved	ug/l as Se	0.74
2nd - RY2011	MLGW-7	40708	0	Selenium, Dissolved	ug/l as Se	0.34
3rd - RY2011	MLGW-7	40771	0	Selenium, Dissolved	ug/l as Se	0.69
4th - RY2011	MLGW-7	40841	0	Selenium, Dissolved	ug/l as Se	<0.64
4th - RY2011	MLGW-7	40841	1	Selenium, Dissolved	ug/l as Se	1
1st - RY2000	MLGW-7	36546	0	Silver, Dissolved	ug/l as Ag	<5
2nd - RY2007	MLGW-7	39254	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2007	MLGW-7	39385	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2007	MLGW-7	39415	0	Silver, Dissolved	ug/l as Ag	<10
4th - RY2007	MLGW-7	39436	0	Silver, Dissolved	ug/l as Ag	<10
2nd - RY2008	MLGW-7	39597	0	Silver, Dissolved	ug/l as Ag	<10
1st - RY1994	MLGW-7	34421	0	Sodium, Dissolved	ug/l as Na	7,130
2nd - RY1994	MLGW-7	34508	0	Sodium, Dissolved	ug/l as Na	7,220
3rd - RY1994	MLGW-7	34605	0	Sodium, Dissolved	ug/l as Na	7,070
4th - RY1994	MLGW-7	34688	0	Sodium, Dissolved	ug/l as Na	7,540
2nd - RY2007	MLGW-7	39219	0	Sodium, Dissolved	ug/l as Na	23,600
2nd - RY2007	MLGW-7	39254	0	Sodium, Dissolved	ug/l as Na	23,000
3rd - RY2007	MLGW-7	39289	0	Sodium, Dissolved	ug/l as Na	22,200
3rd - RY2007	MLGW-7	39317	0	Sodium, Dissolved	ug/l as Na	20,100
4th - RY2007	MLGW-7	39385	0	Sodium, Dissolved	ug/l as Na	19,400
4th - RY2007	MLGW-7	39415	0	Sodium, Dissolved	ug/l as Na	20,600
4th - RY2007	MLGW-7	39436	0	Sodium, Dissolved	ug/l as Na	20,400
1st - RY2008	MLGW-7	39476	0	Sodium, Dissolved	ug/l as Na	22,400
1st - RY2008	MLGW-7	39506	0	Sodium, Dissolved	ug/l as Na	21,400
2nd - RY2008	MLGW-7	39597	0	Sodium, Dissolved	ug/l as Na	35,700
3rd - RY2009	MLGW-7	40085	0	Sodium, Dissolved	ug/l as Na	30,000
4th - RY2009	MLGW-7	40155	0	Sodium, Dissolved	ug/l as Na	34,000
1st - RY2010	MLGW-7	40253	0	Sodium, Dissolved	ug/l as Na	33,600
2nd - RY2010	MLGW-7	40358	0	Sodium, Dissolved	ug/l as Na	30,200
3rd - RY2011	MLGW-7	40771	0	Sodium, Dissolved	ug/l as Na	27,300
4th - RY2011	MLGW-7	40841	0	Sodium, Dissolved	ug/l as Na	28,700
4th - RY2011	MLGW-7	40841	1	Sodium, Dissolved	ug/l as Na	28,800
2nd - RY2000	MLGW-7	36655	0	Specific Conductance	umhos/cm @ 25C	382
3rd - RY1993	MLGW-7	34242	0	Sulfate, Total	mg/l as SO4	30
4th - RY1993	MLGW-7	34303	0	Sulfate, Total	mg/l as SO4	30
1st - RY1994	MLGW-7	34421	0	Sulfate, Total	mg/l as SO4	32
2nd - RY1994	MLGW-7	34508	0	Sulfate, Total	mg/l as SO4	29
3rd - RY1994	MLGW-7	34605	0	Sulfate, Total	mg/l as SO4	32
4th - RY1994	MLGW-7	34688	0	Sulfate, Total	mg/l as SO4	33
4th - RY1995	MLGW-7	34975	0	Sulfate, Total	mg/l as SO4	37

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY1996	MLGW-7	35220	0	Sulfate, Total	mg/l as SO4	29
3rd - RY1996	MLGW-7	35318	0	Sulfate, Total	mg/l as SO4	38
2nd - RY2005	MLGW-7	38511	0	Sulfate, Total	mg/l as SO4	110
3rd - RY2005	MLGW-7	38583	0	Sulfate, Total	mg/l as SO4	80
4th - RY2005	MLGW-7	38644	0	Sulfate, Total	mg/l as SO4	70
1st - RY2006	MLGW-7	38770	0	Sulfate, Total	mg/l as SO4	60
2nd - RY2006	MLGW-7	38896	0	Sulfate, Total	mg/l as SO4	50
3rd - RY2006	MLGW-7	38959	0	Sulfate, Total	mg/l as SO4	60
4th - RY2006	MLGW-7	39000	0	Sulfate, Total	mg/l as SO4	60
1st - RY2007	MLGW-7	39127	0	Sulfate, Total	mg/l as SO4	320
2nd - RY2007	MLGW-7	39219	0	Sulfate, Total	mg/l as SO4	160
2nd - RY2007	MLGW-7	39254	0	Sulfate, Total	mg/l as SO4	190
3rd - RY2007	MLGW-7	39289	0	Sulfate, Total	mg/l as SO4	120
3rd - RY2007	MLGW-7	39317	0	Sulfate, Total	mg/l as SO4	100
4th - RY2007	MLGW-7	39385	0	Sulfate, Total	mg/l as SO4	90
4th - RY2007	MLGW-7	39415	0	Sulfate, Total	mg/l as SO4	100
4th - RY2007	MLGW-7	39436	0	Sulfate, Total	mg/l as SO4	100
1st - RY2008	MLGW-7	39476	0	Sulfate, Total	mg/l as SO4	110
1st - RY2008	MLGW-7	39506	0	Sulfate, Total	mg/l as SO4	120
1st - RY2008	MLGW-7	39538	0	Sulfate, Total	mg/l as SO4	140
2nd - RY2008	MLGW-7	39597	0	Sulfate, Total	mg/l as SO4	170
2nd - RY2008	MLGW-7	39626	0	Sulfate, Total	mg/l as SO4	160
3rd - RY2008	MLGW-7	39721	0	Sulfate, Total	mg/l as SO4	175
4th - RY2008	MLGW-7	39813	0	Sulfate, Total	mg/l as SO4	258
1st - RY2009	MLGW-7	39870	0	Sulfate, Total	mg/l as SO4	316
2nd - RY2009	MLGW-7	39975	0	Sulfate, Total	mg/l as SO4	255
3rd - RY2009	MLGW-7	40043	0	Sulfate, Total	mg/l as SO4	163
3rd - RY2009	MLGW-7	40085	0	Sulfate, Total	mg/l as SO4	196
4th - RY2009	MLGW-7	40098	0	Sulfate, Total	mg/l as SO4	202
1st - RY2010	MLGW-7	40227	0	Sulfate, Total	mg/l as SO4	262
1st - RY2010	MLGW-7	40253	0	Sulfate, Total	mg/l as SO4	275
2nd - RY2010	MLGW-7	40351	0	Sulfate, Total	mg/l as SO4	206
2nd - RY2010	MLGW-7	40358	0	Sulfate, Total	mg/l as SO4	195
3rd - RY2010	MLGW-7	40400	0	Sulfate, Total	mg/l as SO4	135
4th - RY2010	MLGW-7	40470	0	Sulfate, Total	mg/l as SO4	155
1st - RY2011	MLGW-7	40589	0	Sulfate, Total	mg/l as SO4	201
2nd - RY2011	MLGW-7	40708	0	Sulfate, Total	mg/l as SO4	186
3rd - RY2011	MLGW-7	40771	0	Sulfate, Total	mg/l as SO4	139
4th - RY2011	MLGW-7	40841	0	Sulfate, Total	mg/l as SO4	134
4th - RY2011	MLGW-7	40841	1	Sulfate, Total	mg/l as SO4	133
4th - RY1993	MLGW-7	34303	0	TDS - Residue,Total Filtrable (Dried At	mg/l	121
1st - RY1994	MLGW-7	34421	0	TDS - Residue,Total Filtrable (Dried At	mg/l	128
2nd - RY1994	MLGW-7	34508	0	TDS - Residue,Total Filtrable (Dried At	mg/l	128
3rd - RY1994	MLGW-7	34605	0	TDS - Residue,Total Filtrable (Dried At	mg/l	156
4th - RY1994	MLGW-7	34688	0	TDS - Residue,Total Filtrable (Dried At	mg/l	186
1st - RY2000	MLGW-7	36546	0	TDS - Residue,Total Filtrable (Dried At	mg/l	290
2nd - RY2007	MLGW-7	39219	0	TDS - Residue,Total Filtrable (Dried At	mg/l	370
2nd - RY2007	MLGW-7	39254	0	TDS - Residue,Total Filtrable (Dried At	mg/l	350
3rd - RY2007	MLGW-7	39289	0	TDS - Residue,Total Filtrable (Dried At	mg/l	320
3rd - RY2007	MLGW-7	39317	0	TDS - Residue,Total Filtrable (Dried At	mg/l	250
4th - RY2007	MLGW-7	39385	0	TDS - Residue,Total Filtrable (Dried At	mg/l	220
4th - RY2007	MLGW-7	39415	0	TDS - Residue,Total Filtrable (Dried At	mg/l	260
4th - RY2007	MLGW-7	39436	0	TDS - Residue,Total Filtrable (Dried At	mg/l	270
1st - RY2008	MLGW-7	39476	0	TDS - Residue,Total Filtrable (Dried At	mg/l	280

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2008	MLGW-7	39506	0	TDS - Residue,Total Filtrable (Dried At	mg/l	280
2nd - RY2008	MLGW-7	39597	0	TDS - Residue,Total Filtrable (Dried At	mg/l	350
3rd - RY2008	MLGW-7	39721	0	TDS - Residue,Total Filtrable (Dried At	mg/l	384
4th - RY2008	MLGW-7	39813	0	TDS - Residue,Total Filtrable (Dried At	mg/l	562
1st - RY2009	MLGW-7	39870	0	TDS - Residue,Total Filtrable (Dried At	mg/l	681
2nd - RY2009	MLGW-7	39975	0	TDS - Residue,Total Filtrable (Dried At	mg/l	554
3rd - RY2009	MLGW-7	40043	0	TDS - Residue,Total Filtrable (Dried At	mg/l	386
4th - RY2009	MLGW-7	40098	0	TDS - Residue,Total Filtrable (Dried At	mg/l	424
1st - RY2010	MLGW-7	40227	0	TDS - Residue,Total Filtrable (Dried At	mg/l	538
2nd - RY2010	MLGW-7	40351	0	TDS - Residue,Total Filtrable (Dried At	mg/l	450
3rd - RY2010	MLGW-7	40400	0	TDS - Residue,Total Filtrable (Dried At	mg/l	332
4th - RY2010	MLGW-7	40470	0	TDS - Residue,Total Filtrable (Dried At	mg/l	340
1st - RY2011	MLGW-7	40589	0	TDS - Residue,Total Filtrable (Dried At	mg/l	442
2nd - RY2011	MLGW-7	40708	0	TDS - Residue,Total Filtrable (Dried At	mg/l	426
3rd - RY2011	MLGW-7	40771	0	TDS - Residue,Total Filtrable (Dried At	mg/l	328
4th - RY2011	MLGW-7	40841	0	TDS - Residue,Total Filtrable (Dried At	mg/l	316
4th - RY2011	MLGW-7	40841	1	TDS - Residue,Total Filtrable (Dried At	mg/l	306
4th - RY1995	MLGW-7	34975	0	Temperature, Water	°C	7.8
2nd - RY1996	MLGW-7	35220	0	Temperature, Water	°C	8.3
3rd - RY1996	MLGW-7	35318	0	Temperature, Water	°C	8.9
2nd - RY1997	MLGW-7	35556	0	Temperature, Water	°C	7.3
3rd - RY1997	MLGW-7	35612	0	Temperature, Water	°C	9.4
3rd - RY1997	MLGW-7	35650	0	Temperature, Water	°C	9.2
4th - RY1997	MLGW-7	35779	0	Temperature, Water	°C	8.3
1st - RY1998	MLGW-7	35801	0	Temperature, Water	°C	7.4
1st - RY1998	MLGW-7	35829	0	Temperature, Water	°C	6.1
1st - RY1998	MLGW-7	35864	0	Temperature, Water	°C	6.4
2nd - RY1998	MLGW-7	35893	0	Temperature, Water	°C	5.7
2nd - RY1998	MLGW-7	35920	0	Temperature, Water	°C	5.6
2nd - RY1998	MLGW-7	35948	0	Temperature, Water	°C	7.3
3rd - RY1998	MLGW-7	35983	0	Temperature, Water	°C	8.4
3rd - RY1998	MLGW-7	36011	0	Temperature, Water	°C	7.3
3rd - RY1998	MLGW-7	36046	0	Temperature, Water	°C	9.5
4th - RY1998	MLGW-7	36081	0	Temperature, Water	°C	8.9
4th - RY1998	MLGW-7	36109	0	Temperature, Water	°C	7.9
4th - RY1998	MLGW-7	36137	0	Temperature, Water	°C	4.7
1st - RY1999	MLGW-7	36172	0	Temperature, Water	°C	7.4
1st - RY1999	MLGW-7	36200	0	Temperature, Water	°C	9.4
1st - RY1999	MLGW-7	36228	0	Temperature, Water	°C	7.1
2nd - RY1999	MLGW-7	36256	0	Temperature, Water	°C	6
2nd - RY1999	MLGW-7	36291	0	Temperature, Water	°C	5
2nd - RY1999	MLGW-7	36314	0	Temperature, Water	°C	7
3rd - RY1999	MLGW-7	36347	0	Temperature, Water	°C	9.5
3rd - RY1999	MLGW-7	36384	0	Temperature, Water	°C	9.5
3rd - RY1999	MLGW-7	36410	0	Temperature, Water	°C	10.6
4th - RY1999	MLGW-7	36445	0	Temperature, Water	°C	9.7
4th - RY1999	MLGW-7	36468	0	Temperature, Water	°C	9.6
4th - RY1999	MLGW-7	36501	0	Temperature, Water	°C	6.7
1st - RY2000	MLGW-7	36546	0	Temperature, Water	°C	6.1

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2000	MLGW-7	36571	0	Temperature, Water	°C	5.2
1st - RY2000	MLGW-7	36599	0	Temperature, Water	°C	6
2nd - RY2000	MLGW-7	36634	0	Temperature, Water	°C	8
2nd - RY2000	MLGW-7	36655	0	Temperature, Water	°C	6
2nd - RY2000	MLGW-7	36692	0	Temperature, Water	°C	7
3rd - RY2000	MLGW-7	36720	0	Temperature, Water	°C	8
3rd - RY2000	MLGW-7	36748	0	Temperature, Water	°C	9
3rd - RY2000	MLGW-7	36777	0	Temperature, Water	°C	9
4th - RY2000	MLGW-7	36800	0	Temperature, Water	°C	9
4th - RY2000	MLGW-7	36838	0	Temperature, Water	°C	7
4th - RY2000	MLGW-7	36861	0	Temperature, Water	°C	9.2
1st - RY2001	MLGW-7	36894	0	Temperature, Water	°C	7.2
1st - RY2001	MLGW-7	36923	0	Temperature, Water	°C	6.6
1st - RY2001	MLGW-7	36978	0	Temperature, Water	°C	7.2
2nd - RY2001	MLGW-7	36990	0	Temperature, Water	°C	8
2nd - RY2001	MLGW-7	37014	0	Temperature, Water	°C	8.1
2nd - RY2001	MLGW-7	37046	0	Temperature, Water	°C	7.2
3rd - RY2001	MLGW-7	37074	0	Temperature, Water	°C	25
3rd - RY2001	MLGW-7	37104	0	Temperature, Water	°C	7.2
3rd - RY2001	MLGW-7	37141	0	Temperature, Water	°C	9.1
4th - RY2001	MLGW-7	37165	0	Temperature, Water	°C	9.7
4th - RY2001	MLGW-7	37201	0	Temperature, Water	°C	8.3
4th - RY2001	MLGW-7	37230	0	Temperature, Water	°C	6.4
1st - RY2002	MLGW-7	37264	0	Temperature, Water	°C	6.3
1st - RY2002	MLGW-7	37294	0	Temperature, Water	°C	7.2
1st - RY2002	MLGW-7	37322	0	Temperature, Water	°C	4.9
2nd - RY2002	MLGW-7	37350	0	Temperature, Water	°C	6.5
2nd - RY2002	MLGW-7	37385	0	Temperature, Water	°C	6.7
2nd - RY2002	MLGW-7	37413	0	Temperature, Water	°C	7.9
3rd - RY2002	MLGW-7	37447	0	Temperature, Water	°C	8.5
3rd - RY2002	MLGW-7	37476	0	Temperature, Water	°C	8.7
3rd - RY2002	MLGW-7	37511	0	Temperature, Water	°C	9.2
4th - RY2002	MLGW-7	37537	0	Temperature, Water	°C	8.9
4th - RY2002	MLGW-7	37574	0	Temperature, Water	°C	6.9
4th - RY2002	MLGW-7	37602	0	Temperature, Water	°C	7
1st - RY2003	MLGW-7	37630	0	Temperature, Water	°C	6.6
1st - RY2003	MLGW-7	37658	0	Temperature, Water	°C	5.2
1st - RY2003	MLGW-7	37692	0	Temperature, Water	°C	5.2
2nd - RY2003	MLGW-7	37713	0	Temperature, Water	°C	6.7
2nd - RY2003	MLGW-7	37753	0	Temperature, Water	°C	6.3
4th - RY2003	MLGW-7	37902	0	Temperature, Water	°C	10.6
1st - RY2004	MLGW-7	38028	0	Temperature, Water	°C	3.2
2nd - RY2004	MLGW-7	38153	0	Temperature, Water	°C	9.9
3rd - RY2004	MLGW-7	38217	0	Temperature, Water	°C	8.9
4th - RY2004	MLGW-7	38273	0	Temperature, Water	°C	7.7
4th - RY2004	MLGW-7	38273	0	Temperature, Water	°C	7.7
2nd - RY2005	MLGW-7	38511	0	Temperature, Water	°C	8.8

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2005	MLGW-7	38583	0	Temperature, Water	°C	9
3rd - RY2005	MLGW-7	38583	0	Temperature, Water	°C	9
4th - RY2005	MLGW-7	38644	0	Temperature, Water	°C	6.9
4th - RY2005	MLGW-7	38644	0	Temperature, Water	°C	6.9
1st - RY2006	MLGW-7	38770	0	Temperature, Water	°C	4.5
1st - RY2006	MLGW-7	38770	0	Temperature, Water	°C	4.5
2nd - RY2006	MLGW-7	38896	0	Temperature, Water	°C	8.9
2nd - RY2006	MLGW-7	38896	0	Temperature, Water	°C	8.9
3rd - RY2006	MLGW-7	38959	0	Temperature, Water	°C	9.8
3rd - RY2006	MLGW-7	38959	0	Temperature, Water	°C	9.8
4th - RY2006	MLGW-7	39000	0	Temperature, Water	°C	8.4
1st - RY2007	MLGW-7	39127	0	Temperature, Water	°C	6.9
2nd - RY2007	MLGW-7	39254	0	Temperature, Water	°C	6
3rd - RY2007	MLGW-7	39317	0	Temperature, Water	°C	8
3rd - RY2007	MLGW-7	39352	0	Temperature, Water	°C	9.7
4th - RY2007	MLGW-7	39385	0	Temperature, Water	°C	7.5
4th - RY2007	MLGW-7	39415	0	Temperature, Water	°C	5.7
4th - RY2007	MLGW-7	39436	0	Temperature, Water	°C	6.2
1st - RY2008	MLGW-7	39476	0	Temperature, Water	°C	6
1st - RY2008	MLGW-7	39506	0	Temperature, Water	°C	5.7
1st - RY2008	MLGW-7	39538	0	Temperature, Water	°C	4.5
2nd - RY2008	MLGW-7	39597	0	Temperature, Water	°C	6
2nd - RY2008	MLGW-7	39626	0	Temperature, Water	°C	8
1st - RY2010	MLGW-7	40227	0	Temperature, Water	°C	6
1st - RY2010	MLGW-7	40253	0	Temperature, Water	°C	6.2
2nd - RY2010	MLGW-7	40351	0	Temperature, Water	°C	6.1
2nd - RY2010	MLGW-7	40358	0	Temperature, Water	°C	5.6
3rd - RY2010	MLGW-7	40400	0	Temperature, Water	°C	6.7
4th - RY2010	MLGW-7	40470	0	Temperature, Water	°C	7.7
1st - RY2011	MLGW-7	40589	0	Temperature, Water	°C	6.4
2nd - RY2011	MLGW-7	40708	0	Temperature, Water	°C	6.8
2nd - RY2011	MLGW-7	40716	0	Temperature, Water	°C	6.1
3rd - RY2011	MLGW-7	40771	0	Temperature, Water	°C	7.9
4th - RY2011	MLGW-7	40841	0	Temperature, Water	°C	7.6
4th - RY2010	MLGW-7	40470	0	Uranium, Natural, Dissolved	ug/l	0.14
1st - RY2011	MLGW-7	40589	0	Uranium, Natural, Dissolved	ug/l	0.093
2nd - RY2011	MLGW-7	40708	0	Uranium, Natural, Dissolved	ug/l	0.16
3rd - RY2011	MLGW-7	40771	0	Uranium, Natural, Dissolved	ug/l	0.15
4th - RY2011	MLGW-7	40841	0	Uranium, Natural, Dissolved	ug/l	0.23
4th - RY2011	MLGW-7	40841	1	Uranium, Natural, Dissolved	ug/l	0.23
4th - RY1995	MLGW-7	34975	0	Water Level,Distance From Measuring	Feet	24.13
2nd - RY1996	MLGW-7	35220	0	Water Level,Distance From Measuring	Feet	21.83
3rd - RY1996	MLGW-7	35318	0	Water Level,Distance From Measuring	Feet	23.9
2nd - RY1998	MLGW-7	35920	0	Water Level,Distance From Measuring	Feet	22
3rd - RY1993	MLGW-7	34242	0	Zinc, Dissolved	ug/l as Zn	50
1st - RY1994	MLGW-7	34421	0	Zinc, Dissolved	ug/l as Zn	<20
2nd - RY1994	MLGW-7	34508	0	Zinc, Dissolved	ug/l as Zn	20
3rd - RY1994	MLGW-7	34605	0	Zinc, Dissolved	ug/l as Zn	<20
4th - RY1994	MLGW-7	34688	0	Zinc, Dissolved	ug/l as Zn	<20

Appendix A

Existing Monitoring Network - Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2000	MLGW-7	36546	0	Zinc, Dissolved	ug/l as Zn	10
2nd - RY2007	MLGW-7	39219	0	Zinc, Dissolved	ug/l as Zn	30
2nd - RY2007	MLGW-7	39254	0	Zinc, Dissolved	ug/l as Zn	20
3rd - RY2007	MLGW-7	39289	0	Zinc, Dissolved	ug/l as Zn	<10
3rd - RY2007	MLGW-7	39317	0	Zinc, Dissolved	ug/l as Zn	<10
4th - RY2007	MLGW-7	39385	0	Zinc, Dissolved	ug/l as Zn	20
4th - RY2007	MLGW-7	39415	0	Zinc, Dissolved	ug/l as Zn	30
4th - RY2007	MLGW-7	39436	0	Zinc, Dissolved	ug/l as Zn	30
1st - RY008	MLGW-7	39476	0	Zinc, Dissolved	ug/l as Zn	30
1st - RY2008	MLGW-7	39506	0	Zinc, Dissolved	ug/l as Zn	30
2nd - RY2008	MLGW-7	39597	0	Zinc, Dissolved	ug/l as Zn	30
3rd - RY2009	MLGW-7	40085	0	Zinc, Dissolved	ug/l as Zn	4.9

Appendix B

Existing Monitoring Program – 5 Quarters of Surface Water Data

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	BG-20	10/19/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
3rd - RY2011	BG-20	09/14/2011	0	Aluminum, Dissolved	ug/l as Al	9.7
2nd - RY2011	BG-20	07/20/2011	0	Aluminum, Dissolved	ug/l as Al	24
1st - RY2011	BG-20	02/22/2011	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2010	BG-20	10/13/2010	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2011	BG-20	10/19/2011	0	Aluminum, Total	ug/l as Al	29.1
3rd - RY2011	BG-20	09/14/2011	0	Aluminum, Total	ug/l as Al	19.6
2nd - RY2011	BG-20	07/20/2011	0	Aluminum, Total	ug/l as Al	58.7
1st - RY2011	BG-20	02/22/2011	0	Aluminum, Total	ug/l as Al	15.4
4th - RY2010	BG-20	10/13/2010	0	Aluminum, Total	ug/l as Al	94.7
4th - RY2011	BG-20	10/19/2011	0	Arsenic, Dissolved	ug/l as As	0.59
3rd - RY2011	BG-20	09/14/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
2nd - RY2011	BG-20	07/20/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2011	BG-20	02/22/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th 0 RY2010	BG-20	10/13/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2011	BG-20	10/19/2011	0	Arsenic, Total	ug/l as As	<0.38
3rd - RY2011	BG-20	09/14/2011	0	Arsenic, Total	ug/l as As	<0.38
2nd - RY2011	BG-20	07/20/2011	0	Arsenic, Total	ug/l as As	<0.38
1st - RY2011	BG-20	02/22/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2010	BG-20	10/13/2010	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2011	BG-20	10/19/2011	0	Cadmium, Dissolved	ug/l as Cd	0.29
3rd - RY2011	BG-20	09/14/2011	0	Cadmium, Dissolved	ug/l as Cd	0.15
2nd - RY 2011	BG-20	07/20/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2011	BG-20	02/22/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2010	BG-20	10/13/2010	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2011	BG-20	10/19/2011	0	Cadmium, Total	ug/l as Cd	0.18
3rd - RY2011	BG-20	09/14/2011	0	Cadmium, Total	ug/l as Cd	<0.11
2nd - RY2011	BG-20	07/20/2011	0	Cadmium, Total	ug/l as Cd	<0.11
1st - RY2011	BG-20	02/22/2011	0	Cadmium, Total	ug/l as Cd	0.24
4th - RY2010	BG-20	10/13/2010	0	Cadmium, Total	ug/l as Cd	<0.11
4th - RY2011	BG-20	10/19/2011	0	Calcium, Dissolved	ug/l as Ca	8,520
3rd - RY2011	BG-20	09/14/2011	0	Calcium, Dissolved	ug/l as Ca	7,040
2nd - RY2011	BG-20	07/20/2011	0	Calcium, Total	ug/l as Ca	4,840
1st - RY2011	BG-20	02/22/2011	0	Calcium, Total	ug/l as Ca	9,980
4th -RY2010	BG-20	10/13/2010	0	Calcium, Total	ug/l as Ca	10,400
4th - RY2011	BG-20	10/19/2011	0	Copper, Dissolved	ug/l as Cu	0.4
3rd - RY2011	BG-20	09/14/2011	0	Copper, Dissolved	ug/l as Cu	<0.4
2nd - RY2011	BG-20	07/20/2011	0	Copper, Dissolved	ug/l as Cu	0.77
1st - RY2011	BG-20	02/22/2011	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2010	BG-20	10/13/2010	0	Copper, Dissolved	ug/l as Cu	1.1
4th - RY2011	BG-20	10/19/2011	0	Copper, Total	ug/l as Cu	0.44
3rd - RY2011	BG-20	09/14/2011	0	Copper, Total	ug/l as Cu	<1
2nd - RY2011	BG-20	07/20/2011	0	Copper, Total	ug/l as Cu	0.54
1st - RY2011	BG-20	02/22/2011	0	Copper, Total	ug/l as Cu	<0.71
4th - RY2010	BG-20	10/13/2010	0	Copper, Total	ug/l as Cu	0.83
4th - RY 2011	BG-20	10/19/2011	0	Hardness, Total	mg/l as CaCO3	25.8
3rd - RY2011	BG-20	09/14/2011	0	Hardness, Total	mg/l as CaCO3	21.4
2nd - RY2011	BG-20	07/20/2011	0	Hardness, Total	mg/l as CaCO3	14.7
1st - RY2011	BG-20	02/22/2011	0	Hardness, Total	mg/l as CaCO3	29.8
4th - RY2010	BG-20	10/13/2010	0	Hardness, Total	mg/l as CaCO3	30.5
4th - RY2011	BG-20	10/19/2011	0	Iron, Dissolved	ug/l as Fe	74.4
3rd - RY2011	BG-20	09/14/2011	0	Iron, Dissolved	ug/l as Fe	93.7
4th - RY2011	BG-20	10/19/2011	0	Iron, Total	ug/l as Fe	58.5
3rd - RY2011	BG-20	09/14/2011	0	Iron, Total	ug/l as Fe	<82
4th - RY2011	BG-20	10/19/2011	0	Magnesium, Dissolved	ug/l as Mg	1,090
3rd - RY2011	BG-20	09/14/2011	0	Magnesium, Dissolved	ug/l as Mg	940

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2011	BG-20	07/20/2011	0	Magnesium, Total	ug/l as Mg	623
1st - RY 2011	BG-20	02/22/2011	0	Magnesium, Total	ug/l as Mg	1,190
4th- RY2010	BG-20	10/13/2010	0	Magnesium, Total	ug/l as Mg	1,100
4th - RY2011	BG-20	10/19/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.3
3rd - RY2011	BG-20	09/14/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.1
2nd - RY2011	BG-20	07/20/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.1
1st - RY2011	BG-20	02/22/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.5
4th - RY2010	BG-20	10/13/2010	0	Molybdenum, Dissolved	ug/l as Mo	2.4
4th - RY2011	BG-20	10/19/2011	0	Molybdenum, Total	ug/l as Mo	1.2
3rd - RY2011	BG-20	09/14/2011	0	Molybdenum, Total	ug/l as Mo	1.1
2nd - RY2011	BG-20	07/20/2011	0	Molybdenum, Total	ug/l as Mo	0.83
1st - RY2011	BG-20	02/22/2011	0	Molybdenum, Total	ug/l as Mo	1.6
4th - RY2010	BG-20	10/13/2010	0	Molybdenum, Total	ug/l as Mo	2.2
4th - RY2011	BG-20	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.11
3rd - RY2011	BG-20	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
2nd - RY2011	BG-20	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.57
1st - RY2011	BG-20	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.16
4th - RY2010	BG-20	10/13/2010	0	Nitrate Nitrogen, Total	mg/l as N	0.082
4th - RY2011	BG-20	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
3rd - RY 2011	BG-20	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
2nd - RY2011	BG-20	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	BG-20	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	BG-20	10/13/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	BG-20	10/19/2011	0	Nitrogen Total Organic	mg/L	<0.4
3rd - RY2011	BG-20	09/14/2011	0	Nitrogen Total Organic	mg/L	<0.4
2nd - RY2011	BG-20	07/20/2011	0	Nitrogen Total Organic	mg/L	<0.4
1st - RY2011	BG-20	02/22/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2010	BG-20	10/13/2010	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY 2011	BG-20	10/19/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	BG-20	09/14/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	BG-20	07/20/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2011	BG-20	02/22/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	BG-20	10/13/2010	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	BG-20	10/19/2011	0	Nitrogen,total kjeldahl	mg/l	<0.3
3rd - RY2011	BG-20	09/14/2011	0	Nitrogen,total kjeldahl	mg/l	<0.3
2nd - RY2011	BG-20	07/20/2011	0	Nitrogen,total kjeldahl	mg/l	<0.3
1st - RY2011	BG-20	02/22/2011	0	Nitrogen,total kjeldahl	mg/l	<0.3
4th - RY2010	BG-20	10/13/2010	0	Nitrogen,total kjeldahl	mg/l	<0.3
4th - RY2011	BG-20	10/19/2011	0	pH, Field	Standard Units	7.9
3rd - RY 2011	BG-20	09/14/2011	0	pH, Field	Standard Units	6.3
2nd - RY2011	BG-20	07/20/2011	0	pH, Field	Standard Units	6.7
1st - RY2011	BG-20	02/22/2011	0	pH, Field	Standard Units	6.7
4th - RY2010	BG-20	10/13/2010	0	pH, Field	Standard Units	6.7
4th - RY2011	BG-20	10/19/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	BG-20	09/14/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2011	BG-20	07/20/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st -RY2011	BG-20	02/22/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2010	BG-20	10/13/2010	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	BG-20	10/19/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
3rd - RY2011	BG-20	09/14/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY2011	BG-20	07/20/2011	0	Selenium, Dissolved	ug/l as Se	1.7
1st - RY2011	BG-20	02/22/2011	0	Selenium, Dissolved	ug/l as Se	0.22
4th - RY2010	BG-20	10/13/2010	0	Selenium, Dissolved	ug/l as Se	0.67
4th - RY2011	BG-20	10/19/2011	0	Selenium, Total	ug/l as Se	<0.64
3rd - RY2011	BG-20	09/14/2011	0	Selenium, Total	ug/l as Se	<1.6
2nd - RY2011	BG-20	07/20/2011	0	Selenium, Total	ug/l as Se	0.77

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
1st - RY2011	BG-20	02/22/2011	0	Selenium, Total	ug/l as Se	0.75
4th - RY2010	BG-20	10/13/2010	0	Selenium, Total	ug/l as Se	<0.19
4th - RY2011	BG-20	10/19/2011	0	Sulfate, Total	mg/l as SO4	12.5
3rd - RY 2011	BG-20	09/14/2011	0	Sulfate, Total	mg/l as SO4	10.4
2nd - RY2011	BG-20	07/20/2011	0	Sulfate, Total	mg/l as SO4	6.2
4th - RY2011	BG-20	10/19/2011	0	Temperature, Water	°C	0.1
3rd - RY2011	BG-20	09/14/2011	0	Temperature, Water	°C	4.9
2nd - RY2011	BG-20	07/20/2011	0	Temperature, Water	°C	6.8
1st - RY2011	BG-20	02/22/2011	0	Temperature, Water	°C	0.2
4th - RY2010	BG-20	10/13/2010	0	Temperature, Water	°C	1.8
4th - RY2011	BG-20	10/19/2011	0	Temperature, Water	°F	32.2
3rd - RY2011	BG-20	09/14/2011	0	Temperature, Water	°F	40.8
2nd - RY2011	BG-20	07/20/2011	0	Temperature, Water	°F	44.2
4th - RY2011	BG-20	10/19/2011	0	Uranium Total	ug/L	0.91
3rd - RY2011	BG-20	09/14/2011	0	Uranium Total	ug/L	0.82
2nd - RY2011	BG-20	07/20/2011	0	Uranium Total	ug/L	0.84
1st - RY2011	BG-20	02/22/2011	0	Uranium Total	ug/L	0.77
4th - RY2010	BG-20	10/13/2010	0	Uranium Total	ug/L	0.91
4th - RY2011	BG-20	10/19/2011	0	Uranium, Natural, Dissolved	ug/L	0.71
3rd - RY2011	BG-20	09/14/2011	0	Uranium, Natural, Dissolved	ug/L	0.64
2nd - RY2011	BG-20	07/20/2011	0	Uranium, Natural, Dissolved	ug/L	0.79
1st - RY2011	BG-20	02/22/2011	0	Uranium, Natural, Dissolved	ug/L	0.63
4th - RY2010	BG-20	10/13/2010	0	Uranium, Natural, Dissolved	ug/L	0.71

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	CC-10	10/19/2011	0	Aluminum, Dissolved	ug/l as Al	28.1
3rd - RY2011	CC-10	09/14/2011	0	Aluminum, Dissolved	ug/l as Al	17.8
2nd - RY2011	CC-10	07/20/2011	0	Aluminum, Dissolved	ug/l as Al	37.8
1st - RY2011	CC-10	02/22/2011	0	Aluminum, Dissolved	ug/l as Al	30.6
4th - RY2010	CC-10	10/13/2010	0	Aluminum, Dissolved	ug/l as Al	34.8
4th - RY2011	CC-10	10/19/2011	0	Aluminum, Total	ug/l as Al	30.1
3rd - RY2011	CC-10	09/14/2011	0	Aluminum, Total	ug/l as Al	25.4
2nd - RY2011	CC-10	07/20/2011	0	Aluminum, Total	ug/l as Al	72.7
1st - RY2011	CC-10	02/22/2011	0	Aluminum, Total	ug/l as Al	33.7
4th - RY2010	CC-10	10/13/2010	0	Aluminum, Total	ug/l as Al	330
4th - RY2011	CC-10	10/19/2011	0	Arsenic, Dissolved	ug/l as As	0.68
3rd - RY2011	CC-10	09/14/2011	0	Arsenic, Dissolved	ug/l as As	0.69
2nd - RY2011	CC-10	07/20/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2011	CC-10	02/22/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2010	CC-10	10/13/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2011	CC-10	10/19/2011	0	Arsenic, Total	ug/l as As	<0.38
3rd - RY2011	CC-10	09/14/2011	0	Arsenic, Total	ug/l as As	0.44
2nd - RY2011	CC-10	07/20/2011	0	Arsenic, Total	ug/l as As	<0.38
1st - RY2011	CC-10	02/22/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2010	CC-10	10/13/2010	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2011	CC-10	10/19/2011	0	Cadmium, Dissolved	ug/l as Cd	0.29
3rd - RY2011	CC-10	09/14/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
2nd - RY2011	CC-10	07/20/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2011	CC-10	02/22/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2010	CC-10	10/13/2010	0	Cadmium, Dissolved	ug/l as Cd	0.14
4th - RY2011	CC-10	10/19/2011	0	Cadmium, Total	ug/l as Cd	0.3
3rd - RY2011	CC-10	09/14/2011	0	Cadmium, Total	ug/l as Cd	<0.11
2nd - RY2011	CC-10	07/20/2011	0	Cadmium, Total	ug/l as Cd	<0.11
1st - RY2011	CC-10	02/22/2011	0	Cadmium, Total	ug/l as Cd	0.29
4th - RY2010	CC-10	10/13/2010	0	Cadmium, Total	ug/l as Cd	0.19
4th - RY2011	CC-10	10/19/2011	0	Calcium, Dissolved	ug/l as Ca	6,110
3rd - RY2011	CC-10	09/14/2011	0	Calcium, Dissolved	ug/l as Ca	4,870
2nd - RY2011	CC-10	07/20/2011	0	Calcium, Total	ug/l as Ca	2,480
1st - RY2011	CC-10	02/22/2011	0	Calcium, Total	ug/l as Ca	8,650
4th - RY2010	CC-10	10/13/2010	0	Calcium, Total	ug/l as Ca	8,000
4th - RY2011	CC-10	10/19/2011	0	Copper, Dissolved	ug/l as Cu	2.2
3rd - RY2011	CC-10	09/14/2011	0	Copper, Dissolved	ug/l as Cu	1.2
2nd - RY2011	CC-10	07/20/2011	0	Copper, Dissolved	ug/l as Cu	1.3
1st - RY2011	CC-10	02/22/2011	0	Copper, Dissolved	ug/l as Cu	2.3
4th - RY2010	CC-10	10/13/2010	0	Copper, Dissolved	ug/l as Cu	4.7
4th - RY2011	CC-10	10/19/2011	0	Copper, Total	ug/l as Cu	2.5
3rd - RY2011	CC-10	09/14/2011	0	Copper, Total	ug/l as Cu	8
2nd - RY2011	CC-10	07/20/2011	0	Copper, Total	ug/l as Cu	1.3
1st - RY2011	CC-10	02/22/2011	0	Copper, Total	ug/l as Cu	2.4
4th - RY2010	CC-10	10/13/2010	0	Copper, Total	ug/l as Cu	14.2
4th - RY2011	CC-10	10/19/2011	0	Hardness, Total	mg/l as CaCO3	19.5
3rd - RY2011	CC-10	09/14/2011	0	Hardness, Total	mg/l as CaCO3	15.3
2nd - RY2011	CC-10	07/20/2011	0	Hardness, Total	mg/l as CaCO4	8
1st - RY2011	CC-10	02/22/2011	0	Hardness, Total	mg/l as CaCO5	26.9
4th - RY2010	CC-10	10/13/2010	0	Hardness, Total	mg/l as CaCO6	24.6
4th - RY2011	CC-10	10/19/2011	0	Iron, Dissolved	ug/l as Fe	144
3rd - RY2011	CC-10	09/14/2011	0	Iron, Dissolved	ug/l as Fe	51.1
4th - RY2011	CC-10	10/19/2011	0	Iron, Total	ug/l as Fe	125
3rd - RY2011	CC-10	09/14/2011	0	Iron, Total	ug/l as Fe	79.4

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2011	CC-10	07/20/2011	0	Iron, Total	ug/l as Fe	109
1st - RY2011	CC-10	02/22/2011	0	Iron, Total	ug/l as Fe	167
4th - RY2010	CC-10	10/13/2010	0	Iron, Total	ug/l as Fe	1,360
4th - RY2011	CC-10	10/19/2011	0	Lead, Dissolved	ug/l as Pb	0.25
3rd - RY2011	CC-10	09/14/2011	0	Lead, Dissolved	ug/l as Pb	0.16
2nd - RY2011	CC-10	07/20/2011	0	Lead, Dissolved	ug/l as Pb	0.22
1st - RY2011	CC-10	02/22/2011	0	Lead, Dissolved	ug/l as Pb	0.37
4th - RY2010	CC-10	10/13/2010	0	Lead, Dissolved	ug/l as Pb	0.3
4th - RY2011	CC-10	10/19/2011	0	Magnesium, Dissolved	ug/l as Mg	1,030
3rd - RY2011	CC-10	09/14/2011	0	Magnesium, Dissolved	ug/l as Mg	755
2nd - RY2011	CC-10	07/20/2011	0	Magnesium, Total	ug/l as Mg	441
1st - RY2011	CC-10	02/22/2011	0	Magnesium, Total	ug/l as Mg	1,290
4th - RY2010	CC-10	10/13/2010	0	Magnesium, Total	ug/l as Mg	1,130
4th -RY2011	CC-10	10/19/2011	0	Manganese, Dissolved	ug/l as Mn	20.1
3rd - RY 2011	CC-10	09/14/2011	0	Manganese, Dissolved	ug/l as Mn	6.9
2nd - RY2011	CC-10	07/20/2011	0	Manganese, Dissolved	ug/l as Mn	23.5
1st - RY 2011	CC-10	02/22/2011	0	Manganese, Dissolved	ug/l as Mn	2.5
4th - RY 2010	CC-10	10/13/2010	0	Manganese, Dissolved	ug/l as Mn	52.4
4th- RY2011	CC-10	10/19/2011	0	Mercury, Total	ug/l as Hg	0.071
3rd - RY2011	CC-10	09/14/2011	0	Mercury, Total	ug/l as Hg	<0.014
2nd - RY2011	CC-10	07/20/2011	0	Mercury, Total	ug/l as Hg	<0.014
1st - RY2011	CC-10	02/22/2011	0	Mercury, Total	ug/l as Hg	0.025
4th - RY2010	CC-10	10/13/2010	0	Mercury, Total	ug/l as Hg	<0.014
4th - RY2011	CC-10	10/19/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.43
3rd - RY2011	CC-10	09/14/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.36
2nd - RY2011	CC-10	07/20/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.38
1st - RY2011	CC-10	02/22/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.49
4th - RY2010	CC-10	10/13/2010	0	Molybdenum, Dissolved	ug/l as Mo	0.63
4th - RY2011	CC-10	10/19/2011	0	Molybdenum, Total	ug/l as Mo	0.35
3rd - RY2011	CC-10	09/14/2011	0	Molybdenum, Total	ug/l as Mo	0.39
2nd - RY2011	CC-10	07/20/2011	0	Molybdenum, Total	ug/l as Mo	0.35
1st - RY2011	CC-10	02/22/2011	0	Molybdenum, Total	ug/l as Mo	0.57
4th - RY2010	CC-10	10/13/2010	0	Molybdenum, Total	ug/l as Mo	0.72
4th - RY2011	CC-10	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
3rd - RY2011	CC-10	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
2nd - RY2011	CC-10	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
1st - RY2011	CC-10	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.066
4th - RY2010	CC-10	10/13/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
4th - RY2011	CC-10	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	CC-10	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
2nd - RY2011	CC-10	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	CC-10	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	CC-10	10/13/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	CC-10	10/19/2011	0	Nitrogen Total Organic	mg/L	<0.4
3rd - RY2011	CC-10	09/14/2011	0	Nitrogen Total Organic	mg/L	<0.4
2nd - RY 2011	CC-10	07/20/2011	0	Nitrogen Total Organic	mg/L	<0.4
1st - RY2011	CC-10	02/22/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2010	CC-10	10/13/2010	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	CC-10	10/19/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	CC-10	09/14/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	CC-10	07/20/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2011	CC-10	02/22/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	CC-10	10/13/2010	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	CC-10	10/19/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
3rd - RY2011	CC-10	09/14/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
2nd - RY2011	CC-10	07/20/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
1st - RY2011	CC-10	02/22/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2010	CC-10	10/13/2010	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY 2011	CC-10	10/19/2011	0	pH, Field	Standard Units	6.8
3rd - RY2011	CC-10	09/14/2011	0	pH, Field	Standard Units	6.6
2nd - RY2011	CC-10	07/20/2011	0	pH, Field	Standard Units	6.1
1st - RY2011	CC-10	02/22/2011	0	pH, Field	Standard Units	6.7
4th - RY2010	CC-10	10/13/2010	0	pH, Field	Standard Units	6.5
4th - RY2011	CC-10	10/19/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	CC-10	09/14/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2011	CC-10	07/20/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st - RY2011	CC-10	02/22/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2010	CC-10	10/13/2010	0	Phosphate, Ortho	mg/l as PO4	0.1
4th - RY2011	CC-10	10/19/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
3rd - RY2011	CC-10	09/14/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY2011	CC-10	07/20/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
1st - RY2011	CC-10	02/22/2011	0	Selenium, Dissolved	ug/l as Se	<0.19
4th - RY2010	CC-10	10/13/2010	0	Selenium, Dissolved	ug/l as Se	0.19
4th - RY2011	CC-10	10/19/2011	0	Selenium, Total	ug/l as Se	<0.64
3rd - RY2011	CC-10	09/14/2011	0	Selenium, Total	ug/l as Se	<0.64
2nd - RY2011	CC-10	07/20/2011	0	Selenium, Total	ug/l as Se	<0.64
1st - RY2011	CC-10	02/22/2011	0	Selenium, Total	ug/l as Se	0.22
4th - RY2010	CC-10	10/13/2010	0	Selenium, Total	ug/l as Se	0.19
4th - RY2011	CC-10	10/19/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
3rd - RY2011	CC-10	09/14/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
2nd - RY2011	CC-10	07/20/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY2011	CC-10	02/22/2011	0	Silver, Dissolved	ug/l as Ag	<0.0034
4th - RY2010	CC-10	10/13/2010	0	Silver, Dissolved	ug/l as Ag	0.018
4th - RY2011	CC-10	10/19/2011	0	Sulfate, Total	mg/l as SO4	6.6
3rd - RY2011	CC-10	09/14/2011	0	Sulfate, Total	mg/l as SO4	4.5
2nd - RY2011	CC-10	07/20/2011	0	Sulfate, Total	mg/l as SO4	2.1
4th - RY 2011	CC-10	10/19/2011	0	Temperature, Water	^{o}C	0.1
3rd - RY2011	CC-10	09/14/2011	0	Temperature, Water	^{o}C	5.5
2nd - RY2011	CC-10	07/20/2011	0	Temperature, Water	^{o}C	6.2
1st - RY2011	CC-10	02/22/2011	0	Temperature, Water	^{o}C	1
4th - RY2010	CC-10	10/13/2010	0	Temperature, Water	^{o}C	2.2
4th - RY2011	CC-10	10/19/2011	0	Temperature, Water	^{o}F	32.2
3rd - RY2011	CC-10	09/14/2011	0	Temperature, Water	^{o}F	41.9
2nd - RY2011	CC-10	07/20/2011	0	Temperature, Water	^{o}F	43.2
4th - RY2011	CC-10	10/19/2011	0	Uranium Total	ug/L	0.76
3rd - RY2011	CC-10	09/14/2011	0	Uranium Total	ug/L	0.48
2nd - RY2011	CC-10	07/20/2011	0	Uranium Total	ug/L	0.39
1st - RY2011	CC-10	02/22/2011	0	Uranium Total	ug/L	1.6
4th - RY2010	CC-10	10/13/2010	0	Uranium Total	ug/L	1.1
4th - RY2011	CC-10	10/19/2011	0	Uranium, Natural, Dissolved	ug/L	0.7
3rd - RY2011	CC-10	09/14/2011	0	Uranium, Natural, Dissolved	ug/L	0.48
2nd - RY2011	CC-10	07/20/2011	0	Uranium, Natural, Dissolved	ug/L	0.97
1st - RY2011	CC-10	02/22/2011	0	Uranium, Natural, Dissolved	ug/L	1.4
4th - RY2010	CC-10	10/13/2010	0	Uranium, Natural, Dissolved	ug/L	0.46
4th - RY2011	CC-10	10/19/2011	0	Zinc, Dissolved	ug/l as Zn	31.2

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2011	CC-10	09/14/2011	0	Zinc, Dissolved	ug/l as Zn	17.7
2nd - RY2011	CC-10	07/20/2011	0	Zinc, Dissolved	ug/l as Zn	12.3
1st - RY2011	CC-10	02/22/2011	0	Zinc, Dissolved	ug/l as Zn	39.4
4th - RY2010	CC-10	10/13/2010	0	Zinc, Dissolved	ug/l as Zn	61.1

Appendix B

Existing Network - 5 Quarters of Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	CC-30	10/19/2011	0	Aluminum, Dissolved	ug/l as Al	43.6
4th - RY2011	CC-30	10/19/2011	1	Aluminum, Dissolved	ug/l as Al	42
3rd - RY2011	CC-30	09/14/2011	0	Aluminum, Dissolved	ug/l as Al	68
2nd - RY2011	CC-30	07/20/2011	0	Aluminum, Dissolved	ug/l as Al	118
1st - RY2011	CC-30	02/22/2011	0	Aluminum, Dissolved	ug/l as Al	20.5
4th - RY2010	CC-30	10/13/2011	0	Aluminum, Dissolved	ug/l as Al	28
4th - RY2011	CC-30	10/19/2011	0	Aluminum, Total	ug/l as Al	60.5
4th - RY2011	CC-30	10/19/2011	1	Aluminum, Total	ug/l as Al	63.9
3rd - RY2011	CC-30	09/14/2011	0	Aluminum, Total	ug/l as Al	107
2nd - RY2011	CC-30	07/20/2011	0	Aluminum, Total	ug/l as Al	181
1st - RY2011	CC-30	02/22/2011	0	Aluminum, Total	ug/l as Al	53.3
4th - RY2010	CC-30	10/13/2011	0	Aluminum, Total	ug/l as Al	45.4
4th - RY2011	CC-30	10/19/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
4th - RY2011	CC-30	10/19/2011	1	Arsenic, Dissolved	ug/l as As	0.81
3rd - RY2011	CC-30	09/14/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
2nd - RY2011	CC-30	07/20/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
1st - RY2011	CC-30	02/22/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2010	CC-30	10/13/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2011	CC-30	10/19/2011	0	Arsenic, Total	ug/l as As	0.49
4th - RY2011	CC-30	10/19/2011	1	Arsenic, Total	ug/l as As	0.39
3rd - RY2011	CC-30	09/14/2011	0	Arsenic, Total	ug/l as As	<0.38
2nd - RY2011	CC-30	07/20/2011	0	Arsenic, Total	ug/l as As	<0.38
1st - RY2011	CC-30	02/22/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2010	CC-30	10/13/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2011	CC-30	10/19/2011	0	Cadmium, Dissolved	ug/l as Cd	0.33
4th - RY2011	CC-30	10/19/2011	1	Cadmium, Dissolved	ug/l as Cd	0.27
3rd - RY2011	CC-30	09/14/2011	0	Cadmium, Dissolved	ug/l as Cd	0.14
2nd - RY2011	CC-30	07/20/2011	0	Cadmium, Dissolved	ug/l as Cd	0.15
1st - RY2011	CC-30	02/22/2011	0	Cadmium, Dissolved	ug/l as Cd	0.11
4th - RY2010	CC-30	10/13/2011	0	Cadmium, Dissolved	ug/l as Cd	0.2
4th - RY2011	CC-30	10/19/2011	0	Cadmium, Total	ug/l as Cd	0.37
4th - RY2011	CC-30	10/19/2011	1	Cadmium, Total	ug/l as Cd	0.34
3rd - RY2011	CC-30	09/14/2011	0	Cadmium, Total	ug/l as Cd	0.31
2nd - RY2011	CC-30	07/20/2011	0	Cadmium, Total	ug/l as Cd	0.18
1st - RY2011	CC-30	02/22/2011	0	Cadmium, Total	ug/l as Cd	0.31
4th - RY2010	CC-30	10/13/2011	0	Cadmium, Total	ug/l as Cd	0.15
4th - RY2011	CC-30	10/19/2011	0	Calcium, Dissolved	ug/l as Ca	11,600
4th - RY2011	CC-30	10/19/2011	1	Calcium, Dissolved	ug/l as Ca	11,500
3rd - RY2011	CC-30	09/14/2011	0	Calcium, Dissolved	ug/l as Ca	9,530
2nd - RY2011	CC-30	07/20/2011	0	Calcium, Total	ug/l as Ca	4,210
1st - RY2011	CC-30	02/22/2011	0	Calcium, Total	ug/l as Ca	16,700
4th - RY2010	CC-30	10/13/2011	0	Calcium, Total	ug/l as Ca	17,300
4th - RY2011	CC-30	10/19/2011	0	Copper, Dissolved	ug/l as Cu	1.1
4th - RY2011	CC-30	10/19/2011	1	Copper, Dissolved	ug/l as Cu	1.3
3rd - RY2011	CC-30	09/14/2011	0	Copper, Dissolved	ug/l as Cu	0.9
2nd - RY2011	CC-30	07/20/2011	0	Copper, Dissolved	ug/l as Cu	1.8
1st - RY2011	CC-30	02/22/2011	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2010	CC-30	10/13/2011	0	Copper, Dissolved	ug/l as Cu	1.1
4th - RY2011	CC-30	10/19/2011	0	Copper, Total	ug/l as Cu	1.4
4th - RY2011	CC-30	10/19/2011	1	Copper, Total	ug/l as Cu	1.1
3rd - RY2011	CC-30	09/14/2011	0	Copper, Total	ug/l as Cu	1.4
2nd - RY2011	CC-30	07/20/2011	0	Copper, Total	ug/l as Cu	1.5
1st - RY2011	CC-30	02/22/2011	0	Copper, Total	ug/l as Cu	0.9
4th - RY2010	CC-30	10/13/2011	0	Copper, Total	ug/l as Cu	1.4
4th - RY2011	CC-30	10/19/2011	0	Hardness, Total	mg/l as CaCO3	34.9

Appendix B

Existing Network - 5 Quarters of Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	CC-30	10/19/2011	1	Hardness, Total	mg/l as CaCO3	34.5
3rd - RY2011	CC-30	09/14/2011	0	Hardness, Total	mg/l as CaCO3	28.4
2nd - RY2011	CC-30	07/20/2011	0	Hardness, Total	mg/l as CaCO3	12.9
1st - RY2011	CC-30	02/22/2011	0	Hardness, Total	mg/l as CaCO3	49.7
4th - RY2010	CC-30	10/13/2011	0	Hardness, Total	mg/l as CaCO3	50
4th - RY2011	CC-30	10/19/2011	0	Iron, Dissolved	ug/l as Fe	112
4th - RY2011	CC-30	10/19/2011	1	Iron, Dissolved	ug/l as Fe	111
3rd - RY2011	CC-30	09/14/2011	0	Iron, Dissolved	ug/l as Fe	59
4th - RY2011	CC-30	10/19/2011	0	Iron, Total	ug/l as Fe	94
4th - RY2011	CC-30	10/19/2011	1	Iron, Total	ug/l as Fe	84
3rd - RY2011	CC-30	09/14/2011	0	Iron, Total	ug/l as Fe	167
2nd - RY2011	CC-30	07/20/2011	0	Iron, Total	ug/l as Fe	80.4
1st - RY2011	CC-30	02/22/2011	0	Iron, Total	ug/l as Fe	95.5
4th - RY2010	CC-30	10/13/2011	0	Iron, Total	ug/l as Fe	144
4th - RY2011	CC-30	10/19/2011	0	Lead, Dissolved	ug/l as Pb	<0.092
4th - RY2011	CC-30	10/19/2011	1	Lead, Dissolved	ug/l as Pb	0.1
3rd - RY2011	CC-30	09/14/2011	0	Lead, Dissolved	ug/l as Pb	0.12
2nd - RY2011	CC-30	07/20/2011	0	Lead, Dissolved	ug/l as Pb	0.26
1st - RY2011	CC-30	02/22/2011	0	Lead, Dissolved	ug/l as Pb	<0.078
4th - RY2010	CC-30	10/13/2011	0	Lead, Dissolved	ug/l as Pb	0.54
4th - RY2011	CC-30	10/19/2011	0	Magnesium, Dissolved	ug/l as Mg	1,450
4th - RY2011	CC-30	10/19/2011	1	Magnesium, Dissolved	ug/l as Mg	1,400
3rd - RY2011	CC-30	09/14/2011	0	Magnesium, Dissolved	ug/l as Mg	1,130
2nd - RY2011	CC-30	07/20/2011	0	Magnesium, Total	ug/l as Mg	578
1st - RY2011	CC-30	02/22/2011	0	Magnesium, Total	ug/l as Mg	1,950
4th - RY2010	CC-30	10/13/2011	0	Magnesium, Total	ug/l as Mg	1,660
4th - RY2011	CC-30	10/19/2011	0	Manganese, Dissolved	ug/l as Mn	153
4th - RY2011	CC-30	10/19/2011	1	Manganese, Dissolved	ug/l as Mn	150
3rd - RY2011	CC-30	09/14/2011	0	Manganese, Dissolved	ug/l as Mn	199
2nd - RY2011	CC-30	07/20/2011	0	Manganese, Dissolved	ug/l as Mn	82.4
1st - RY2011	CC-30	02/22/2011	0	Manganese, Dissolved	ug/l as Mn	161
4th - RY2010	CC-30	10/13/2011	0	Manganese, Dissolved	ug/l as Mn	225
4th - RY2011	CC-30	10/19/2011	0	Mercury, Total	ug/l as Hg	0.067
4th - RY2011	CC-30	10/19/2011	1	Mercury, Total	ug/l as Hg	0.068
3rd - RY2011	CC-30	09/14/2011	0	Mercury, Total	ug/l as Hg	<0.014
2nd - RY2011	CC-30	07/20/2011	0	Mercury, Total	ug/l as Hg	<0.014
1st - RY2011	CC-30	02/22/2011	0	Mercury, Total	ug/l as Hg	0.019
4th - RY2010	CC-30	10/13/2011	0	Mercury, Total	ug/l as Hg	<0.014
4th - RY2011	CC-30	10/19/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.2
4th - RY2011	CC-30	10/19/2011	1	Molybdenum, Dissolved	ug/l as Mo	1.2
3rd - RY2011	CC-30	09/14/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.2
2nd - RY2011	CC-30	07/20/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.71
1st - RY2011	CC-30	02/22/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.2
4th - RY2010	CC-30	10/13/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.8
4th - RY2011	CC-30	10/19/2011	0	Molybdenum, Total	ug/l as Mo	1.2
4th - RY2011	CC-30	10/19/2011	1	Molybdenum, Total	ug/l as Mo	1.2
3rd - RY2011	CC-30	09/14/2011	0	Molybdenum, Total	ug/l as Mo	1.1
2nd - RY2011	CC-30	07/20/2011	0	Molybdenum, Total	ug/l as Mo	0.89
1st - RY2011	CC-30	02/22/2011	0	Molybdenum, Total	ug/l as Mo	1.2
4th - RY2010	CC-30	10/13/2011	0	Molybdenum, Total	ug/l as Mo	1.7
4th - RY2011	CC-30	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.085
4th - RY2011	CC-30	10/19/2011	1	Nitrate Nitrogen, Total	mg/l as N	0.53
3rd - RY2011	CC-30	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
2nd - RY2011	CC-30	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.1
1st - RY2011	CC-30	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.13

Appendix B

Existing Network - 5 Quarters of Groundwater Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2010	CC-30	10/13/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.06
4th - RY2011	CC-30	10/19/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	CC-30	10/19/2011	1	Nitrate Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	CC-30	09/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
2nd - RY2011	CC-30	07/20/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	CC-30	02/22/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	CC-30	10/13/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	CC-30	10/19/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	CC-30	10/19/2011	1	Nitrogen Total Organic	mg/L	<0.4
3rd - RY2011	CC-30	09/14/2011	0	Nitrogen Total Organic	mg/L	<0.4
2nd - RY2011	CC-30	07/20/2011	0	Nitrogen Total Organic	mg/L	<0.4
1st - RY2011	CC-30	02/22/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2010	CC-30	10/13/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	CC-30	10/19/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	CC-30	10/19/2011	1	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	CC-30	09/14/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	CC-30	07/20/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2011	CC-30	02/22/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	CC-30	10/13/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	CC-30	10/19/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2011	CC-30	10/19/2011	1	Nitrogen,total kjeldahl	mg/L	<0.3
3rd - RY2011	CC-30	09/14/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
2nd - RY2011	CC-30	07/20/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
1st - RY2011	CC-30	02/22/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY 2010	CC-30	10/13/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2011	CC-30	10/19/2011	0	pH, Field	Standard Units	7.2
3rd - RY2011	CC-30	09/14/2011	0	pH, Field	Standard Units	7.4
1st - RY2011	CC-30	02/22/2011	0	pH, Field	Standard Units	6.4
4th - RY2011	CC-30	10/19/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	CC-30	10/19/2011	1	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	CC-30	09/14/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2011	CC-30	07/20/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st - RY 2011	CC-30	02/22/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2010	CC-30	10/13/2011	0	Phosphate, Ortho	mg/l as PO4	0.17
4th - RY2011	CC-30	10/19/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
4th - RY2011	CC-30	10/19/2011	1	Selenium, Dissolved	ug/l as Se	<0.64
3rd - RY2011	CC-30	09/14/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY2011	CC-30	07/20/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
1st - RY2011	CC-30	02/22/2011	0	Selenium, Dissolved	ug/l as Se	<0.19
4th - RY2010	CC-30	10/13/2011	0	Selenium, Dissolved	ug/l as Se	0.36
4th - RY2011	CC-30	10/19/2011	0	Selenium, Total	ug/l as Se	<0.64
4th - RY2011	CC-30	10/19/2011	1	Selenium, Total	ug/l as Se	<0.64
3rd - RY2011	CC-30	09/14/2011	0	Selenium, Total	ug/l as Se	<0.64
2nd - RY2011	CC-30	07/20/2011	0	Selenium, Total	ug/l as Se	<0.64
1st - RY2011	CC-30	02/22/2011	0	Selenium, Total	ug/l as Se	<0.19
4th - RY2010	CC-30	10/13/2011	0	Selenium, Total	ug/l as Se	<0.19
4th - RY2011	CC-30	10/19/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
4th - RY2011	CC-30	10/19/2011	1	Silver, Dissolved	ug/l as Ag	<0.1
3rd - RY2011	CC-30	09/14/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
2nd - RY2011	CC-30	07/20/2011	0	Silver, Dissolved	ug/l as Ag	<0.1
1st - RY2011	CC-30	02/22/2011	0	Silver, Dissolved	ug/l as Ag	<0.0034
4th - RY 2010	CC-30	10/13/2011	0	Silver, Dissolved	ug/l as Ag	0.024
4th - RY 2011	CC-30	10/19/2011	0	Sulfate, Total	mg/l as SO4	16.8
4th - RY2011	CC-30	10/19/2011	1	Sulfate, Total	mg/l as SO4	16.8
3rd - RY2011	CC-30	09/14/2011	0	Sulfate, Total	mg/l as SO4	15.1

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2011	CC-30	07/20/2011	0	Sulfate, Total	mg/l as SO4	6.1
4th - RY2011	CC-30	10/19/2011	0	Temperature, Water	°C	1.1
3rd - RY2011	CC-30	09/14/2011	0	Temperature, Water	°C	7.2
1st - RY2011	CC-30	02/22/2011	0	Temperature, Water	°C	1
4th - RY2010	CC-30	10/13/2011	0	Temperature, Water	°C	3
4th - RY2011	CC-30	10/19/2011	0	Temperature, Water	°F	34
3rd - RY2011	CC-30	09/14/2011	0	Temperature, Water	°F	45
4th - RY2011	CC-30	10/19/2011	0	Uranium Total	ug/L	1
4th - RY2011	CC-30	10/19/2011	1	Uranium Total	ug/L	1
3rd - RY2011	CC-30	09/14/2011	0	Uranium Total	ug/L	0.86
2nd - RY2011	CC-30	07/20/2011	0	Uranium Total	ug/L	0.64
1st - RY2011	CC-30	02/22/2011	0	Uranium Total	ug/L	0.99
4th - RY 2010	CC-30	10/13/2011	0	Uranium Total	ug/L	1
4th - RY2011	CC-30	10/19/2011	0	Uranium, Natural, Dissolved	ug/L	0.88
4th - RY2011	CC-30	10/19/2011	1	Uranium, Natural, Dissolved	ug/L	0.86
3rd - RY2011	CC-30	09/14/2011	0	Uranium, Natural, Dissolved	ug/L	0.79
2nd - RY2011	CC-30	07/20/2011	0	Uranium, Natural, Dissolved	ug/L	0.58
1st - RY2011	CC-30	02/22/2011	0	Uranium, Natural, Dissolved	ug/L	0.84
4th - RY2010	CC-30	10/13/2011	0	Uranium, Natural, Dissolved	ug/L	0.85
4th - RY2011	CC-30	10/19/2011	0	Zinc, Dissolved	ug/l as Zn	55.8
4th - RY2011	CC-30	10/19/2011	1	Zinc, Dissolved	ug/l as Zn	54.2
3rd - RY2011	CC-30	09/14/2011	0	Zinc, Dissolved	ug/l as Zn	49.7
2nd - RY2011	CC-30	07/20/2011	0	Zinc, Dissolved	ug/l as Zn	38.9
1st - RY2011	CC-30	02/22/2011	0	Zinc, Dissolved	ug/l as Zn	59.8
4th- RY2010	CC-30	10/13/2011	0	Zinc, Dissolved	ug/l as Zn	70.7

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	WFR-20	10/25/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
3rd - RY2011	WFR-20	08/16/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
2nd - RY2011	WFR-20	06/14/2011	0	Aluminum, Dissolved	ug/l as Al	67
1st - RY2011	WFR-20	02/15/2011	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2010	WFR-20	10/19/2010	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2011	WFR-20	10/25/2011	0	Aluminum, Total	ug/l as Al	13
3rd - RY2011	WFR-20	08/16/2011	0	Aluminum, Total	ug/l as Al	65.5
2nd - RY2011	WFR-20	06/14/2011	0	Aluminum, Total	ug/l as Al	201
1st - RY2011	WFR-20	02/15/2011	0	Aluminum, Total	ug/l as Al	<11
4th - RY2010	WFR-20	10/19/2010	0	Aluminum, Total	ug/l as Al	22.8
4th - RY2011	WFR-20	10/25/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
3rd - RY2011	WFR-20	08/16/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
2nd - RY2011	WFR-20	06/14/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
1st - RY2011	WFR-20	02/15/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2010	WFR-20	10/19/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2011	WFR-20	10/25/2011	0	Arsenic, Total	ug/l as As	<0.38
3rd - RY2011	WFR-20	08/16/2011	0	Arsenic, Total	ug/l as As	<0.38
2nd - RY2011	WFR-20	06/14/2011	0	Arsenic, Total	ug/l as As	<0.62
1st - RY2011	WFR-20	02/15/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2010	WFR-20	10/19/2010	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2011	WFR-20	10/25/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
3rd - RY2011	WFR-20	08/16/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
2nd - RY2011	WFR-20	06/14/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2011	WFR-20	02/15/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2010	WFR-20	10/19/2010	0	Cadmium, Dissolved	ug/l as Cd	0.15
4th - RY2011	WFR-20	10/25/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	0.13
3rd - RY2011	WFR-20	08/16/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
2nd - RY2011	WFR-20	06/14/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
4th - RY2011	WFR-20	10/25/2011	0	Cadmium, Total	ug/l as Cd	0.15
3rd - RY2011	WFR-20	08/16/2011	0	Cadmium, Total (ug/l as Cd)	ug/l as Cd	0.33
2nd - RY2011	WFR-20	06/14/2011	0	Cadmium, Total (ug/l as Cd)	ug/l as Cd	<0.11
1st - RY2011	WFR-20	02/15/2011	0	Cadmium, Total (ug/l as Cd)	ug/l as Cd	<0.11
4th - RY2010	WFR-20	10/19/2010	0	Cadmium, Total (ug/l as Cd)	ug/l as Cd	0.14
4th - RY2011	WFR-20	10/25/2011	0	Calcium, Total	ug/l as Ca	10,100
3rd - RY2011	WFR-20	08/16/2011	0	Calcium, Total	ug/l as Ca	9,470
2nd - RY2011	WFR-20	06/14/2011	0	Calcium, Total	ug/l as Ca	5,500
1st - RY2011	WFR-20	02/15/2011	0	Calcium, Total	ug/l as Ca	11,500
4th - RY2010	WFR-20	10/19/2010	0	Calcium, Total	ug/l as Ca	12,200
4th - RY2011	WFR-20	10/25/2011	0	Copper, Dissolved	ug/l as Cu	0.58
3rd - RY2011	WFR-20	08/16/2011	0	Copper, Dissolved	ug/l as Cu	0.64
2nd - RY2011	WFR-20	06/14/2011	0	Copper, Dissolved	ug/l as Cu	0.94
1st - RY2011	WFR-20	02/15/2011	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2010	WFR-20	10/19/2010	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2011	WFR-20	10/25/2011	0	Copper, Potentially Dissolved	ug/l as Cu	0.62
3rd - RY2011	WFR-20	08/16/2011	0	Copper, Potentially Dissolved	ug/l as Cu	0.63
2nd - RY2011	WFR-20	06/14/2011	0	Copper, Potentially Dissolved	ug/l as Cu	0.91
4th - RY2011	WFR-20	10/25/2011	0	Copper, Total	ug/l as Cu	0.59
3rd - RY2011	WFR-20	08/16/2011	0	Copper, Total	ug/l as Cu	0.81
2nd - RY2011	WFR-20	06/14/2011	0	Copper, Total	ug/l as Cu	1.1
1st - RY2011	WFR-20	02/15/2011	0	Copper, Total	ug/l as Cu	<0.71
4th - RY2010	WFR-20	10/19/2010	0	Copper, Total	ug/l as Cu	<0.71
4th - RY2011	WFR-20	10/25/2011	0	Cyanide, Total	ug/l as CN	<0.005
3rd - RY2011	WFR-20	08/16/2011	0	Cyanide, Total	ug/l as CN	0.015

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
2nd - RY2011	WFR-20	06/14/2011	0	Cyanide, Total	ug/l as CN	<0.005
4th - RY2011	WFR-20	10/25/2011	0	Hardness, Total	mg/l as CaCO3	34.6
3rd - RY2011	WFR-20	08/16/2011	0	Hardness, Total	mg/l as CaCO3	31.3
2nd - RY2011	WFR-20	06/14/2011	0	Hardness, Total	mg/l as CaCO3	19.1
1st - RY2011	WFR-20	02/15/2011	0	Hardness, Total	mg/l as CaCO3	38.8
4th - RY2010	WFR-20	10/19/2010	0	Hardness, Total	mg/l as CaCO3	40.1
4th - RY2011	WFR-20	10/25/2011	0	Iron, Dissolved	ug/l as Fe	127
3rd - RY2011	WFR-20	08/16/2011	0	Iron, Dissolved	ug/l as Fe	112
2nd - RY2011	WFR-20	06/14/2011	0	Iron, Dissolved	ug/l as Fe	68.4
1st - RY2011	WFR-20	02/15/2011	0	Iron, Dissolved	ug/l as Fe	137
4th - RY2010	WFR-20	10/19/2010	0	Iron, Dissolved	ug/l as Fe	172
4th - RY2011	WFR-20	10/25/2011	0	Iron, Total	ug/l as Fe	135
3rd - RY2011	WFR-20	08/16/2011	0	Iron, Total	ug/l as Fe	314
2nd - RY2011	WFR-20	06/14/2011	0	Iron, Total	ug/l as Fe	240
1st - RY2011	WFR-20	02/15/2011	0	Iron, Total	ug/l as Fe	168
4th - RY2010	WFR-20	10/19/2010	0	Iron, Total	ug/l as Fe	266
4th - RY2011	WFR-20	10/25/2011	0	Lead, Dissolved	ug/l as Pb	2.5
3rd - RY2011	WFR-20	08/16/2011	0	Lead, Dissolved	ug/l as Pb	<0.092
2nd - RY2011	WFR-20	06/14/2011	0	Lead, Dissolved	ug/l as Pb	<0.078
1st - RY2011	WFR-20	02/15/2011	0	Lead, Dissolved	ug/l as Pb	<0.078
4th - RY2010	WFR-20	10/19/2010	0	Lead, Dissolved	ug/l as Pb	<0.078
4th - RY2011	WFR-20	10/25/2011	0	Lead, Potentially Dissolved	ug/l as Pb	<0.092
3rd - RY2011	WFR-20	08/16/2011	0	Lead, Potentially Dissolved	ug/l as Pb	0.096
2nd - RY2011	WFR-20	06/14/2011	0	Lead, Potentially Dissolved	ug/l as Pb	0.16
4th - RY2011	WFR-20	10/25/2011	0	Lead, Total	ug/l as Pb	<0.092
3rd - RY2011	WFR-20	08/16/2011	0	Lead, Total	ug/l as Pb	0.11
2nd - RY2011	WFR-20	06/14/2011	0	Lead, Total	ug/l as Pb	0.17
1st - RY2011	WFR-20	02/15/2011	0	Lead, Total	ug/l as Pb	0.078
4th - RY2010	WFR-20	10/19/2010	0	Lead, Total	ug/l as Pb	<0.078
4th - RY2011	WFR-20	10/25/2011	0	Magnesium, Total	ug/l as Mg	2,290
3rd - RY2011	WFR-20	08/16/2011	0	Magnesium, Total	ug/l as Mg	1,850
2nd - RY2011	WFR-20	06/14/2011	0	Magnesium, Total	ug/l as Mg	1,310
1st - RY2011	WFR-20	02/15/2011	0	Magnesium, Total	ug/l as Mg	2,460
4th - RY2010	WFR-20	10/19/2010	0	Magnesium, Total	ug/l as Mg	2,340
4th - RY2011	WFR-20	10/25/2011	0	Manganese, Dissolved	ug/l as Mn	10.3
3rd - RY2011	WFR-20	08/16/2011	0	Manganese, Dissolved	ug/l as Mn	15.1
2nd - RY2011	WFR-20	06/14/2011	0	Manganese, Dissolved	ug/l as Mn	6
1st - RY2011	WFR-20	02/15/2011	0	Manganese, Dissolved	ug/l as Mn	116
4th - RY2010	WFR-20	10/19/2010	0	Manganese, Dissolved	ug/l as Mn	7.8
4th - RY2011	WFR-20	10/25/2011	0	Mercury, Total	ug/l as Hg	0.031
3rd - RY2011	WFR-20	08/16/2011	0	Mercury, Total	ug/l as Hg	<0.014
2nd - RY2011	WFR-20	06/14/2011	0	Mercury, Total	ug/l as Hg	<0.014
1st - RY2011	WFR-20	02/15/2011	0	Mercury, Total	ug/l as Hg	0.027
4th - RY2010	WFR-20	10/19/2010	0	Mercury, Total	ug/l as Hg	<0.014
4th - RY2011	WFR-20	10/25/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.4
3rd - RY2011	WFR-20	08/16/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.94
2nd - RY2011	WFR-20	06/14/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.69
1st - RY2011	WFR-20	02/15/2011	0	Molybdenum, Dissolved	ug/l as Mo	1
4th - RY2010	WFR-20	10/19/2010	0	Molybdenum, Dissolved	ug/l as Mo	0.9
4th - RY2011	WFR-20	10/25/2011	0	Molybdenum, Total	ug/l as Mo	1.3
3rd - RY2011	WFR-20	08/16/2011	0	Molybdenum, Total	ug/l as Mo	0.98
2nd - RY2011	WFR-20	06/14/2011	0	Molybdenum, Total	ug/l as Mo	0.7
1st - RY2011	WFR-20	02/15/2011	0	Molybdenum, Total	ug/l as Mo	0.95

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2010	WFR-20	10/19/2010	0	Molybdenum, Total	ug/l as Mo	0.95
4th - RY2011	WFR-20	10/25/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.049
3rd - RY2011	WFR-20	08/16/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
2nd - RY2011	WFR-20	06/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.046
1st - RY2011	WFR-20	02/15/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.081
4th - RY2010	WFR-20	10/19/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
4th - RY2011	WFR-20	10/25/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	WFR-20	08/16/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
2nd - RY2011	WFR-20	06/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	WFR-20	02/15/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	WFR-20	10/19/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	WFR-20	10/25/2011	0	Nitrogen Total Organic	mg/L	<0.4
3rd - RY2011	WFR-20	08/16/2011	0	Nitrogen Total Organic	mg/L	<0.4
2nd - RY2011	WFR-20	06/14/2011	0	Nitrogen Total Organic	mg/L	<0.4
1st - RY2011	WFR-20	02/15/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2010	WFR-20	10/19/2010	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	WFR-20	10/25/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	WFR-20	08/16/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	WFR-20	06/14/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
1st - RY2011	WFR-20	02/15/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	WFR-20	10/19/2010	0	Nitrogen, Ammonia, Total	mg/l as N	0.12
4th - RY2011	WFR-20	10/25/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
3rd - RY2011	WFR-20	08/16/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
2nd - RY2011	WFR-20	06/14/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
1st - RY2011	WFR-20	02/15/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2010	WFR-20	10/19/2010	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2011	WFR-20	10/25/2011	0	pH, Field	Standard Units	7.1
3rd - RY2011	WFR-20	08/16/2011	0	pH, Field	Standard Units	6.8
2nd - RY2011	WFR-20	06/14/2011	0	pH, Field	Standard Units	6.5
1st - RY2011	WFR-20	02/15/2011	0	pH, Field	Standard Units	6.4
4th - RY2010	WFR-20	10/19/2010	0	pH, Field	Standard Units	7
4th - RY2011	WFR-20	10/25/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	WFR-20	08/16/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2011	WFR-20	06/14/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st - RY2011	WFR-20	02/15/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2010	WFR-20	10/19/2010	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	WFR-20	10/25/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
3rd - RY2011	WFR-20	08/16/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY2011	WFR-20	06/14/2011	0	Selenium, Dissolved	ug/l as Se	0.46
1st - RY2011	WFR-20	02/15/2011	0	Selenium, Dissolved	ug/l as Se	0.45
4th - RY2010	WFR-20	10/19/2010	0	Selenium, Dissolved	ug/l as Se	0.21
4th - RY2011	WFR-20	10/25/2011	0	Selenium, Total	ug/l as Se	<0.64
3rd - RY2011	WFR-20	08/16/2011	0	Selenium, Total	ug/l as Se	<0.64
2nd - RY2011	WFR-20	06/14/2011	0	Selenium, Total	ug/l as Se	<0.19
1st - RY2011	WFR-20	02/15/2011	0	Selenium, Total	ug/l as Se	<0.19
4th - RY2010	WFR-20	10/19/2010	0	Selenium, Total	ug/l as Se	0.19
4th - RY2011	WFR-20	10/25/2011	0	Sulfate, Total	mg/l as SO4	5
3rd - RY2011	WFR-20	08/16/2011	0	Sulfate, Total	mg/l as SO4	3.9
2nd - RY2011	WFR-20	06/14/2011	0	Sulfate, Total	mg/l as SO4	2.8
4th - RY2011	WFR-20	10/25/2011	0	Temperature, Water	^{o}C	3.9
3rd - RY2011	WFR-20	08/16/2011	0	Temperature, Water	^{o}C	10
2nd - RY2011	WFR-20	06/14/2011	0	Temperature, Water	^{o}C	4.5
1st - RY2011	WFR-20	02/15/2011	0	Temperature, Water	^{o}C	1.9

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2010	WFR-20	10/19/2010	0	Temperature, Water	°C	5.1
4th - RY2011	WFR-20	10/25/2011	0	Temperature, Water	°F	39
3rd - RY2011	WFR-20	08/16/2011	0	Temperature, Water	°F	50
2nd - RY2011	WFR-20	06/14/2011	0	Temperature, Water	°F	40.1
4th - RY2011	WFR-20	10/25/2011	0	Total Suspend Solids (Tot. Nonfilterab	mg	<5
3rd - RY2011	WFR-20	08/16/2011	0	Total Suspend Solids (Tot. Nonfilterab	mg	<5
2nd - RY2011	WFR-20	06/14/2011	0	Total Suspend Solids (Tot. Nonfilterab	mg	<5
1st - RY2011	WFR-20	02/15/2011	0	Total Suspend Solids (Tot. Nonfilterab	mg	<5
4th - RY2010	WFR-20	10/19/2010	0	Total Suspend Solids (Tot. Nonfilterab	mg	<5
4th - RY2011	WFR-20	10/25/2011	0	Uranium Total	ug/L	0.96
3rd - RY2011	WFR-20	08/16/2011	0	Uranium Total	ug/L	0.81
2nd - RY2011	WFR-20	06/14/2011	0	Uranium Total	ug/L	0.98
1st - RY2011	WFR-20	02/15/2011	0	Uranium Total	ug/L	0.85
4th - RY2010	WFR-20	10/19/2010	0	Uranium Total	ug/L	0.71
4th - RY2011	WFR-20	10/25/2011	0	Uranium, Natural, Dissolved	ug/L	1
3rd - RY2011	WFR-20	08/16/2011	0	Uranium, Natural, Dissolved	ug/L	0.68
2nd - RY2011	WFR-20	06/14/2011	0	Uranium, Natural, Dissolved	ug/L	0.79
1st - RY2011	WFR-20	02/15/2011	0	Uranium, Natural, Dissolved	ug/L	0.74
4th - RY2010	WFR-20	10/19/2010	0	Uranium, Natural, Dissolved	ug/L	0.73
4th - RY2011	WFR-20	10/25/2011	0	Zinc, Dissolved	ug/l as Zn	4.6
3rd - RY2011	WFR-20	08/16/2011	0	Zinc, Dissolved	ug/l as Zn	6.9
2nd - RY2011	WFR-20	06/14/2011	0	Zinc, Dissolved	ug/l as Zn	5.1
1st - RY2011	WFR-20	02/15/2011	0	Zinc, Dissolved	ug/l as Zn	6.8
4th - RY2010	WFR-20	10/19/2010	0	Zinc, Dissolved	ug/l as Zn	2.8
4th - RY2011	WFR-20	10/25/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	2.3
3rd - RY2011	WFR-20	08/16/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	2.4
2nd - RY2011	WFR-20	06/14/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	2.3
4th - RY2011	WFR-20	10/25/2011	0	Zinc, Total	ug/l as Zn	1.7
3rd - RY2011	WFR-20	08/16/2011	0	Zinc, Total	ug/l as Zn	7
2nd - RY2011	WFR-20	06/14/2011	0	Zinc, Total	ug/l as Zn	3.5
1st - RY2011	WFR-20	02/15/2011	0	Zinc, Total	ug/l as Zn	12.6
4th - RY2010	WFR-20	10/19/2010	0	Zinc, Total	ug/l as Zn	6.9

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	WFR-40	10/25/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
4th - RY2011	WFR-40	10/25/2011	1	Aluminum, Dissolved	ug/l as Al	<9.6
3rd - RY2011	WFR-40	08/16/2011	0	Aluminum, Dissolved	ug/l as Al	<9.6
2nd - RY2011	WFR-40	06/14/2011	0	Aluminum, Dissolved	ug/l as Al	195
1st - RY2011	WFR-40	02/15/2011	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2010	WFR-40	10/19/2010	0	Aluminum, Dissolved	ug/l as Al	<11
4th - RY2011	WFR-40	10/25/2011	0	Aluminum, Total	ug/l as Al	13.6
4th - RY2011	WFR-40	10/25/2011	1	Aluminum, Total	ug/l as Al	14.9
3rd - RY2011	WFR-40	08/16/2011	0	Aluminum, Total	ug/l as Al	41.4
2nd - RY2011	WFR-40	06/14/2011	0	Aluminum, Total	ug/l as Al	473
1st - RY2011	WFR-40	02/15/2011	0	Aluminum, Total	ug/l as Al	25.3
4th - RY2010	WFR-40	10/19/2010	0	Aluminum, Total	ug/l as Al	11.2
4th - RY2011	WFR-40	10/25/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
4th - RY2011	WFR-40	10/25/2011	1	Arsenic, Dissolved	ug/l as As	<0.38
3rd - RY2011	WFR-40	08/16/2011	0	Arsenic, Dissolved	ug/l as As	<0.38
2nd - RY2011	WFR-40	06/14/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
1st - RY2011	WFR-40	02/15/2011	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2010	WFR-40	10/19/2010	0	Arsenic, Dissolved	ug/l as As	<0.62
4th - RY2011	WFR-40	10/25/2011	0	Arsenic, Total	ug/l as As	<0.38
4th - RY2011	WFR-40	10/25/2011	1	Arsenic, Total	ug/l as As	<0.38
3rd - RY2011	WFR-40	08/16/2011	0	Arsenic, Total	ug/l as As	<0.38
2nd - RY2011	WFR-40	06/14/2011	0	Arsenic, Total	ug/l as As	<0.62
1st - RY2011	WFR-40	02/15/2011	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2010	WFR-40	10/19/2010	0	Arsenic, Total	ug/l as As	<0.62
4th - RY2011	WFR-40	10/25/2011	0	Cadmium, Dissolved	ug/l as Cd	0.12
4th - RY2011	WFR-40	10/25/2011	1	Cadmium, Dissolved	ug/l as Cd	<0.11
3rd - RY2011	WFR-40	08/16/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
2nd - RY2011	WFR-40	06/14/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
1st - RY2011	WFR-40	02/15/2011	0	Cadmium, Dissolved	ug/l as Cd	<0.11
4th - RY2010	WFR-40	10/19/2010	0	Cadmium, Dissolved	ug/l as Cd	0.2
4th - RY2011	WFR-40	10/25/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
4th - RY2011	WFR-40	10/25/2011	1	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
3rd - RY 2011	WFR-40	08/16/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
2nd - Ry2011	WFR-40	06/14/2011	0	Cadmium, Potentially Dissolved	ug/l as Cd	<0.11
4th - RY2011	WFR-40	10/25/2011	0	Cadmium, Total	ug/l as Cd	<0.11
4th - RY2011	WFR-40	10/25/2011	1	Cadmium, Total	ug/l as Cd	<0.11
3rd - RY2011	WFR-40	08/16/2011	0	Cadmium, Total	ug/l as Cd	<0.11
2nd - RY2011	WFR-40	06/14/2011	0	Cadmium, Total	ug/l as Cd	<0.11
1st - RY2011	WFR-40	02/15/2011	0	Cadmium, Total	ug/l as Cd	<0.11
4th - RY2010	WFR-40	10/19/2010	0	Cadmium, Total	ug/l as Cd	0.14
4th - RY 2011	WFR-40	10/25/2011	0	Calcium, Total	ug/l as Ca	18,100
4th - RY2011	WFR-40	10/25/2011	1	Calcium, Total	ug/l as Ca	18,800
3rd - RY2011	WFR-40	08/16/2011	0	Calcium, Total	ug/l as Ca	14,900
2nd - RY2011	WFR-40	06/14/2011	0	Calcium, Total	ug/l as Ca	6,050
1st - RY2011	WFR-40	02/15/2011	0	Calcium, Total	ug/l as Ca	16,400
4th - RY2010	WFR-40	10/19/2010	0	Calcium, Total	ug/l as Ca	20,800
4th - RY2011	WFR-40	10/25/2011	0	Copper, Dissolved	ug/l as Cu	0.49
4th - RY 2011	WFR-40	10/25/2011	1	Copper, Dissolved	ug/l as Cu	0.49
3rd - RY2011	WFR-40	08/16/2011	0	Copper, Dissolved	ug/l as Cu	0.54
2nd - RY2011	WFR-40	06/14/2011	0	Copper, Dissolved	ug/l as Cu	2.4
1st - RY2011	WFR-40	02/15/2011	0	Copper, Dissolved	ug/l as Cu	<0.71
4th - RY2010	WFR-40	10/19/2010	0	Copper, Dissolved	ug/l as Cu	0.96
4th - RY 2011	WFR-40	10/25/2011	0	Copper, Potentially Dissolved	ug/l as Cu	0.93
4th - RY 2011	WFR-40	10/25/2011	1	Copper, Potentially Dissolved	ug/l as Cu	0.61
3rd - RY2011	WFR-40	08/16/2011	0	Copper, Potentially Dissolved	ug/l as Cu	0.74
2nd - RY2011	WFR-40	06/14/2011	0	Copper, Potentially Dissolved	ug/l as Cu	1

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2011	WFR-40	10/25/2011	0	Copper, Total	ug/l as Cu	0.61
4th - RY2011	WFR-40	10/25/2011	1	Copper, Total	ug/l as Cu	0.53
3rd - RY2011	WFR-40	08/16/2011	0	Copper, Total	ug/l as Cu	0.57
2nd - RY2011	WFR-40	06/14/2011	0	Copper, Total	ug/l as Cu	1.4
1st - RY2011	WFR-40	02/15/2011	0	Copper, Total	ug/l as Cu	<0.71
4th - RY2010	WFR-40	10/19/2010	0	Copper, Total	ug/l as Cu	<0.71
4th - RY2011	WFR-40	10/25/2011	0	Cyanide, Total	ug/l as CN	<0.005
4th - RY2011	WFR-40	10/25/2011	1	Cyanide, Total	ug/l as CN	<0.005
3rd - RY2011	WFR-40	08/16/2011	0	Cyanide, Total	ug/l as CN	<0.005
2nd - RY2011	WFR-40	06/14/2011	0	Cyanide, Total	ug/l as CN	<0.005
4th - RY2011	WFR-40	10/25/2011	0	Hardness, Total	mg/l as CaCO3	61.1
4th - RY2011	WFR-40	10/25/2011	1	Hardness, Total	mg/l as CaCO3	63.4
3rd - RY2011	WFR-40	08/16/2011	0	Hardness, Total	mg/l as CaCO3	49.1
2nd - RY2011	WFR-40	06/14/2011	0	Hardness, Total	mg/l as CaCO3	21.6
1st - RY2011	WFR-40	02/15/2011	0	Hardness, Total	mg/l as CaCO3	54.7
4th - RY2010	WFR-40	10/19/2010	0	Hardness, Total	mg/l as CaCO3	68.2
4th - RY2011	WFR-40	10/25/2011	0	Iron, Dissolved	ug/l as Fe	144
4th - RY2011	WFR-40	10/25/2011	1	Iron, Dissolved	ug/l as Fe	136
3rd - RY2011	WFR-40	08/16/2011	0	Iron, Dissolved	ug/l as Fe	116
2nd - RY2011	WFR-40	06/14/2011	0	Iron, Dissolved	ug/l as Fe	135
1st - RY2011	WFR-40	02/15/2011	0	Iron, Dissolved	ug/l as Fe	114
4th - RY2010	WFR-40	10/19/2010	0	Iron, Dissolved	ug/l as Fe	158
4th - RY2011	WFR-40	10/25/2011	0	Iron, Total	ug/l as Fe	152
4th - RY2011	WFR-40	10/25/2011	1	Iron, Total	ug/l as Fe	159
3rd - RY2011	WFR-40	08/16/2011	0	Iron, Total	ug/l as Fe	264
2nd - RY2011	WFR-40	06/14/2011	0	Iron, Total	ug/l as Fe	356
1st - RY2011	WFR-40	02/15/2011	0	Iron, Total	ug/l as Fe	179
4th - RY2010	WFR-40	10/19/2010	0	Iron, Total	ug/l as Fe	193
4th - RY2011	WFR-40	10/25/2011	0	Lead, Dissolved	ug/l as Pb	<0.092
4th - RY2011	WFR-40	10/25/2011	1	Lead, Dissolved	ug/l as Pb	<0.092
3rd - RY2011	WFR-40	08/16/2011	0	Lead, Dissolved	ug/l as Pb	<0.092
2nd - RY2011	WFR-40	06/14/2011	0	Lead, Dissolved	ug/l as Pb	0.14
1st - RY2011	WFR-40	02/15/2011	0	Lead, Dissolved	ug/l as Pb	<0.078
4th - RY2010	WFR-40	10/19/2010	0	Lead, Dissolved	ug/l as Pb	<0.078
4th - RY2011	WFR-40	10/25/2011	0	Lead, Potentially Dissolved	ug/l as Pb	<0.092
4th - RY2011	WFR-40	10/25/2011	1	Lead, Potentially Dissolved	ug/l as Pb	<0.092
3rd - RY2011	WFR-40	08/16/2011	0	Lead, Potentially Dissolved	ug/l as Pb	<0.092
2nd - RY2011	WFR-40	06/14/2011	0	Lead, Potentially Dissolved	ug/l as Pb	0.17
4th - RY2011	WFR-40	10/25/2011	0	Lead, Total	ug/l as Pb	1.3
4th - RY2011	WFR-40	10/25/2011	1	Lead, Total	ug/l as Pb	<0.092
3rd - RY2011	WFR-40	08/16/2011	0	Lead, Total	ug/l as Pb	<0.092
2nd - RY2011	WFR-40	06/14/2011	0	Lead, Total	ug/l as Pb	0.26
1st - RY2011	WFR-40	02/15/2011	0	Lead, Total	ug/l as Pb	<0.078
4th - RY2010	WFR-40	10/19/2010	0	Lead, Total	ug/l as Pb	<0.078
4th - RY2011	WFR-40	10/25/2011	0	Magnesium, Total	ug/l as Mg	3,860
4th - RY2011	WFR-40	10/25/2011	1	Magnesium, Total	ug/l as Mg	4,000
3rd - RY2011	WFR-40	08/16/2011	0	Magnesium, Total	ug/l as Mg	2,900
2nd - RY2011	WFR-40	06/14/2011	0	Magnesium, Total	ug/l as Mg	1,570
1st - RY2011	WFR-40	02/15/2011	0	Magnesium, Total	ug/l as Mg	3,330
4th - RY2010	WFR-40	10/19/2010	0	Magnesium, Total	ug/l as Mg	3,940
4th - RY2011	WFR-40	10/25/2011	0	Manganese, Dissolved	ug/l as Mn	8.5
4th - RY2011	WFR-40	10/25/2011	1	Manganese, Dissolved	ug/l as Mn	8.1
3rd - RY2011	WFR-40	08/16/2011	0	Manganese, Dissolved	ug/l as Mn	11.4
2nd - RY2011	WFR-40	06/14/2011	0	Manganese, Dissolved	ug/l as Mn	5.9
1st - RY2011	WFR-40	02/15/2011	0	Manganese, Dissolved	ug/l as Mn	5.2

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2010	WFR-40	10/19/2010	0	Manganese, Dissolved	ug/l as Mn	6.3
4th - RY2011	WFR-40	10/25/2011	0	Mercury, Total	ug/l as Hg	0.035
4th - RY2011	WFR-40	10/25/2011	1	Mercury, Total	ug/l as Hg	0.035
3rd - RY2011	WFR-40	08/16/2011	0	Mercury, Total	ug/l as Hg	0.022
2nd - RY2011	WFR-40	06/14/2011	0	Mercury, Total	ug/l as Hg	<0.014
1st - RY2011	WFR-40	02/15/2011	0	Mercury, Total	ug/l as Hg	0.042
4th - RY2010	WFR-40	10/19/2010	0	Mercury, Total	ug/l as Hg	<0.014
4th - RY2011	WFR-40	10/25/2011	0	Molybdenum, Dissolved	ug/l as Mo	1.1
4th - RY2011	WFR-40	10/25/2011	1	Molybdenum, Dissolved	ug/l as Mo	1
3rd - RY2011	WFR-40	08/16/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.99
2nd - RY2011	WFR-40	06/14/2011	0	Molybdenum, Dissolved	ug/l as Mo	0.6
1st - RY2011	WFR-40	02/15/2011	0	Molybdenum, Dissolved	ug/l as Mo	1
4th Quarter 2010	WFR-40	10/19/2010	0	Molybdenum, Dissolved	ug/l as Mo	0.98
4th quarter 2011	WFR-40	10/25/2011	0	Molybdenum, Total	ug/l as Mo	1.1
4th quarter 2011	WFR-40	10/25/2011	1	Molybdenum, Total	ug/l as Mo	1
3rd - RY2011	WFR-40	08/16/2011	0	Molybdenum, Total	ug/l as Mo	1
2nd - RY2011	WFR-40	06/14/2011	0	Molybdenum, Total	ug/l as Mo	0.6
1st - RY2011	WFR-40	02/15/2011	0	Molybdenum, Total	ug/l as Mo	0.97
4th - RY2010	WFR-40	10/19/2010	0	Molybdenum, Total	ug/l as Mo	0.99
4th - RY2011	WFR-40	10/25/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.057
4th - RY2011	WFR-40	10/25/2011	1	Nitrate Nitrogen, Total	mg/l as N	0.31
3rd - RY2011	WFR-40	08/16/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
2nd - RY2011	WFR-40	06/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
1st - RY2011	WFR-40	02/15/2011	0	Nitrate Nitrogen, Total	mg/l as N	0.084
4th - RY2010	WFR-40	10/19/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.045
4th - RY2011	WFR-40	10/25/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	WFR-40	10/25/2011	1	Nitrate Nitrogen, Total	mg/l as N	<0.061
3rd - RY2011	WFR-40	08/16/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
2nd - RY2011	WFR-40	06/14/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
1st - RY2011	WFR-40	02/15/2011	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2010	WFR-40	10/19/2010	0	Nitrate Nitrogen, Total	mg/l as N	<0.061
4th - RY2011	WFR-40	10/25/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	WFR-40	10/25/2011	1	Nitrogen Total Organic	mg/L	<0.4
3rd - RY2011	WFR-40	08/16/2011	0	Nitrogen Total Organic	mg/L	<0.4
2nd - RY2011	WFR-40	06/14/2011	0	Nitrogen Total Organic	mg/L	<0.4
1st - RY2011	WFR-40	02/15/2011	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2010	WFR-40	10/19/2010	0	Nitrogen Total Organic	mg/L	<0.4
4th - RY2011	WFR-40	10/25/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	WFR-40	10/25/2011	1	Nitrogen, Ammonia, Total	mg/l as N	<0.1
3rd - RY2011	WFR-40	08/16/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
2nd - RY2011	WFR-40	06/14/2011	0	Nitrogen, Ammonia, Total	mg/l as N	0.1
1st - RY2011	WFR-40	02/15/2011	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2010	WFR-40	10/19/2010	0	Nitrogen, Ammonia, Total	mg/l as N	<0.1
4th - RY2011	WFR-40	10/25/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2011	WFR-40	10/25/2011	1	Nitrogen,total kjeldahl	mg/L	<0.3
3rd - RY2011	WFR-40	08/16/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
2nd - RY2011	WFR-40	06/14/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
1st - RY2011	WFR-40	02/15/2011	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2010	WFR-40	10/19/2010	0	Nitrogen,total kjeldahl	mg/L	<0.3
4th - RY2011	WFR-40	10/25/2011	0	pH, Field	Standard Units	7.3
4th - RY2011	WFR-40	10/25/2011	1	pH, Field	Standard Units	
3rd - RY2011	WFR-40	08/16/2011	0	pH, Field	Standard Units	6.9
2nd - RY2011	WFR-40	06/14/2011	0	pH, Field	Standard Units	6.7
2nd - RY2011	WFR-40	06/22/2011	0	pH, Field	Standard Units	7.7
1st - RY2011	WFR-40	02/15/2011	0	pH, Field	Standard Units	7.5

Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
4th - RY2010	WFR-40	10/19/2010	0	pH, Field	Standard Units	7.6
4th - RY2011	WFR-40	10/25/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	WFR-40	10/25/2011	1	Phosphate, Ortho	mg/l as PO4	<0.1
3rd - RY2011	WFR-40	08/16/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
2nd - RY2011	WFR-40	06/14/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
1st - RY2011	WFR-40	02/15/2011	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2010	WFR-40	10/19/2010	0	Phosphate, Ortho	mg/l as PO4	<0.1
4th - RY2011	WFR-40	10/25/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
4th - RY2011	WFR-40	10/25/2011	1	Selenium, Dissolved	ug/l as Se	<0.64
3rd - RY2011	WFR-40	08/16/2011	0	Selenium, Dissolved	ug/l as Se	<0.64
2nd - RY2011	WFR-40	06/14/2011	0	Selenium, Dissolved	ug/l as Se	<0.19
1st - RY2011	WFR-40	02/15/2011	0	Selenium, Dissolved	ug/l as Se	0.39
4th - RY2010	WFR-40	10/19/2010	0	Selenium, Dissolved	ug/l as Se	<0.19
4th - RY2011	WFR-40	10/25/2011	0	Selenium, Total	ug/l as Se	<0.64
4th - RY2011	WFR-40	10/25/2011	1	Selenium, Total	ug/l as Se	<0.64
3rd - RY2011	WFR-40	08/16/2011	0	Selenium, Total	ug/l as Se	<0.64
2nd - RY2011	WFR-40	06/14/2011	0	Selenium, Total	ug/l as Se	0.89
1st - RY2011	WFR-40	02/15/2011	0	Selenium, Total	ug/l as Se	<0.96
4th - RY2010	WFR-40	10/19/2010	0	Selenium, Total	ug/l as Se	0.56
4th - RY2011	WFR-40	10/25/2011	0	Sulfate, Total	mg/l as SO4	35.9
4th - RY2011	WFR-40	10/25/2011	1	Sulfate, Total	mg/l as SO4	40.2
3rd - RY2011	WFR-40	08/16/2011	0	Sulfate, Total	mg/l as SO4	19
2nd - RY2011	WFR-40	06/14/2011	0	Sulfate, Total	mg/l as SO4	4.6
4th - RY2011	WFR-40	10/25/2011	0	Temperature, Water	^{o}C	5.5
4th - RY2011	WFR-40	10/25/2011	1	Temperature, Water	^{o}C	
3rd - RY2011	WFR-40	08/16/2011	0	Temperature, Water	^{o}C	11.4
2nd - RY2011	WFR-40	06/14/2011	0	Temperature, Water	^{o}C	6.1
2nd - RY2011	WFR-40	06/22/2011	0	Temperature, Water	^{o}C	11.3
1st - RY2011	WFR-40	02/15/2011	0	Temperature, Water	^{o}C	0.6
4th - RY2010	WFR-40	10/19/2010	0	Temperature, Water	^{o}C	6.7
4th - RY2011	WFR-40	10/25/2011	0	Temperature, Water	^{o}F	41.9
4th - RY2011	WFR-40	10/25/2011	1	Temperature, Water	^{o}F	
3rd - RY2011	WFR-40	08/16/2011	0	Temperature, Water	^{o}F	52.5
2nd - RY2011	WFR-40	06/14/2011	0	Temperature, Water	^{o}F	43
2nd - RY2011	WFR-40	06/22/2011	0	Temperature, Water	^{o}F	52.3
4th - RY2011	WFR-40	10/25/2011	0	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
4th - RY2011	WFR-40	10/25/2011	1	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
3rd - RY2011	WFR-40	08/16/2011	0	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
2nd - RY2011	WFR-40	06/14/2011	0	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
1st - RY2011	WFR-40	02/15/2011	0	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
4th - RY2010	WFR-40	10/19/2010	0	Total Suspend Solids (Tot. Nonfilterabl	mg	<5
4th - RY2011	WFR-40	10/25/2011	0	Uranium Total	ug/L	0.94
4th - RY2011	WFR-40	10/25/2011	1	Uranium Total	ug/L	0.96
3rd - RY2011	WFR-40	08/16/2011	0	Uranium Total	ug/L	0.92
2nd - RY2011	WFR-40	06/14/2011	0	Uranium Total	ug/L	0.54
1st - RY2011	WFR-40	02/15/2011	0	Uranium Total	ug/L	0.94
4th - RY2010	WFR-40	10/19/2010	0	Uranium Total	ug/L	0.89
4th - RY2011	WFR-40	10/25/2011	0	Uranium, Natural, Dissolved	ug/L	1
4th - RY2011	WFR-40	10/25/2011	1	Uranium, Natural, Dissolved	ug/L	0.98
3rd - RY2011	WFR-40	08/16/2011	0	Uranium, Natural, Dissolved	ug/L	0.88
2nd - RY2011	WFR-40	06/14/2011	0	Uranium, Natural, Dissolved	ug/L	0.43
1st - RY2011	WFR-40	02/15/2011	0	Uranium, Natural, Dissolved	ug/L	0.95
4th - RY2010	WFR-40	10/19/2010	0	Uranium, Natural, Dissolved	ug/L	0.89
4th - RY2011	WFR-40	10/25/2011	0	Zinc, Dissolved	ug/l as Zn	1.6
4th - RY2011	WFR-40	10/25/2011	1	Zinc, Dissolved	ug/l as Zn	2

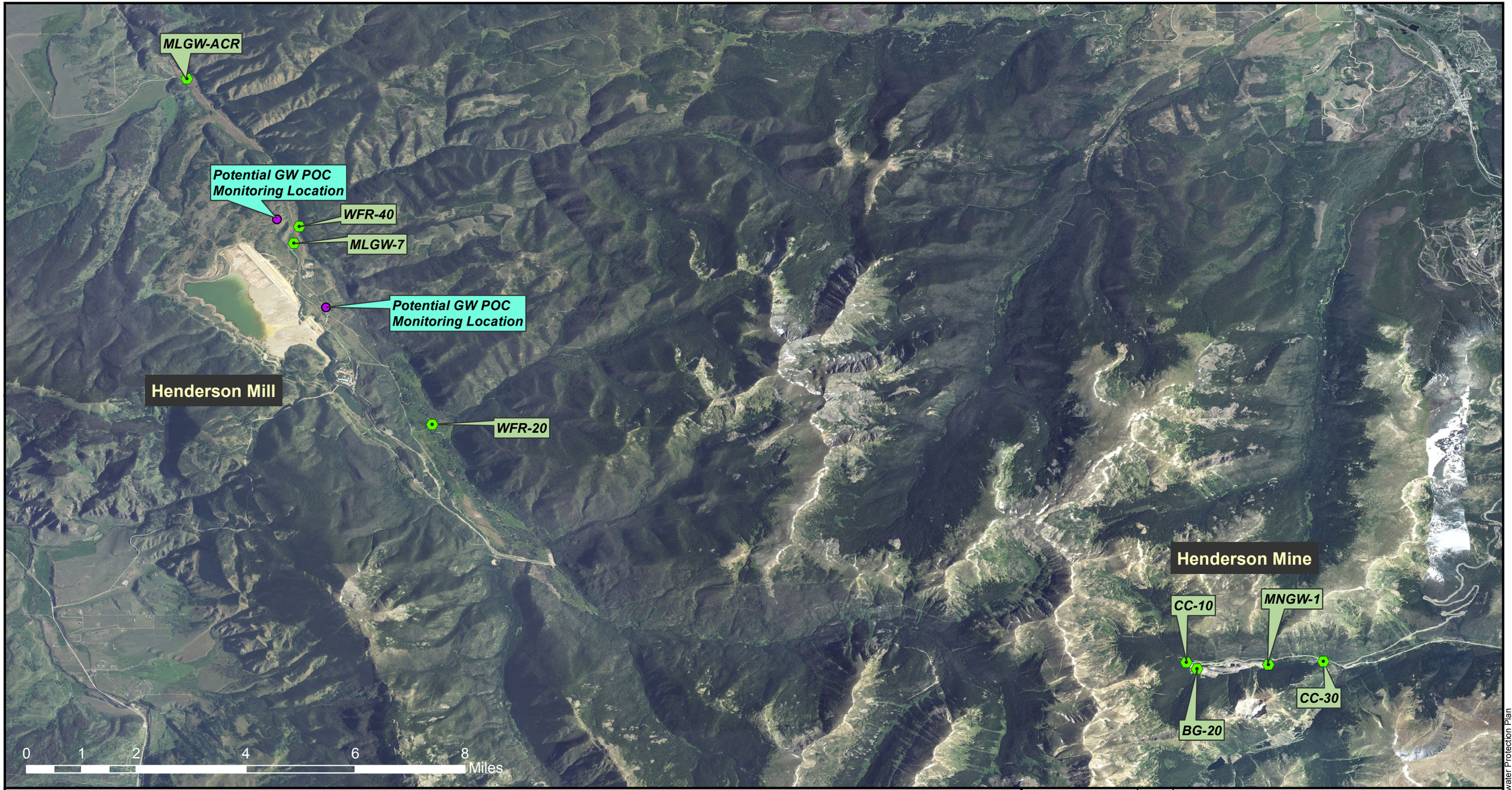
Appendix B

Existing Network - 5 Quarters of Surface Water Data

Quarter	Site Number	Sample Date	Duplicate Collected?	Analyte	Units	Results
3rd - RY2011	WFR-40	08/16/2011	0	Zinc, Dissolved	ug/l as Zn	4.4
2nd - RY2011	WFR-40	06/14/2011	0	Zinc, Dissolved	ug/l as Zn	26.1
1st - RY2011	WFR-40	02/15/2011	0	Zinc, Dissolved	ug/l as Zn	10.8
4th - RY2010	WFR-40	10/19/2010	0	Zinc, Dissolved	ug/l as Zn	3.6
4th - RY2011	WFR-40	10/25/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	7.3
4th - RY2011	WFR-40	10/25/2011	1	Zinc, Potentially Dissolved	ug/l as Zn	1.9
3rd - RY2011	WFR-40	08/16/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	2.6
2nd - RY2011	WFR-40	06/14/2011	0	Zinc, Potentially Dissolved	ug/l as Zn	3.5
4th - RY2011	WFR-40	10/25/2011	0	Zinc, Total	ug/l as Zn	2.1
4th - RY2011	WFR-40	10/25/2011	1	Zinc, Total	ug/l as Zn	4
3rd - RY2011	WFR-40	08/16/2011	0	Zinc, Total	ug/l as Zn	16.9
2nd - RY2011	WFR-40	06/14/2011	0	Zinc, Total	ug/l as Zn	6.2
1st - RY2011	WFR-40	02/15/2011	0	Zinc, Total	ug/l as Zn	6
4th - RY2010	WFR-40	10/19/2010	0	Zinc, Total	ug/l as Zn	3

Appendix C

Site Diagrams



LOCATION MAP

MAP FEATURES

- Property Boundary
- Monitoring Location
- Proposed GW POC Monitoring Location

REVISION	DATE
Update drawing information	9/6/2011
Updated well names	2/17/2012

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road
Empire, Colorado 80438

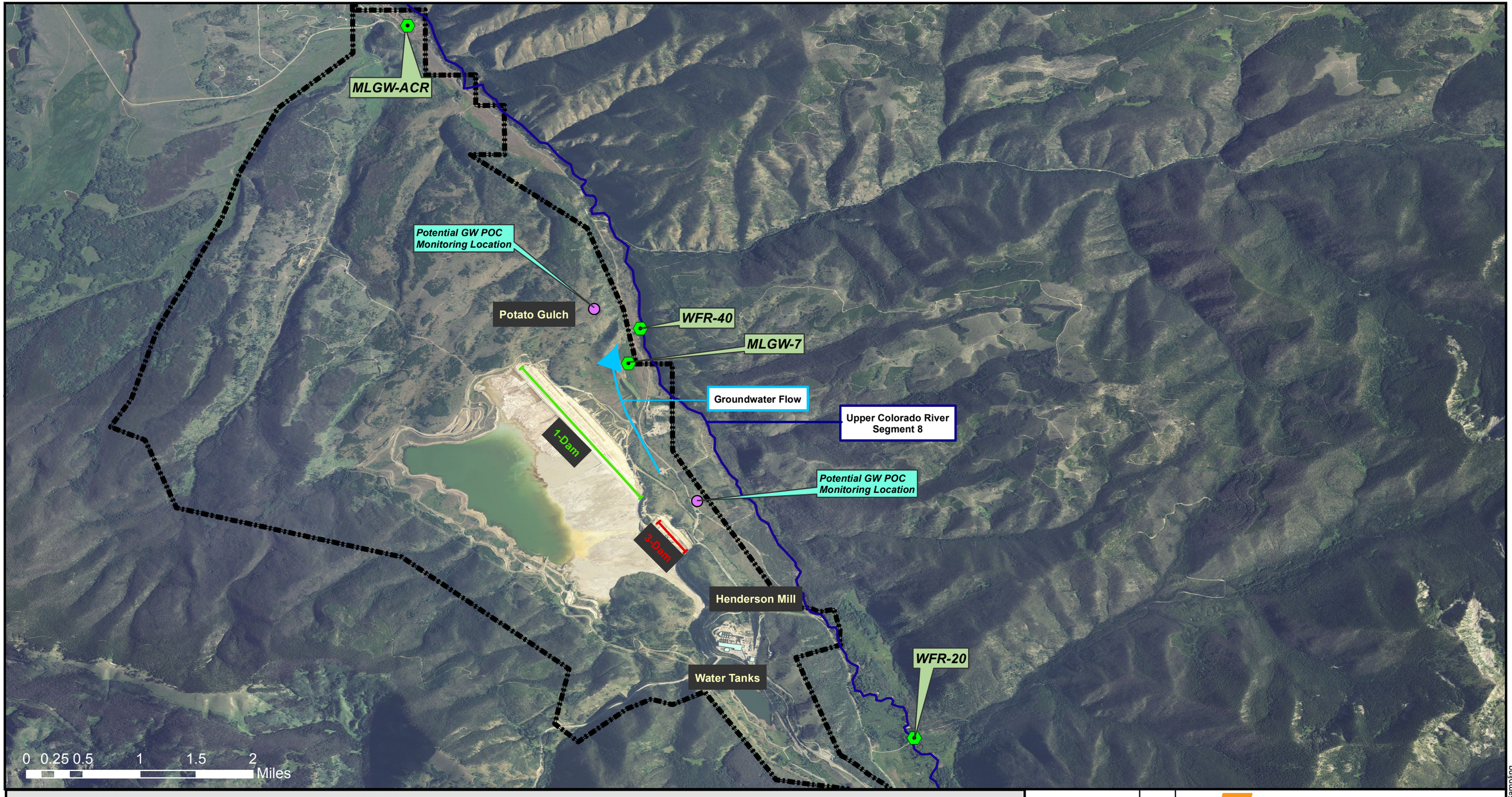
FIGURE 1
HENDERSON OPERATIONS OVERVIEW

Aquionix
3700 E. 41st Ave.
Denver, CO 80216-6504
303-289-7520
www.aquionix.com

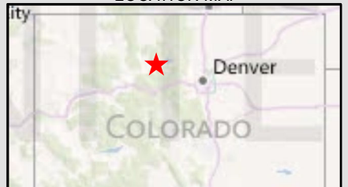
DESIGNED BY: MT (AQUIONIX)
DRAWN BY: MT
DATE DRAWN: 2/7/2011

SCALE: As Noted

R:\ArcGIS\Henderson GIS\mxds\mine\Groundwater Protection Plan



LOCATION MAP



MAP FEATURES

- Property Boundary
- Monitoring Location
- Proposed GW POC Monitoring Location

REVISION	DATE
Update drawing information	9/6/2011
Update sample names and locations	2/17/2012

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
19302 County Road 3
Parshall, Colorado 80468

FIGURE 2
HENDERSON MILL
SITE DIAGRAM

Aquionix
3700 E. 41st Ave.
Denver, CO 80216-6504
303-289-7520
www.aquionix.com

DESIGNED BY: MT (AQUIONIX)
DRAWN BY: MT
DATE DRAWN: 2/7/2011

SCALE: As Noted

R:\ArcGIS\Henderson GIS\mxds\mill\Water Sampling

CC-10

BG-20

MNGW-1

CC-30

Groundwater Flow

Henderson Mine Site

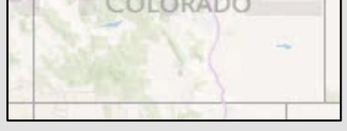
Clear Creek Segment 4

Urad Mine Site

Clear Creek Segment 5

0 750 1,500 3,000 4,500 6,000 Feet

LOCATION MAP



MAP FEATURES

- Property Boundary
- Monitoring Location

REVISION	DATE
Update drawing information	9/6/2011
Update well names	2/17/2012

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road
Empire, Colorado 80438

FIGURE 3
HENDERSON MINE SITE DIAGRAM

Aquionix
3700 E. 41st Ave.
Denver, CO 80216-6504
303-289-7520
www.aquionix.com

DESIGNED BY: MT (AQUIONIX)
DRAWN BY: MT
DATE DRAWN: 2/7/2011

SCALE: As Noted

R:\ArcGIS\Henderson GIS\mxds\mine\Groundwater Protection Plan

Appendix D

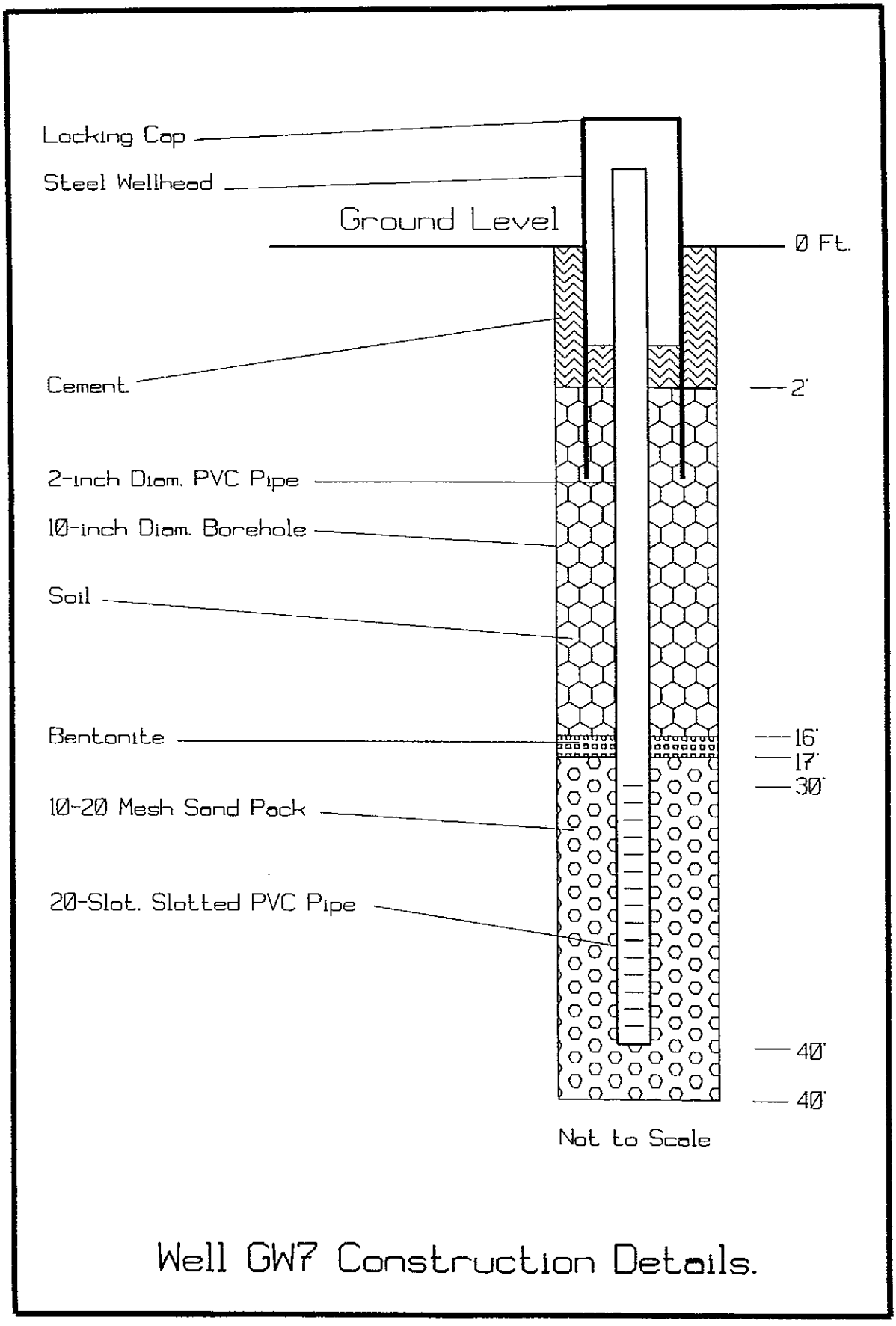
Geologic Well Logs and Construction Details

GEOLOGIC LOG

Project: Henderson Mill, Ground Water Monitoring Wells
Hole No.: GW7
Date Drilled: 9-28-93
Drilled by: Layne Environmental
Logged by: Pat O'Brien

Depth (Ft.)	Description	Remarks
0-2	Sand, medium to very coarse gr., silty, brown, dry.	
2-17	Boulders, sandy, with some gravel, brown, dry.	
17-20	Boulders, sandy, with some gravel, brown, wet.	
20-22	Sand, medium to very coarse gr., with some gravel, brown, wet.	
22-40	Cobbles, sandy, with some boulders, brown, wet.	

Borehole completed using the AP-1000, reverse air circulation, dual-tube hammer rig with 10-inch diameter drill pipe.



Well GW7 Construction Details.

Appendix E

Water Quality Control Commission Rulemaking Hearing – 5 CCR 1002-33

exemption should ensure the future protection of water quality within the segment, while recognizing legitimate pre-existing rights. The project exemption may be revisited once the project has finalized its development plans for the remaining project water rights in the area.

(3) Segments that needed descriptions of wilderness areas added. This addresses wilderness areas that were designated after the rulemaking hearing that originally established the segment. In this hearing, the only segments affected were Upper Colorado segment 9 and Yampa segment 1 which had the Flat Tops Wilderness Area added to their descriptions and Roaring Fork segment 1 which had the Holy Cross, Collegiate Peaks and Raggeds Wilderness Areas added to its description.

F. Temporary Modifications

There were several segments which had temporary modifications that were reviewed and decisions made as to delete them or to extend them, either as is or with modification of the numeric limits.

Upper Colorado segment 6c - Mainstem of un-named tributary to Willow Creek from the Willow Creek Reservoir Rd to the confluence Willow Creek.

This segment had 5-year temporary modification for un-ionized ammonia that will expire in 12/30/2000, but under the terms of a stipulation entered into at the 1995 rulemaking the temporary modification is "subject to review at approximately a three-year interval into the modification". The Commission determined that after review of information submitted by the Division and Three Lakes Water and Sanitation District that the present expiration date provided sufficient time for Three Lakes to develop and implement its plan for meeting the unionized ammonia standard in this segment.

Upper Colorado segment 8 - Mainstem of the Williams Fork River.

The Commission reviewed the need for the existing temporary modifications to the manganese and iron water supply standards and determined that their removal would not pose a significant hardship to Climax's ability to meet its permit limits and manage the water in its facility provided that a point of compliance is adopted. As noted in the Basis and Purpose for the October 1997 rulemaking, Climax, with the participation of Grand County and the Northwest Colorado Council of Governments, identified a well as a potential point of compliance. Climax monitored the iron and manganese levels in a well at the Aspen Canyon Ranch. The data from March 1998 through February 1999 showed that the existing water quality was well below the water supply standards for iron and manganese. In view of the above, the temporary modifications for iron and manganese are deleted and a point of compliance at the Aspen Canyon Ranch well is adopted.

Blue River segment 2 - Mainstem of the Blue River from the confluence with French Gulch to a point one mile above the confluence with Swan River.

The temporary modifications were reviewed and revised to reflect data collected from the segment in 1996-98. It was determined that an expiration date of 12/31/2002 would provide sufficient time for the French Gulch Opportunity Group (FROG) to determine the appropriate steps to address the source of the high metals in this segment which derive from French Gulch (Blue River segment 11) and complete a use attainability analysis on segment 2 which should determine the proper classifications and standards for the segment.

Blue River segment 6 - Snake River

Appendix F

Henderson Geochemical Evaluation and Sampling Plan

Henderson Mine and Mill
Geochemical Evaluation and Sampling Plan

Introduction

The Henderson Mine and Mill (Henderson) is currently in the process of revising Technical Revision 05 (TR-05) to formally establish a ground water protection program under its Reclamation Permit Number M-77-342. As part of this process, Henderson is completing a geochemical evaluation to identify analytes associated with site operations that should be periodically monitored and subject to numeric limits. This Geochemical Evaluation and Sampling Plan (Plan) summarizes the proposed sampling plan and parameters to be tested.

Henderson has performed a significant amount of surface and ground water quality monitoring for a variety of parameters including cadmium, copper, lead, zinc, iron, manganese, mercury, silver, pH, and temperature. This Sampling Plan will include these and other parameters established by the State Water Quality Control Commission. The intent is to identify those parameters that have a reasonable potential of being transported from mining materials to surface and ground water systems. The complete list of parameters to be analyzed is included in Attachment 3.

Determination of Sampling Locations

Three sampling points have been selected for this project, two at the Mine and one at the Mill. Maps of the respective areas identifying the sampling points are included as the following attachments.

- Attachment 1 – Displays the entire mine area and the two sampling locations.
- Attachment 1a – Identifies the first sampling location at the Mine (Location #1), which is at the northeast end of the mine site, just down-gradient of the Emrick and Hill industrial area. This area appears to contain materials displaying elevated levels of mineralization. This area is considered a worst-case scenario sampling location for identifying material with contamination potential.
- Attachment 1b – Identifies the second sampling location at the Mine (Location #2), which is located generally in the central part of the mine site, north of the surface impoundments. We believe this location will provide samples that are more representative of general site geology than Location #1.
- Attachment 2 – Mill Site Map – Displays the entire mill area and the single sampling location.

- Attachment 2a – Identifies the single sampling location at the Mill (Location #3), which is located near the tailing pump station, at the confluence of the 1 and 3 dam seep return canals and flows from the tailing area wellfield. Samples taken from this location will provide good representation of leached materials being transported from the tailing impoundments to ground and surface water systems.

Sampling Plan

Mine

Frequency:	One-time
Sampling Method:	Composite Soil Grab. The sampling areas will be gridded into nine equally spaced locations. Soil samples of equivalent volume will be collected from each of the nine locations to a depth of 1-foot, at each of the two sampling locations. The nine samples (at each location) will be composited together to form a single homogenous sample to provide a representative sample of the area being evaluated.
Sample Location:	Samples will be taken from two locations: Location #1 and Location #2. These sampling locations are specified in Attachments 1a and 1b.
Sampling QC:	As a standard quality control practice, all sample containers and sampling equipment will be thoroughly cleaned and rinsed in accordance with 40 CFR, Part 403, Appendix E. This precludes the use of any equipment that may contain trace amounts of pollutant. Each sample is labeled prior to, or at the time of, sampling on a self-adhesive label with waterproof ink. As a minimum, the sample number, name of collector, date and time of collection, and sample preservative are included on the label.
Parameters to be Tested:	Parameters specified in Regulation 41 (Tables 1 through 4) and Regulation 31 (Tables I through III) that could potentially exist at the Mine. A list of these parameters to be tested is provided in Attachment 3. A list of parameters from these regulatory sections that are deemed to be inapplicable, and thus won't be analyzed is also included.

Analytical Method:	The Synthetic Precipitation Leaching Procedure (SPLP, EPA SW-846 Method 1312) will be used where appropriate. The SPLP procedure is useful for determining whether a potentially contaminated material, left in situ, will leach toxic substances when exposed to normal weathering. Certain non-metal parameters may be analyzed by other suitable methods.
Photographic:	Photographs of each sampling location will be taken and preserved as part of the sampling event.
GIS:	GIS data will be collected for each sampling location.

Mill

Frequency:	One-time
Sampling Method:	Aqueous Grab. A single dip grab sample will be collected directly into pre-cleaned laboratory bottles.
Sample Location:	Sample will be taken from Location #3. The sampling location is specified in Attachments 2a.
Sampling QC:	As a standard quality control practice, all sample containers and sampling equipment will be thoroughly cleaned and rinsed in accordance with 40 CFR, Part 403, Appendix E. This precludes the use of any equipment that may contain trace amounts of pollutant. Each sample is labeled prior to, or at the time of, sampling on a self-adhesive label with waterproof ink. As a minimum, the sample number, name of collector, date and time of collection, and sample preservative are included on the label.
Parameters to be Tested:	Parameters specified in Regulation 41 (Tables 1 through 4) and Regulation 31 (Tables I through III) that could potentially exist at the Mine. A list of these parameters to be tested is provided in Attachment 3. A list of parameters from these regulatory sections that are deemed to be inapplicable, and thus won't be analyzed is also included.
Analytical Method:	The appropriate 40 CFR 136 method for each individual analyte will be used to determine contaminant potential. The SPLP procedure will not be used as the sample will have already naturally leached through the tailing impoundments

	at 1-Dam and 3-Dam.
Photographic:	Photographs of each sampling location will be taken and preserved as part of the sampling event.
GIS:	GIS data will be collected for each sampling location.

Attachment 1 – Mine Site Map

Attachment 1a – Location #1

Attachment 1b – Location #2

Attachment 2 – Mill Site Map

Attachment 2a – Location #3

Attachment 3
Parameters to be Analyzed

Parameters specified in 5 CCR 1002 Regulation 41 (Tables 1 through 4) and Regulation 31 (Tables I through III) that **will be analyzed**

- Aluminum (Dissolved)
- Antimony (Dissolved)
- Arsenic (Dissolved)
- Barium (Dissolved)
- Beryllium (Dissolved)
- Boron (Dissolved)
- Cadmium (Dissolved)
- Chromium (Dissolved)
- Cobalt (Dissolved)
- Copper (Dissolved)
- Iron (Dissolved)
- Lead (Dissolved)
- Manganese (Dissolved)
- Mercury (Dissolved)
- Molybdenum (Dissolved)
- Nickel (Dissolved)
- Selenium (Dissolved)
- Silver (Dissolved)
- Thallium (Dissolved)
- Uranium (Dissolved)
- Vanadium (Dissolved)
- Zinc (Dissolved)

- Ammonia (As N) Total
- Beta and Photon Emitters
- Chloride (Dissolved)
- Chlorophenol
- Cyanide (Free)
- Fluoride (Dissolved)
- Gross Alpha Particle Activity
- Lithium (Dissolved)
- Nitrate (As N) (Dissolved)
- Nitrite (AS N) (Dissolved)
- Nitrate/Nitrite, Total (Dissolved)
- pH
- Phenol
- Sulfate (Dissolved)
- Sulfide as H2S
- Temperature

Parameters that **will not be analyzed** due to there being no potential for them to exist in Mine and Mill soils/tailings

- Asbestos
- Color
- Dissolved Oxygen
- Ecoli
- Foaming Agents
- Odor
- TDS/TSS
- Total Residual Chlorine

Appendix G

Henderson Geochemical Evaluation Results

Analysis for SPLP soil sample taken at east end of mine stockpile										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #1	6/14/2010	SM4500NH3 D	Nitrogen, Ammonia	Total	mg/l	<0.1	0.1	Soil	0.1	U
LOCATION #1	6/14/2010	E420.1	Phenols	Total	ug/l	<50	50	Soil	50	U
LOCATION #1	6/14/2010	E300	Fluoride	Total	mg/kg	10.4	2.2	Soil	2.2	
LOCATION #1	6/14/2010	E300	Chloride	Total	mg/kg	<5.5	5.5	Soil	5.5	U
LOCATION #1	6/14/2010	E300	Nitrogen, Nitrite	Total	mg/kg	<0.67	0.67	Soil	0.67	U
LOCATION #1	6/14/2010	E300	Nitrogen, Nitrate	Total	mg/kg	<0.49	0.49	Soil	0.49	U
LOCATION #1	6/14/2010	E300	Sulfate	Total	mg/kg	587	5.5	Soil	5.5	
LOCATION #1	6/14/2010	SM4500NO3	Nitrogen, Nitrate + Nitrite	Total	mg/kg	<1.2	1.2	Soil	1.2	U
LOCATION #1	6/14/2010	SW9045C	pH	Total	pH Units	3.47		Soil		
LOCATION #1	6/14/2010	SW7470A	Mercury	Total	mg/l	<0.0001	0.0001	Soil	0.0001	U
LOCATION #1	6/14/2010	SW6010B	Aluminum	Total	mg/l	0.84	0.1	Soil	0.1	
LOCATION #1	6/14/2010	SW6010B	Antimony	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #1	6/14/2010	SW6010B	Arsenic	Total	mg/l	<0.025	0.025	Soil	0.025	U
LOCATION #1	6/14/2010	SW6010B	Barium	Total	mg/l	<1	1	Soil	1	U
LOCATION #1	6/14/2010	SW6010B	Beryllium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW6010B	Boron	Total	mg/l	0.19	0.05	Soil	0.05	
LOCATION #1	6/14/2010	SW6010B	Cadmium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW6010B	Chromium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW6010B	Cobalt	Total	mg/l	<0.005	0.005	Soil	0.005	U
LOCATION #1	6/14/2010	SW6010B	Copper	Total	mg/l	0.024	0.005	Soil	0.005	
LOCATION #1	6/14/2010	SW6010B	Iron	Total	mg/l	0.098	0.07	Soil	0.07	
LOCATION #1	6/14/2010	SW6010B	Lead	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #1	6/14/2010	SW6010B	Lithium	Total	mg/l	0.006	0.002	Soil	0.002	
LOCATION #1	6/14/2010	SW6010B	Magnesium	Total	mg/l	0.27	0.2	Soil	0.2	
LOCATION #1	6/14/2010	SW6010B	Manganese	Total	mg/l	1.6	0.005	Soil	0.005	
LOCATION #1	6/14/2010	SW6010B	Molybdenum	Total	mg/l	<0.005	0.005	Soil	0.005	U
LOCATION #1	6/14/2010	SW6010B	Nickel	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #1	6/14/2010	SW6010B	Selenium	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #1	6/14/2010	SW6010B	Silver	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #1	6/14/2010	SW6010B	Thallium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW6010B	Uranium	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #1	6/14/2010	SW6010B	Vanadium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW6010B	Zinc	Total	mg/l	0.67	0.03	Soil	0.03	
LOCATION #1	6/14/2010	SW8270C	Benzoic Acid	Total	mg/l	<0.02	0.02	Soil	0.05	U
LOCATION #1	6/14/2010	SW8270C	2-Chlorophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Chloro-3-methyl phenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2,4-Dichlorophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2,4-Dimethylphenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2,4-Dinitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4,6-Dinitro-o-cresol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2-Methylphenol	Total	mg/l	<0.025	0.025	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	3&4-Methylphenol	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW8270C	2-Nitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Nitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Pentachlorophenol	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Phenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2,4,5-Trichlorophenol	Total	mg/l	<0.025	0.025	Soil	0.05	U
LOCATION #1	6/14/2010	SW8270C	2,4,6-Trichlorophenol	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Acenaphthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Acenaphthylene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Anthracene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Benzo(a)anthracene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Benzo(a)pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U

Analysis for SPLP soil sample taken at east end of mine stockpile										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #1	6/14/2010	SW8270C	Benzo(b)fluoranthene	Total	mg/l	<1		Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Benzo(g,h,i)perylene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Benzo(k)fluoranthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Bromophenyl phenyl ether	Total	mg/l	<0.045	0.045	Soil	0.1	U
LOCATION #1	6/14/2010	SW8270C	Butyl benzyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Benzyl Alcohol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2-Chloronaphthalene	Total	mg/l	<1		Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Chloroaniline	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Carbazole	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Chrysene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	bis(2-Chloroethoxy)methane	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	bis(2-Chloroethyl)ether	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	bis(2-Chloroisopropyl)ether	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Chlorophenyl phenyl ether	Total	mg/l	<0.015	0.015	Soil	0.05	U
LOCATION #1	6/14/2010	SW8270C	1,2-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	1,3-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	1,4-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2,4-Dinitrotoluene	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW8270C	2,6-Dinitrotoluene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	3,3-Dichlorobenzidine	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Dibenzo(a,h)anthracene	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Dibenzofuran	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Di-n-butyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Di-n-octyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Diethyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Dimethyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	bis(2-Ethylhexyl)phthalate	Total	mg/l	<0.015	0.015	Soil	0.05	U
LOCATION #1	6/14/2010	SW8270C	Fluoranthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Fluorene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Hexachlorobenzene	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Hexachlorobutadiene	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW8270C	Hexachlorocyclopentadiene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Hexachloroethane	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #1	6/14/2010	SW8270C	Indeno(1,2,3-cd)pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Isophorone	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2-Methylnaphthalene	Total	mg/l	<0.009	0.009	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2-Nitroaniline	Total	mg/l	<0.05	0.05	Soil	0.1	U
LOCATION #1	6/14/2010	SW8270C	3-Nitroaniline	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	4-Nitroaniline	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Naphthalene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Nitrobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	N-Nitroso-di-n-propylamine	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	N-Nitrosodiphenylamine	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Phenanthrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	Pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	1,2,4-Trichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #1	6/14/2010	SW8270C	2-Fluorophenol	Total	%REC	68		Soil		
LOCATION #1	6/14/2010	SW8270C	Phenol-d5	Total	%REC	76		Soil		
LOCATION #1	6/14/2010	SW8270C	2,4,6-Tribromophenol	Total	%REC	75		Soil		
LOCATION #1	6/14/2010	SW8270C	Nitrobenzene-d5	Total	%REC	63		Soil		
LOCATION #1	6/14/2010	SW8270C	2-Fluorobiphenyl	Total	%REC	63		Soil		
LOCATION #1	6/14/2010	SW8270C	Terphenyl-d14	Total	%REC	70		Soil		
LOCATION #1	6/14/2010	SM7110B	Gross Alpha	Total	pCi/l	130		Soil	2.1	
LOCATION #1	6/14/2010	SM7110B	Gross Beta	Total	pCi/l	53		Soil	2.1	

Analysis for SPLP soil sample taken at west end of mine stockpile										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #2	6/14/2010	SM4500NH3 D	Nitrogen, Ammonia	Total	mg/l	<0.1	0.1	Soil	0.1	U
LOCATION #2	6/14/2010	E420.1	Phenols	Total	ug/l	<50	50	Soil	50	U
LOCATION #2	6/14/2010	E300	Fluoride	Total	mg/kg	13.5	2.2	Soil	2.2	
LOCATION #2	6/14/2010	E300	Chloride	Total	mg/kg	<5.4	5.4	Soil	5.4	U
LOCATION #2	6/14/2010	E300	Nitrogen, Nitrite	Total	mg/kg	<0.66	0.66	Soil	0.66	U
LOCATION #2	6/14/2010	E300	Nitrogen, Nitrate	Total	mg/kg	<0.49	0.49	Soil	0.49	U
LOCATION #2	6/14/2010	E300	Sulfate	Total	mg/kg	141	5.4	Soil	5.4	
LOCATION #2	6/14/2010	SM4500NO3	Nitrogen, Nitrate + Nitrite	Total	mg/kg	<1.2	1.2	Soil	1.2	U
LOCATION #2	6/14/2010	SW9045C	pH	Total	pH Units	5.01		Soil		
LOCATION #2	6/14/2010	SW7470A	Mercury	Total	mg/l	<0.0001	0.0001	Soil	0.0001	U
LOCATION #2	6/14/2010	SW6010B	Aluminum	Total	mg/l	1.3	0.1	Soil	0.1	
LOCATION #2	6/14/2010	SW6010B	Antimony	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #2	6/14/2010	SW6010B	Arsenic	Total	mg/l	<0.025	0.025	Soil	0.025	U
LOCATION #2	6/14/2010	SW6010B	Barium	Total	mg/l	<1	1	Soil	1	U
LOCATION #2	6/14/2010	SW6010B	Beryllium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW6010B	Boron	Total	mg/l	0.23	0.05	Soil	0.05	
LOCATION #2	6/14/2010	SW6010B	Cadmium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW6010B	Chromium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW6010B	Cobalt	Total	mg/l	<0.005	0.005	Soil	0.005	U
LOCATION #2	6/14/2010	SW6010B	Copper	Total	mg/l	0.026	0.005	Soil	0.005	
LOCATION #2	6/14/2010	SW6010B	Iron	Total	mg/l	<0.07	0.07	Soil	0.07	U
LOCATION #2	6/14/2010	SW6010B	Lead	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #2	6/14/2010	SW6010B	Lithium	Total	mg/l	0.004	0.002	Soil	0.002	
LOCATION #2	6/14/2010	SW6010B	Magnesium	Total	mg/l	0.5	0.2	Soil	0.2	
LOCATION #2	6/14/2010	SW6010B	Manganese	Total	mg/l	1.7	0.005	Soil	0.005	
LOCATION #2	6/14/2010	SW6010B	Molybdenum	Total	mg/l	<0.005	0.005	Soil	0.005	U
LOCATION #2	6/14/2010	SW6010B	Nickel	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #2	6/14/2010	SW6010B	Selenium	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #2	6/14/2010	SW6010B	Silver	Total	mg/l	<0.03	0.03	Soil	0.03	U
LOCATION #2	6/14/2010	SW6010B	Thallium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW6010B	Uranium	Total	mg/l	<0.05	0.05	Soil	0.05	U
LOCATION #2	6/14/2010	SW6010B	Vanadium	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW6010B	Zinc	Total	mg/l	0.78	0.03	Soil	0.03	
LOCATION #2	6/14/2010	SW8270C	Benzoic Acid	Total	mg/l	<0.02	0.02	Soil	0.05	U
LOCATION #2	6/14/2010	SW8270C	2-Chlorophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Chloro-3-methyl phenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2,4-Dichlorophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2,4-Dimethylphenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2,4-Dinitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4,6-Dinitro-o-cresol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2-Methylphenol	Total	mg/l	<0.025	0.025	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	3&4-Methylphenol	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW8270C	2-Nitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Nitrophenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Pentachlorophenol	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Phenol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2,4,5-Trichlorophenol	Total	mg/l	<0.025	0.025	Soil	0.05	U
LOCATION #2	6/14/2010	SW8270C	2,4,6-Trichlorophenol	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Acenaphthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Acenaphthylene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Anthracene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Benzo(a)anthracene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Benzo(a)pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Benzo(b)fluoranthene	Total	mg/l	<1		Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Benzo(g,h,i)perylene	Total	mg/l	<0.015	0.015	Soil	0.025	U

Analysis for SPLP soil sample taken at west end of mine stockpile										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #2	6/14/2010	SW8270C	Benzo(k)fluoranthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Bromophenyl phenyl ether	Total	mg/l	<0.045	0.045	Soil	0.1	U
LOCATION #2	6/14/2010	SW8270C	Butyl benzyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Benzyl Alcohol	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2-Chloronaphthalene	Total	mg/l	<1		Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Chloroaniline	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Carbazole	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Chrysene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	bis(2-Chloroethoxy)methane	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	bis(2-Chloroethyl)ether	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	bis(2-Chloroisopropyl)ether	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Chlorophenyl phenyl ether	Total	mg/l	<0.015	0.015	Soil	0.05	U
LOCATION #2	6/14/2010	SW8270C	1,2-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	1,3-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	1,4-Dichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2,4-Dinitrotoluene	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW8270C	2,6-Dinitrotoluene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	3,3-Dichlorobenzidine	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Dibenzo(a,h)anthracene	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Dibenzofuran	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Di-n-butyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Di-n-octyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Diethyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Dimethyl phthalate	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	bis(2-Ethylhexyl)phthalate	Total	mg/l	<0.015	0.015	Soil	0.05	U
LOCATION #2	6/14/2010	SW8270C	Fluoranthene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Fluorene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Hexachlorobenzene	Total	mg/l	<0.01	0.01	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Hexachlorobutadiene	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW8270C	Hexachlorocyclopentadiene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Hexachloroethane	Total	mg/l	<0.01	0.01	Soil	0.01	U
LOCATION #2	6/14/2010	SW8270C	Indeno(1,2,3-cd)pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Isophorone	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2-Methylnaphthalene	Total	mg/l	<0.009	0.009	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2-Nitroaniline	Total	mg/l	<0.05	0.05	Soil	0.1	U
LOCATION #2	6/14/2010	SW8270C	3-Nitroaniline	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	4-Nitroaniline	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Naphthalene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Nitrobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	N-Nitroso-di-n-propylamine	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	N-Nitrosodiphenylamine	Total	mg/l	<0.02	0.02	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Phenanthrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	Pyrene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	1,2,4-Trichlorobenzene	Total	mg/l	<0.015	0.015	Soil	0.025	U
LOCATION #2	6/14/2010	SW8270C	2-Fluorophenol	Total	%REC	55		Soil		
LOCATION #2	6/14/2010	SW8270C	Phenol-d5	Total	%REC	62		Soil		
LOCATION #2	6/14/2010	SW8270C	2,4,6-Tribromophenol	Total	%REC	78		Soil		
LOCATION #2	6/14/2010	SW8270C	Nitrobenzene-d5	Total	%REC	52		Soil		
LOCATION #2	6/14/2010	SW8270C	2-Fluorobiphenyl	Total	%REC	55		Soil		
LOCATION #2	6/14/2010	SW8270C	Terphenyl-d14	Total	%REC	82		Soil		
LOCATION #2	6/14/2010	SM7110B	Gross Alpha	Total	pCi/l	180		Soil	1.2	
LOCATION #2	6/14/2010	SM7110B	Gross Beta	Total	pCi/l	78		Soil	1.9	

Analysis for water sample taken from Henderson Mill Tailings seep water										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #3	6/15/2010	SM4500NH3 D	Nitrogen, Ammonia	Total	mg/l	0.6	0.1	Water	0.1	
LOCATION #3	6/15/2010	SM4500CN E	Cyanide, Total	Total	mg/l	<0.005	0.005	Water	0.005	U
LOCATION #3	6/15/2010	SM4500 S2 H	Hydrogen Sulfide	Total	mg/l	<0.5	0.5	Water	0.5	U
LOCATION #3	6/15/2010	E300	Fluoride	Total	mg/l	36.3	1	Water	1	
LOCATION #3	6/15/2010	E300	Chloride	Total	mg/l	322	10	Water	10	
LOCATION #3	6/15/2010	E300	Nitrogen, Nitrite	Total	mg/l	<0.31	0.31	Water	0.31	U
LOCATION #3	6/15/2010	E300	Nitrogen, Nitrate	Total	mg/l	<0.23	0.23	Water	0.23	U
LOCATION #3	6/15/2010	E300	Sulfate	Total	mg/l	3140	100	Water	100	
LOCATION #3	6/15/2010	E420.1	Phenols	Total	ug/l	124	50	Water	50	
LOCATION #3	6/15/2010	SW8270C	Benzoic Acid	Total	ug/l	<21	21	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2-Chlorophenol	Total	ug/l	<6	6	Water	7.5	U
LOCATION #3	6/15/2010	SW8270C	4-Chloro-3-methyl phenol	Total	ug/l	<13	13	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2,4-Dichlorophenol	Total	ug/l	<8.5	8.5	Water	10	U
LOCATION #3	6/15/2010	SW8270C	2,4-Dimethylphenol	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	2,4-Dinitrophenol	Total	ug/l	<6	6	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4,6-Dinitro-o-cresol	Total	ug/l	<5	5	Water	10	U
LOCATION #3	6/15/2010	SW8270C	2-Methylphenol	Total	ug/l	<13	13	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4-Methylphenol	Total	ug/l	<9	9	Water	10	U
LOCATION #3	6/15/2010	SW8270C	2-Nitrophenol	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4-Nitrophenol	Total	ug/l	<5.5	5.5	Water	5.5	U
LOCATION #3	6/15/2010	SW8270C	Pentachlorophenol	Total	ug/l	<6.5	6.5	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Phenol	Total	ug/l	<11	11	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2,4,5-Trichlorophenol	Total	ug/l	<6.5	6.5	Water	7.5	U
LOCATION #3	6/15/2010	SW8270C	2,4,6-Trichlorophenol	Total	ug/l	<8.5	8.5	Water	10	U
LOCATION #3	6/15/2010	SW8270C	Acenaphthene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Acenaphthylene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Anthracene	Total	ug/l	<6.5	6.5	Water	6.5	U
LOCATION #3	6/15/2010	SW8270C	Benzo(a)anthracene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Benzo(a)pyrene	Total	ug/l	<4.5	4.5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Benzo(b)fluoranthene	Total	ug/l	<7	7	Water	7.5	U
LOCATION #3	6/15/2010	SW8270C	Benzo(g,h,i)perylene	Total	ug/l	<10	10	Water	10	U
LOCATION #3	6/15/2010	SW8270C	Benzo(k)fluoranthene	Total	ug/l	<5	5	Water	7.5	U
LOCATION #3	6/15/2010	SW8270C	4-Bromophenyl phenyl ether	Total	ug/l	<7.5	7.5	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Butyl benzyl phthalate	Total	ug/l	<5.5	5.5	Water	5.5	U
LOCATION #3	6/15/2010	SW8270C	Benzyl Alcohol	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2-Chloronaphthalene	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4-Chloroaniline	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Chrysene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	bis(2-Chloroethoxy)methane	Total	ug/l	<11	11	Water	25	U
LOCATION #3	6/15/2010	SW8270C	bis(2-Chloroethyl)ether	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	bis(2-Chloroisopropyl)ether	Total	ug/l	<13	13	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4-Chlorophenyl phenyl ether	Total	ug/l	<13	13	Water	25	U
LOCATION #3	6/15/2010	SW8270C	1,2-Dichlorobenzene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	1,3-Dichlorobenzene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	1,4-Dichlorobenzene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	2,4-Dinitrotoluene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	2,6-Dinitrotoluene	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	3,3-Dichlorobenzidine	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Dibenzo(a,h)anthracene	Total	ug/l	<8	8	Water	10	U
LOCATION #3	6/15/2010	SW8270C	Dibenzofuran	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Di-n-butyl phthalate	Total	ug/l	<6.5	6.5	Water	6.5	U

Analysis for water sample taken from Henderson Mill Tailings seep water										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #3	6/15/2010	SW8270C	Di-n-octyl phthalate	Total	ug/l	<9	9	Water	9	U
LOCATION #3	6/15/2010	SW8270C	Diethyl phthalate	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Dimethyl phthalate	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	bis(2-Ethylhexyl)phthalate	Total	ug/l	<7.5	7.5	Water	7.5	U
LOCATION #3	6/15/2010	SW8270C	Fluoranthene	Total	ug/l	<6	6	Water	6	U
LOCATION #3	6/15/2010	SW8270C	Fluorene	Total	ug/l	<7	7	Water	7	U
LOCATION #3	6/15/2010	SW8270C	Hexachlorobenzene	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Hexachlorobutadiene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Hexachlorocyclopentadiene	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Hexachloroethane	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Indeno(1,2,3-cd)pyrene	Total	ug/l	<8	8	Water	10	U
LOCATION #3	6/15/2010	SW8270C	Isophorone	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	2-Methylnaphthalene	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2-Nitroaniline	Total	ug/l	<11	11	Water	25	U
LOCATION #3	6/15/2010	SW8270C	3-Nitroaniline	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	4-Nitroaniline	Total	ug/l	<7.5	7.5	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Naphthalene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Nitrobenzene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	N-Nitroso-di-n-propylamine	Total	ug/l	<8	8	Water	10	U
LOCATION #3	6/15/2010	SW8270C	N-Nitrosodiphenylamine	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	Phenanthrene	Total	ug/l	<10	10	Water	25	U
LOCATION #3	6/15/2010	SW8270C	Pyrene	Total	ug/l	<5	5	Water	5	U
LOCATION #3	6/15/2010	SW8270C	1,2,4-Trichlorobenzene	Total	ug/l	<9	9	Water	25	U
LOCATION #3	6/15/2010	SW8270C	2-Fluorophenol	Total	%REC	56		Water		
LOCATION #3	6/15/2010	SW8270C	Phenol-d5	Total	%REC	67		Water		
LOCATION #3	6/15/2010	SW8270C	2,4,6-Tribromophenol	Total	%REC	82		Water		
LOCATION #3	6/15/2010	SW8270C	Nitrobenzene-d5	Total	%REC	54		Water		
LOCATION #3	6/15/2010	SW8270C	2-Fluorobiphenyl	Total	%REC	59		Water		
LOCATION #3	6/15/2010	SW8270C	Terphenyl-d14	Total	%REC	73		Water		
LOCATION #3	6/15/2010	E200.7	Aluminum	Diss	ug/l	23600	100	Water	100	
LOCATION #3	6/15/2010	E200.7	Antimony	Diss	ug/l	<30	30	Water	30	U
LOCATION #3	6/15/2010	E200.7	Arsenic	Diss	ug/l	53.4	25	Water	25	
LOCATION #3	6/15/2010	E200.7	Barium	Diss	ug/l	20.4	10	Water	10	
LOCATION #3	6/15/2010	E200.7	Beryllium	Diss	ug/l	<10	10	Water	10	U
LOCATION #3	6/15/2010	E200.7	Boron	Diss	ug/l	62.5	50	Water	50	
LOCATION #3	6/15/2010	E200.7	Cadmium	Diss	ug/l	<10	10	Water	10	U
LOCATION #3	6/15/2010	E200.7	Chromium	Diss	ug/l	<200	200	Water	200	U
LOCATION #3	6/15/2010	E200.7	Cobalt	Diss	ug/l	<100	100	Water	100	U
LOCATION #3	6/15/2010	E200.7	Copper	Diss	ug/l	<500	500	Water	500	U
LOCATION #3	6/15/2010	E200.7	Iron	Diss	ug/l	164000	70	Water	70	
LOCATION #3	6/15/2010	E200.7	Lead	Diss	ug/l	<50	50	Water	50	U
LOCATION #3	6/15/2010	E200.7	Lithium	Diss	ug/l	231	2	Water	2	
LOCATION #3	6/15/2010	E200.7	Magnesium	Diss	ug/l	27200	200	Water	200	
LOCATION #3	6/15/2010	E200.7	Manganese	Diss	ug/l	180000	100	Water	100	
LOCATION #3	6/15/2010	E200.7	Molybdenum	Diss	ug/l	<10	10	Water	10	U
LOCATION #3	6/15/2010	E200.7	Nickel	Diss	ug/l	49.5	30	Water	30	
LOCATION #3	6/15/2010	E200.7	Selenium	Diss	ug/l	58.6	50	Water	50	
LOCATION #3	6/15/2010	E200.7	Silver	Diss	ug/l	30	30	Water	30	
LOCATION #3	6/15/2010	E200.7	Thallium	Diss	ug/l	<200	200	Water	200	U
LOCATION #3	6/15/2010	E200.7	Uranium	Diss	ug/l	113	50	Water	50	
LOCATION #3	6/15/2010	E200.7	Vanadium	Diss	ug/l	<200	200	Water	200	U

Analysis for water sample taken from Henderson Mill Tailings seep water										
Site Name	Sample Date	Analytical Method	Analyte		Units	Results	MDL	Media	RL	Note
LOCATION #3	6/15/2010	E200.7	Zinc	Diss	ug/l	8990	30	Water	30	
LOCATION #3	6/15/2010	E245.1	Mercury	Diss	ug/l	<0.1	0.1	Water	0.1	U
LOCATION #3	6/14/2010	SM7110B	Gross Alpha	Total	pCi/l	100		Soil	4.5	
LOCATION #3	6/14/2010	SM7110B	Gross Beta	Total	pCi/l	185		Soil	4.5	

Appendix H

Technical Consulting Report – Establishing Background Threshold Values (BTVs) for Manganese

GATEWAY ENTERPRISES

Technical Consulting Report

February 28, 2012

Report To: Climax Molybdenum Company – Henderson Mine and Mill

Subject: **Establishing Background Threshold Values (BTVs) for Manganese**

Prepared by: John G. Huntington, Ph.D.
Technical Director and Consultant
Gateway Enterprises

Background and Summary

The purpose of this report is to describe a technical approach recommended to determine background threshold values (BTVs) for manganese at the Climax Molybdenum Company - Henderson Mine and Mill (Henderson) facility. The facility consists of two separate areas, the mine and the mill. The mine is on the east side of the continental divide and the mill is on the west side.

According to the CDPHE regulations for groundwater, available information obtained since January 31, 1994 can be used to determine the level of existing ambient groundwater quality (1). Such data was provided to us by Aquionix on behalf of Henderson and we were asked to develop a set of BTVs using it.

The primary guidance and tool that we have used for this purpose is provided by EPA in the USEPA ProUCL 4.1.01 statistical package. This is a tool developed for this purpose by Lockheed Martin under contract with EPA (2). This tool consists of a software package and extensive technical documentation describing how to properly develop BTVs.

In addition to this we have used a number of other statistical references (3,4,5,6,7) as well as our own professional chemical and scientific judgment. In this document we have attempted to describe such judgments and the rationale associated with them.

In very brief summary we find that the data associated with these wells do not follow a normal distribution, but are fairly close to log-normally distributed. This is common for environmental data (3) and has been shown by a number of workers to be expected based on theoretical considerations (4). However, this type of distribution can also result from outliers, biased sampling, or mixed sources (5). These potential problems are also described in the EPA documents supporting proUCL (6). The ProUCL tool also calculates statistics based on normal

and gamma distributions, which generally produce similar results. However, due to the observed distribution characteristics we have relied on the log-normal and non-parametric calculations to develop our recommendations. All of these calculations are available in the supporting documents associated with this report (available on request).

We have generated two basic types of statistical limits in this work:

1. 95% upper confidence limits (UCL) for the population mean. This is the limit which should be used to evaluate the ongoing site mean. If the mean drifts above the UCL, this may be evidence of developing contamination at the site.
2. 95% upper prediction limits (UPL). This parameter is the limit against which individual future measurements, as opposed to the site mean, should be compared. The developers of proUCL recommend the use of this parameter as a site BTV. The UPL is thus considered the BTV for the site, and if any individual measurement falls above this level it could mean that the site is showing evidence of contamination.

For the mine site there is one well, MNGW-1. We have proposed a UCL and UPL for this well based on the calculations described in this document.

For the mill site we have considered well MLGW-7. We have proposed a UCL and UPL to cover MLGW-7 based on the calculations provided in this document.

Preliminary Data Treatment

The first step in developing site limits is to evaluate the general characteristics of the data, and to determine if there are data points that should be removed as outliers, by means of statistical evaluation or a consideration of other factors. We have considered both statistical outlier calculations and have reviewed the laboratory data in cases where outliers seem possible. We have made evaluations of outliers based on both considerations.

Figure 1 represents a Q-Q plot for well MNGW-1 assuming a normal distribution. The Q-Q plot is essentially the plot of the actual distribution of data against the distribution expected from a normal distribution, and if the data follow a normal distribution a straight line should be observed. A larger and more detailed chart is available in the associated Excel files for this project (available on request). Red data points are the non-detected results observed. With or without non-detects, the data clearly fail to follow a normal distribution.

When the four data points that visually appear to be outliers are removed from the data set, the chart shown in Figure 2 is produced. This chart still clearly does not indicate a normal distribution for the data. Figure 3 shows that even when the 5 additional points at the top of the chart are removed; the data still fail to follow a normal distribution. No amount of data adjustment can produce a data set with a normal distribution.

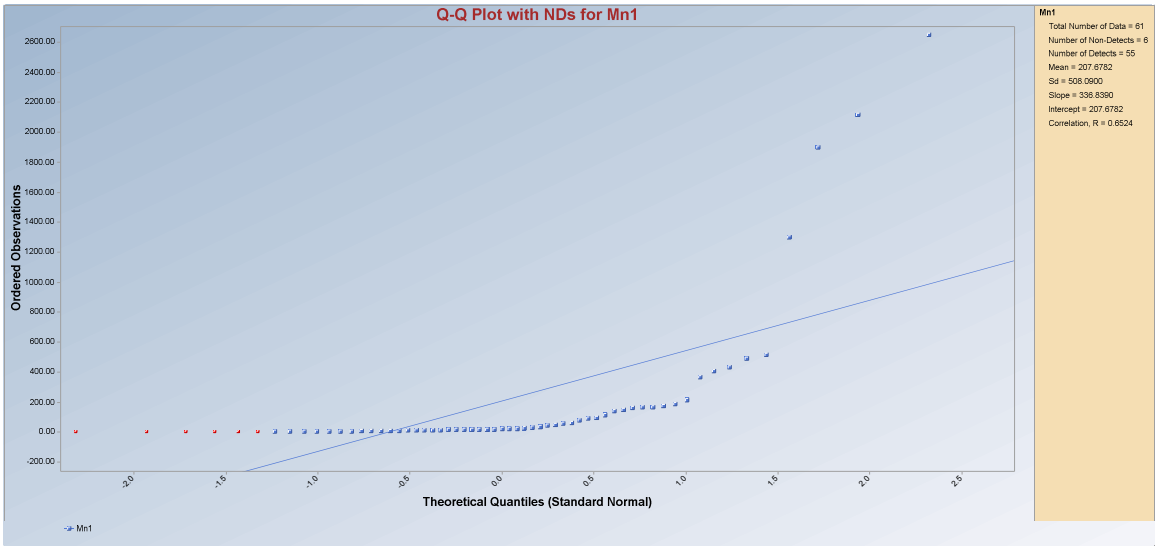


Figure 1. Q-Q Plot for Manganese in Well MNGW-1.

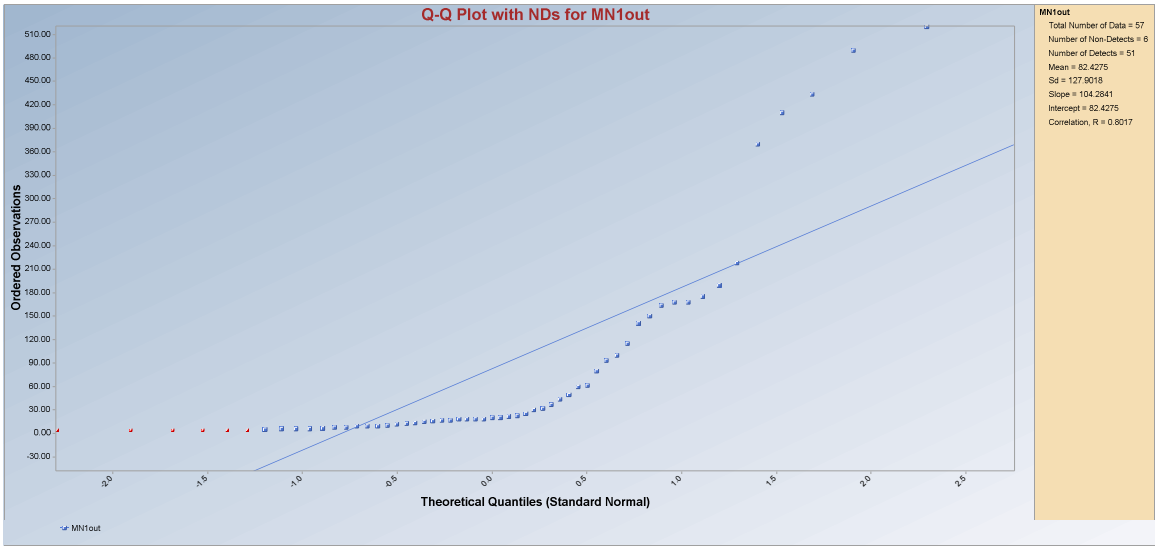


Figure 2. Q-Q Plot for Manganese in Well MNGW-1 After Removal of Four Outliers.

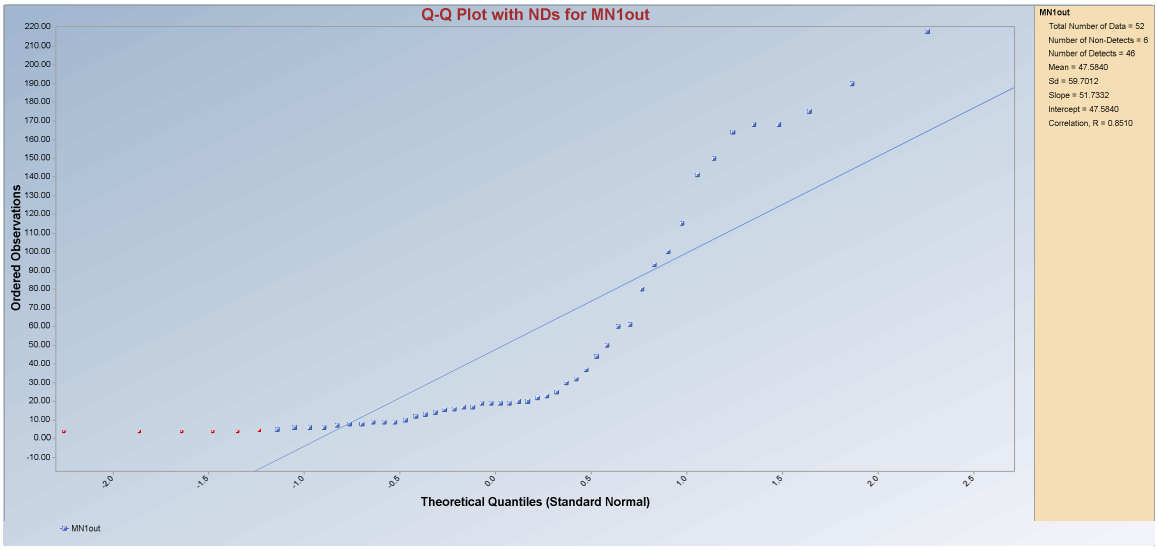


Figure 3. Q-Q Plot for Manganese in Well MNGW-1 After Removal of 9 Outliers.

In contrast, Figure 4 shows the Q-Q plot for this data set assuming a lognormal distribution, with no data points removed.

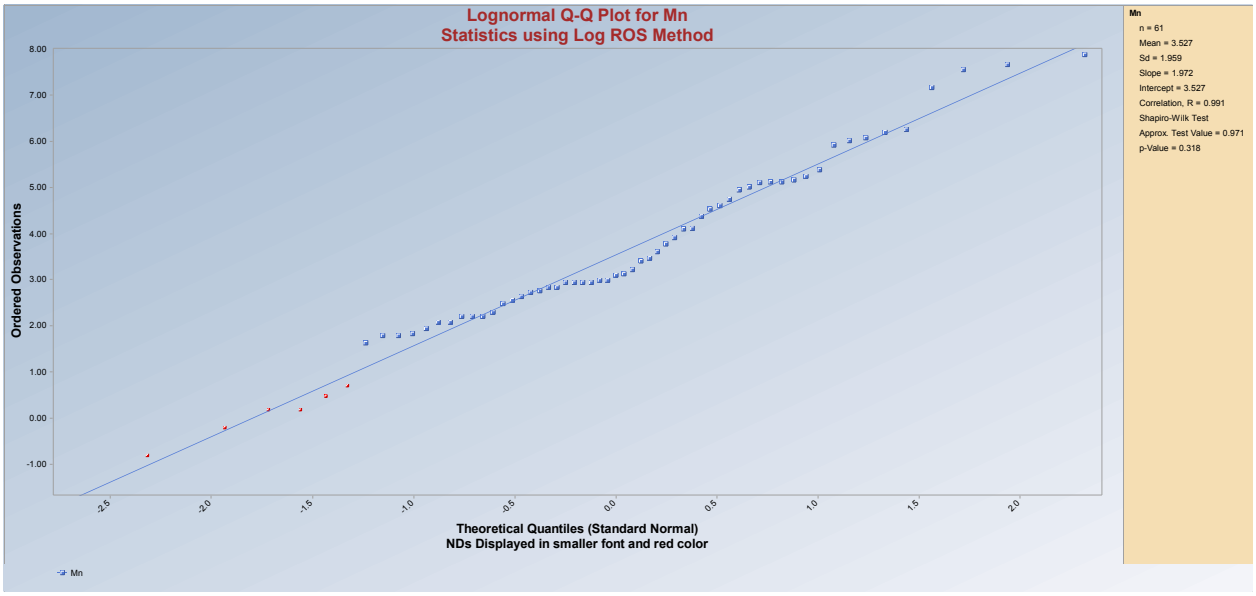


Figure 4. Q-Q Plot of Log-Transformed Manganese Results, MNGW-1, No Outliers Removed.

This plot shows that the data approximate a lognormal distribution with an r value of 0.971. Thus the lognormal distribution produces a much better fit for the behavior of Mn in this well. As has been shown by several workers, this is a result which is expected on theoretical grounds (3,4).

If the data approximate a lognormal distribution then outlier tests must be conducted on log-transformed data in order to conclude that removal of outliers is justified. The standard EPA-recommended outlier tests (The Grubbs test, the Dixon test, and the Rosner test) all assume

that the data being tested follow a normal distribution. Thus testing the data for outliers using these tests on non-transformed data will generate an excessive number of outliers, since the distribution is far from normal. This is observed when the Rosner test (essentially the Gibbs tests modified to account for multiple outliers) is applied to the data set without transformation. The Rosner test can produce as many as 9 outliers, and when so applied the data set generated after removal of these outliers still does not approximate a normal distribution, and a log-normal distribution is still applicable.

On the grounds that the initial data set contains 4 data points that are flagged as outliers by the Rosner test, and that these correspond to the obviously different data points in Figure 1, we have calculated statistics based on the full data set as well as the data set with these 4 outliers removed.

Applying the Rosner test to MNGW-1 data after log transformation results in the conclusion that no outliers are statistically likely. Since the data are approximately log-normal, this suggests that the full data set should be used.

Similar calculatons for MLGW-7 show that it also approximates a log-normal distribution. For MLGW-7, three outliers were originally indicated statstically, very high-level results for samples collected in 2008, 2009, and 2010.

We requested and received the laboratory data for MLGW-7 for these sampling dates. For the sampling date of 3/31/2008, the laboratory results did not match those in the database. The high results for this sample were incorrect and were replaced with correct results, which are more in line with historical results for MLGW-7. The other high level points, however, were entered correctly per the laboratory reports.

We attempted to evaluate the laboratory data considering other results for MLGW-7. There was sufficient information to obtain a total anion result for the wells, but not all of the common cations were analyzed, so a total cation result could not be calculated. However, assuming that all the cations for Well MLGW-7 are relatively similar to previous samplings, the estimated ion balance is low for cations. Using the laboratory manganese result brings the total cation and total anions into near balance. Therefore, we have no reason to suspect that the analytical results are incorrect for the two high level results in 2009 and 2010.

Naturally-occuring dissolved manganese can show significant fluctuations in groundwater depending on groundwater oxygen levels. The manganese reduction occurs at relatively high dissolved oxygen level (higher than iron, for example). Relatively small oxygen fluctuations could cause significant increases in manganese levels.

Consistent with EPA recommendations, we have calculated all of the statistics discussed in this report based on data sets both with and without outliers. These are provided for review. In the case of well MNGW-1, although the log-normal data does not allow rejection of any outliers, if the assumption is made that outliers are one cause of the lognormal behavior, then four of the data points can be rejected by the Rosner test as outliers. We have included statistics calculated on the basis of that data set in addition to the full data set.

Seasonality

The apparent outliers discussed above may actually be due to large fluctuations that occur in the well due to natural variations. It has been shown that manganese is particularly susceptible to seasonal variations in groundwaters and in surface waters (8, 9, 10).

When the data sets are segregated into October-March and April-September groups, the wells show evidence of seasonal variation. That is, the October-March groups contain most of the higher levels detected and when a hypothesis test (either Wilcoxon-Mann-Whitney or t-test) is applied, the October-March data are statistically higher than the April – September data in wells MNGW-1 (99% level) and MLGW-7 (99% level). The highest data points are present in the October-March data groups.

While not conclusive, this strongly suggests that the high-level points in the data sets may not be outliers due to some sampling or analysis issue, but in fact are more likely to be representative of natural fluctuations of the manganese levels in these wells.

Therefore for well MNGW-1, it is reasonable to conclude, based on both the statistical outlier tests and the observation of seasonality, that the entire data set should be used in developing UCLs and UPLs. Although we show UCLs and UPLS with and without the "outliers" we recommend the use of those obtained with the high level data points included.

For well MLGW-7 the decision is less clear because the log-normal outlier tests allow the removal of some of the data points as outliers. Nonetheless, the data are consistent with a similar scenario and we believe that there should not be removal of outliers (particularly in well MLGW-7) because of the unique chemical behavior of manganese.

Calculation of UCL

Table 1 provides the general statistics calculated for each well by proUCL.

Table 1. General Statistics for the Wells

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 No Outliers	MLGW-7 2 Outliers
Count of Detects	56	52	105	103
Count of Non-Detects	10	10	19	19
Mean	228	92	1211	86
Median	20.5	20	23	22
Standard Deviation	274	131	8118	296

These results are obtained including the non-detected results, with values assigned for calculation by proUCL. The number of non-detects is small for these data sets and the method used for handling them, whether ½ PQL or the other methods available in proUCL, makes little difference in the outcome.

Table 2 provides the UCL calculations based on a log-normal distribution. EPA does not recommend using the ½ PQL method, which has historically been the most common. For the calculated results, the proUCL tool provides results for both the ½ PQL and several other methods (depending on the applicable distribution). It also provides a more stringent test to determine if the distribution is normal, log-normal, gamma, or follows no specific distribution at the 95% level. In most cases, no distribution meets the 95% (p=5%) criterion, but the calculations show that at a lower confidence level a log-normal distribution applies. This is shown by the fact that the Lilliefors critical value is very close to the 5% Lilliefors test statistic. For a normal calculation the critical value and the test statistic are very different (see Table 4).

Table 2. UCL statistics based on log-normal distribution

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
Lilliefors Test Statistic	0.126	0.12	0.163	0.113
5% Lilliefors Critical Value	0.118	0.124	0.0865	0.0873
95% H-Stat (DL/2) UCL	313	135	149	70
Log ROS 95% t UCL	295	105	2139	115
95% Percentile Bootstrap UCL	303	106	2050	117
95% BCA Bootstrap UCL	326	109	3380	133
95% H UCL	*393*	149	*176*	74

Table 3 provides the various non-parametric (no distribution form is assumed) statistical estimates of the UCL for the wells. The results of this approach are similar to those of the log-normal distribution.

Table 3. UCL statistics based on non-parametric calculations

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
95% KM (t) UCL	295	105	2140	115
95% KM (z) UCL	294	104	2132	114
95% KM (jackknife) UCL	295	105	2139	115
95% KM (bootstrap t) UCL	357	114	35722	242
95% KM (BCA) UCL	312	107	2419	120
95% KM (Percentile Bootstrap) UCL	302	107	2018	117
95% KM (Chebyshev) UCL	**572**	**147**	**5223**	**182**

Table 4 provides the available results when a normal distribution is assumed. The considerable difference between the 5% Lilliefors critical value and the Lilliefors test statistic demonstrates that the assumption of normality does not apply.

Table 4. UCL Statistics based on Normal Distribution

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
Lilliefors Test Statistic	0.35	0.258	0.499	0.388
5% Lilliefors Critical Value	0.118	0.124	0.0865	0.0873
95% DL/2 (t) UCL	295	111	2139	115

The UCL, as stated before, provides a limit to compare with the site **mean**, not with individual measured results. The site mean should not fall above this limit. The 95% KM (Chebyshev) UCL is bolded in Table 3 because this is the statistic which is suggested for use by the proUCL software.

Calculation of UPL

The calculation of the UPL for the log-normal distribution is provided in Table 5. Again the Lilliefors test statistic is consistent with a log-normal distribution for a 10% critical value, but not for a 5% critical value. Thus the distribution is reasonably close to log-normal in all cases.

Table 5. UPL Based on Log-Normal Distribution

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
Lilliefors Test Statistic	0.126	0.12	0.163	0.113
5% Lilliefors Critical Value	0.118	0.123	0.0865	0.0873
DL/2 Method 95% UPL (t)	698	296	377	194
Log ROS Method 95% UPL (t)	*793*	361	*418*	204

Table 6 presents the UPL calculation assuming no specific distribution (non-parametric calculation).

Table 6. UPL Based on Non-Parametric Statistics

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
95% KM Chebyshev UPL	**2330**	**618**	**33600**	**1270**
95% KM UPL (t)	1010	285	13400	527

Table 7 provides the UPL calculations assuming a normal distribution, which is clearly not consistent with the high value of the Lilliefors Test Statistic when compared to the critical value for p = 5%.

Table 7. UPL Based on Normal Distribution

Calculated Statistic	MNGW-1 No Outliers	MNGW-1 4 Outliers	MLGW-7 no Outliers	MLGW-7 2 Outliers
Lilliefors Test Statistic	0.35	0.252	0.499	0.388
5% Lilliefors Critical Value	0.118	0.123	0.0865	0.0873
DL/2 Method 95% UPL (t)	1020	287	13500	529
MLE Method 95% UPL (t)	1140	332	14100	574

The 95% KM Chebyshev UPL is bolded in Table 6, because it is analogous in computation to the software-recommended UCL. The software does not provide a specific recommendation for the UPL.

Charts of Historical Data

Figure 6 shows the historical data for MNGW-1 with the UCL, UPL, and site average computed from the full data set. A 24-month moving average is also shown to indicate the degree to which the mean changes with time. Figure 7 shows a similar plot with the 4 "outliers" removed from the data set. The values of the UCL and UPL on the chart are those provided in the Recommendations section. Figure 8 provides the plot for MLGW-7, in which the two outliers are removed. When the outliers remain the plot becomes difficult to show because the two outliers are so much higher than the rest of the data.

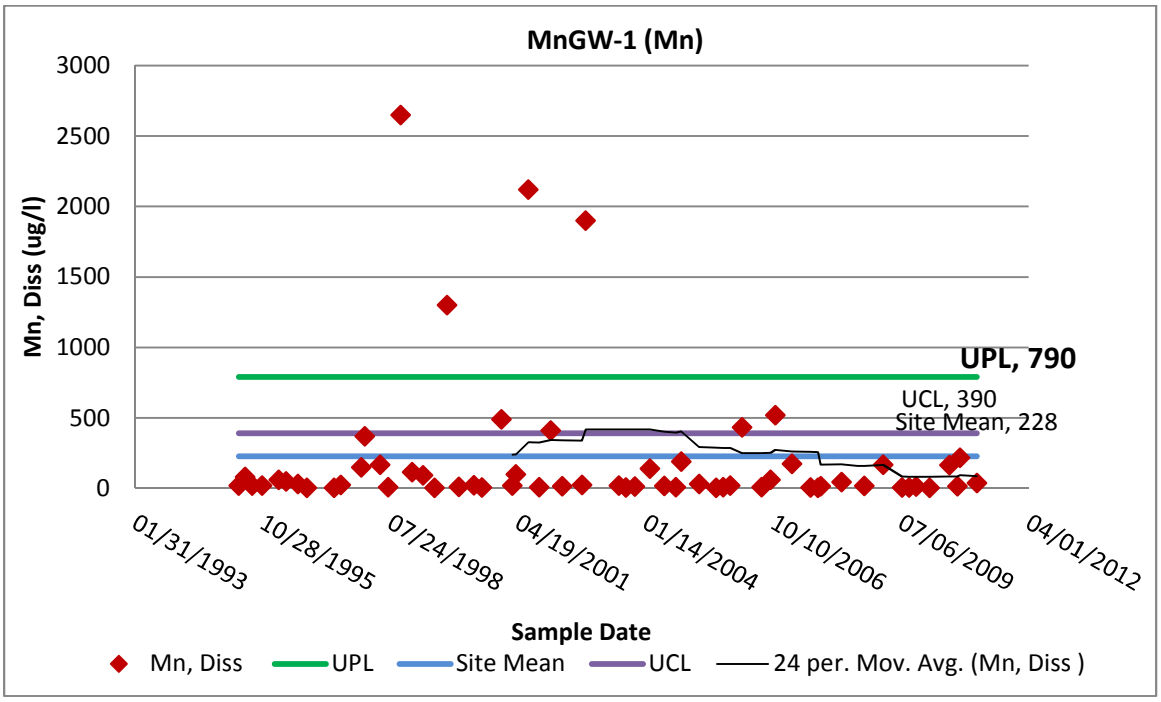


Figure 6. Well MNGW-1, Full Data Set with UPL and UCL. *The Values of the UPL and UCL are those recommended as a result of this study (see the Recommendations Section).*

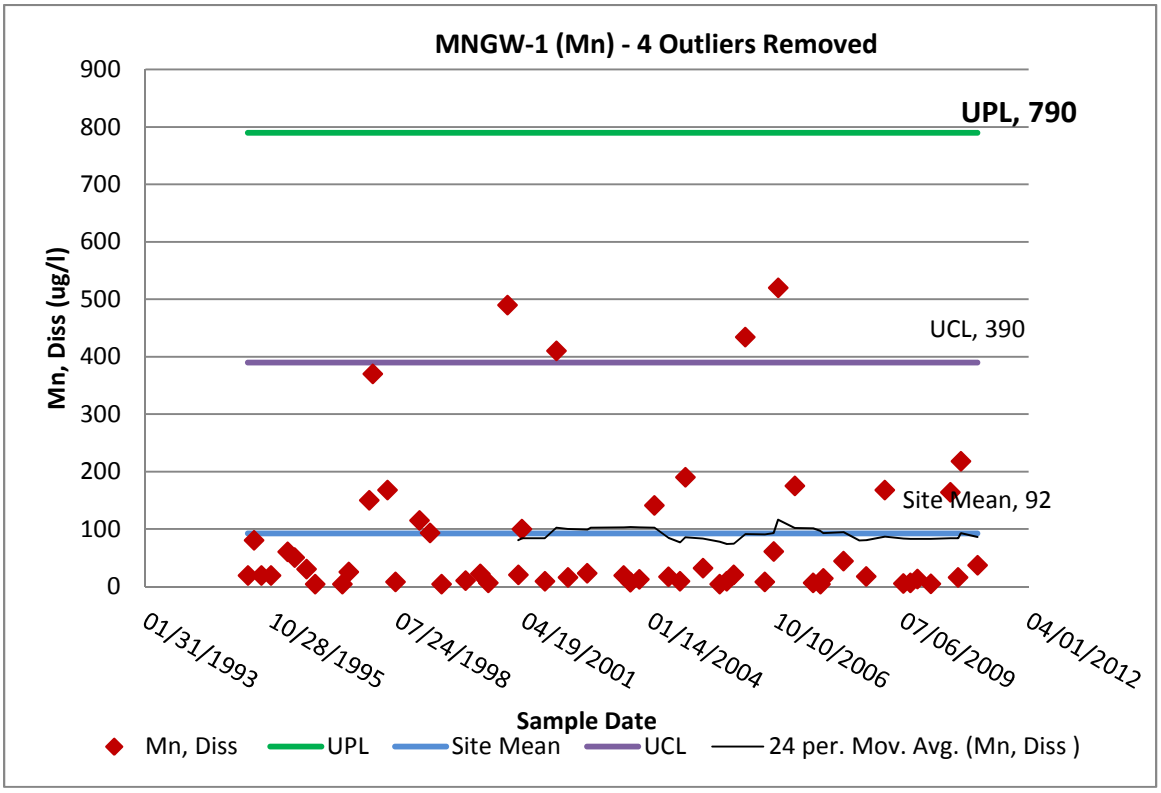


Figure 7. Well MNGW-1, 4 Outliers Removed, with Associated UPL and UCL. *The Values of the UPL and UCL are those recommended as a result of this study (see the Recommendations Section).*

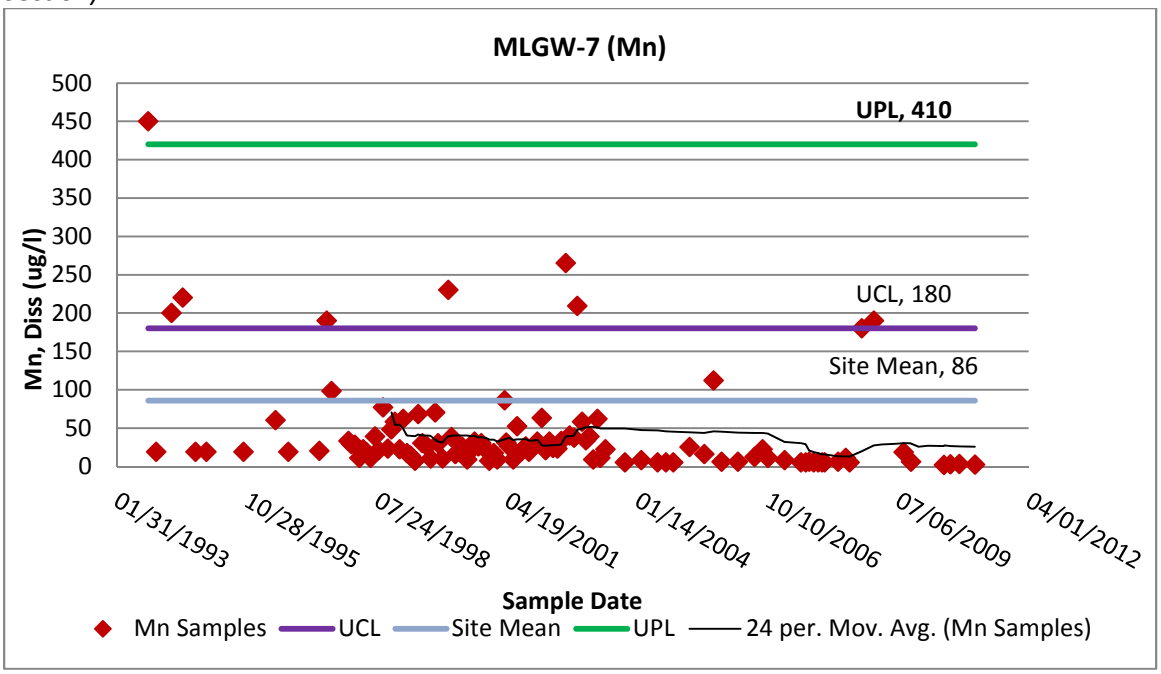


Figure 8. Well MLGW-7, two outliers removed, UPL and UCL shown. *The Values of the UPL and UCL are those recommended as a result of this study (see the Recommendations Section).*

Recommendations

As is evident from the tables, the different statistical methods produce different estimates of the UCL and the UPL in these wells. The classical EPA methods are the H-stats, based on Land's H-statistic, recommended historically for UCL determinations. The results for this statistic are not as profoundly impacted by a few high-level results as are some of the other approaches. This can be seen by comparing the H-Stat values for the UCL in Table 2 (Lognormal distribution) for well MLGW-7 having "outliers" removed and retained. MLGW-7 is a case of a well having a few very high results and a large number of data points at lower levels and/or non-detects.

All of the data sets come close to log-normality, but do not all meet the p=5% criterion and are therefore approximately log-normal. MNGW-1 does meet the p=5% criterion when outliers are removed.

The software provides a recommendation for a UCL based on non-parametric statistics. This is the UCL based on the Chebyshev inequality (a fundamental equation in statistics). This is a frequently-used UCL method, and is known to give conservative values for the UCL. The method is sensitive to "outliers" as can be seen in Table 3. Although the developers of proUCL recommend its use, they also caution that choices should be tempered by professional judgment. The same considerations apply for UPL estimates.

The dissolved manganese in these wells shows considerable variability with no discernible trends (checked by proUCL and by regression analysis). As discussed, evaluation of available laboratory data for high-level results supports the validity of the results. Thus the apparent "outliers" appear to be due to real manganese results in the samples, not due to sampling or analytical bias. Manganese is known to vary over wide ranges in the natural environment, and limits set for surface waters can be fairly high due to this (8).

We believe that although the sporadic high-level manganese levels in these wells make statistical analysis more difficult, they are likely to be actual reflections of real manganese variation in the wells and cannot be simply dismissed as outliers.

Based on the discussion presented here, we recommend the following limits for manganese. These are based on the statistical results and also include technical judgments about what is reasonable based on historical results and the known chemistry of manganese. Thus we have not chosen in all cases the software "recommended" values because we believe they may be too high to be sufficiently protective of the environment.

For the Mine site, represented by well MNGW-1:

- An upper control limit (UCL) of 390 ug/L (0.39 mg/L). This is the limit against which the site mean is to be compared. The background data suggest that it is not likely that this limit will be exceeded in the absence of a contamination event. We have chosen the H-stat result highlighted in Table 2, rounded to 2 significant figures. This choice is made because it provides a reasonable value and includes some consideration of the higher-level results observed in this well. It is also appropriate because the distribution of the data is very close to log-normal.

- An upper prediction limit (UPL) of 790 ug/L (0.79 mg/L). This is the limit against which individual measurements will be compared. The background data suggest that this limit may be occasionally exceeded, but if it is, additional measurements will not likely result in the limit being exceeded unless there is a contamination event. This result is chosen for similar reasons to the choice made for the UCL and is the highlighted value in shown in Table 5.

For the Mill site, well MLGW-7:

- An upper control limit of 180ug/L (0.18 mg/L). This is the limit against which the site mean is to be compared. This result is based on the log-normal H-Stat results for MLGW-7 with no "outliers" removed, rounded to 2 significant figures. This is also highlighted in Table 2. Based on the historical record, it is very likely that individual measurements will exceed this limit, but the site mean is expected to remain below it.

- An upper prediction limit (UPL) of 420 ug/L (0.42 mg/L). This is the limit against which individual measurements will be compared. The historical record suggests that it is somewhat more likely than 5% that individual measurements will exceed this limit, but subsequent samples are expected to fall back below the level.

The result is based on the log-normal result for MLGW-7 without removal of outliers, and is highlighted in Table 5. The value is rounded to 2 significant figures. Although this value may be relatively low for this well, it is still based on an analysis that does not require the unjustified removal of outliers and is consistent with the recommendations for MNGW-1.

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Appendix I

Monitoring Frequency Statistical Evaluation

Appendix I – Monitoring Frequency Statistical Evaluation

Shown below are the details of the calculations for each parameter and well.

MANGANESE:

Statistic - Manganese, MLGW7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	103	77	77	76	79
Total Non-Detects	18	17	15	14	11
Maximum Detected	2210	2040	2210	2210	2210
Minimum Detected	1.7	1.7	2.2	1.7	1.7
Detected Mean	86	73	106	91	75
Detected Median	22	23	26	21	22
Detected SD	296	238	340	341	254
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - Manganese, MNGW-1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	56	40	47	38	43
Total Non-Detects	10	10	8	5	5
Maximum Detected	2650	2650	2650	2650	2120
Minimum Detected	4.7	5.1	4.7	4.7	4.7
Detected Mean	228	267	260	270	121
Detected Median	34	22.5	32	87	25
Detected SD	526	614	570	542	329
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

IRON:

Statistic - Iron, MLGW-7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	7	6	6	6	3
Total Non-Detects	12	9	9	9	9
Maximum Detected	292	292	292	292	120
Minimum Detected	20	20	20	20	20
Detected Mean	111	109.5	126.2	126.2	53.3
Detected Median	20	20	70	70	20
Detected SD	126.7	138.7	131.6	131.6	57.7
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - Iron, MNGW-1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	30	20	27	20	23
Total Non-Detects	37	31	29	23	28
Maximum Detected	524	301	524	524	524
Minimum Detected	10	10	10	10	10
Detected Mean	116.8	90.8	122	139.6	113.9
Detected Median	61.6	61.6	70	124	50
Detected SD	130.1	78.3	135.5	148.2	140.6
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

ZINC:

Statistic - Zinc, MLGW-7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	12	9	8	10	9
Total Non-Detects	5	4	5	2	4
Maximum Detected	50	50	50	30	50
Minimum Detected	4.9	4.9	4.9	10	4.9
Detected Mean	25.4	26.1	25.6	25	24.9
Detected Median	30	30	30	30	30
Detected SD	11.6	12.2	14	7	13.3
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - Zinc, MNGW-1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	53	38	44	37	40
Total Non-Detects	14	13	12	6	11
Maximum Detected	650	650	650	650	399
Minimum Detected	7.2	7.2	7.2	10	7.2
Detected Mean	60	64.7	61.6	69.6	44.9
Detected Median	20	20	20	24.4	20
Detected SD	114.8	129.2	123.2	121.9	78.2
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

SULFATE:

Statistic - Sulfate, MLGW7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	47	37	35	35	34
Total Non-Detects	0	0	0	0	0
Maximum Detected	320	258	320	320	320
Minimum Detected	29	29	30	29	29
Detected Mean	132.9	119.2	128.7	142.2	142.5
Detected Median	133	120	120	134	139.5
Detected SD	80.5	67.7	83.2	85.6	83.7
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Insufficient data for Well MNGW-1

TDS:

Statistic - TDS, MLGW7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	31	24	24	24	21
Total Non-Detects	0	0	0	0	0
Maximum Detected	681	562	681	681	681
Minimum Detected	121	121	121	121	128
Detected Mean	336.4	324.5	325	344.7	353.5
Detected Median	328	330	311	328	350
Detected SD	133.4	115.7	134.7	145.5	136.9
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - TDS, MNGW1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	65	50	54	41	50
Total Non-Detects	0	0	0	0	0
Maximum Detected	988	910	988	988	988
Minimum Detected	50	50	50	100	50
Detected Mean	264.3	210	229.4	354.6	282.4
Detected Median	156	130	136.5	308	171
Detected SD	226	203.6	200.7	242.2	236.8
Hypothesis Test, alpha=0.05		Equal	Equal	> Full set	Equal

pH:

Statistic - pH, MLGW7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	114	87	85	85	85
Total Non-Detects	0	0	0	0	0
Maximum Detected	8.2	8.2	8.2	7.9	8.2
Minimum Detected	5.9	5.9	6	5.9	5.9
Detected Mean	6.6	6.6	6.6	6.9	6.6
Detected Median	6.5	6.5	6.5	6.5	6.5
Detected SD	0.46	0.47	0.48	0.41	0.48
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - pH, MNGW1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	61	46	51	41	45
Total Non-Detects	0	0	0	0	0
Maximum Detected	8	8	8	8	7.9
Minimum Detected	6	6	6	6	6
Detected Mean	7	7	6.9	6.9	6.9
Detected Median	6.9	6.9	6.9	7	6.9
Detected SD	0.42	0.42	0.43	0.41	0.41
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

MOLYBDENUM:

Statistic - Mo, MLGW-7	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	9	8	8	6	5
Total Non-Detects	13	9	9	11	10
Maximum Detected	100	100	100	20	100
Minimum Detected	0.18	0.19	0.18	0.18	0.48
Detected Mean	14.7	16.5	16.5	3.6	22.1
Detected Median	0.43	0.46	0.46	0.33	0.33
Detected SD	32.7	34.5	34.5	8	43.7
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal

Statistic - Mo, MNGW-1	Full Data Set	Q1 Removed	Q2 Removed	Q3 Removed	Q4 Removed
Total Detects	20	15	18	11	16
Total Non-Detects	47	36	38	32	35
Maximum Detected	40	40	20	40	40
Minimum Detected	0.14	0.17	0.14	0.14	0.14
Detected Mean	5.6	6.3	3.5	7.5	6.1
Detected Median	1.2	0.53	0.44	2	1.1
Detected SD	9.7	10.9	5.6	11.8	10.7
Hypothesis Test, alpha=0.05		Equal	Equal	Equal	Equal