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# TECHNICAL MEMORANDUM

**TO**: Mary Beth Marks – On-Scene Coordinator

**FROM:** Mark F. Pearson – Project Geologist
Cam Stringer – Senior Hydrogeologist

**DATE:** January 18, 2005 (***Revised March 16, 2004)***

**RE:** 2004 McLaren Pit Area Groundwater and Surface Water Monitoring
New World Mining District Response and Restoration Project

## INTRODUCTION

This technical memorandum presents the results of groundwater and surface water monitoring completed by Maxim Technologies (Maxim) in the McLaren Pit area during 2004. Monitoring was conducted between April and October 2004 in accordance with the scope and methods described in the *2004/2005 Work Plan* for the New World Mining District Response and Restoration Project (Maxim, 2004a). The purpose of monitoring the McLaren Pit area in 2004 is to determine if any changes in water quality have occurred as a result of capping the former McLaren Pit, which was completed in October 2003.

This document briefly summarizes methods used to collect data in 2004 and presents results and conclusions. References are listed at the end of the memorandum. Figures and tables are presented in **Attachments A and B,** respectively. **Figure 1** shows well locations, surface water monitoring sites, and other features important to discussions presented in this memorandum.

## METHODS

Surface water and groundwater monitoring were conducted on several occasions between April and October 2004 in the McLaren Pit Area. **Table 1** lists surface water stations monitored and **Table 2** lists groundwater stations monitored. Field parameters were collected at the stations listed in **Tables 1 and 2** during each monitoring event and included pH, specific conductance (SC), and temperature. Flow was measured at surface water stations and depth to water was measured in monitoring wells. Dissolved oxygen (DO) concentrations and oxidation/reduction potential (ORP) were also measured in monitoring wells during each event.

Samples were collected at selected stations for laboratory analysis of total recoverable (surface water) or dissolved (groundwater) metals, common ions, and other parameters including alkalinity, acidity, total suspended solids (surface water only), and total dissolved solids. These parameters were analyzed in all surface water samples collected during each event and in all groundwater samples collected in July. Groundwater samples collected In August and September were analyzed for only a limited suite of

parameters including acidity, sulfate, total dissolved solids, and dissolved cadmium, copper, and iron (**Table 2**). All samples were shipped with chain of custody documentation to Northern Analytical Laboratories, Inc., in Billings, Montana.

### *GROUNDWATER MONITORING*

Depth to groundwater was measured in monitoring wells using a decontaminated electric water level indicator. Field parameters were measured using a YSI 556 downhole multiprobe, immediately following purging and sampling as formation water was entering the well. Some exceptions to this method were made based on specific field conditions:

- In deep wells requiring a relatively large purge volume, downhole measurements were collected without purging.
- In wells where depth to groundwater exceeded the length of the multiprobe cable (20 meters), a sample was collected using a bailer and field parameters were measured at the surface.
- Other exceptions to standard sampling and purging procedures are noted in **Table 3.**

### *SURFACE WATER MONITORING*

Surface water monitoring occurred on April 6, June 29, August 11, and October 6, 2004. Data analysis and discussion of surface water in this memorandum is focused only on stations DCT-8 and DC-2.

## RESULTS

For brevity in the following groundwater discussions, the prefix (DCGW) used in the monitoring well designation for wells beginning with the number 100 is not used.

### *GROUNDWATER ELEVATION TRENDS*

Groundwater levels in the bedrock well (MW-2) and waste rock wells (104 and 105) in the McLaren Pit declined between July and September 2004 (**Figure 2**). Water levels measured in wells MW-2, 104, and 105 during 2004 are similar to those measured in 2002 (**Figures 2 and 3**). Hydrographs for wells downslope of the McLaren Pit indicate that groundwater elevations measured in these wells in 2004 are also similar to 2002 (**Figures 4 and 5**). Groundwater elevations increased in downslope wells between August and September 2004 reflecting a relatively large amount of precipitation in late August and September. According to the Natural Resource Conservation Service (NRCS), the area received 7.3 inches of precipitation between August 11, 2004 and September 27, 2004; this is almost twice the precipitation measured during the same period in 2002 (4.3 inches) and several time higher than the 1.8 inches received in 2003 (NRCS, December 2004; Fisher Creek Snotel site). Water levels in the McLaren Pit waste rock wells did not increase during August and September 2004 (**Figure 2**).

Hydrographs for paired wells 101S/101D and 111S/111D (**Figure 6**) indicate water levels measured in these wells in 2004 are similar to those measured in the past two years. As was observed in previous

monitoring events, hydraulic gradients are upward between the deeper bedrock well 101D and shallow colluvial well 101S and downward between well the shallow colluvial well 111S and the deeper bedrock well 111D.

***GROUNDWATER QUALITY***

**Table 4** presents groundwater analytical data collected in 2004. **Figures 7, 8 and 9** compare field and laboratory parameters in two McLaren Pit waste rock wells (105 and 104), and four downslope wells – two along the Crown Butte Fault (133 and 132), and two along Daisy Creek (136 and 137). **Figures 10, 11, and 12** compare the same field and laboratory parameters for paired wells (111S/111D and 101S/101D) and surface water stations DCT-8 and DC-2. **Figures 13 and 14** show trends in the selected field and laboratory parameters between July 2002, 2003, and 2004 in several groundwater wells and surface water stations DCT-8 and DC-2.

Groundwater from McLaren Pit waste rock well 104 exhibits the poorest water quality (highest SC, sulfate, ORP, dissolved iron, dissolved copper concentrations, and lowest pH **(Figures 7, 8, and 9)**. Wells 133 and 132, which lie along the Crown Butte Fault, have concentrations of these parameters similar to well 105. The pH, specific conductance, and sulfate levels are similar in groundwater from wells 132 and 133, although groundwater from well 132 contains higher iron and copper concentrations than groundwater from well 133. Dissolved oxygen and ORP levels are lower in 132 than in 133, indicating that groundwater along the Crown Butte fault is more reduced as it gets closer to the Manganese Bog. Groundwater quality in shallow colluvium improves with distance from the fault as shown in wells 136 and 137, with near neutral pH in well 137. Generally, sulfate, copper, and iron concentrations exhibited limited variability through the summer in the six wells shown, though water level elevations changed from month to month (**Figures 2 through 5**). Exceptions to this statement include decreasing iron concentrations in wells 104 and 133 between July and September and variability in ORP in groundwater from wells 136 and 137.

Groundwater from paired wells 111s and 111D exhibited decreases in pH between July and September 2004 (**Figure 10**). SC increased in 111D but decreased in 111S. Copper concentrations decreased in both of these wells through the 2004 season (**Figure 11**), while sulfate and iron concentrations in both remained about the same (**Figures 10** and **11**). Sulfate, SC, and pH levels in paired wells 101S and 101D were similar in each of the 2004 sampling events.

Water quality in paired wells 111S/111D is similar in quality to wells 133 and 132, except for pH, which is notably higher (**Figures 10, 11, and 12)**. Groundwater pH is lower in shallow colluvium (111S) than in shallow bedrock (111D) at this location, and SC and sulfate are higher in groundwater in shallow colluvium than groundwater in shallow bedrock (**Figure 10**). Dissolved concentrations of copper and iron are higher in the shallow bedrock well (111D) than the shallow colluvial well (111S) (**Figure 11**). These relationships between shallow colluvium and shallow bedrock water quality are similar to those measured in 2003 at this location (Maxim, 2004b). As in 2002 and 2003 monitoring events, groundwater in shallow bedrock at well 101D exhibited higher pH and SC and lower DO, ORP, and copper concentrations than groundwater in the overlying colluvium at well 101S (**Figures 10, 11, and**

**12**). Except for iron, ORP, and DO, parameter concentrations were similar in the three 2004 monitoring events at this well pair location.

**Figures 13 and 14** show water quality changes in the two waste rock wells and wells 132 and 133 from July measurements made in 2002, 2003, and 2004. Generally, water quality in well 105 is similar each year, while water quality in well 104 in 2004 is more acidic and has notably higher concentrations of all ions than in either 2002 or 2003. Water quality in well 132 is generally the same from year to year, while well 133 had lower concentrations of sulfate, copper, and iron in 2004 than in 2002.

**Figure 15** shows the spatial relationships of pH in shallow colluvium in July 2003 and July 2004. The July 2003 data is shown as isopleth intervals and the July 2004 pH is shown as values color-coded to coincide with colors used to create the isopleth ranges of pH measured in 2003. In general, the spatial component of shallow groundwater pH has not changed appreciatively from 2003 to 2004.

***SURFACE WATER***

Selected water quality parameters at surface water stations DCT-8, which drains the McLaren Pit cap area, and DC-2, which is downstream of the cap area on Daisy Creek, are shown on **Figures 10 and 11. Table 5** includes the complete suite of surface water analytical data collected at all McLaren Pit area surface water stations in 2004.

Tributary DCT-8 exhibited very acidic pHs in 2004, ranging between 2.5 and 3.0 standard units (su), with generally poor water quality (copper and iron concentrations in the milligrams per liter (mg/L) range. Tributary DCT-8 receives inputs of poor quality groundwater from beneath the cap that discharge to the tributary from three drains (DCSW-101, -102, and -103; **Figure 1**). Total input from these drains to tributary DCT-8 in August and October was 23.2 gallons per minute (gpm) and 6.7 gpm, respectively. Assuming flow is conserved in the channel between the point of discharge and the tributary station (**Figure 1**), the percentage of flow that these drains contributed to tributary DCT-8 was 47% and 68% in August and October, respectively.

In late June, high flows present at station DC-2 exhibited a near-neutral pH and a copper concentration of 0.58 mg/L. This changed significantly in August and September with the pH falling to 4.5 to 4.8 su, sulfate levels doubling, and copper concentrations increasing to between 1.9 and 2.8 mg/L (**Figures 10 and 11**). **Figure 16** shows total recoverable iron and copper concentrations compared with flow measurements and calculated loading at station DC-2. The 2004 data are shown in these graphs as large square boxes, with data collected between 1989 and 2003 shown as small black diamonds. The copper concentration measured at station DC-2 in June 2004 (0.58 mg/L) was the lowest concentration ever measured at this station, with the copper load at the lower end of the loads measured (less than 200 milligrams per second [mg/sec]). This same trend was similar at station DC-2 for iron concentration and load in June 2004. Copper and iron concentrations and loads during the 2004 low flow events (April, August, and October) fell into a group of data at the middle range of concentrations measured for both metals and at the lower end of the loading range (10 to 30 mg/sec for copper and 30 to 110 mg/sec for iron). The median copper and iron loads measured in the past 15 years are 52 mg/sec and 177 mg/sec, respectively.

## SUMMARY AND CONCLUSIONS

Groundwater investigations in 2002 and 2003 in the McLaren Pit area indicate that groundwater movement in bedrock is fracture controlled and that groundwater in colluvium and shallow bedrock are in direct hydraulic communication and of similar quality (Maxim, 2004b). Previous monitoring of the McLaren Pit area identified a plume of low pH groundwater that is associated with the Crown Butte Fault (Maxim, 2004b) (**Figure 15**). Data collected in 2004 indicate that the dimensions of this plume did not change appreciably, as shallow groundwater chemistry in 2004 was similar to previous years.

Streams draining the McLaren Pit area (primarily DCT-8) continue to have poor water quality. Tributary DCT-8 continues to drain impacted water from beneath the McLaren Pit cap and recharges shallow groundwater downgradient, negatively impacting groundwater quality in its vicinity. The July 2004 surface water sample from station DC-2 contained the lowest copper concentration and the highest pH measured in the past 15 years, indicating that water quality did change considerably during high flow in 2004. This water quality change is thought to be related to dilution from runoff of relatively high quality from the McLaren Pit cap area. (Before the capping of the McLaren Pit, much of the snow melt over the McLaren Pit infiltrated through waste rock and carried dissolved metals, ions, and acidity into the creek). This diluting effect in July 2004 at station DC-2 apparently lasted only for a short time. After runoff from the cap ceased, water quality at station DC-2 decreased to levels observed in past monitoring events (i.e. mid-range copper and iron concentrations and acidic pH).

One change in water quality that is notable from 2004 monitoring is that in 2002 and 2003, before the McLaren Pit cap was in place, seasonal trends in pH and ORP (i.e. a rise in pH and a fall in ORP) in waste rock wells 104 and 105 indicated a flushing effect of acidity and metal salts through the summer. This flushing effect was not evident in 2004, a change that is attributed to the elimination of water percolating through the waste by emplacement of the impermeable cap.

## REFERENCES

Maxim Technologies, Inc., 2004a. 2004/2005 Work Plan, New World Mining District, Response and Restoration Project, Prepared for the USDA Forest Service Northern Region, May 2004.

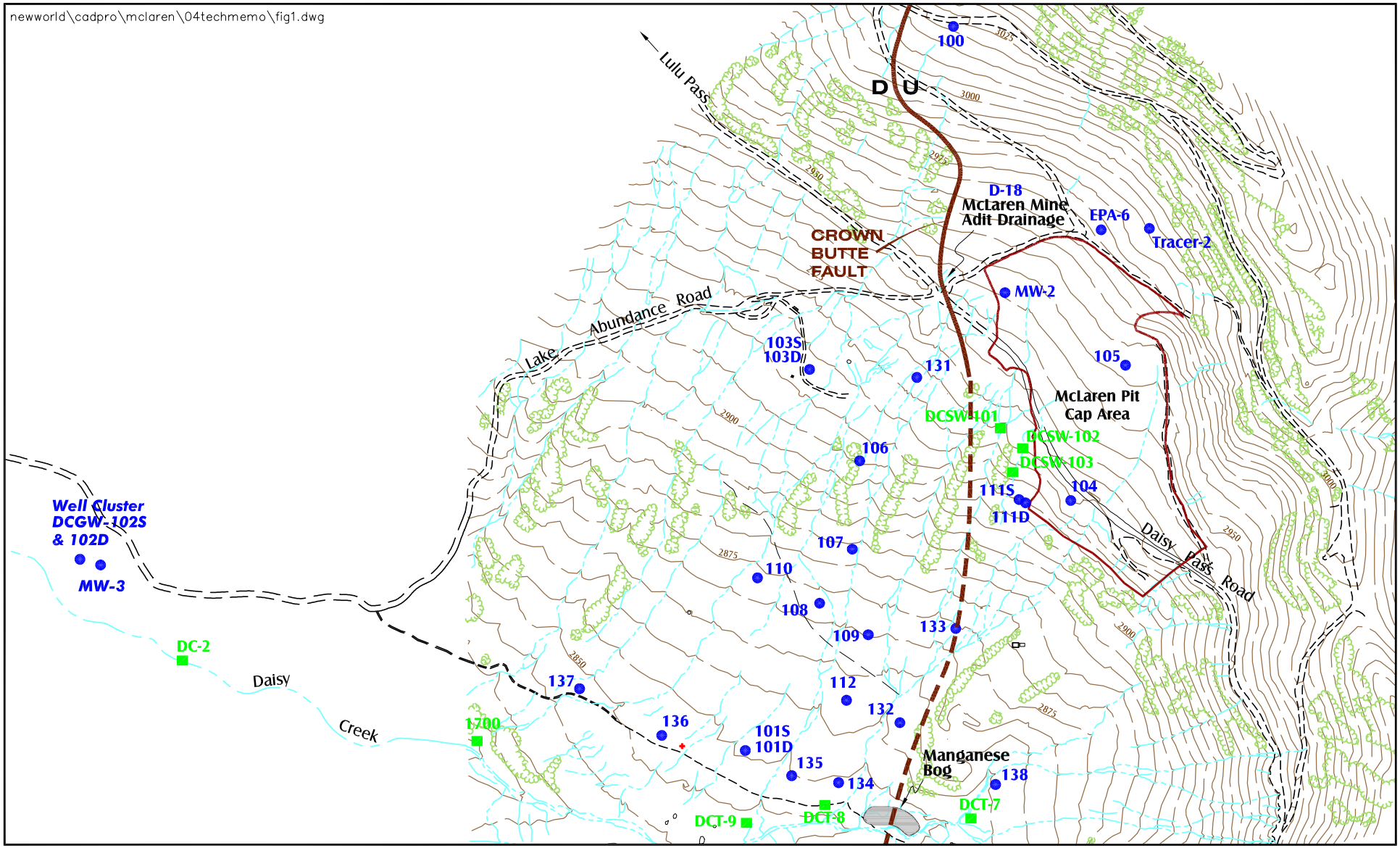
Maxim Technologies, Inc., 2004b. 2003 McLaren Pit Area Groundwater Monitoring, New World Mining District, Response and Restoration Project, Technical Memorandum prepared for the USDA Forest Service, Northern Region, January 7, 2004.

Natural Resources Conservation Service (NRCS), 2004. Data available from the NRCS website at http://www.wcc.nrcs.usda.gov/snow/snotel-precip-data.html. December 30, 2004.

## ATTACHMENT A

# FIGURES
## McLaren Pit Area 2004 Monitoring
***New World Mining District Response and Restoration Project***

### LIST OF FIGURES




N

0 10 Meters 50
1:5000

Contour Interval = 5 meters

MAXIM TECHNOLOGIES 4560831.107

D
U
Crown Butte Fault
(D - down thrown; U - up thrown)
(dashed where inferred)

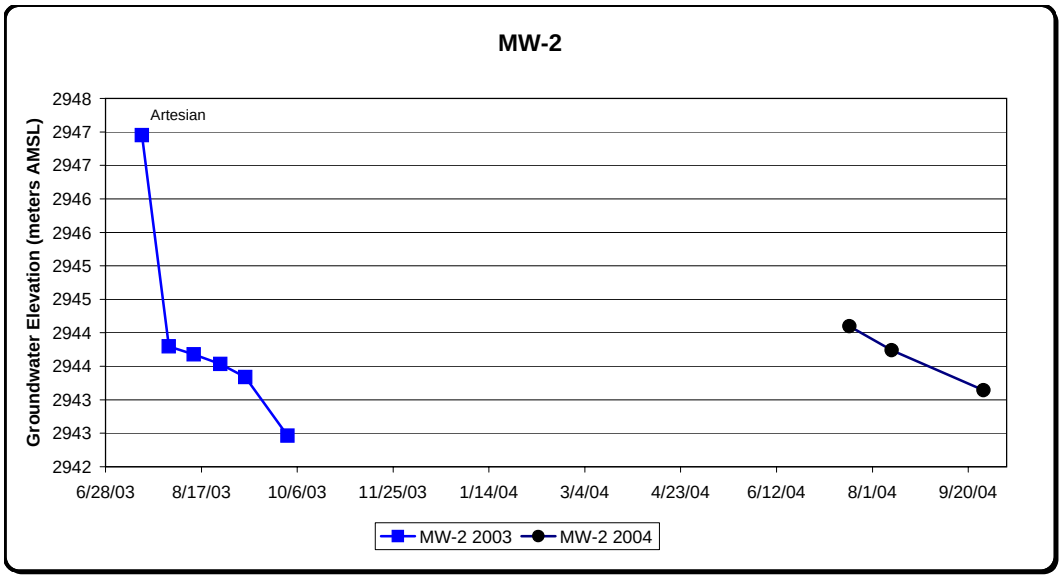
Surface Water Station

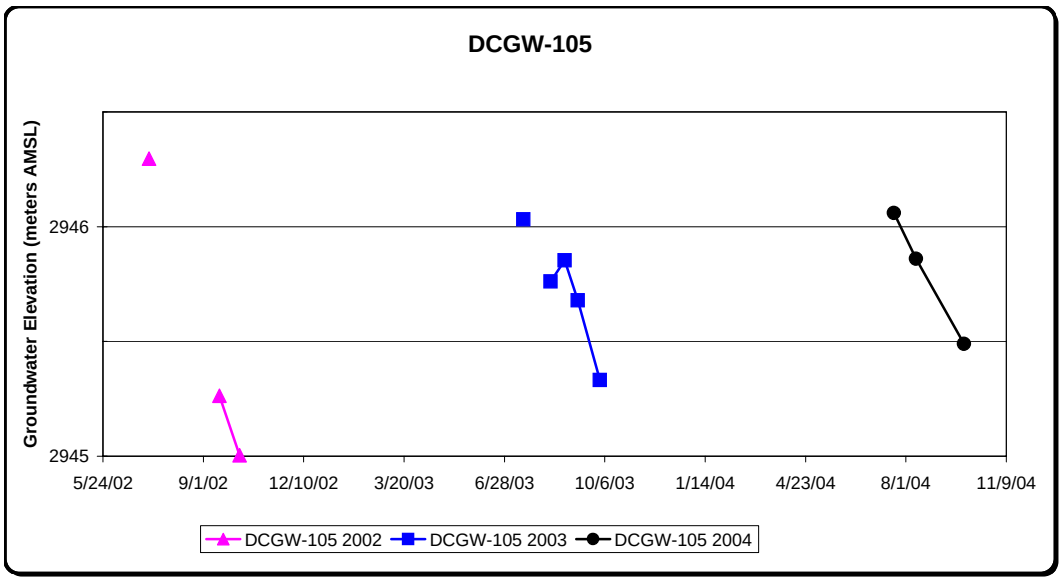
101 Monitoring Well (DCGW prefix not included on 100 series wells)

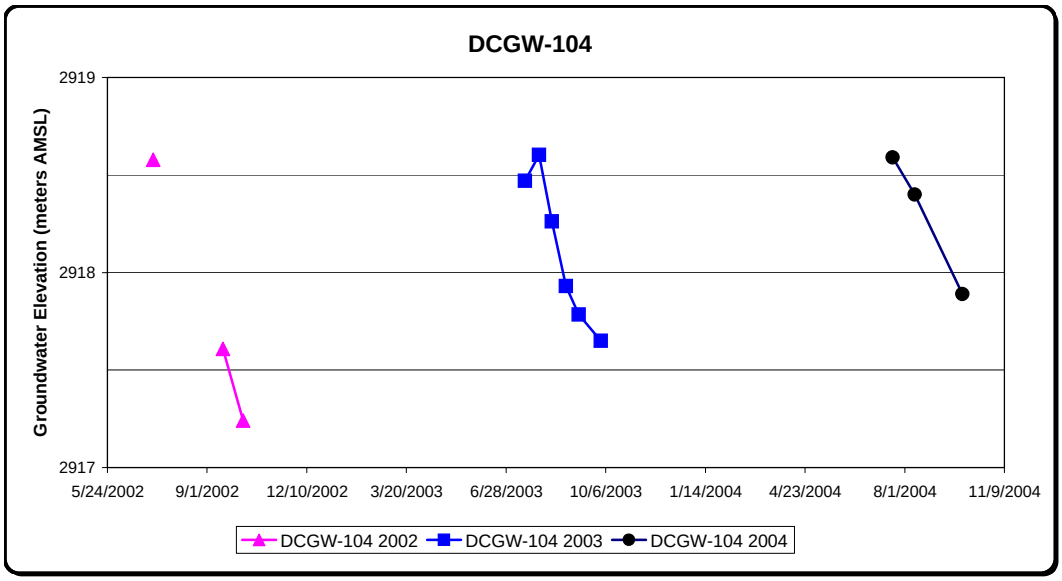
Creek/Drainage

Road/Trail

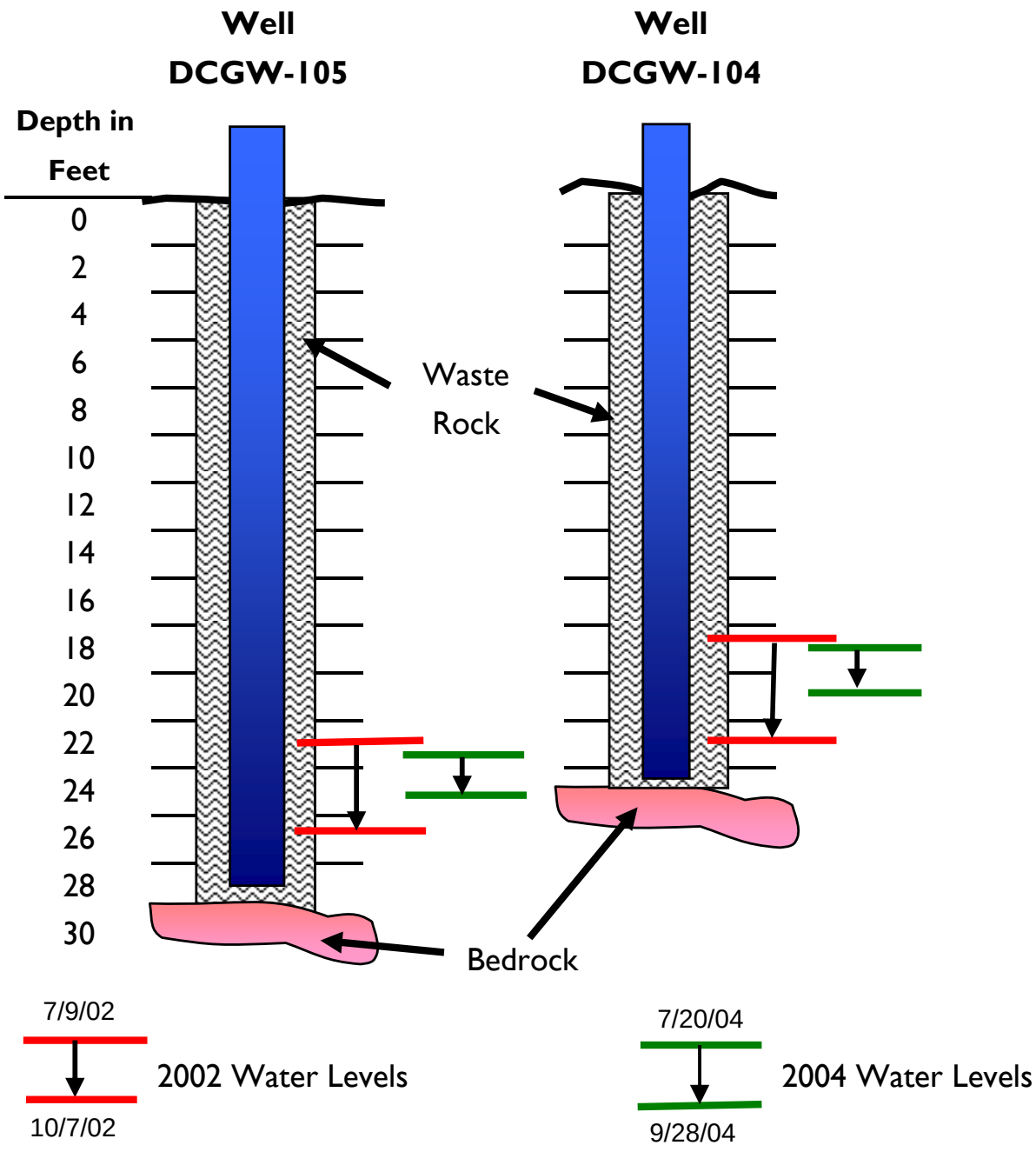
Surface Water and Groundwater Monitoring Locations
McLaren Pit Area
New World Mining District
Response and Restoration Project
Cooke City Area, Montana
FIGURE 1



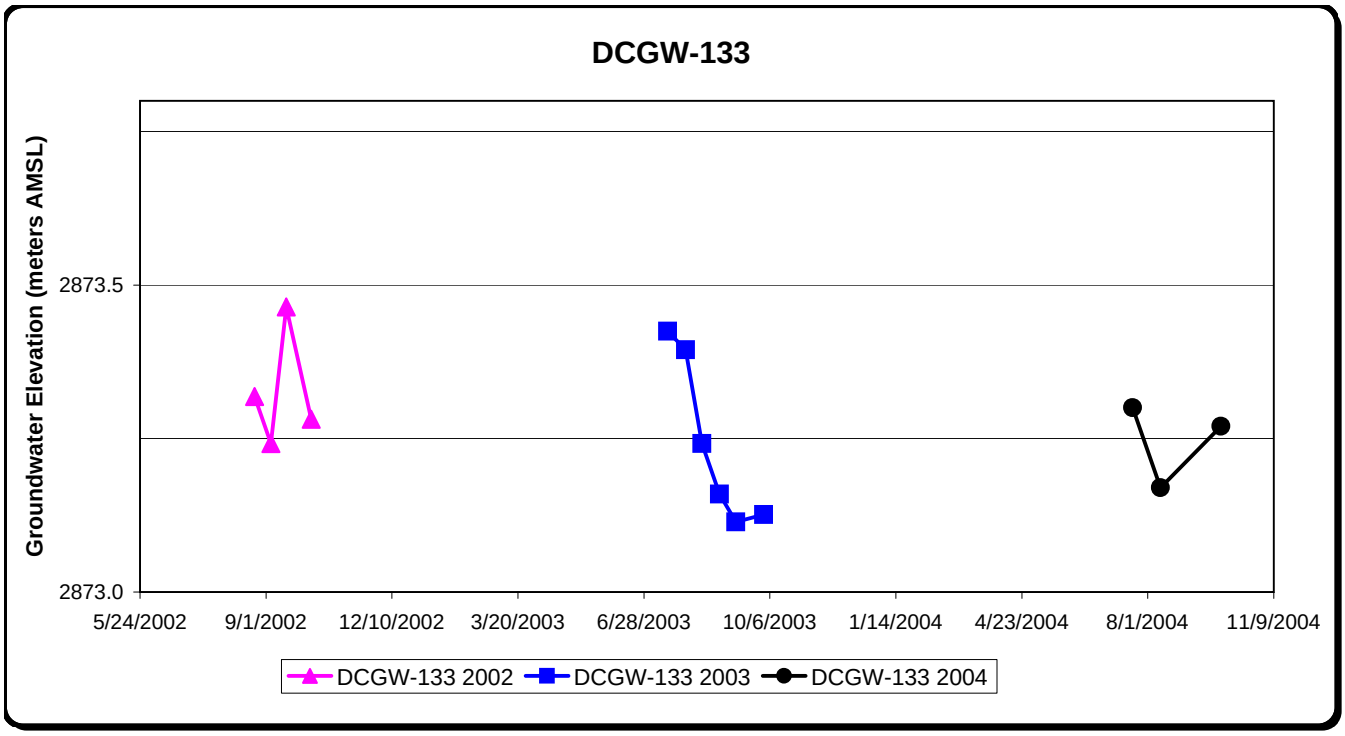



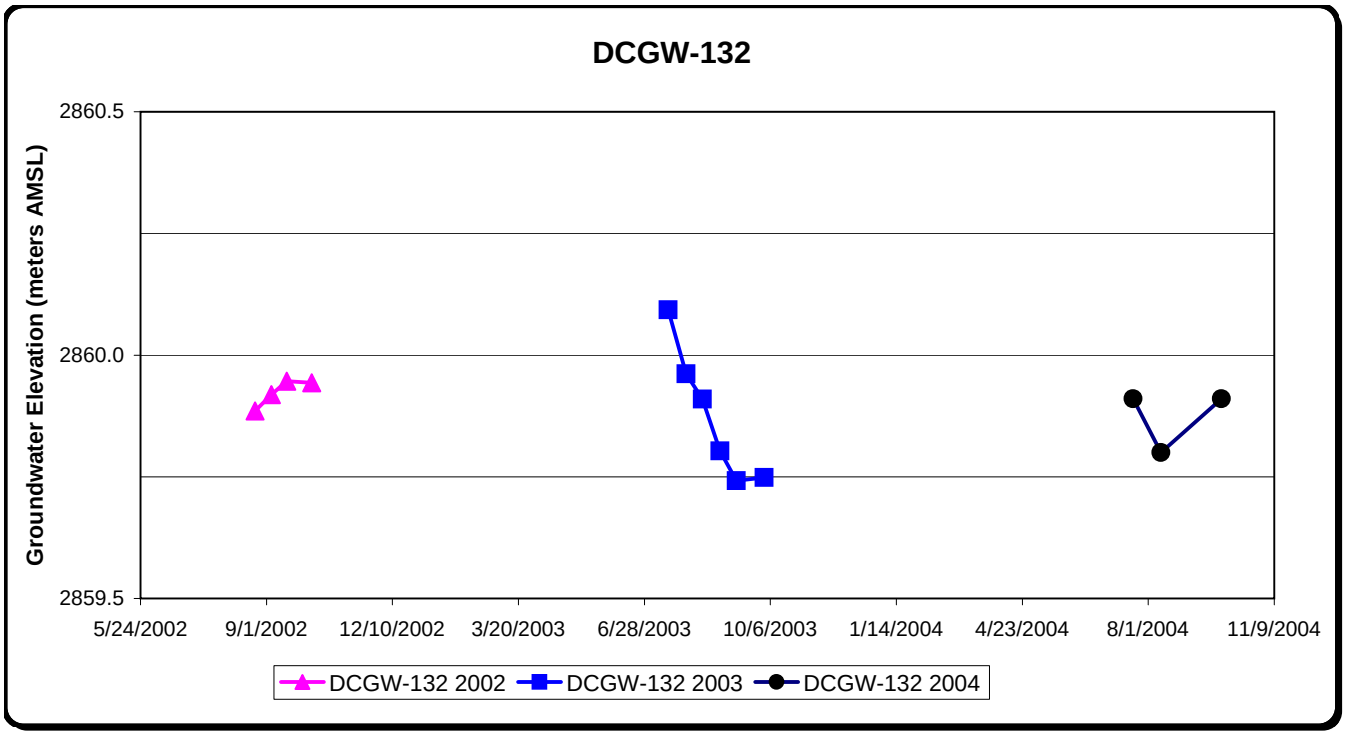




**Monitoring Well Hydrographs**
**McLaren Pit Cap Area**
**Figure 2**

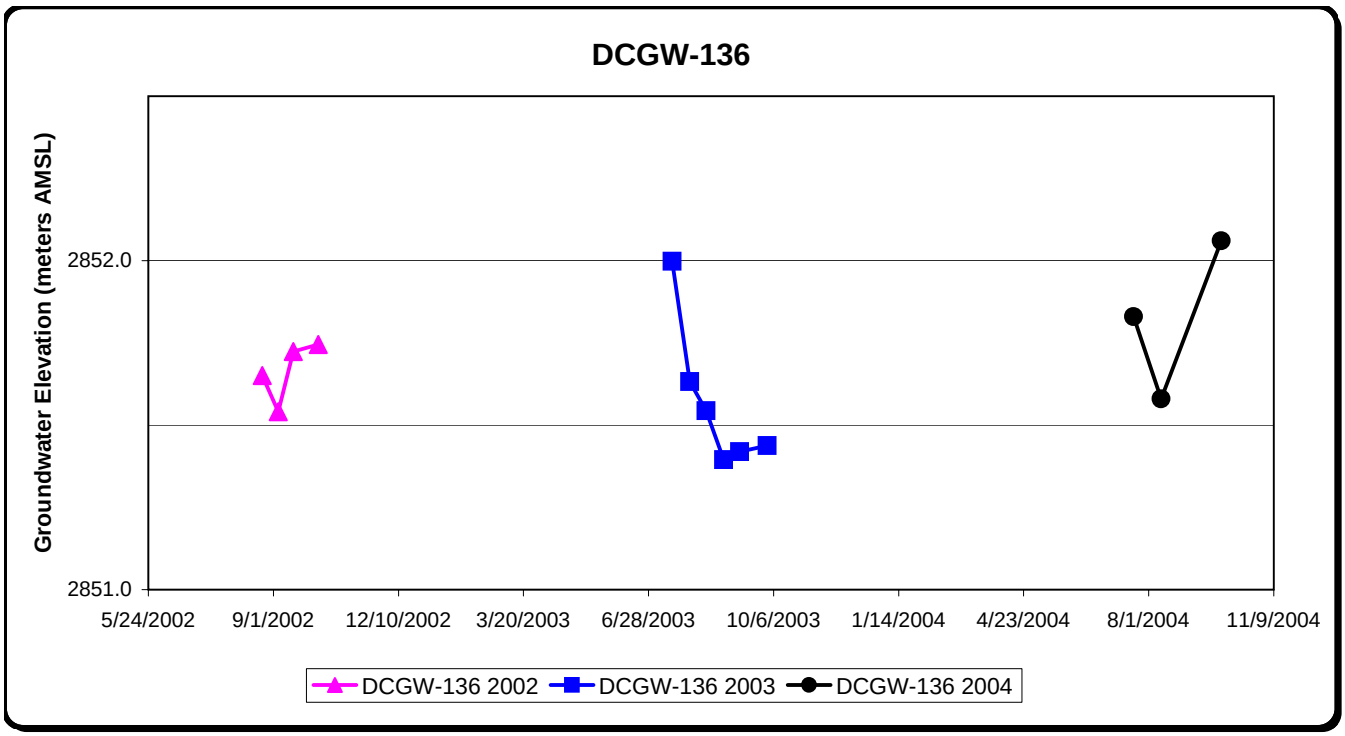


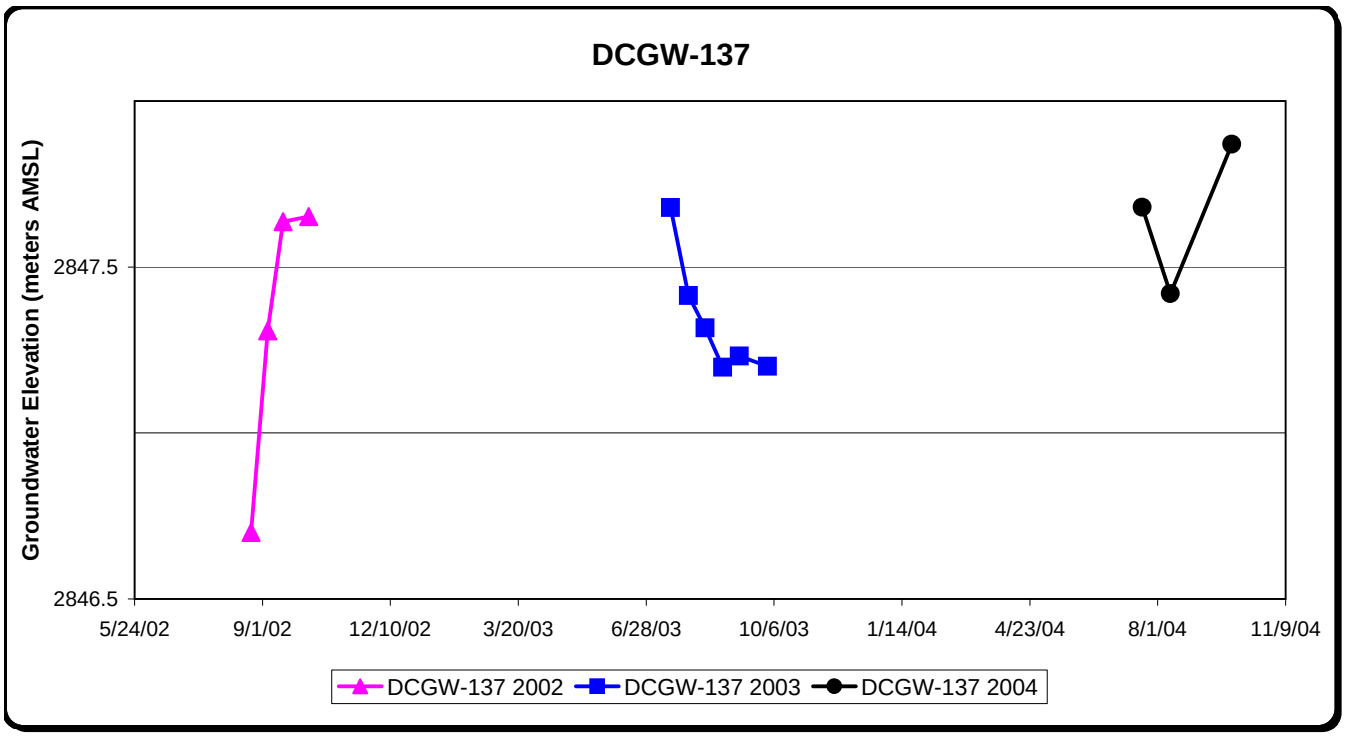

**2002 vs 2004 Water Level Changes**
**McLaren Pit Cap Area Waste Rock Wells**
**Figure 3**



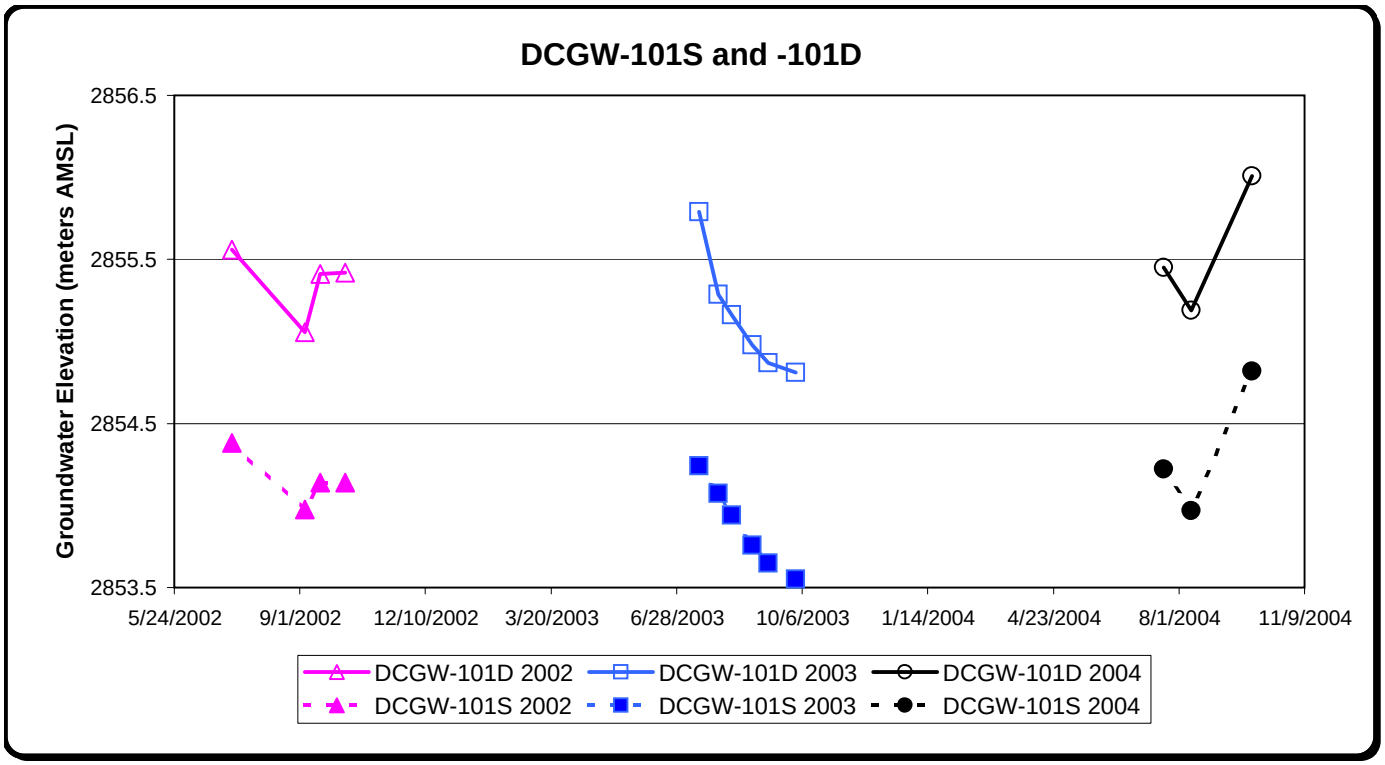



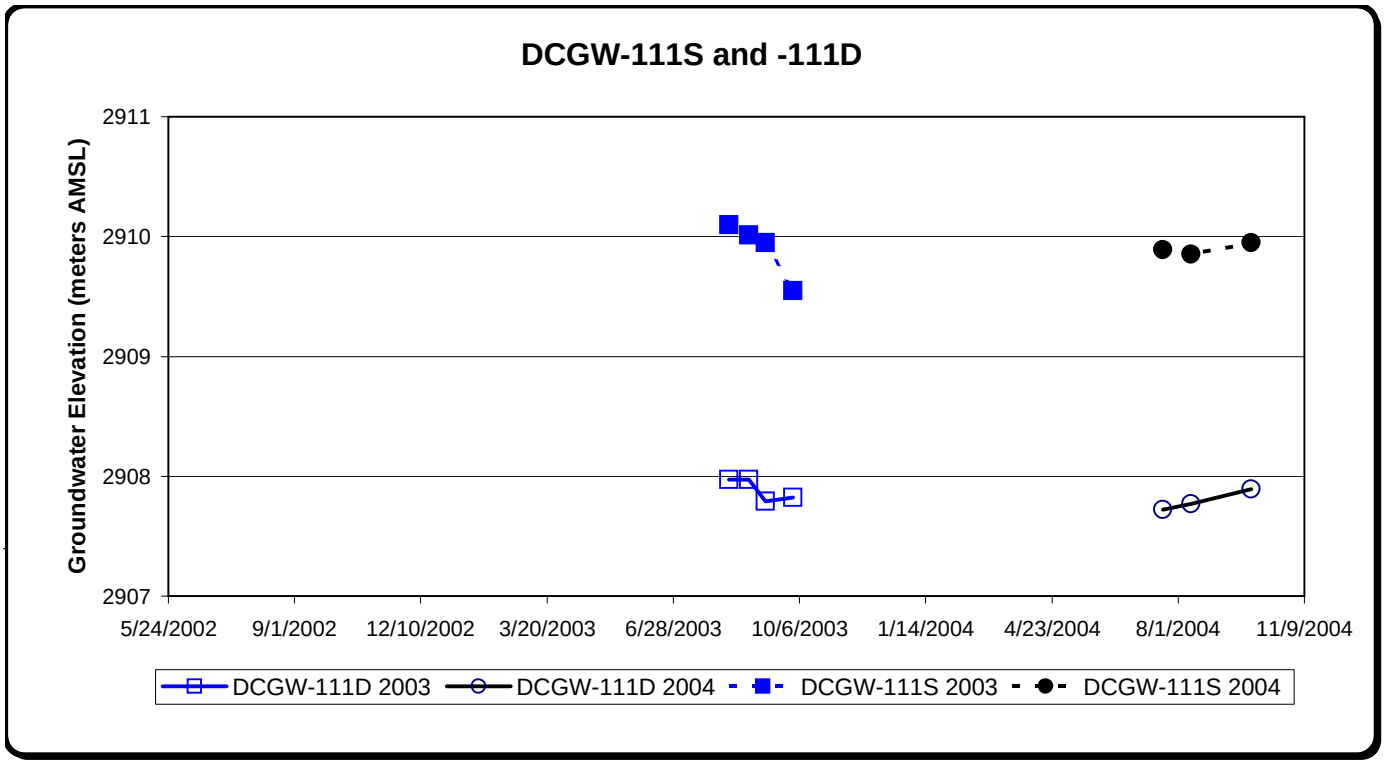

**Monitoring Well Hydrographs**
**Downslope Wells - McLaren Pit Area**
**Figure 4**



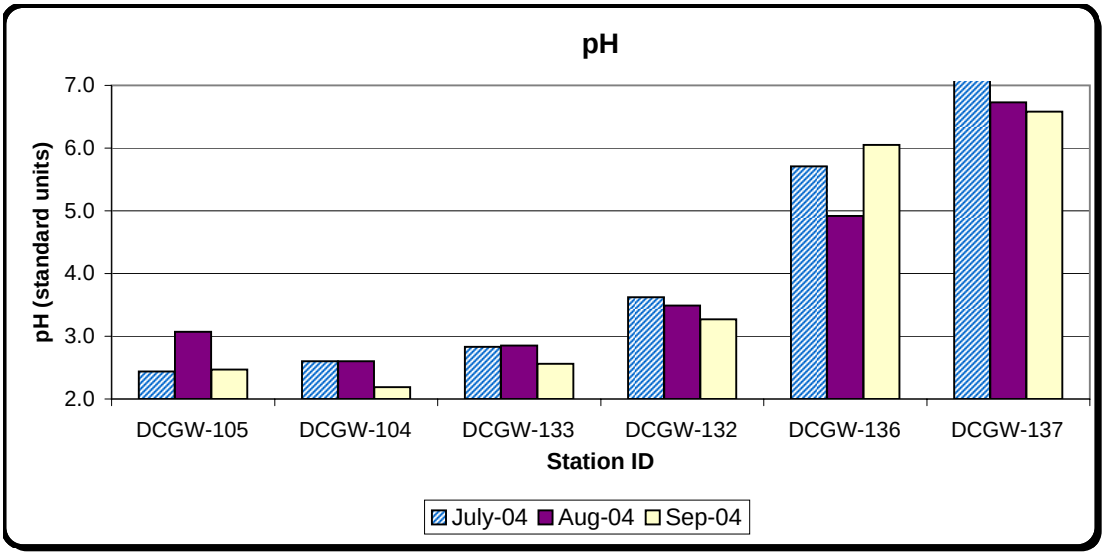



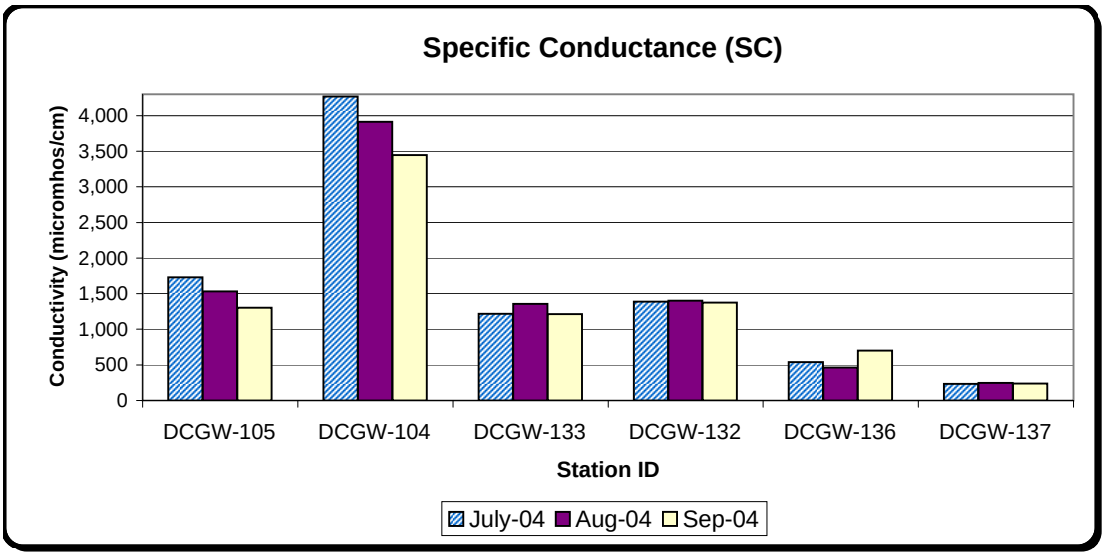

**Monitoring Well Hydrographs**
**Wells Along Daisy Creek - McLaren Pit Area**
**Figure 5**

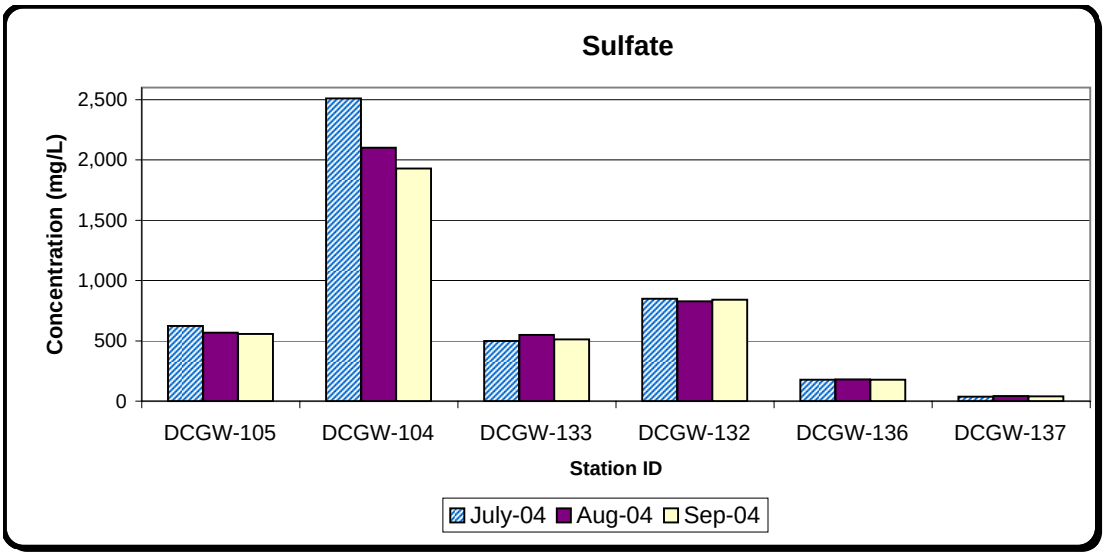


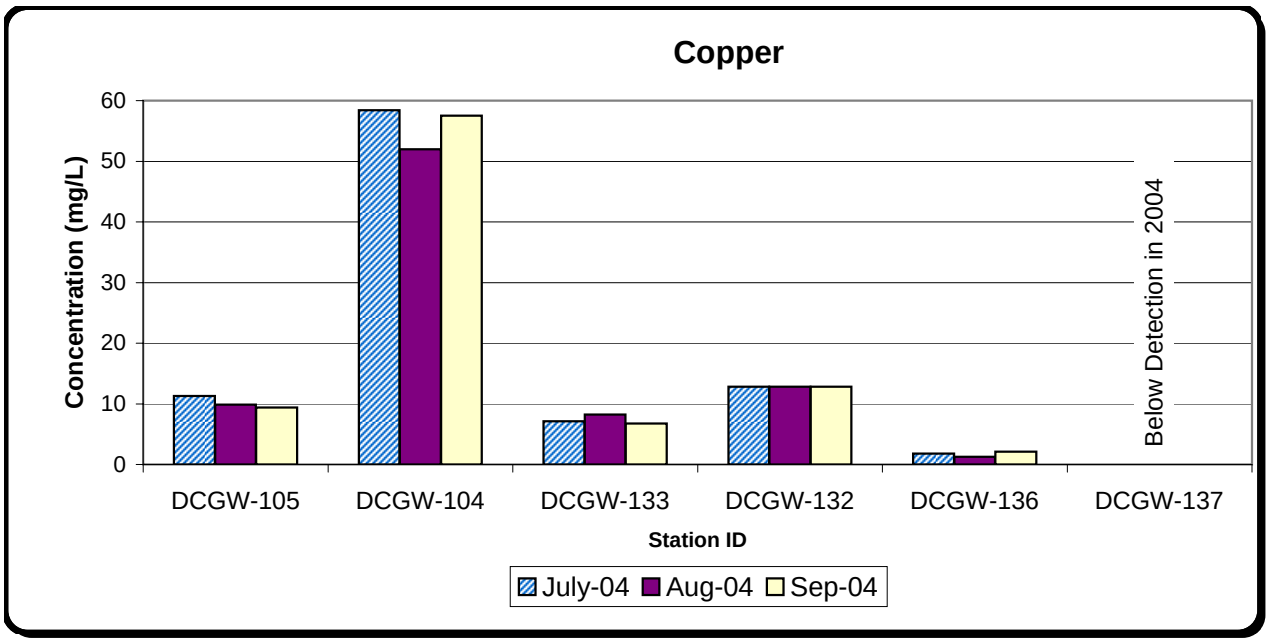

**Monitoring Well Hydrographs**
**Paired Wells - McLaren Pit Area**
**Figure 6**

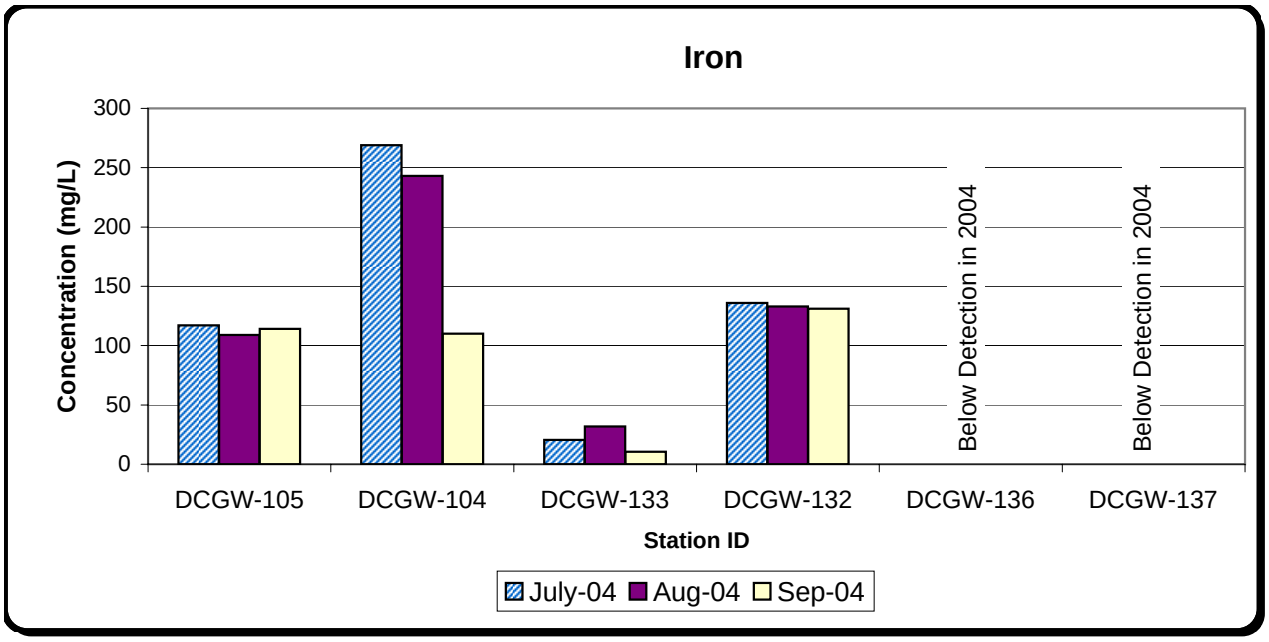


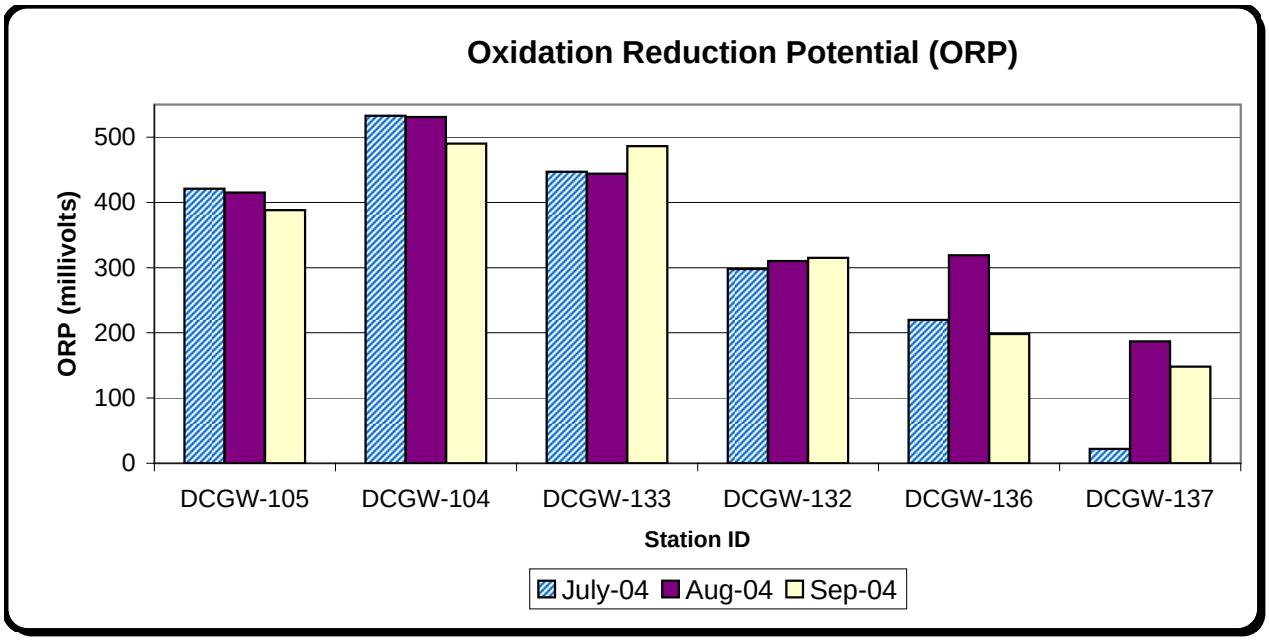



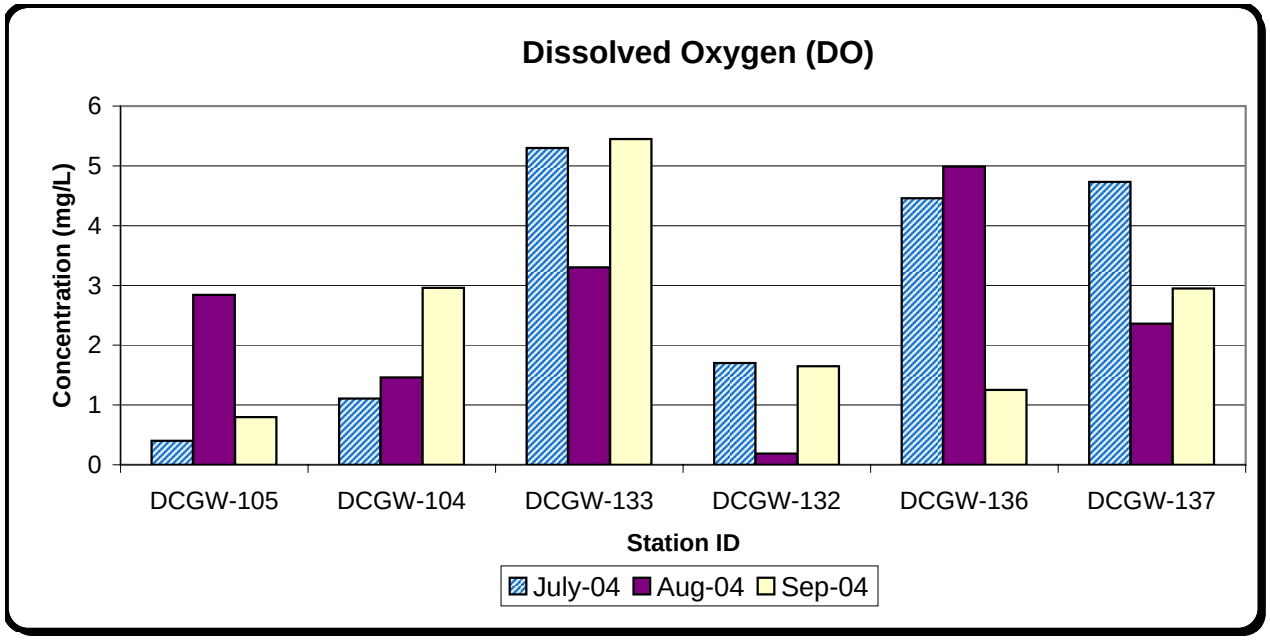

**pH, Specific Conductance, and Sulfate Levels in 2004**
**Select Monitoring Wells - McLaren Pit Area**
**Figure 7**



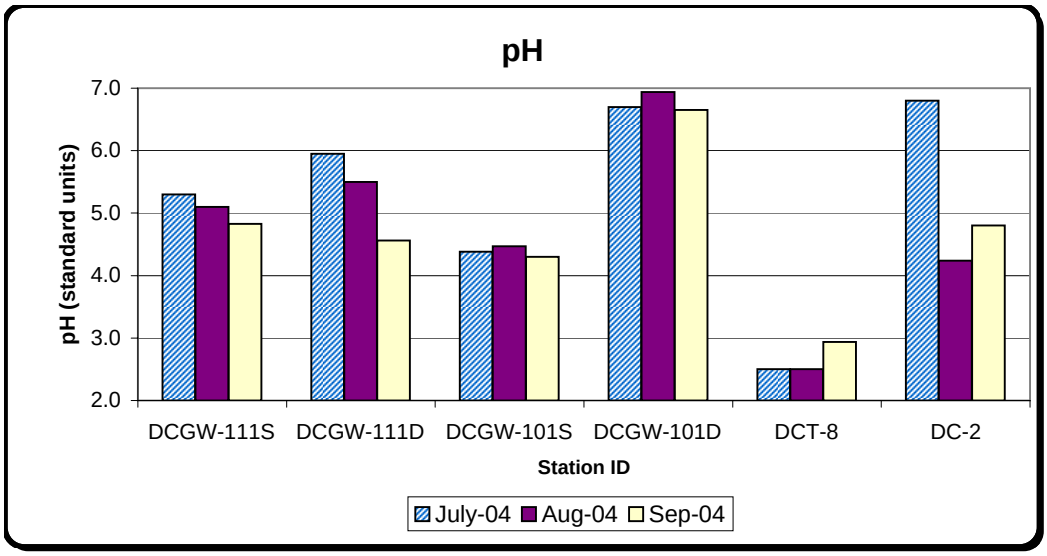



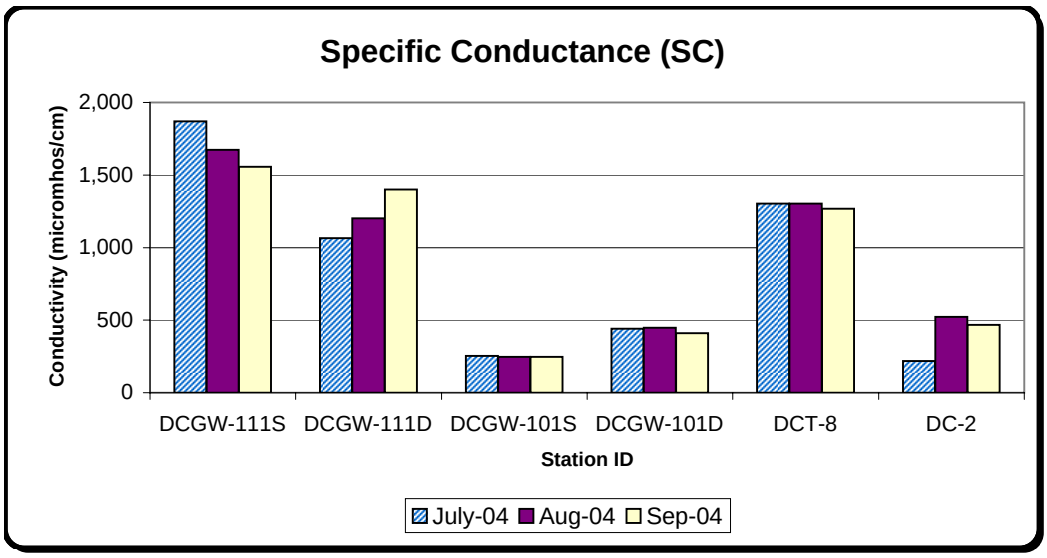

**Copper and Iron Contrations in 2004**
**Select Monitoring Wells - McLaren Pit Area**
**Figure 8**

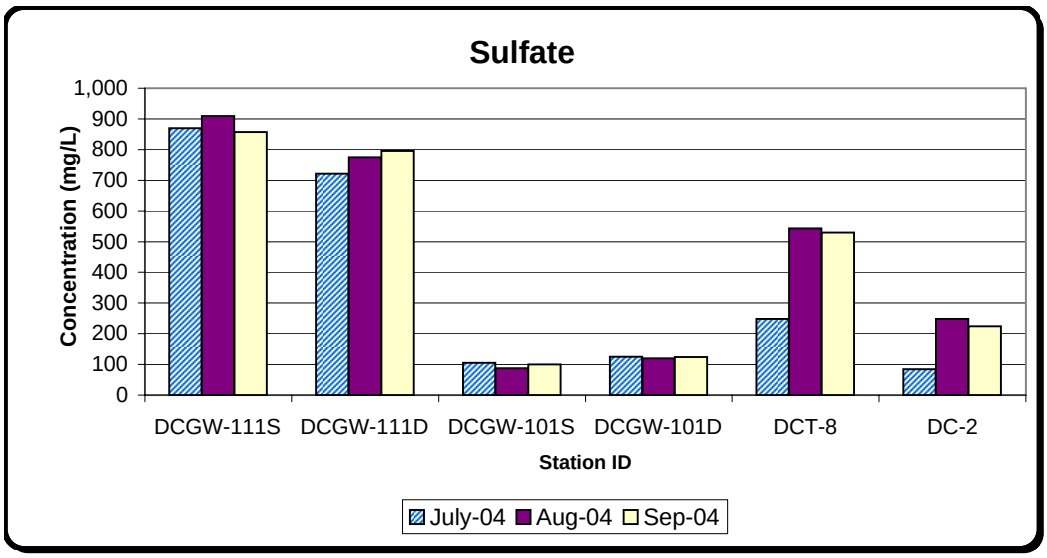


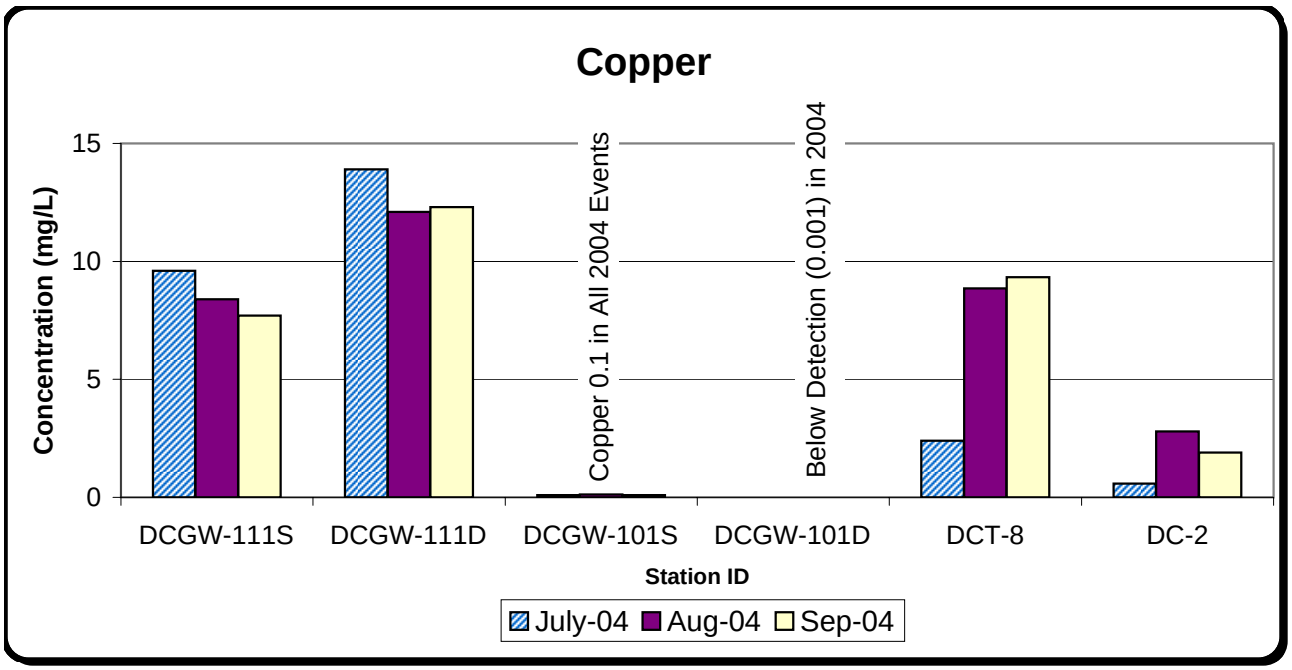

**Oxidation/Reduction Potential and Dissolved Oxygen Concentrations in 2004**
**Select Monitoring Wells - McLaren Pit Area**
**Figure 9**

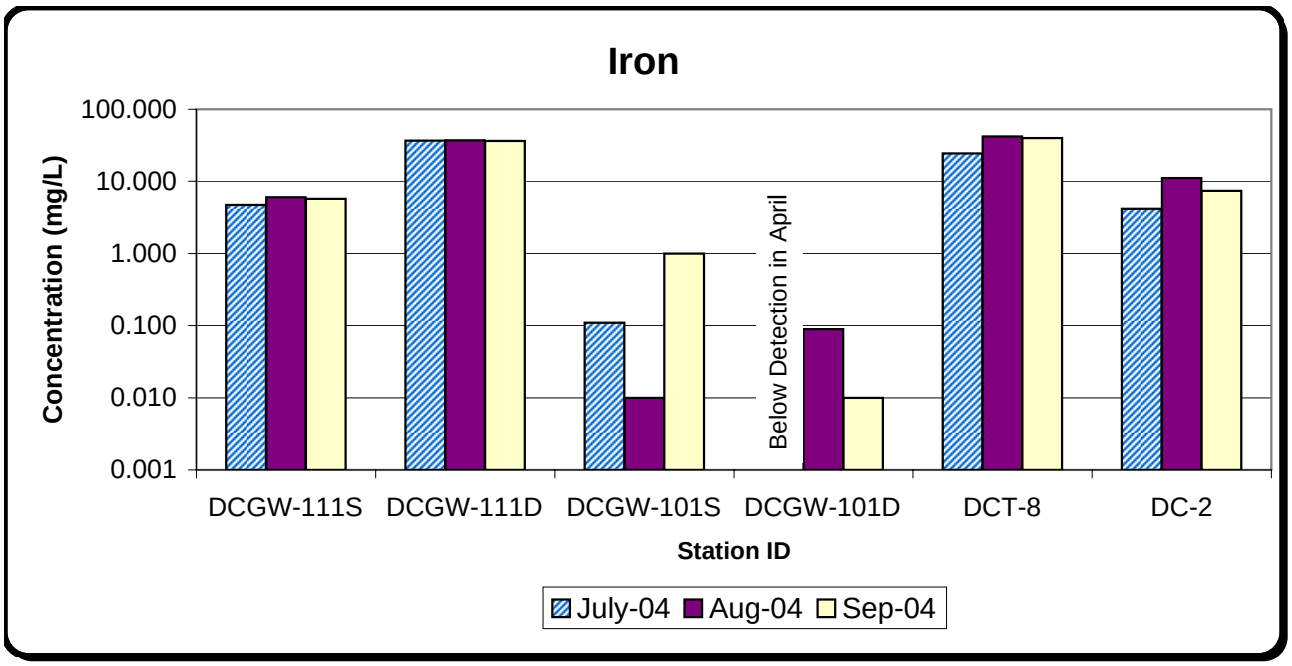


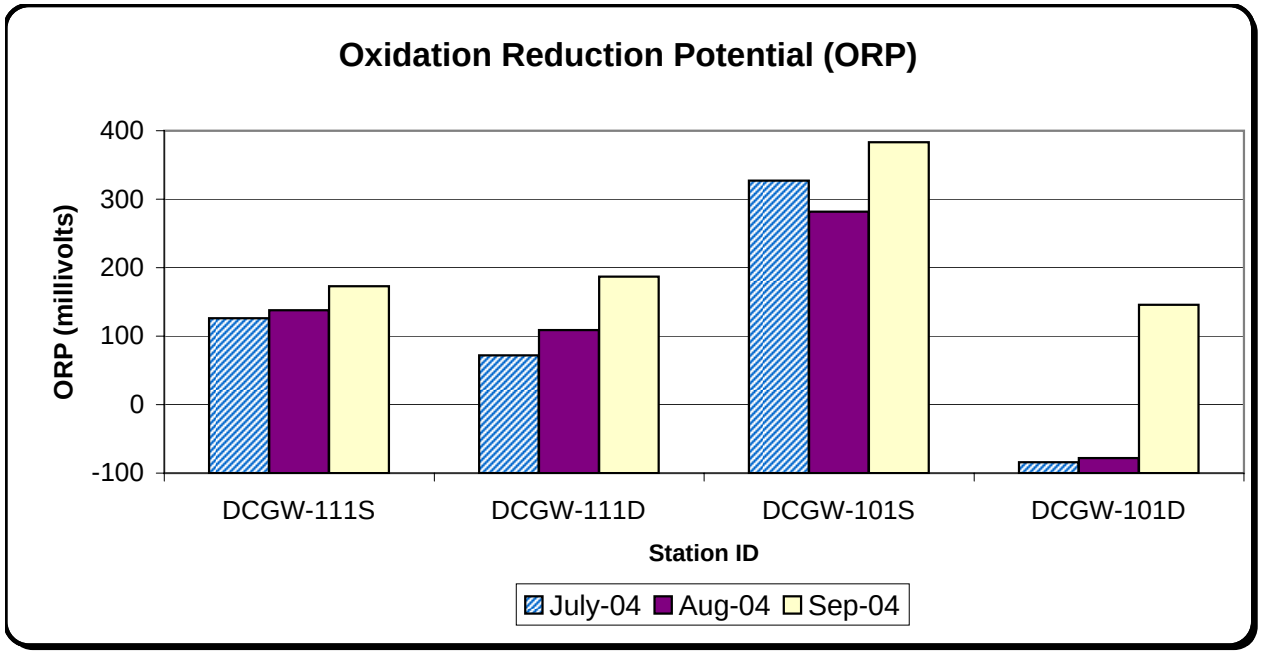



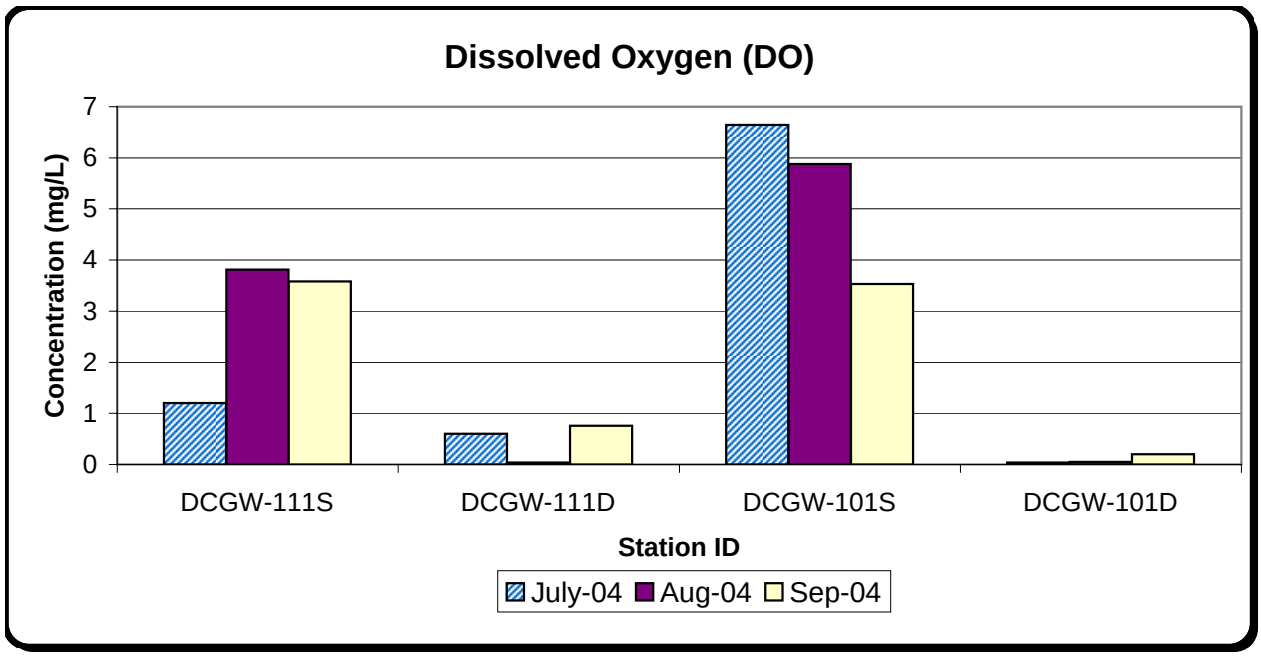

**pH, Specific Conductance, and Sulfate Levels in 2004**
**Paired Monitoring Wells and Select Surface Water Stations - McLaren Pit Area**
**Figure 10**



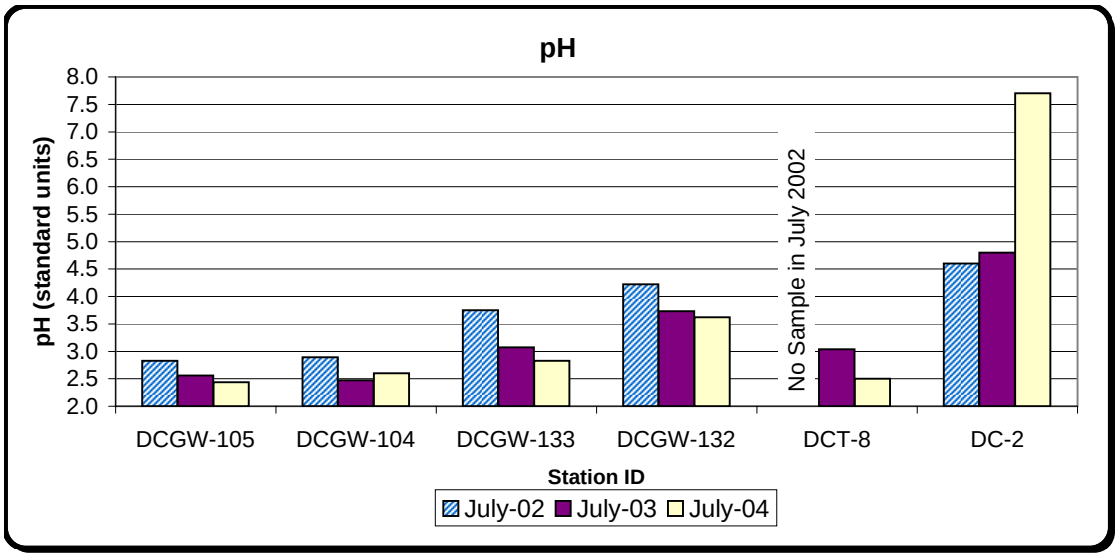



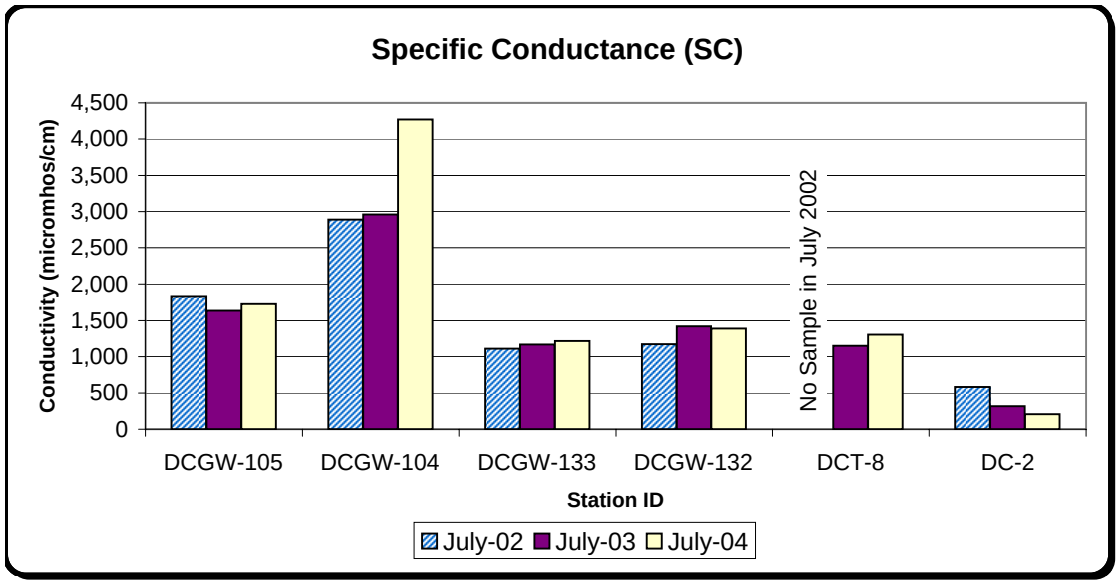

**Copper and Iron Concentrations in 2004**
**Paired Monitoring Wells and Select Surface Water Stations - McLaren Pit Area**
**Figure 11**

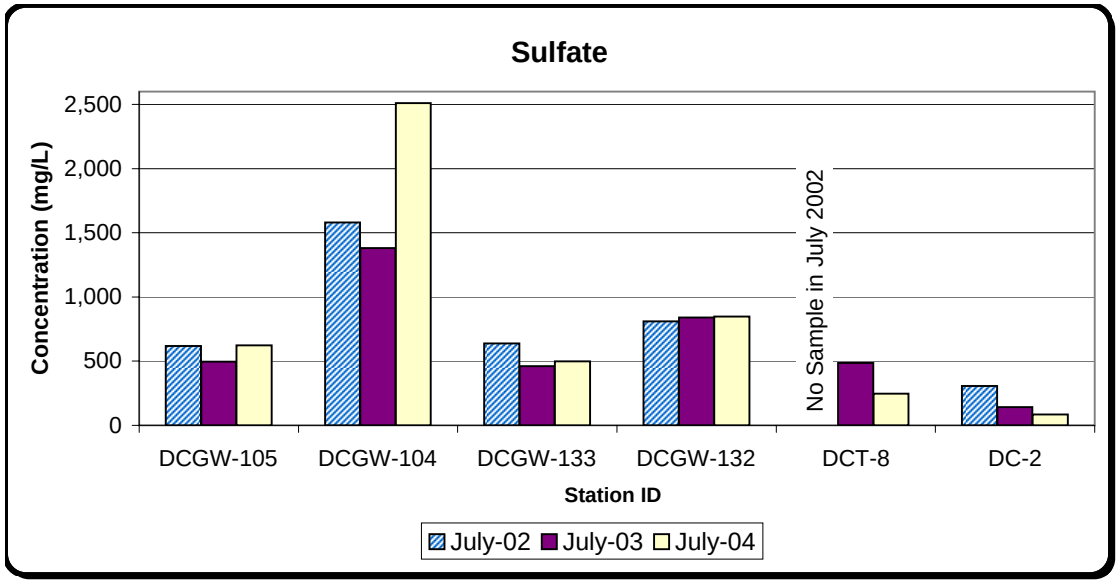


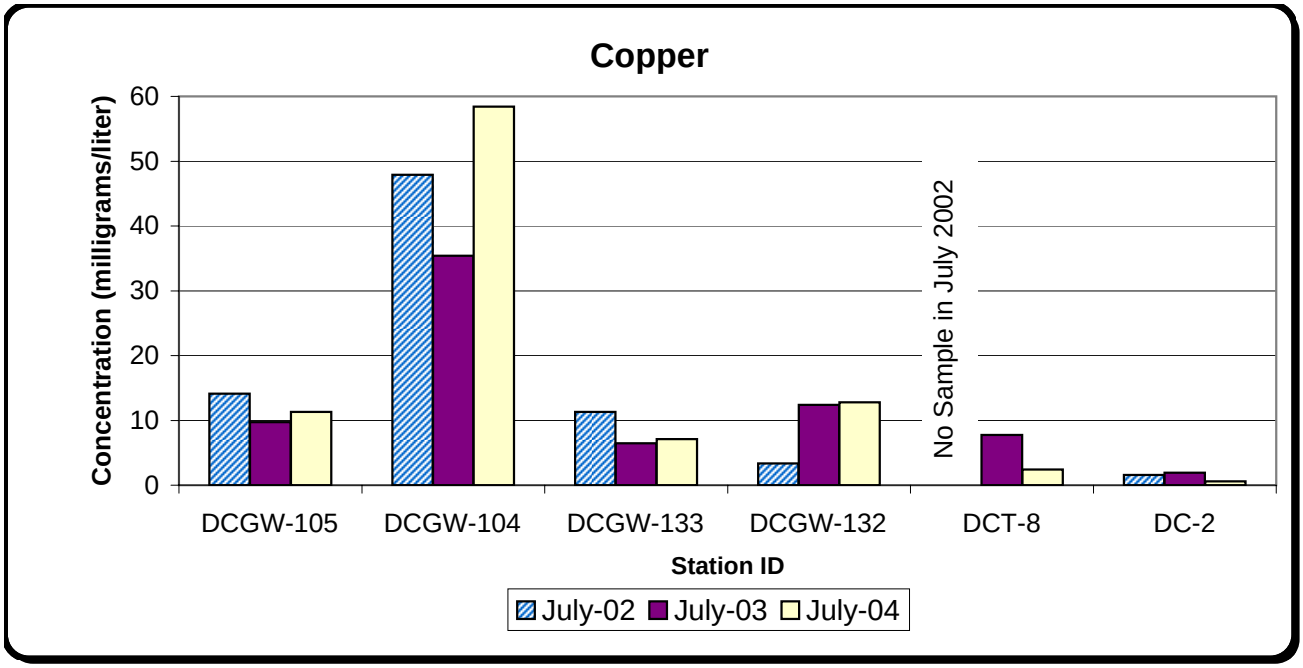

**Oxidation/Reduction Potential and Dissolved Oxygen Concentrations in 2004**
**Paired Monitoring Wells - McLaren Pit Area**
**Figure 12**

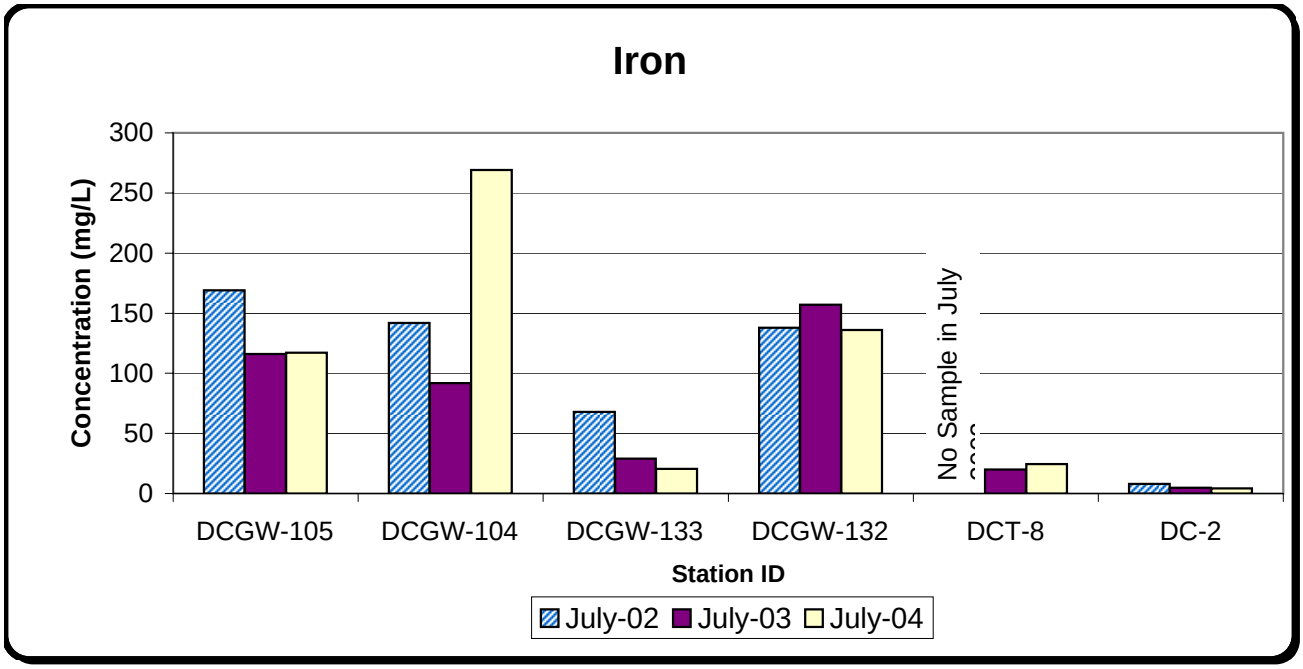


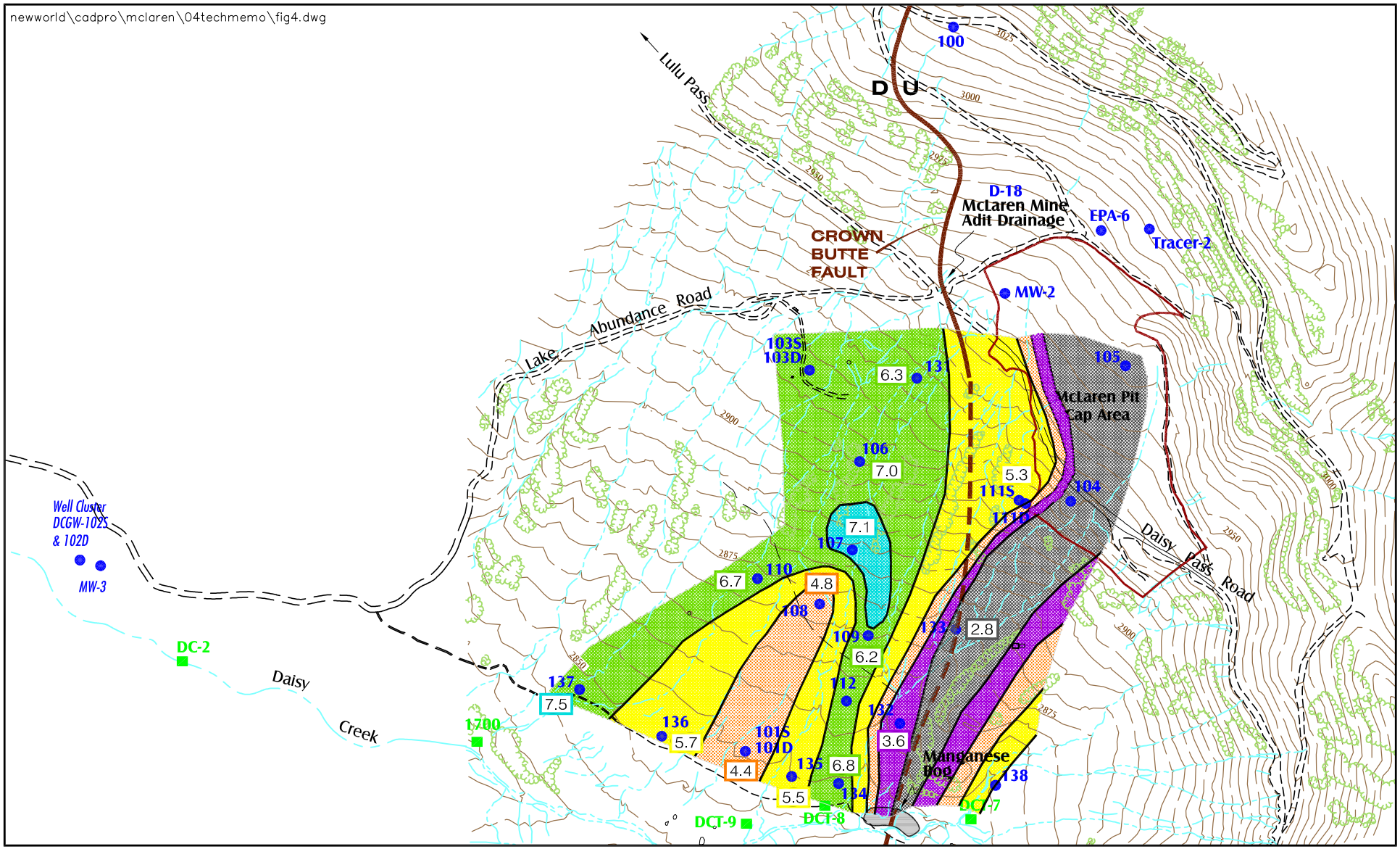




**pH, Specific Conductance, and Sulfate Levels in July 2002, 2003, and 2004**
**Select Monitoring Wells and Surface Water Stations - McLaren Pit Area**
**Figure 13**

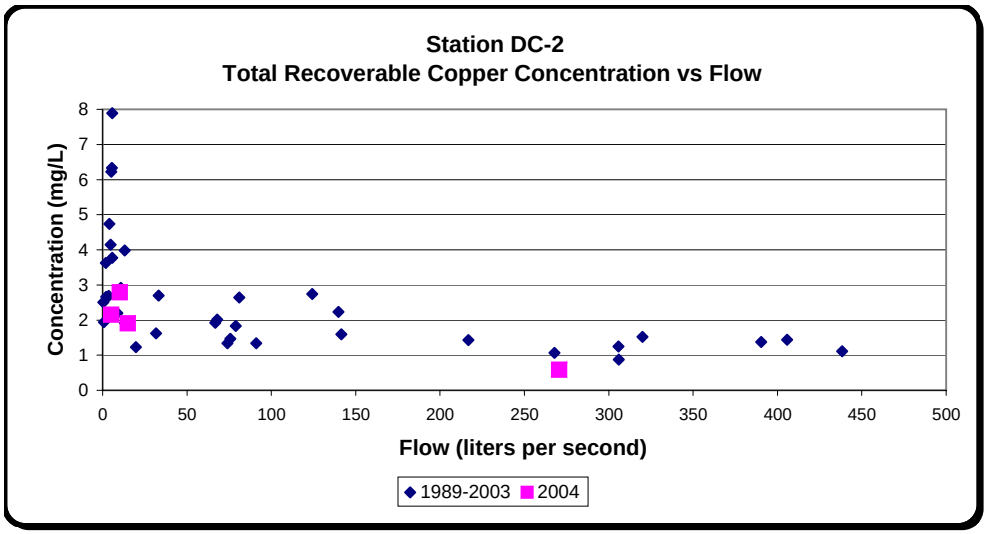


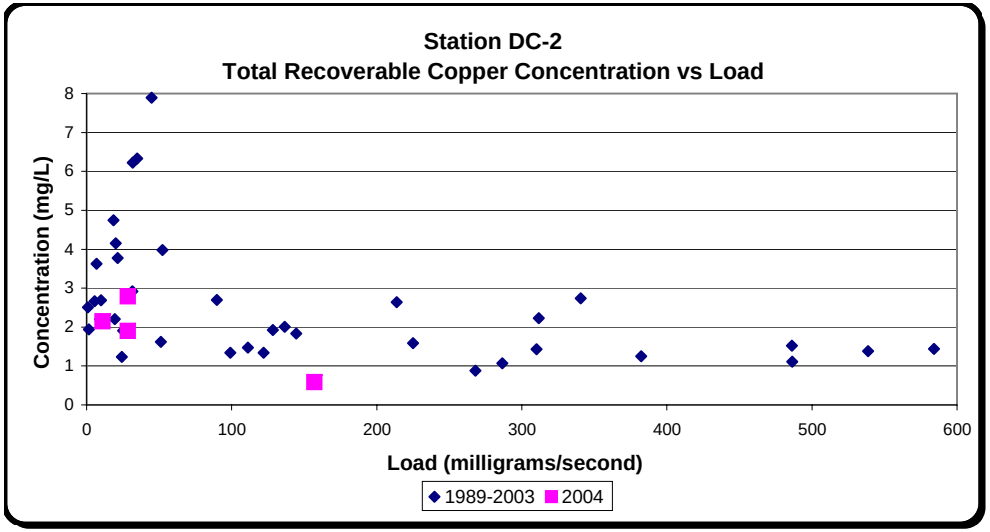



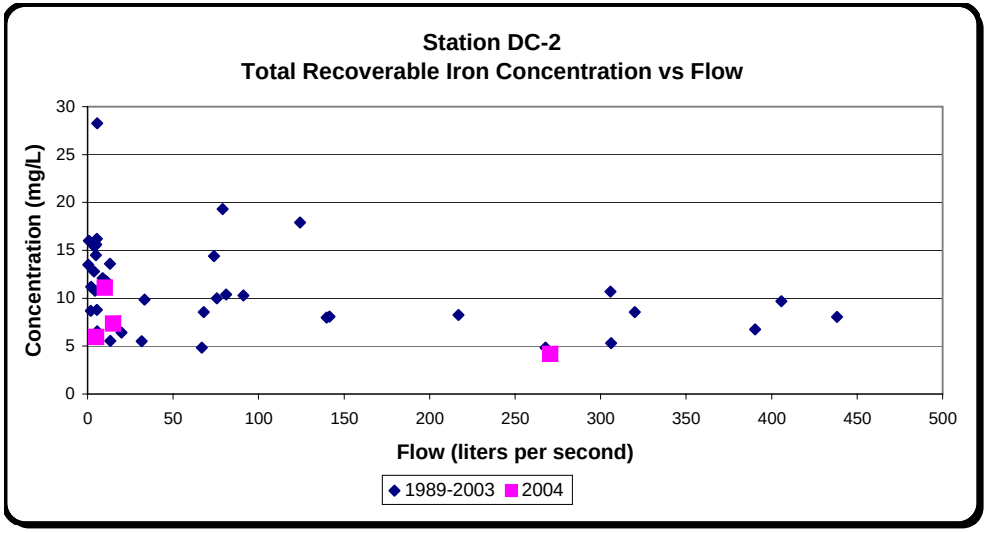

**Copper and Iron Concentrations in July 2002, 2003, and 2004**
**Select Monitoring Wells and Surface Water Stations - McLaren Pit Area**
**Figure 14**

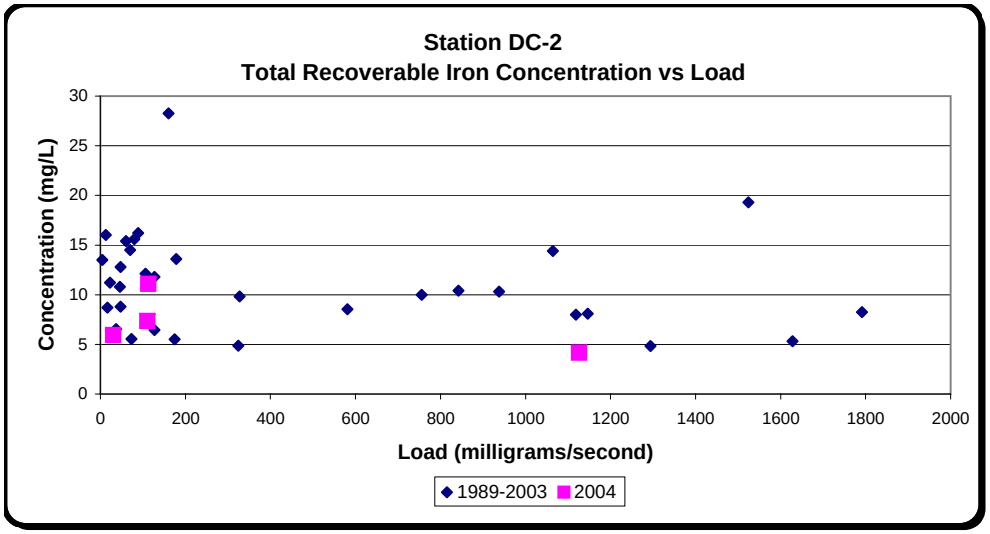



pH Isopleth Map
In Shallow Groundwater - July 2003 & 2004
McLaren Pit Area
New World Mining District
Response and Restoration Project
Cooke City Area, Montana
FIGURE 15




**Copper and Iron Concentration vs Flow and Load**
**Station DC-2 - McLaren Pit Area**
**Figure 16**

# ATTACHMENT B

# TABLES
## McLaren Pit Area 2004 Monitoring
***New World Mining District Response and Restoration Project***

### LIST OF TABLES

**TABLE 1**
**2004 SURFACE WATER SAMPLE SITES**
**McLaren Pit Area**

| Site Name | Location | April | June/ July | August | Sept/ Oct |
|---|---|---|---|---|---|
| DCT-7* | Daisy Cr. tributary south of McLaren Pit | -- | X | X | X |
| DCT-8* | Daisy Cr. tributary south of McLaren Pit | -- | X | X | X |
| DCT-9* | Daisy Cr. tributary south of McLaren Pit | -- | X | X | X |
| USGS-1700* | Daisy Cr. tributary south of McLaren Pit | -- | X | X | X |
| USGS-5519* | Daisy Cr. tributary west of McLaren pit | -- | X | X | X |
| Cover Drains* | McLaren Pit benches (three drains) | -- | X | X | X |
| DC-2 | Daisy Creek below confluence of McLaren tributaries | X | X | X | X |
| DC-5 | Daisy Creek above confluence with Stillwater River | X | X | X | X |
| SW-7** | Stillwater River at Stillwater Trail Crossing | X | X | -- | X |

Notes: * Indicates supplemental surface water monitoring station
** Indicates sample analyzed for both total and dissolved metals.

**TABLE 2**
**2004 MONITORING WELL SAMPLE SITES**
**McLaren Pit Area**

| Well No. | Year Installed | Completion Formation | July | August | September |
|---|---|---|---|---|---|
| DCGW-100 | 2003 | Meagher Limestone | **X*** | -- | **F** |
| DCGW-101S | 2001 | Colluvium | **X*** | **L*** | **L*** |
| DCGW-101D | 2001 | Lulu Pass Rhyodacite Porphyry | **X*** | **L*** | **L*** |
| DCGW-111S | 2003 | Colluvium | **X*** | **L*** | **L*** |
| DCGW-111D | 2003 | Bedrock | **X*** | **L*** | **L*** |
| Tracer-2 | 1997 | Fisher Mtn. Intrusive | **X*** | -- | -- |
| MW-2 | 1989 | Wolsey Shale | **X*** | **F** | **F** |
| MW-3 | 1989 | Wolsey Shale | **X*** | -- | -- |
| DCGW-104 | 2001 | Waste Rock | **X*** | **L*** | **L*** |
| DCGW-105 | 2001 | Waste Rock | **X*** | **L*** | **L*** |
| DCGW-106 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-107 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-108 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-109 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-110 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-131 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-132 | 2002 | Colluvium | **X*** | **L *** | **L*** |
| DCGW-133 | 2002 | Colluvium | **X*** | **L *** | **L*** |
| DCGW-134 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-135 | 2002 | Colluvium | **F** | -- | -- |
| DCGW-136 | 2002 | Colluvium | **X*** | **L*** | **L*** |
| DCGW-137 | 2002 | Colluvium | **X*** | **L*** | **L*** |

Notes: X* Indicates well will be sampled for full suite of laboratory parameters along with depth to water and field parameters
F Indicates only depth to water and field parameters monitored
L* Indicates wells to be sampled for limited suite of laboratory parameters (acidity, sulfate, TDS, cadmium, copper, & iron)
-- Indicates no monitoring

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW- 2** | 7/9/2002 | 60.0 | ND | | | Artesian | | 5.0 | 3.44 | 797 | 89 | NM | 4 |
| | 7/17/2003 | | | | | Artesian | | 5.3 | 3.81 | 785 | 250 | 0.64 | 4 |
| | 8/1/2003 | 69.0 | 5.1 | 2,946.95 1 | 10.34 | 3.15 | 2943.80 | 4.1 | 3.76 | 751 | 287 | 0.67 | 5 |
| | 8/13/2003 | | | | 10.73 | 3.27 | 2943.68 | 2.9 | 3.79 | 632 | 266 | 0.74 | 5 |
| | 8/27/2003 | | | | 11.21 | 3.42 | 2943.53 | 2.7 | 3.70 | 1,163 | 283 | 0.87 | 5 |
| | 9/8/2003 | | | | 11.85 | 3.61 | 2943.34 | 2.9 | 3.57 | 732 | 272 | 0.45 | 5 |
| | 9/30/2003 | 69.0 | 2.6 | 2,946.95 1 | 14.72 | 4.49 | 2942.46 | 2.8 | 3.86 | 752 | 255 | 1.85 | 5 |
| | | | | 2003 Minimum | | | | 2.7 | 3.57 | 632 | 255 | 0.45 | |
| | | | | 2003 Maximum | | | | 5.3 | 3.86 | 1163 | 287 | 1.85 | |
| | | | | 2003 Mean | | | | 3.5 | 3.75 | 803 | 273 | 0.92 | |
| | 7/21/2004 | 69.0 | 2.6 | 2,946.95 1 | 9.35 | 2.85 | 2944.10 | 3.2 | 3.53 | 760 | 289 | 4.26 | 6 |
| | 8/11/2004 | 67.4 | 1.0 | 2,946.46 2 | 8.94 | 2.72 | 2943.74 | 3.4 | 3.60 | 789 | 263 | 0.00 | 6 |
| | 9/28/2004 | | | | 10.88 | 3.32 | 2943.14 | 2.9 | 3.60 | 778 | 215 | 0.21 | 6 |
| | | | | 2004 Mean | 9.72 | 2.96 | 2943.66 | 3.1 | 3.58 | 776 | 256 | 1.49 | |
| **DCGW 100** | 8/1/2003 | 237.0 | 2 | 3,020 3 | 90.91 | 27.71 | 2992.29 | 2.6 | 6.95 | 976 | 42.5 | 3.8 | 4 |
| | 8/11/2003 | | | | 96.15 | 29.31 | 2990.69 | 6.1 | 6.82 | 661 | 81.5 | 2.94 | 4 |
| | 8/19/2003 | | | | 99.61 | 30.36 | 2989.64 | 6 | 6.75 | 589 | NM | NM | 4 |
| | 8/27/2003 | | | | 113.62 | 34.63 | 2985.37 | 2.9 | 6.8 | 565 | 85 | 1.8 | 4 |
| | 9/9/2003 | | | | 116.47 | 35.50 | 2984.50 | 1.6 | 7.13 | 533 | 109.3 | 1.51 | 4 |
| | 9/30/2003 | | | | 120.23 | 36.65 | 2983.35 | 3.2 | 6.68 | 547 | 172.4 | 2.46 | 4 |
| | | | | 2003 Minimum | 90.9 | 27.7 | 2983.35 | 1.6 | 6.7 | 533.0 | 42.5 | 1.5 | |
| | | | | 2003 Maximum | 120.2 | 36.6 | 2992.29 | 6.1 | 7.1 | 976.0 | 172.4 | 3.8 | |
| | | | | 2003 Mean | 106.2 | 32.4 | 2987.64 | 3.7 | 6.9 | 645.2 | 98.1 | 2.5 | |
| | 8/10/2004 | | | | 100.03 | 30.49 | 2989.51 | 3.73 | 7.59 | 589 | -0.2 | 0.46 | 4 |
| **Tracer 2** | 7/8/2002 | 129.0 | NM | 2,986 3 | 18.51 | 5.64 | 3014.36 | 5 | 3.66 | 732 | 766 | NM | |
| | 7/17/2003 | | | | 22.64 | 6.90 | 3013.10 | 5.2 | 3.61 | 759 | 297 | 0.44 | 4 |
| | 8/1/2003 | | | | 30.56 | 9.31 | 3010.69 | 3 | 3.65 | 543 | 385 | 0.90 | 5 |
| | 8/11/2003 | | | | 38.53 | 11.74 | 3008.26 | 2.8 | 3.45 | 476 | 386 | 0.90 | 5 |
| | 8/27/2003 | | | | 51.44 | 15.68 | 3004.32 | 2.1 | 3.31 | 570 | 406 | 0.74 | 5 |
| | 9/8/2003 | | | | 59.79 | 18.22 | 3001.78 | 2.3 | 3.08 | 567 | 453 | 0.82 | 5 |
| | 9/30/2003 | | | | 71.97 | 21.94 | 2998.06 | 3.1 | 3.25 | 613 | 457 | 3.2 | 4 |
| | | | | 2003 Minimum | 22.6 | 6.9 | 2998.1 | 2.1 | 3.1 | 476 | 385 | 0.7 | |
| | | | | 2003 Maximum | 72.0 | 21.9 | 3013.1 | 5.2 | 3.7 | 759 | 453 | 0.9 | |
| | | | | 2003 Mean | 45.8 | 14.0 | 3006.0 | 3.1 | 3.4 | 588 | 407 | 0.8 | |
| | 7/21/2004 | | | | 20.92 | 6.38 | 3013.62 | 1.95 | 3.53 | 786 | 308 | 0.15 | 6 |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 101 S** | 10/10/2001 | 14.7 | 2.6 | 2856.09 | 7.70 | 2.35 | 2853.74 | 4.9 | 5.29 | 249 | 260 | NM | 4 |
| | 7/10/2002 | | | | 5.60 | 1.71 | 2854.38 | 4.5 | 4.51 | 235 | 142 | NM | 4 |
| | 9/5/2002 | | | | 6.93 | 2.11 | 2853.98 | 6.5 | 4.48 | 223 | NM | NM | 4 |
| | 9/17/2002 | | | | 6.41 | 1.95 | 2854.14 | 5.0 | 4.56 | 187 | NM | NM | 4 |
| | 10/7/2002 | | | | 6.39 | 1.95 | 2854.14 | 6.0 | 4.58 | 235 | NM | NM | 4 |
| | | | | 2002 Minimum | 5.60 | 1.71 | 2853.98 | 4.5 | 4.48 | 187 | | | |
| | | | | 2002 Maximum | 6.93 | 2.11 | 2854.38 | 6.5 | 4.58 | 235 | | | |
| | | | | 2002 Mean | 6.33 | 1.93 | 2854.16 | 5.5 | 4.53 | 220 | | | |
| | 7/16/2003 | | | | 6.08 | 1.85 | 2854.24 | 4.5 | 4.53 | 255 | 205 | 8.97 | 2 |
| | 7/31/2003 | | | | 6.61 | 2.01 | 2854.08 | 3.4 | 4.07 | 238 | 380 | 9.57 | 4 |
| | 8/11/2003 | | | | 7.07 | 2.15 | 2853.94 | 3.4 | 4.12 | 203 | 495 | 6.93 | 6 * |
| | 8/27/2003 | | | | 7.65 | 2.33 | 2853.76 | 3.8 | 4.40 | 244 | 394 | 6.16 | 6 |
| | 9/9/2003 | | | | 8.02 | 2.44 | 2853.65 | 4.2 | 4.48 | 244 | 321 | 3.23 | 6 ** |
| | 10/1/2003 | | | | 8.32 | 2.54 | 2853.55 | 4.6 | 4.55 | 253 | 399 | 4.47 | 6 * |
| | | | | 2003 Minimum | 6.08 | 1.85 | 2853.55 | 3.4 | 4.07 | 203 | 321 | 3.23 | |
| | | | | 2003 Maximum | 8.32 | 2.54 | 2854.24 | 4.6 | 4.55 | 255 | 495 | 6.93 | |
| | | | | 2003 Mean | 7.29 | 2.22 | 2853.87 | 4.0 | 4.36 | 240 | 402 | 5.20 | |
| | 7/20/2004 | | | | 6.12 | 1.87 | 2854.22 | 2.2 | 4.38 | 253 | 327 | 6.64 | 6 |
| | 8/11/2004 | | | | 6.94 | 2.12 | 2853.97 | 3.0 | 4.47 | 246 | 282 | 5.88 | 6 |
| | 9/28/2004 | | | | 4.16 | 1.27 | 2854.82 | 4.1 | 4.30 | 248 | 383 | 3.53 | 6 |
| | | | | 2004 Mean | 6.95 | 1.75 | 2854.34 | 3.1 | 4.38 | 249 | 331 | 5.35 | |
| **DCGW- 101 D** | 10/10/2001 | 27.4 | 2.4 | 2857.30 | 7.38 | 2.25 | 2855.05 | 3.2 | 6.70 | 536 | 258 | NM | 4 |
| | 7/10/2002 | | | | 5.70 | 1.74 | 2855.56 | 4.5 | 6.12 | 442 | 6 | NM | 4 |
| | 9/5/2002 | | | | 7.36 | 2.24 | 2855.06 | 5.1 | 5.32 | 382 | NM | NM | 4 |
| | 9/17/2002 | | | | 6.19 | 1.89 | 2855.41 | 4.0 | 7.41 | 303 | NM | NM | 4 |
| | 10/7/2002 | | | | 6.18 | 1.88 | 2855.42 | 5.0 | 7.32 | 406 | NM | NM | 4 |
| | | | | 2002 Minimum | 5.70 | 1.74 | 2855.06 | 4.0 | 5.32 | 303 | | | |
| | | | | 2002 Maximum | 7.36 | 2.24 | 2855.56 | 5.1 | 7.41 | 442 | | | |
| | | | | 2002 Mean | 6.36 | 1.94 | 2855.36 | 4.7 | 6.54 | 383 | | | |
| | 7/16/2003 | | | | 4.95 | 1.51 | 2855.79 | 4.5 | 7.06 | 418 | 114 | 4.13 | 2 |
| | 7/31/2003 | | | | 6.61 | 2.01 | 2855.29 | 2.4 | 7.20 | 394 | 76 | 1.02 | 6 |
| | 8/11/2003 | | | | 7.01 | 2.14 | 2855.16 | 2.4 | 6.75 | 332 | 300 | 0.78 | 6 ** |
| | 8/27/2003 | | | | 7.61 | 2.32 | 2854.98 | 2.5 | 6.62 | 399 | 213 | 0.64 | 6 |
| | 9/9/2003 | | | | 7.98 | 2.43 | 2854.87 | 2.7 | 6.63 | 385 | 202 | 0.48 | 6 |
| | 10/1/2003 | | | | 8.18 | 2.49 | 2854.81 | 2.9 | 6.50 | 437 | 297 | 0.17 | 6 * |
| | | | | 2003 Minimum | 4.95 | 1.51 | 2854.81 | 2.4 | 6.50 | 332 | 76 | 0.17 | |
| | | | | 2003 Maximum | 8.18 | 2.49 | 2855.79 | 4.5 | 7.20 | 437 | 300 | 1.02 | |
| | | | | 2003 Mean | 7.06 | 2.15 | 2855.15 | 2.9 | 6.79 | 394 | 218 | 0.62 | |
| | 7/20/2004 | | | | 6.07 | 1.85 | 2855.45 | 2.6 | 6.70 | 441 | -84 | 0.04 | 6 |
| | 8/11/2004 | | | | 6.92 | 2.11 | 2855.19 | 2.5 | 6.94 | 448 | -78 | 0.05 | 6 |
| | 9/28/2004 | | | | 4.22 | 1.29 | 2856.01 | 2.8 | 6.65 | 410 | 146 | 0.20 | 6 |
| | | | | 2004 Mean | 5.74 | 1.75 | 2855.55 | 2.6 | 6.76 | 433 | -5 | 0.10 | |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 104** | 10/8/2001 | 26.7 | 3.4 | 2924.76 1 | NM | NM | NM | NM | NM | NM | NM | NM | |
| | 7/9/2002 | 26.7 | 3.4 | | 20.28 | 6.18 | 2918.58 | 4.5 | 2.89 | 2890 | 33 | NM | 4 |
| | 9/17/2002 | 26.7 | 8.0 | | 23.46 | 7.15 | 2917.61 | 4.0 | 3.19 | 2060 | NM | NM | 4 |
| | 10/7/2002 | 26.7 | 8.0 | | 24.67 | 7.52 | 2917.24 | 5.0 | 3.18 | 2480 | NM | NM | 4 |
| | | | | 2002 Minimum | 20.28 | 6.18 | 2917.24 | 4.00 | 2.89 | 2060.00 | | | |
| | | | | 2002 Maximum | 24.67 | 7.52 | 2918.58 | 5.00 | 3.19 | 2890.00 | | | |
| | | | | 2002 Mean | 22.80 | 6.95 | 2917.81 | 4.50 | 3.09 | 2476.67 | | | |
| | 7/17/2003 | 19.5 | 2.0 | 2922.56 1 | 13.42 | 4.09 | 2918.47 | 5.6 | 2.47 | 2960 | 515 | 4.61 | 2 |
| | 7/31/2003 | 19.5 | 2.0 | Well cut down | 12.98 | 3.96 | 2918.60 | 3.3 | 2.51 | 3011 | 444 | 3.22 | 4 |
| | 8/13/2003 | 19.5 | 2.0 | | 14.10 | 4.30 | 2918.26 | 3.9 | 2.56 | 2535 | 450 | 2.94 | 6 |
| | 8/27/2003 | 19.5 | 2.0 | | 15.19 | 4.63 | 2917.93 | 3.7 | 2.63 | 2766 | 427 | 2.55 | 6 |
| | 9/9/2003 | 19.5 | 2.0 | Casing added | 15.67 | 4.78 | 2917.78 | 3.9 | 2.57 | 2558 | 404 | 1.78 | 6 |
| | 10/1/2003 | 23.8 | 2.5 | 2923.87 1 | 20.41 | 6.22 | 2917.65 | 4.3 | 2.82 | 2721 | 409 | 3.00 | 6 |
| | | | | 2003 Minimum | | | | 3.3 | 2.47 | 2535 | 404 | 1.78 | |
| | | | | 2003 Maximum | | | | 5.6 | 2.82 | 3011 | 450 | 3.00 | |
| | | | | 2003 Mean | | | | 4.1 | 2.59 | 2759 | 422 | 2.57 | |
| | 7/20/2004 | 24.75 | | 2924.16 2 | 18.27 | 5.57 | 2918.59 | 3.7 | 2.26 | 4269 | 533 | 1.11 | 6 |
| | 8/11/2004 | 24.75 | | | 18.90 | 5.76 | 2918.40 | 3.8 | 2.60 | 3915 | 531 | 1.46 | 6 |
| | 9/28/2004 | 24.75 | | | 20.57 | 6.27 | 2917.89 | 3.8 | 2.19 | 3447 | 490 | 2.96 | 6 |
| | | | | 2004 Mean | 19.25 | | 2918.29 | 3.8 | 2.35 | 3877 | 518 | 1.84 | |
| **DCGW- 105** | 10/8/2001 | 21.3 | 2.0 | 2950.6 1 | NM | NM | NM | NM | NM | NM | NM | NM | |
| | 7/8/2002 | 21.3 | | | 14.12 | 4.30 | 2946.30 | 4.0 | 2.83 | 1832 | 404 | NM | 4 |
| | 9/17/2002 | 21.3 | | | 17.51 | 5.34 | 2945.26 | 4.5 | 3.09 | 1084 | NM | NM | 4 |
| | 10/7/2002 | 21.3 | | | 18.36 | 5.60 | 2945.00 | 5.0 | 3.05 | 1253 | NM | NM | 4 |
| | | | | 2002 Minimum | 14.12 | 4.30 | 2945.00 | 4.0 | 2.83 | 1084 | | | |
| | | | | 2002 Maximum | 18.36 | 5.60 | 2946.30 | 5.0 | 3.09 | 1832 | | | |
| | | | | 2002 Mean | 16.66 | 5.08 | 2945.52 | 4.5 | 2.99 | 1390 | | | |
| | 7/17/2003 | 21.3 | | | 14.99 | 4.57 | 2946.03 | 2.9 | 2.56 | 1638 | 380 | 0.43 | 2 |
| | 7/31/2003 | NM | Casing added | | NM | | | NM | NM | NM | NM | NM | No Access |
| | 8/13/2003 | 28.7 | | 2952.9 1 | 23.42 | 7.14 | 2945.76 | 2.6 | 2.67 | 1183 | 392 | 0.86 | 6 |
| | 8/27/2003 | 28.7 | | | 23.12 | 7.05 | 2945.85 | 2.6 | 2.51 | 1368 | 391 | 0.81 | 6 ** |
| | 9/9/2003 | 28.7 | | | 23.69 | 7.22 | 2945.68 | 3.3 | 2.55 | 1254 | 368 | 0.45 | 6 |
| | 10/1/2003 | 28.7 | | | 24.83 | 7.57 | 2945.33 | 3.6 | 2.81 | 1244 | 372 | 0.76 | 6 |
| | | | | 2003 Minimum | | | | 2.6 | 2.51 | 1183 | 368 | 0.45 | |
| | | | | 2003 Maximum | | | | 3.6 | 2.81 | 1638 | 392 | 0.86 | |
| | | | | 2003 Mean | | | | 3.0 | 2.62 | 1337 | 381 | 0.72 | |
| | 7/20/2004 | 29.85 | 3.1 | 2953.2 2 | 23.44 | 7.14 | 2946.06 | 3.0 | 2.44 | 1728 | 421 | 0.40 | 6 |
| | 8/11/2004 | 29.85 | | | 24.09 | 7.34 | 2945.86 | 3.2 | 3.07 | 1530 | 415 | 2.84 | 6 |
| | 9/28/2004 | 29.85 | | | 25.30 | 7.71 | 2945.49 | 2.9 | 2.47 | 1302 | 388 | 0.80 | 6 |
| | | | | 2004 Mean | | | | 3.0 | 2.66 | 1520 | 408 | 1.35 | |

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**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 106** | 8/19/2002 | 47.5 | 2.5 | 2906.11 | Artesian | | | NM | 7.16 | 792 | NM | NM | 4 |
| | 9/5/2002 | | | | Artesian | | | 4.1 | 5.24 | 744 | NM | NM | 4 |
| | 9/17/2002 | | | | Artesian | | | 4.0 | 7.21 | 690 | NM | NM | 4 |
| | 10/7/2002 | | | | Artesian | | | 3.0 | 7.04 | 843 | NM | NM | 4 |
| | | | | 2002 Minimum | | | | 3.0 | 5.2 | 690.0 | | | |
| | | | | 2002 Maximum | | | | 4.1 | 7.2 | 843.0 | | | |
| | | | | 2002 Mean | | | | 3.7 | 6.7 | 767.3 | | | |
| | 7/10/2003 | | | | Artesian | | | 4.5 | 6.12 | 883 | -28 | 0.26 | 1 |
| | 7/31/2003 | | | | Artesian | | | 3.1 | 7.00 | 858 | -30 | 0.74 | 6 * |
| | 8/12/2003 | | | | Artesian | | | 3.1 | 6.96 | 734 | -74 | 1.03 | 6 * |
| | 8/27/2003 | | | | Artesian | | | 3.0 | 6.94 | 1211 | -23 | 0.57 | 6 * |
| | 9/9/2003 | | | | Artesian | | | 3.1 | 6.86 | 832 | -18 | 0.45 | 6 * |
| | 10/1/2003 | | | | Artesian | | | 3.0 | 6.93 | 871 | 26 | 0.25 | 6 * |
| | | | | 2003 Minimum | | | | 3.0 | 6.12 | 734 | -74 | 0.25 | |
| | | | | 2003 Maximum | | | | 4.5 | 7.00 | 1211 | 26 | 1.03 | |
| | | | | 2003 Mean | | | | 3.3 | 6.80 | 898 | -24 | 0.61 | |
| | 7/20/2004 | | | | Artesian | | | 3.1 | 7.03 | 909 | -73 | 0.37 | 6 |
| **DCGW- 107** | 8/23/2002 | 25.0 | 1.6 | 2883.34 | 10.79 | 3.29 | 2880.05 | NM | 7.25 | 558 | NM | NM | 4 |
| | 9/5/2002 | | | | 15.27 | 4.65 | 2878.69 | 4.9 | 5.39 | 572 | NM | NM | 4 |
| | 9/18/2002 | | | | 15.79 | 4.81 | 2878.53 | 4.5 | 8.02 | 447 | NM | NM | 4 |
| | 10/7/2002 | | | | 15.81 | 4.82 | 2878.52 | 4.5 | 7.72 | 604 | NM | NM | 4 |
| | | | | 2002 Minimum | 10.79 | 3.29 | 2878.52 | 4.5 | 5.39 | 447 | | | |
| | | | | 2002 Maximum | 15.81 | 4.82 | 2880.05 | 4.9 | 8.02 | 604 | | | |
| | | | | 2002 Mean | 14.42 | 4.39 | 2878.95 | 4.6 | 7.10 | 545 | | | |
| | 7/10/2003 | | | | 15.94 | 4.86 | 2878.48 | 4.5 | 7.03 | 686 | -123 | 2.26 | 1 |
| | 7/31/2003 | | | | 16.83 | 5.13 | 2878.21 | 3.9 | 7.74 | 686 | -39 | 1.64 | 4 * |
| | 8/13/2003 | | | | 17.34 | 5.29 | 2878.05 | 2.9 | 6.90 | 530 | -50 | 0.70 | 6 * |
| | 8/27/2003 | | | | 17.62 | 5.37 | 2877.97 | 2.7 | 7.28 | 663 | -14 | 0.65 | 6 * |
| | 9/9/2003 | | | | 17.78 | 5.42 | 2877.92 | 3.0 | 7.41 | 623 | -93 | 0.41 | 6 * |
| | 10/1/2003 | | | | 18.29 | 5.57 | 2877.77 | 3.2 | 7.03 | 675 | 38 | 0.31 | 6 * |
| | | | | 2003 Minimum | 15.94 | 4.86 | 2877.77 | 2.7 | 6.90 | 530 | -93 | 0.31 | |
| | | | | 2003 Maximum | 18.29 | 5.57 | 2878.48 | 4.5 | 7.74 | 686 | 38 | 0.70 | |
| | | | | 2003 Mean | 17.30 | 5.27 | 2878.07 | 3.4 | 7.23 | 644 | -30 | 1.00 | |
| | 7/20/2004 | | | | 16.21 | 4.94 | 2878.40 | 2.9 | 7.16 | 640 | -125 | 0.12 | 6 |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 108** | 8/23/2002 | 11.1 | 2.2 | 2873.36 | 10.55 | 3.22 | 2870.14 | 6.5 | 5.59 | 204 | NM | NM | 4 |
| | 9/5/2002 | | | | 7.68 | 2.34 | 2871.02 | 7.0 | 4.80 | 1663 | NM | NM | 4 |
| | 9/18/2002 | | | | 9.90 | 3.02 | 2870.34 | 9.0 | 4.33 | 248 | NM | NM | 4 |
| | 10/7/2002 | | | | 6.56 | 2.00 | 2871.36 | 6.5 | 5.47 | 235 | NM | NM | 4 |
| | | | | 2002 Minimum | 6.56 | 2.00 | 2870.14 | 6.5 | 4.33 | 204 | | | |
| | | | | 2002 Maximum | 10.55 | 3.22 | 2871.36 | 9.0 | 5.59 | 1663 | | | |
| | | | | 2002 Mean | 8.67 | 2.64 | 2870.72 | 7.3 | 5.05 | 588 | | | |
| | 7/9/2003 | | | | 6.49 | 1.98 | 2871.38 | 4.0 | 4.41 | 250 | 209 | 8.88 | 1 |
| | 7/31/2003 | | | | 8.10 | 2.47 | 2870.89 | 4.3 | 4.46 | 250 | 239 | 9.28 | 4 ** |
| | 8/13/2003 | | | | 9.60 | 2.93 | 2870.43 | 4.2 | 4.41 | 207 | 472 | 7.82 | 5 |
| | 8/27/2003 | | | | Dry | | | | | | | | |
| | | | | 2003 Minimum | 6.49 | 1.98 | 2870.43 | 4.0 | 4.41 | 207 | 209 | 7.82 | |
| | | | | 2003 Maximum | 9.60 | 2.93 | 2871.38 | 4.3 | 4.46 | 250 | 472 | 9.28 | |
| | | | | 2003 Mean | 8.06 | 2.46 | 2870.90 | 4.2 | 4.43 | 236 | 307 | 8.66 | |
| | 7/20/2004 | | | | 8.75 | 2.67 | 2880.67 | 3.0 | 4.79 | 245 | 261 | 8.57 | 6 |
| **DCGW- 109** | 8/23/2002 | 17.4 | 2.4 | 2870.67 | 7.72 | 2.35 | 2868.32 | NM | 7.02 | 669 | NM | NM | 4 |
| | 9/5/2002 | | | | 6.90 | 2.10 | 2868.57 | 8.1 | 5.22 | 643 | NM | NM | 4 |
| | 9/18/2002 | | | | 6.76 | 2.06 | 2868.61 | 5.0 | 7.44 | 497 | NM | NM | 4 |
| | 10/7/2002 | | | | 7.16 | 2.18 | 2868.49 | 5.0 | 7.33 | 698 | NM | NM | 4 |
| | | | | 2002 Minimum | 6.76 | 2.06 | 2868.32 | 5.0 | 5.22 | 497 | | | |
| | | | | 2002 Maximum | 7.72 | 2.35 | 2868.61 | 8.1 | 7.44 | 698 | | | |
| | | | | 2002 Mean | 7.14 | 2.17 | 2868.50 | 6.0 | 6.75 | 627 | | | |
| | 7/10/2003 | | | | 7.03 | 2.14 | 2868.53 | 3.3 | 6.96 | 724 | 61 | 2.91 | 1 |
| | 7/31/2003 | | | | 7.36 | 2.24 | 2868.43 | 3.8 | 7.13 | 676 | 93 | 3.23 | 4 |
| | 8/13/2003 | | | | 7.47 | 2.28 | 2868.39 | 3.3 | 6.95 | 581 | 62 | 1.81 | 6 |
| | 8/27/2003 | | | | 7.51 | 2.29 | 2868.38 | 3.8 | 6.86 | 705 | 185 | 2.10 | 6 * |
| | 9/9/2003 | | | | 7.56 | 2.30 | 2868.37 | 4.7 | 7.22 | 669 | 77 | 1.72 | 6 * |
| | 10/1/2003 | | | | 7.28 | 2.22 | 2868.45 | 4.9 | 6.76 | 715 | 213 | 1.74 | 6 * |
| | | | | 2003 Minimum | 7.03 | 2.14 | 2868.37 | 3.3 | 6.76 | 581 | 62 | 1.72 | |
| | | | | 2003 Maximum | 7.56 | 2.30 | 2868.53 | 4.9 | 7.22 | 724 | 213 | 2.10 | |
| | | | | 2003 Mean | 7.37 | 2.25 | 2868.42 | 4.0 | 6.98 | 678 | 134 | 1.84 | |
| | 7/20/2004 | | | | 7.31 | 2.23 | 2881.11 | 2.4 | 6.16 | 738 | 119 | 0.51 | 6 |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 110** | 8/23/2002 | 11.1 | 1.2 | 2873.39 | 6.26 | 1.91 | 2871.48 | 5.5 | 6.30 | 953 | NM | NM | 4 |
| | 9/5/2002 | | | | 6.24 | 1.90 | 2871.49 | 7.0 | 5.50 | 963 | NM | NM | 4 |
| | 9/18/2002 | | | | 6.23 | 1.90 | 2871.49 | 5.5 | 6.99 | 707 | NM | NM | 4 |
| | 10/7/2002 | | | | 6.07 | 1.85 | 2871.54 | 6.0 | 7.01 | 1030 | NM | NM | 4 |
| | | | | 2002 Minimum | 6.07 | 1.85 | 2871.48 | 5.5 | 5.50 | 707 | | | |
| | | | | 2002 Maximum | 6.26 | 1.91 | 2871.54 | 7.0 | 7.01 | 1030 | | | |
| | | | | 2002 Mean | 6.20 | 1.89 | 2871.50 | 6.0 | 6.45 | 913 | | | |
| | 7/9/2003 | | | | 6.17 | 1.88 | 2871.51 | NM | 5.97 | 910 | 116 | 1.17 | 1 |
| | 7/31/2003 | | | | 6.32 | 1.93 | 2871.46 | 3.8 | 6.64 | 1056 | 96 | 3.67 | 4 |
| | 8/13/2003 | | | | 6.31 | 1.92 | 2871.47 | 4.6 | 6.32 | 834 | 174 | 2.04 | 6 |
| | 8/27/2003 | | | | 6.33 | 1.93 | 2871.46 | 5.0 | 6.51 | 1041 | 279 | 3.37 | 6 |
| | 9/9/2003 | | | | 6.30 | 1.92 | 2871.47 | 5.8 | 6.62 | 1013 | 233 | 1.72 | 6 |
| | 10/1/2003 | | | | 6.34 | 1.93 | 2871.46 | 6.1 | 6.46 | 1077 | 392 | 1.57 | 6 * |
| | | | | 2003 Minimum | 6.17 | 1.88 | 2871.46 | 3.8 | 5.97 | 834 | 174 | 1.57 | |
| | | | | 2003 Maximum | 6.34 | 1.93 | 2871.51 | 6.1 | 6.64 | 1077 | 392 | 3.37 | |
| | | | | 2003 Mean | 6.30 | 1.92 | 2871.47 | 5.0 | 6.42 | 989 | 269 | 2.18 | |
| | 7/20/2004 | | | | 6.11 | 1.86 | 2881.48 | 3.0 | 6.75 | 1122 | 85 | 1.45 | 6 |
| **DCGW- 111 S** | 8/12/2003 | 24.8 | 1.8 | 2911.40 | 4.27 | 1.30 | 2910.10 | 2.8 | 5.99 | 1466 | 131 | 4.07 | 6 |
| | 8/27/2003 | | | | 4.55 | 1.39 | 2910.01 | 2.9 | 5.54 | 1681 | 158 | 3.49 | 6 ** |
| | 9/9/2003 | | | | 4.75 | 1.45 | 2909.95 | 3.5 | 4.65 | 1525 | 185 | 1.68 | 6 |
| | 10/1/2003 | | | | 6.06 | 1.85 | 2909.55 | 3.2 | 5.96 | 1764 | 184 | 1.71 | 6 |
| | | | | 2003 Minimum | 4.27 | 1.30 | 2909.55 | 2.8 | 4.65 | 1466 | 131 | 1.68 | |
| | | | | 2003 Maximum | 6.06 | 1.85 | 2910.10 | 3.5 | 5.99 | 1764 | 185 | 4.07 | |
| | | | | 2003 Mean | 4.91 | 1.50 | 2909.90 | 3.1 | 5.54 | 1609 | 165 | 2.74 | |
| | 7/19/2004 | | | | 4.94 | 1.51 | 2909.89 | 3.4 | 5.30 | 1869 | 126 | 1.20 | 6 |
| | 8/11/2004 | | | | 5.08 | 1.55 | 2909.85 | 3.1 | 5.10 | 1673 | 138 | 3.81 | 6 |
| | 9/28/2004 | | | | 4.77 | 1.45 | 2909.95 | 3.4 | 4.83 | 1556 | 173 | 3.58 | 6 |
| | | | | 2004 Mean | 4.93 | 1.50 | 2909.90 | 3.3 | 5.08 | 1699 | 146 | 2.86 | |
| **DCGW- 111 D** | 8/12/2003 | 41.5 | 1.8 | 2911.30 | 10.93 | 3.33 | 2907.97 | 3.2 | 5.52 | 1160 | 122 | 1.03 | 6 ** |
| | 8/27/2003 | | | | 10.92 | 3.33 | 2907.97 | 3.0 | 5.16 | 1283 | 178 | 1.05 | 6 |
| | 9/9/2003 | | | | 11.51 | 3.51 | 2907.79 | 3.1 | 4.85 | 1266 | 159 | 0.71 | 6 |
| | 10/1/2003 | | | | 11.42 | 3.48 | 2907.82 | 3.0 | 5.42 | 1250 | 171 | 1.07 | 6 * |
| | | | | 2003 Minimum | 10.92 | 3.33 | 2907.79 | 3.0 | 4.85 | 1160 | 122 | 0.71 | |
| | | | | 2003 Maximum | 11.51 | 3.51 | 2907.97 | 3.2 | 5.52 | 1283 | 178 | 1.07 | |
| | | | | 2003 Mean | 11.20 | 3.41 | 2907.89 | 3.1 | 5.24 | 1240 | 157 | 0.97 | |
| | 7/19/2004 | | | | 11.73 | 3.58 | 2907.72 | 3.5 | 5.95 | 1066 | 72 | 0.60 | 6 |
| | 8/11/2004 | | | | 11.58 | 3.53 | 2907.77 | 3.4 | 5.50 | 1202 | 109 | 0.04 | 6 |
| | 9/28/2004 | | | | 11.18 | 3.41 | 2907.89 | 3.2 | 4.56 | 1401 | 187 | 0.76 | 6 * |
| | | | | 2004 Mean | 11.50 | 3.50 | 2907.80 | 3.4 | 5.34 | 1223 | 123 | 0.47 | |

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| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 131** | 8/23/2002 | 22.3 | 2.8 | 2923.69 | 20.69 | 6.31 | 2917.38 | 4.0 | 6.36 | 1694 | NM | NM | 4 |
| | 9/5/2002 | | | | 6.58 | 2.01 | 2921.68 | 4.9 | 5.44 | 1685 | NM | NM | 4 |
| | 9/17/2002 | | | | 6.36 | 1.94 | 2921.75 | 4.0 | 6.79 | 1651 | NM | NM | 4 |
| | 10/7/2002 | | | | 4.81 | 1.47 | 2922.22 | 4.5 | 6.67 | 2020 | NM | NM | 4 |
| | | | | 2002 Minimum | 4.81 | 1.47 | 2917.38 | 4.00 | 5.44 | 1651.00 | | | |
| | | | | 2002 Maximum | 20.69 | 6.31 | 2922.22 | 4.90 | 6.79 | 2020.00 | | | |
| | | | | 2002 Mean | 9.61 | 2.93 | 2920.76 | 4.35 | 6.32 | 1762.50 | | | |
| | 7/9/2003 | | | | 0.07 | 0.02 | 2923.66 | 6.0 | 6.11 | 2200 | -39 | 0.35 | 1 |
| | 7/31/2003 | | | | 1.09 | 0.33 | 2923.35 | 2.8 | 6.56 | 2038 | 5 | 1.31 | 6 |
| | 8/12/2003 | | | | 2.40 | 0.73 | 2922.95 | 3.7 | 6.53 | 1667 | -11 | 3.29 | 6 |
| | 8/27/2003 | | | | 3.83 | 1.17 | 2922.52 | 2.9 | 6.49 | 1946 | 37 | 3.17 | 6 |
| | 9/9/2003 | | | | 4.38 | 1.34 | 2922.35 | 3.3 | 6.31 | 1880 | 74 | 2.06 | 6 |
| | 10/1/2003 | | | | 4.85 | 1.48 | 2922.21 | 3.9 | 6.41 | 2088 | 77 | 1.38 | 6 * |
| | | | | 2003 Minimum | 0.07 | 0.02 | 2922.21 | 2.8 | 6.11 | 1667 | -11 | 1.31 | |
| | | | | 2003 Maximum | 4.85 | 1.48 | 2923.66 | 6.0 | 6.56 | 2200 | 77 | 3.29 | |
| | | | | 2003 Mean | 2.77 | 0.84 | 2922.84 | 3.8 | 6.40 | 1970 | 36 | 2.24 | |
| | 7/20/2004 | | | | 0.00 | 0.00 | 2923.69 | 2.7 | 6.32 | 1820 | 13 | 0.70 | 6 |
| **DCGW- 132** | 8/23/2002 | 10.3 | 1.2 | 2861.64 | 5.74 | 1.75 | 2859.89 | 6.0 | 4.22 | 1174 | NM | NM | 4 |
| | 9/5/2002 | | | | 5.63 | 1.72 | 2859.92 | 7.0 | 3.54 | 1233 | NM | NM | 4 |
| | 9/18/2002 | | | | 5.54 | 1.69 | 2859.95 | 4.7 | 3.80 | 965 | NM | NM | 4 |
| | 10/7/2002 | | | | 5.55 | 1.69 | 2859.94 | 4.5 | 4.02 | 1250 | NM | NM | 4 |
| | | | | 2002 Minimum | 5.54 | 1.69 | 2859.89 | 4.5 | 3.54 | 965 | | | |
| | | | | 2002 Maximum | 5.74 | 1.75 | 2859.95 | 7.0 | 4.22 | 1250 | | | |
| | | | | 2002 Mean | 5.62 | 1.71 | 2859.92 | 5.6 | 3.90 | 1156 | | | |
| | 7/10/2003 | | | | 5.06 | 1.54 | 2860.09 | 3.6 | 3.73 | 1422 | 233 | 0.77 | 1 |
| | 7/31/2003 | | | | 5.49 | 1.67 | 2859.96 | 3.0 | 3.67 | 1368 | 264 | 4.07 | 6 |
| | 8/12/2003 | | | | 5.66 | 1.73 | 2859.91 | 3.9 | 3.68 | 1155 | 251 | 1.63 | 6 |
| | 8/27/2003 | | | | 6.01 | 1.83 | 2859.80 | 4.5 | 3.49 | 1347 | 304 | 1.40 | 6 |
| | 9/9/2003 | | | | 6.21 | 1.89 | 2859.74 | 5.9 | 3.24 | 1199 | 334 | 1.15 | 6 |
| | 10/1/2003 | | | | 6.19 | 1.89 | 2859.75 | 5.3 | 3.26 | 1286 | 374 | 2.64 | 6 |
| | | | | 2003 Minimum | 5.06 | 1.54 | 2859.74 | 3.0 | 3.24 | 1155 | 251 | 1.15 | |
| | | | | 2003 Maximum | 6.21 | 1.89 | 2860.09 | 5.9 | 3.73 | 1422 | 374 | 4.07 | |
| | | | | 2003 Mean | 5.77 | 1.76 | 2859.88 | 4.3 | 3.51 | 1296 | 305 | 2.18 | |
| | 7/20/2004 | | | | 5.66 | 1.73 | 2859.91 | 3.4 | 3.62 | 1390 | 298 | 1.70 | 6 |
| | 8/11/2004 | | | | 6.01 | 1.83 | 2859.80 | 4.3 | 3.49 | 1403 | 310 | 0.19 | 6 |
| | 9/28/2004 | | | | 5.66 | 1.73 | 2859.91 | 4.1 | 3.27 | 1377 | 315 | 1.65 | 6 |
| | | | | 2004 Mean | 5.78 | 1.76 | 2859.87 | 3.9 | 3.46 | 1390 | 308 | 1.18 | |

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**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
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| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 133** | 8/23/2002 | 9.7 | 1.5 | 2874.45 | 3.71 | 1.13 | 2873.32 | 8.5 | 3.75 | 1110 | NM | NM | 4 |
| | 9/5/2002 | | | | 3.96 | 1.21 | 2873.24 | 8.1 | 2.80 | 1289 | NM | NM | 4 |
| | 9/18/2002 | | | | 3.23 | 0.98 | 2873.46 | 6.5 | 2.98 | 901 | NM | NM | 4 |
| | 10/7/2002 | | | | 3.83 | 1.17 | 2873.28 | 4.5 | 3.14 | 1177 | NM | NM | 4 |
| | | | | 2002 Minimum | 3.23 | 0.98 | 2873.24 | 4.5 | 2.80 | 901 | | | |
| | | | | 2002 Maximum | 3.96 | 1.21 | 2873.46 | 8.5 | 3.75 | 1289 | | | |
| | | | | 2002 Mean | 3.68 | 1.12 | 2873.33 | 6.9 | 3.17 | 1119 | | | |
| | 7/10/2003 | | | | 3.36 | 1.02 | 2873.42 | 5.0 | 3.07 | 1168 | 415 | 5.80 | 1 |
| | 7/31/2003 | | | | 3.46 | 1.05 | 2873.39 | 8.8 | 2.91 | 1181 | 498 | 4.81 | 6 * |
| | 8/13/2003 | | | | 3.96 | 1.21 | 2873.24 | 7.3 | 2.94 | 1043 | 465 | 3.76 | 6 |
| | 8/27/2003 | | | | 4.23 | 1.29 | 2873.16 | 6.7 | 2.77 | 1310 | 469 | 2.20 | 6 |
| | 9/9/2003 | | | | 4.38 | 1.34 | 2873.11 | 7.5 | 2.64 | 1280 | 456 | 2.71 | 6 |
| | 10/1/2003 | | | | 4.34 | 1.32 | 2873.13 | 5.6 | 2.78 | 1325 | 491 | 5.66 | 6 ** |
| | | | | 2003 Minimum | 3.36 | 1.02 | 2873.11 | 5.0 | 2.64 | 1043 | 456 | 2.20 | |
| | | | | 2003 Maximum | 4.38 | 1.34 | 2873.42 | 8.8 | 3.07 | 1325 | 498 | 5.66 | |
| | | | | 2003 Mean | 3.96 | 1.21 | 2873.24 | 6.8 | 2.85 | 1218 | 476 | 3.83 | |
| | 7/20/2004 | | | | 3.78 | 1.15 | 2873.30 | 4.6 | 2.83 | 1219 | 447 | 5.30 | 6 |
| | 8/11/2004 | | | | 4.18 | 1.27 | 2873.17 | 7.3 | 2.85 | 1359 | 444 | 3.30 | 6 |
| | 9/28/2004 | | | | 3.87 | 1.18 | 2873.27 | 4.3 | 2.56 | 1211 | 486 | 5.45 | 6 |
| | | | | 2004 Mean | 3.94 | 1.20 | 2873.25 | 5.4 | 2.75 | 1263 | 459 | 4.68 | |
| **DCGW- 134** | 8/23/2002 | 9.3 | 1.7 | 2854.19 | 4.18 | 1.27 | 2873.17 | 8.2 | 6.62 | 258 | NM | NM | 4 |
| | 9/5/2002 | | | | 4.01 | 1.22 | 2873.23 | 7.0 | 5.28 | 386 | NM | NM | 4 |
| | 9/18/2002 | | | | 3.85 | 1.17 | 2873.28 | 6.0 | 6.83 | 289 | NM | NM | 4 |
| | 10/7/2002 | | | | 3.86 | 1.18 | 2873.27 | 6.0 | 7.03 | 395 | NM | NM | 4 |
| | | | | 2002 Minimum | 3.85 | 1.17 | 2873.17 | 6.0 | 5.28 | 258 | | | |
| | | | | 2002 Maximum | 4.18 | 1.27 | 2873.28 | 8.2 | 7.03 | 395 | | | |
| | | | | 2002 Mean | 3.98 | 1.21 | 2873.24 | 6.8 | 6.44 | 332 | | | |
| | 7/16/2003 | | | | 3.55 | 1.08 | 2873.37 | 4.0 | 6.34 | 411 | 184 | 5.45 | 1 |
| | 7/31/2003 | | | | 3.92 | 1.19 | 2873.25 | 3.8 | 6.69 | 470 | 140 | 6.69 | 4 |
| | 8/11/2003 | | | | 4.08 | 1.24 | 2873.21 | 4.5 | 6.44 | 410 | 235 | 5.73 | 6 * |
| | 8/27/2003 | | | | 4.21 | 1.28 | 2873.17 | 4.9 | 6.53 | 563 | 269 | 5.30 | 6 |
| | 9/9/2003 | | | | 4.24 | 1.29 | 2873.16 | 5.3 | 6.87 | 535 | 147 | 5.77 | 6 |
| | 10/1/2003 | | | | 4.19 | 1.28 | 2873.17 | 5.4 | 6.49 | 589 | 336 | 5.80 | 6 * |
| | | | | 2003 Minimum | 3.55 | 1.08 | 2873.16 | 3.8 | 6.34 | 410 | 147 | 5.30 | |
| | | | | 2003 Maximum | 4.24 | 1.29 | 2873.37 | 5.4 | 6.87 | 589 | 336 | 5.80 | |
| | | | | 2003 Mean | 4.03 | 1.23 | 2873.22 | 4.7 | 6.56 | 496 | 247 | 5.65 | |
| | 7/20/2004 | | | | 3.75 | 1.14 | 2882.20 | 2.6 | 6.81 | 474 | 146 | 6.46 | 6 |

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**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 135** | 8/23/2002 | 7.4 | 1.3 | 2855.14 | Dry | | | | | | | | |
| | 9/5/2002 | | | | 6.35 | 1.94 | 2853.21 | 8.5 | 5.30 | 682 | NM | NM | 4 |
| | 9/18/2002 | | | | 5.20 | 1.58 | 2853.56 | 6.8 | 6.19 | 189 | NM | NM | 4 |
| | 10/7/2002 | | | | 6.04 | 1.84 | 2853.30 | 6.0 | 6.01 | 249 | NM | NM | 4 |
| | | | | 2002 Minimum | 5.20 | 1.58 | 2853.21 | 6.0 | 5.30 | 189 | | | |
| | | | | 2002 Maximum | 6.35 | 1.94 | 2853.56 | 8.5 | 6.19 | 682 | | | |
| | | | | 2002 Mean | 5.86 | 1.79 | 2853.35 | 7.1 | 5.83 | 373 | | | |
| | 7/10/2003 | | | | 5.79 | 1.76 | 2853.38 | 6.5 | 5.76 | 120 | 190 | 5.49 | 1 |
| | 7/31/2003 | | | | 6.10 | 1.86 | 2853.28 | 5.9 | 5.66 | 151 | 135 | 5.35 | 5 |
| | 8/11/2003 | | | | 6.80 | 2.07 | 2853.07 | NM | NM | NM | NM | NM | 8 |
| | 8/27/2003 | | | | Dry | | | | | | | | |
| | | | | 2003 Minimum | 5.79 | 1.76 | 2853.07 | 5.9 | 5.66 | 120 | 135 | 5.35 | |
| | | | | 2003 Maximum | 6.80 | 2.07 | 2853.38 | 6.5 | 5.76 | 151 | 190 | 5.49 | |
| | | | | 2003 Mean | 6.23 | 1.90 | 2853.24 | 6.2 | 5.71 | 136 | 163 | 5.42 | |
| | 7/20/2004 | | | | 6.80 | 2.07 | 2881.27 | 4.3 | 5.47 | 106 | 173 | 8.00 | 6 |
| **DCGW- 136** | 8/23/2002 | 11.0 | 2.3 | 2852.88 | 4.03 | 1.23 | 2851.65 | 6.8 | 6.96 | 360 | NM | NM | 4 |
| | 9/5/2002 | | | | 4.39 | 1.34 | 2851.54 | 6.0 | 5.01 | 422 | NM | NM | 4 |
| | 9/18/2002 | | | | 3.79 | 1.16 | 2851.72 | 6.0 | 5.38 | 296 | NM | NM | 4 |
| | 10/7/2002 | | | | 3.72 | 1.13 | 2851.75 | 6.0 | 5.60 | 409 | NM | NM | 4 |
| | | | | 2002 Minimum | 3.72 | 1.13 | 2851.54 | 6.0 | 5.01 | 296 | | | |
| | | | | 2002 Maximum | 4.39 | 1.34 | 2851.75 | 6.8 | 6.96 | 422 | | | |
| | | | | 2002 Mean | 3.98 | 1.21 | 2851.67 | 6.2 | 5.74 | 372 | | | |
| | 7/10/2003 | | | | 2.89 | 0.88 | 2852.00 | 4.0 | 4.76 | 438 | 236 | 5.88 | 1 |
| | 7/31/2003 | | | | 4.09 | 1.25 | 2851.63 | 4.7 | 5.28 | 423 | 263 | 7.16 | 4 |
| | 8/11/2003 | | | | 4.38 | 1.34 | 2851.54 | 4.5 | 5.13 | 362 | 310 | 5.63 | 6 ** |
| | 8/27/2003 | | | | 4.87 | 1.48 | 2851.39 | 4.5 | 5.31 | 450 | 336 | 5.68 | 6 |
| | 9/9/2003 | | | | 4.79 | 1.46 | 2851.42 | 5.4 | 5.10 | 380 | 294 | 5.11 | 6 |
| | 10/1/2003 | | | | 4.73 | 1.44 | 2851.44 | 4.7 | 5.53 | 456 | 392 | 5.34 | 6 |
| | | | | 2003 Minimum | 2.89 | 0.88 | 2851.39 | 4.0 | 4.76 | 362 | 294 | 5.11 | |
| | | | | 2003 Maximum | 4.87 | 1.48 | 2852.00 | 5.4 | 5.53 | 456 | 392 | 5.68 | |
| | | | | 2003 Mean | 4.29 | 1.31 | 2851.57 | 4.6 | 5.19 | 418 | 333 | 5.44 | |
| | 7/20/2004 | | | | 3.44 | 1.05 | 2851.83 | 2.9 | 5.71 | 537 | 220 | 4.46 | 6 |
| | 8/11/2004 | | | | 4.25 | 1.30 | 2851.58 | 4.0 | 4.92 | 462 | 319 | 4.99 | 6 |
| | 9/28/2004 | | | | 2.68 | 0.82 | 2852.06 | 4.0 | 6.05 | 702 | 198 | 1.25 | 6 |
| | | | | 2004 Mean | 3.46 | 1.05 | 2851.83 | 3.6 | 5.56 | 567 | 246 | 3.57 | |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 137** | 8/23/2002 | 15.5 | 1.7 | 2848.67 | 6.46 | 1.97 | 2846.70 | 6.0 | 5.83 | 225 | NM | NM | 4 |
| | 9/5/2002 | | | | 4.47 | 1.36 | 2847.31 | 6.0 | 5.96 | 265 | NM | NM | 4 |
| | 9/18/2002 | | | | 3.39 | 1.03 | 2847.64 | 6.0 | 7.38 | 182 | NM | NM | 4 |
| | 10/7/2002 | | | | 3.34 | 1.02 | 2847.65 | 6.0 | 7.52 | 246 | NM | NM | 4 |
| | | | | 2002 Minimum | 3.34 | 1.02 | 2846.70 | 6.0 | 5.83 | 182 | | | |
| | | | | 2002 Maximum | 6.46 | 1.97 | 2847.65 | 6.0 | 7.52 | 265 | | | |
| | | | | 2002 Mean | 4.42 | 1.35 | 2847.32 | 6.0 | 6.67 | 230 | | | |
| | 7/10/2003 | | | | 3.25 | 0.99 | 2847.68 | 4.0 | 6.70 | 235 | 155 | 0.46 | 1 |
| | 7/31/2003 | | | | 4.12 | 1.26 | 2847.41 | 2.8 | 6.77 | 231 | 132 | 2.77 | 6 |
| | 8/11/2003 | | | | 4.44 | 1.35 | 2847.32 | 3.2 | 6.71 | 196 | 210 | 3.23 | 6 ** |
| | 8/27/2003 | | | | 4.83 | 1.47 | 2847.20 | 3.6 | 6.81 | 248 | 239 | 4.21 | 6 |
| | 9/9/2003 | | | | 4.72 | 1.44 | 2847.23 | 4.2 | 6.90 | 243 | 202 | 3.05 | 6 |
| | 10/1/2003 | | | | 4.82 | 1.47 | 2847.20 | 4.7 | 6.78 | 258 | 373 | 3.15 | 6 |
| | | | | 2003 Minimum | 3.25 | 0.99 | 2847.20 | 2.8 | 6.70 | 196 | 132 | 2.77 | |
| | | | | 2003 Maximum | 4.83 | 1.47 | 2847.68 | 4.7 | 6.90 | 258 | 373 | 4.21 | |
| | | | | 2003 Mean | 4.36 | 1.33 | 2847.34 | 3.7 | 6.78 | 235 | 231 | 3.28 | |
| | 7/20/2004 | | | | 3.26 | 0.99 | 2847.68 | 3.0 | 7.48 | 232 | 22 | 4.73 | 6 |
| | 8/11/2004 | | | | 4.10 | 1.25 | 2847.42 | 3.4 | 6.73 | 245 | 187 | 2.36 | 6 |
| | 9/28/2004 | | | | 2.64 | 0.80 | 2847.87 | 4.3 | 6.58 | 236 | 148 | 2.95 | 6 |
| | | | | 2004 Mean | 3.33 | 1.02 | 2847.65 | 3.6 | 6.93 | 238 | 119 | 3.35 | |

**TABLE 3**
**McLAREN PIT MONITORING WELL FIELD PARAMETER DATA - 2002 THROUGH 2004**
**NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT**

| WELL | DATE | TOTAL DEPTH (feet) | APPROX CASING STICK-UP (feet) | MEASURING POINT ELEVATION (meters) | DEPTH TO GROUND WATER (feet) | DEPTH TO GROUND WATER (meters) | GROUND WATER ELEVATION (meters) | TEMP (deg. C) | pH (su) | SPECIFIC CONDUC-TANCE (uS) | OXIDATION REDUCTION POTENTIAL (mV) | DISSOLVED OXYGEN (mg/L) | NOTE AND MONITORING METHOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DCGW- 138** | 8/23/2002 | 21.0 | 2.9 | 2861.67 | 8.73 | 2.66 | 2859.01 | 5.0 | 6.74 | 296 | NM | NM | 4 |
| | 9/5/2002 | | | | 10.22 | 3.12 | 2858.55 | 6.8 | 4.92 | 333 | NM | NM | 4 |
| | 9/18/2002 | | | | 10.80 | 3.29 | 2858.37 | 4.0 | 6.58 | 283 | NM | NM | 4 |
| | 10/7/2002 | | | | 11.63 | 3.54 | 2858.12 | 4.0 | 6.73 | 459 | NM | NM | 4 |
| | | | | 2002 Minimum | 8.73 | 2.66 | 2858.12 | 4.0 | 4.92 | 283 | | | |
| | | | | 2002 Maximum | 11.63 | 3.54 | 2859.01 | 6.8 | 6.74 | 459 | | | |
| | | | | 2002 Mean | 10.35 | 3.15 | 2858.51 | 5.0 | 6.24 | 343 | | | |
| | 7/10/2003 | | | | 4.58 | 1.40 | 2860.27 | 3.5 | 6.15 | 237 | 148 | 9.78 | 1 |
| | 7/31/2003 | | | | 7.60 | 2.32 | 2859.35 | 3.1 | 5.84 | 163 | 202 | 10.52 | 4 |
| | 8/11/2003 | | | | 8.95 | 2.73 | 2858.94 | 2.4 | 5.64 | 207 | 354 | 9.44 | 6 |
| | 8/27/2003 | | | | 10.20 | 3.11 | 2858.56 | 2.4 | 6.00 | 348 | 291 | 8.75 | 6 |
| | 9/9/2003 | | | | 10.94 | 3.33 | 2858.33 | 2.8 | 6.29 | 409 | 158 | 7.30 | 6 ** |
| | 10/1/2003 | | | | 12.26 | 3.74 | 2857.93 | 3.1 | 6.04 | 579 | 403 | 7.52 | 6 * |
| | | | | 2003 Minimum | 4.58 | 1.40 | 2857.93 | 2.4 | 5.64 | 163 | 158 | 7.30 | |
| | | | | 2003 Maximum | 12.26 | 3.74 | 2860.27 | 3.5 | 6.29 | 579 | 403 | 9.44 | |
| | | | | 2003 Mean | 9.09 | 2.77 | 2858.90 | 2.9 | 5.99 | 324 | 301 | 8.25 | |
| | Not Monitored in 2004 | | | | | | | | | | | | |

**Notes:**

NI : Not intersected in the drilling
NM : Not measured
ND : Not determined
SC : Specific Conductivity measured in micro siemens/cm
ORP : Oxidation Reduction Potential or Eh measured in millivolts
DO : Dissolved Oxygen measured in milligrams per liter

Total Depth (TD) and depth to groundwater measured from top of PVC casing
Casing stick-up and depth to bedrock measured from ground surface
Water Bearing Interval identified during drilling and measured from ground surface

..... : Dashed line separates data monitoring events by year
* : ORP measurement continuing to slowly decrease
** : ORP measurement continuing to slowly increase

**NOTE AND MONITORING METHOD**

1 Temperature and DO measurement conducted as pre-purge, downhole measurement, other parameters measured after purging well
2 DO measurement conducted as an in-situ, downhole measurement, remainder of parameters measured after purging well
3 Sample collected for measurement of field parameters. No purging of well conducted
4 Sample collected for measurement of field parameters after purging of well conducted
5 All field parameters measured with multiprobe in in-situ, downhole measurement. No purging of well conducted
6 All field parameters measured with multiprobe in in-situ, downhole measurement after purging of well conducted
7 Depth to groundwater exceeded multiprobe chord length and no sample was collected
8 Insufficient water for multiprobe in well

**MEASURING POINT ELEVATION FOOTNOTES**

1 Elevation based on measured total depth of well.
2 Ground surface elevation adjacent to well surveyed by Gallatin National Forest personnel on August 24, 2004
3 Ground surface elevation estimated from topographic survey

: Shading shows data used to calculate Minimum, Maximum, and Mean values when different monitoring methods used in 2003.

# TABLE 4
## 2004 GROUNDWATER ANALYTICAL DATA SUMMARY
### NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT
### McLaren Pit Area



| Station Name | Sample Date | Depth to Water (feet) | Anions (mg/L) | | | | | | Cations (mg/L) | | | | | | | | | Total Dissolved Metals (mg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Acid-idity as CaCO3 | Alkalinity as | | | Chlor-ide | Sulfate | Calcium | Hard-ness as CaCO3 | Magne-sium | Potass-ium | Sod-ium | SC (umhos/cm) | pH (s.u.) | Total Dis-solved Solids (mg/L) | Aluminum | Cadmium | Copper | Iron | Lead | Manga-nese | Zinc |
| | | | | HCO3 | CO3 | Total CaCO3 | | | | | | | | | | | Groundwater Standard** | | | | | | |
| | | | | | | | | | | | | | | | | | NA | 0.005 | 1.3 | 0.3 | 0.015 | 0.05 | 2.0 |
| **McLaren Pit Area** | | | | | | | | | | | | | | | | | | | | | | | | |
| DCGW-100 | 8/10/2004 | 100.030 | <2 | -- | -- | -- | -- | 157 | -- | -- | -- | -- | -- | -- | -- | 419 | -- | 0.0003 | 0.008 | 0.22 | -- | -- | -- |
| DCGW-101D | 7/20/2004 | 6.070 | <2 | 83 | 0 | 68 | 1 | 125 | 54 | 176 | 10 | 2 | 3 | 359 | 7.8 | 260 | <0.05 | <0.0001 | <0.001 | <0.01 | <0.001 | 0.32 | JF%0.05 |
| DCGW-101D | 8/11/2004 | 6.920 | <2 | -- | -- | -- | -- | 120 | -- | -- | -- | -- | -- | -- | -- | 276 | -- | <0.0001 | <0.001 | 0.09 | -- | -- | -- |
| DCGW-101D | 9/28/2004 | 4.220 | <2 | -- | -- | -- | -- | 124 | -- | -- | -- | -- | -- | -- | -- | 236 | -- | <0.0001 | <0.001 | <0.01 | -- | -- | -- |
| DCGW-101S | 7/20/2004 | 6.120 | 22 | <1 | 0 | <1 | <1 | 105 | 25 | 83 | 5 | 1 | 2 | 227 | 4.5 | 226 | 2.05 | 0.0003 | 0.11 | 0.02 | 0.001 | 0.18 | JF%0.15 |
| DCGW-101SX | 7/20/2004 | -- | 20 | <1 | 0 | <1 | 2 | 106 | 25 | 83 | 5 | 1 | 2 | 224 | 4.5 | 188 | 2.06 | 0.0003 | 0.11 | <0.01 | 0.001 | 0.18 | 0.19 |
| DCGW-101S | 8/11/2004 | 6.940 | 14 | -- | -- | -- | -- | 88 | -- | -- | -- | -- | -- | -- | -- | 166 | -- | 0.0003 | 0.12 | <0.01 | -- | -- | -- |
| DCGW-101SX | 8/11/2004 | -- | 15 | -- | -- | -- | -- | 88 | -- | -- | -- | -- | -- | -- | -- | 178 | -- | 0.0003 | 0.12 | <0.01 | -- | -- | -- |
| DCGW-101S | 9/28/2004 | 4.160 | 25 | -- | -- | -- | -- | 100 | -- | -- | -- | -- | -- | -- | -- | 131 | -- | 0.0004 | 0.13 | <0.01 | -- | -- | -- |
| DCGW-104 | 7/20/2004 | 18.270 | 1680 | <1 | 0 | <1 | 9 | 2510 | 148 | 748 | 92 | <1 | 7 | 3300 | 2.5 | 4610 | 134 | 0.03 | 58.4 | 269 | <0.001 | 54.2 | JF%4.9 |
| DCGW-104 | 8/11/2004 | 18.900 | 1510 | -- | -- | -- | -- | 2100 | -- | -- | -- | -- | -- | -- | -- | 3660 | -- | 0.03 | 52 | 243 | -- | -- | -- |
| DCGW-104 | 9/28/2004 | 20.570 | 1250 | -- | -- | -- | -- | 1930 | -- | -- | -- | -- | -- | -- | -- | 2940 | -- | 0.034 | 57.5 | 110 | -- | -- | -- |
| DCGW-105 | 7/20/2004 | 23.440 | 479 | <1 | 0 | <1 | 4 | 624 | 13 | 57 | 6 | 2 | 3 | 1260 | 2.7 | 1070 | 26.1 | 0.0035 | 11.3 | 117 | 0.009 | 1.1 | JF%0.55 |
| DCGW-105 | 8/11/2004 | 24.090 | 469 | -- | -- | -- | -- | 569 | -- | -- | -- | -- | -- | -- | -- | 932 | -- | 0.0037 | 9.85 | 109 | -- | -- | -- |
| DCGW-105 | 9/28/2004 | 25.300 | 490 | -- | -- | -- | -- | 557 | -- | -- | -- | -- | -- | -- | -- | 868 | -- | 0.013 | 9.4 | 114 | -- | -- | -- |
| DCGW-111-D | 7/19/2004 | 11.730 | 123 | 7 | 0 | 5 | 2 | 722 | 188 | 597 | 31 | 5 | 5 | 1250 | 5 | 1220 | 11.6 | 0.021 | 13.9 | 36.7 | 0.015 | 7.3 | JF%2.52 |
| DCGW-111-S | 7/19/2004 | 4.940 | 85 | <1 | 0 | <1 | 61 | 870 | 284 | 857 | 36 | 6 | 18 | 1580 | 4.4 | 1470 | 8.18 | 0.033 | 9.63 | 4.65 | 0.011 | 8.15 | JF%4.08 |
| DCGW-111-D | 8/11/2004 | 11.580 | 143 | -- | -- | -- | -- | 775 | -- | -- | -- | -- | -- | -- | -- | 1180 | -- | 0.022 | 12.1 | 37.3 | -- | -- | -- |
| DCGW-111-S | 8/11/2004 | 5.080 | 70 | -- | -- | -- | -- | 909 | -- | -- | -- | -- | -- | -- | -- | 1360 | -- | 0.05 | 8.44 | 6.02 | -- | -- | -- |
| DCGW-111-D | 9/28/2004 | 11.180 | 168 | -- | -- | -- | -- | 796 | -- | -- | -- | -- | -- | -- | -- | 1170 | -- | 0.021 | 12.3 | 36.3 | -- | -- | -- |

***Notes:***

** - MDEQ Circular WQB-7 Human Health Standard
s.u. - Standard units
mg/L - Milligrams per liter- Standard units
umhos/cm - micromhos per centimeter
D - Deep Well
S - Shallow Well
X - Field Duplicate

-- - Indicates parameter not analyzed
< - Indicates analyte not detected above practical quantitation limit (PQL)
JR - The associated values are rejected because rinsate blank showed evidence of contamination.
JF% - The associated values are estimated quantities because field duplicate results exceed acceptable limits by relative percent difference determination.
NA - Not available
Shading indicates exceedance of standard

# TABLE 4
## 2004 GROUNDWATER ANALYTICAL DATA SUMMARY
### NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT
### McLaren Pit Area



| Station Name | Sample Date | Depth to Water (feet) | Anions (mg/L) | | | | | | Cations (mg/L) | | | | | | | | Total Dissolved Metals (mg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Acid-idity as CaCO3 | Alkalinity as | | | Chlor-ide | Sulfate | Calcium | Hard-ness as CaCO3 | Magne-sium | Potass-ium | Sod-ium | SC (umhos/cm) | pH (s.u.) | Total Dis-solved Solids (mg/L) | Aluminum | Cadmium | Copper | Iron | Lead | Manga-nese | Zinc |
| | | | | HCO3 | CO3 | Total CaCO3 | | | | | | | | | | | Groundwater Standard** | | | | | | |
| | | | | | | | | | | | | | | | | | NA | 0.005 | 1.3 | 0.3 | 0.015 | 0.05 | 2.0 |
| DCGW-111-S | 9/28/2004 | 4.770 | 87 | -- | -- | -- | -- | 857 | -- | -- | -- | -- | -- | -- | -- | 1300 | -- | 0.026 | 7.7 | 5.66 | -- | -- | -- |
| DCGW-132 | 7/20/2004 | 5.660 | 477 | <1 | 0 | <1 | 6 | 848 | 85 | 336 | 30 | 5 | 4 | 1610 | 3.4 | 1330 | 36.5 | 0.016 | 12.8 | 136 | 0.007 | 5.35 | JF%2.01 |
| DCGW-132 | 8/11/2004 | 6.010 | 494 | -- | -- | -- | -- | 827 | -- | -- | -- | -- | -- | -- | -- | 1480 | -- | 0.018 | 12.8 | 133 | -- | -- | -- |
| DCGW-132 | 9/28/2004 | 5.660 | 510 | -- | -- | -- | -- | 842 | -- | -- | -- | -- | -- | -- | -- | 1240 | -- | 0.015 | 12.8 | 131 | -- | -- | -- |
| DCGW-132X | 9/28/2004 | -- | 514 | -- | -- | -- | -- | 174 | -- | -- | -- | -- | -- | -- | -- | 1260 | -- | 0.016 | 12.6 | 134 | -- | -- | -- |
| DCGW-133 | 7/20/2004 | 3.780 | 212 | <1 | 0 | <1 | 6 | 499 | 80 | 266 | 16 | 4 | 4 | 1070 | 3.1 | 864 | 21.8 | 0.0087 | 7.11 | 20.6 | 0.006 | 2.83 | JF%1.11 |
| DCGW-133 | 8/11/2004 | 4.180 | 261 | -- | -- | -- | -- | 548 | -- | -- | -- | -- | -- | -- | -- | 920 | -- | 0.011 | 8.24 | 31.8 | -- | -- | -- |
| DCGW-133 | 9/28/2004 | 3.870 | 247 | -- | -- | -- | -- | 512 | -- | -- | -- | -- | -- | -- | -- | 754 | -- | 0.0079 | 6.74 | 10.6 | -- | -- | -- |
| DCGW-136 | 7/20/2004 | 3.440 | 52 | <1 | 0 | <1 | 1 | 178 | 41 | 135 | 8 | 1 | 2 | 384 | 4.4 | 329 | 6.5 | 0.0026 | 1.8 | 0.02 | 0.001 | 1.04 | JF%0.39 |
| DCGW-136 | 8/11/2004 | 4.250 | 29 | -- | -- | -- | -- | 181 | -- | -- | -- | -- | -- | -- | -- | 466 | -- | 0.0028 | 1.27 | <0.01 | -- | -- | -- |
| DCGW-136 | 9/28/2004 | 2.680 | 50 | -- | -- | -- | -- | 177 | -- | -- | -- | -- | -- | -- | -- | 260 | -- | 0.0025 | 2.12 | <0.01 | -- | -- | -- |
| DCGW-137 | 7/20/2004 | 3.260 | <2 | 99 | 0 | 81 | <2 | 38 | 31 | 90 | 3 | 1 | 5 | 210 | 8.1 | 159 | <0.05 | <0.0001 | <0.001 | <0.01 | <0.001 | 0.052 | JF%<0.01 |
| DCGW-137 | 8/11/2004 | 4.100 | <2 | -- | -- | -- | -- | 42 | -- | -- | -- | -- | -- | -- | -- | 172 | -- | <0.0001 | <0.001 | <0.01 | -- | -- | -- |
| DCGW-137 | 9/28/2004 | 2.640 | <2 | -- | -- | -- | -- | 41 | -- | -- | -- | -- | -- | -- | -- | 141 | -- | <0.0001 | <0.001 | <0.01 | -- | -- | -- |
| MW-2 | 7/28/2004 | 9.650 | 342 | <1 | 0 | <1 | 1 | 392 | 19 | 72 | 6 | 4 | 3 | 931 | 3.8 | 732 | 37.4 | JR0.0013 | 0.42 | JR91.9 | 0.01 | 1 | 0.23 |
| MW-2 | 8/11/2004 | 8.940 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-2 | 9/28/2004 | 10.880 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-3 | 7/29/2004 | 4.520 | <2 | 206 | 0 | 169 | <1 | 31 | 47 | 183 | 16 | 2 | 4 | 344 | 7.7 | 205 | <0.05 | JR<0.0001 | <0.001 | JR<0.01 | <0.001 | 0.16 | 0.01 |
| Tracer 2 | 7/21/2004 | 20.920 | 388 | <1 | 0 | <1 | 1 | 434 | 6 | 36 | 5 | 4 | 3 | 870 | 3.7 | 907 | 51.5 | 0.0009 | 2.73 | 63.5 | <0.001 | 0.42 | JF%0.17 |

***Notes:***

** - MDEQ Circular WQB-7 Human Health Standard
s.u. - Standard units
mg/L - Milligrams per liter- Standard units
umhos/cm - micromhos per centimeter
D - Deep Well
S - Shallow Well
X - Field Duplicate

-- - Indicates parameter not analyzed
< - Indicates analyte not detected above practical quantitation limit (PQL)
JR - The associated values are rejected because rinsate blank showed evidence of contamination.
JF% - The associated values are estimated quantities because field duplicate results exceed acceptable limits by relative percent difference determination.
NA - Not available
Shading indicates exceedance of standard

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*Maxim Technologies*

***Revision Date***
*1/3/2005*

# TABLE 5
## 2004 SURFACE WATER ANALYTICAL DATA SUMMARY
### NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT
### McLaren Pit Area



| Station Name | Sample Date | Flow Rate (cfs) | Anions (mg/L) | | | | | | Cations (mg/L) | | | | | | | | Total Recoverable Metals (mg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Acid-idity as CaCO3 | Alkalinity as | | | Chlor-ide | Sulfate | Calcium | Hard-ness as CaCO3 | Magne-sium | Potass-ium | Sod-ium | SC (umhos/cm) | pH (s.u.) | Total Dis-solved Solids (mg/L) | Aluminum | Cadmium | Copper | Iron | Lead | Manga-nese | Zinc |
| | | | | HCO3 | CO3 | Total CaCO3 | | | | | | | | | | | | | | | | | |
| **McLaren Pit Area** | | | | | | | | | | | | | | | | | | | | | | | |
| DC-2 | 4/6/2004 | 0.181 | 54 | <1 | 0 | <1 | 3 | 271 | 67 | 213 | 11 | 2 | 2 | 500 | 4.4 | 383 | 10.1 | 0.0036 | 2.15 | 5.94 | 0.005 | 1.67 | JF%0.5 |
| DC-2 | 6/29/2004 | 9.560 | <2 | 8 | 0 | 7 | 2 | 84 | 29 | 93 | 5 | 1 | 1 | 207 | 7.7 | 139 | 2.97 | 0.0007 | 0.58 | 4.16 | 0.003 | 0.31 | 0.1 |
| DC-2 | 8/11/2004 | 0.360 | 66 | <1 | 0 | <1 | <2 | 248 | 56 | 193 | 13 | 2 | 2 | 474 | 4.5 | 370 | 9.38 | 0.0032 | 2.79 | 11.1 | 0.004 | 1.44 | 0.45 |
| DC-2 | 10/6/2004 | 0.530 | JF%34 | 2 | 0 | 1 | 6 | 224 | 57 | 196 | 13 | 2 | 2 | 431 | 4.8 | 310 | 6.58 | 0.0024 | 1.9 | 7.36 | 0.002 | 1.25 | 0.35 |
| DC-5 | 4/7/2004 | 1.200 | <2 | 60 | 0 | 49 | 1 | 86 | 43 | 136 | 7 | <1 | 1 | 260 | 7.4 | 165 | 2.18 | 0.0007 | 0.52 | 1.1 | 0.001 | 0.34 | JF%0.13 |
| DC-5 | 6/29/2004 | 19.210 | <2 | 41 | 0 | 34 | <2 | 33 | 20 | 66 | 4 | <1 | <1 | 138 | 7.7 | 87 | 0.73 | 0.0002 | 0.16 | 1.23 | 0.001 | 0.1 | 0.04 |
| DC-5 | 8/11/2004 | 0.820 | <2 | 29 | 0 | 24 | 2 | 133 | 46 | 156 | 10 | 1 | 1 | 308 | 7.4 | 228 | 3.03 | 0.0011 | 0.87 | 3.69 | 0.001 | 0.46 | 0.15 |
| DC-5 | 10/6/2004 | 1.800 | JF%<2 | 63 | 0 | 51 | <1 | 95 | 42 | 142 | 9 | <1 | 1 | 275 | 7.7 | 179 | 1.93 | 0.0007 | 0.51 | 2.13 | <0.001 | 0.33 | 0.11 |
| DCSW-101 | 7/13/2004 | 0.043 | 473 | <1 | 0 | <1 | 6 | 628 | 32 | 125 | 11 | 2 | 2 | 1270 | 2.9 | 1070 | 29.3 | 0.01 | 15.8 | 117 | 0.012 | 3.08 | 1.7 |
| DCSW-101 | 8/10/2004 | 0.035 | 440 | <1 | 0 | <1 | 4 | 560 | 32 | 125 | 11 | 2 | 2 | 1140 | 3 | 992 | 26 | 0.0094 | 13.5 | 106 | 0.009 | 2.91 | 1.59 |
| DCSW-101 | 10/6/2004 | 0.013 | JF%586 | <1 | 0 | <1 | 8 | 686 | 44 | 176 | 16 | 2 | 3 | 1550 | 3 | 1170 | 34.3 | 0.016 | 20.7 | 173 | 0.007 | 5.1 | 2.82 |
| DCSW-102 | 7/13/2004 | 0.023 | 646 | <1 | 0 | <1 | 4 | 862 | 43 | 186 | 19 | <1 | 3 | 1710 | 2.6 | 1380 | 33.5 | 0.017 | 19 | 142 | 0.002 | 4.62 | 2.69 |
| DCSW-102 | 8/10/2004 | 0.013 | 496 | <1 | 0 | <1 | 3 | 641 | 34 | 155 | 17 | <1 | 2 | 1360 | 2.6 | 1060 | 23.2 | 0.011 | 13.8 | 90 | 0.001 | 3.47 | 1.95 |
| DCSW-102 | 10/6/2004 | 0.001 | JF%899 | <1 | 0 | <1 | 30 | 1160 | 59 | 275 | 31 | <1 | 3 | 2010 | 2.7 | 1770 | 39.1 | 0.017 | 27.7 | 265 | 0.002 | 6.31 | 3.18 |
| DCSW-103 | 7/13/2004 | 0.005 | 2060 | <1 | 0 | <1 | 105 | 2920 | 118 | 723 | 104 | <1 | 5 | 3350 | 2.5 | 4560 | 108 | 0.026 | 44.6 | 632 | 0.002 | 13.3 | 4.24 |
| DCSW-103 | 8/10/2004 | 0.004 | 1570 | <1 | 0 | <1 | 18 | 2220 | 108 | 591 | 78 | <1 | 5 | 2730 | 2.5 | 3570 | 88.1 | 0.026 | 34.8 | 363 | 0.002 | 12.5 | 4.29 |
| DCSW-103 | 10/6/2004 | 0.002 | JF%1920 | <1 | 0 | <1 | 2 | 2550 | 127 | 745 | 104 | <1 | 5 | 3200 | 2.6 | 3990 | 110 | 0.023 | 46.1 | 505 | 0.002 | 16.7 | 4.84 |
| DCT-7 | 6/29/2004 | 0.650 | <2 | 18 | 0 | 15 | 4 | 108 | 40 | 120 | 5 | 4 | 3 | 284 | 6.9 | 197 | 1.11 | 0.0012 | 0.28 | 0.32 | 0.003 | 0.28 | 0.16 |
| DCT-7 | 8/11/2004 | 0.012 | <2 | 21 | 0 | 18 | 2 | 91 | 36 | 106 | 4 | 1 | 1 | 237 | 6.4 | 176 | 0.14 | 0.0025 | 0.21 | <0.01 | <0.001 | 0.27 | 0.46 |
| DCT-7 | 10/6/2004 | 0.020 | JF%<2 | 15 | 0 | 13 | 8 | 181 | 71 | 218 | 10 | 1 | 4 | 461 | 6.1 | 320 | 0.51 | 0.0055 | 0.4 | 0.03 | 0.002 | 0.61 | 0.79 |
| DCT-8 | 6/29/2004 | 1.280 | 100 | <1 | 0 | <1 | 6 | 248 | 45 | 141 | 7 | 6 | 5 | 609 | 3.4 | 374 | 8.86 | 0.0023 | 2.4 | 24.4 | 0.008 | 0.82 | 0.36 |
| DCT-8 | 8/11/2004 | 0.110 | 326 | <1 | 0 | <1 | 4 | 543 | 61 | 214 | 15 | 3 | 4 | 1120 | 2.8 | 1000 | 28.7 | 0.0074 | 8.86 | 42 | 0.009 | 2.84 | 1.16 |

***Notes:***

** - MDEQ Circular WQB-7 Human Health Standard
s.u. - Standard units
mg/L - Milligrams per liter- Standard units
umhos/cm - micromhos per centimeter

-- - Indicates parameter not analyzed
< - Indicates analyte not detected above practical quantitation limit (PQL)
d - The associated values are dissolved not total recoverable metals
JF% - The associated values are estimated quantities because field duplicate results exceed acceptable limits by relative percent difference determination.

# TABLE 5
## 2004 SURFACE WATER ANALYTICAL DATA SUMMARY
### NEW WORLD MINING DISTRICT RESPONSE AND RESTORATION PROJECT
### McLaren Pit Area



| Station Name | Sample Date | Flow Rate (cfs) | Anions (mg/L) | | | | | | Cations (mg/L) | | | | | | | | Total Recoverable Metals (mg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Acid-idity as CaCO3 | Alkalinity as | | | Chlor-ide | Sulfate | Calcium | Hard-ness as CaCO3 | Magne-sium | Potass-ium | Sod-ium | SC (umhos/cm) | pH (s.u.) | Total Dis-solved Solids (mg/L) | Aluminum | Cadmium | Copper | Iron | Lead | Manga-nese | Zinc |
| | | | | HCO3 | CO3 | Total CaCO3 | | | | | | | | | | | | | | | | | |
| DCT-8 | 10/6/2004 | 0.020 | JF%341 | <1 | 0 | <1 | 7 | 530 | 70 | 249 | 18 | 4 | 5 | 1290 | 3 | 849 | 28.7 | 0.0091 | 9.33 | 39.8 | 0.008 | 3.44 | 1.3 |
| DCT-9 | 7/13/2004 | 0.044 | 47 | <1 | 0 | <1 | 5 | 163 | 39 | 118 | 5 | 4 | 3 | 366 | 3.9 | 251 | 6.5 | 0.0006 | 0.8 | 1.63 | 0.003 | 0.3 | 0.06 |
| DCT-9 | 8/11/2004 | 0.004 | 81 | <1 | 0 | <1 | 4 | 186 | 41 | 127 | 6 | 3 | 4 | 479 | 3.4 | 353 | 9.57 | 0.0011 | 0.9 | 0.71 | 0.005 | 0.52 | 0.18 |
| DCT-9 | 10/6/2004 | 0.005 | JF%65 | <1 | 0 | <1 | 4 | 210 | 36 | 115 | 6 | 2 | 3 | 415 | 3.6 | 279 | 10.4 | 0.0009 | 0.85 | 0.22 | 0.004 | 0.49 | 0.14 |
| SW-7 | 4/6/2004 | -- | <2 | 108 | 0 | 88 | 1 | 28 | 35 | 112 | 6 | <1 | 2 | 233 | 7.3 | 134 | <0.05 | <0.0001 | 0.003 | 0.46 | <0.001 | 0.046 | JF%0.02 |
| SW-7 | 4/6/2004 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | d<0.05 | d<0.0001 | d<0.001 | d0.02 | d<0.001 | d0.043 | d0.02 |
| SW-7 | 6/29/2004 | 88.540 | <2 | 65 | 0 | 54 | <2 | 10 | 19 | 64 | 4 | <1 | 1 | 120 | 7.8 | 71 | 0.2 | <0.0001 | 0.037 | 0.34 | <0.001 | 0.02 | <0.01 |
| SW-7 | 6/29/2004 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | d0.07 | d<0.0001 | d0.008 | d<0.01 | d<0.001 | d0.017 | d<0.01 |
| SW-7 | 10/6/2004 | 1.620 | JF%<2 | 103 | 0 | 85 | 3 | 27 | 31 | 106 | 7 | <1 | 1 | 194 | 7.7 | 117 | 0.08 | <0.0001 | 0.02 | 0.17 | <0.001 | 0.038 | <0.01 |
| SW-7 | 10/6/2004 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | d<0.05 | d<0.0001 | d0.007 | d<0.01 | d<0.001 | d0.032 | d<0.01 |
| USGS-1700 | 6/29/2004 | 0.560 | 14 | <2 | 0 | <2 | <4 | 96 | 27 | 84 | 4 | 1 | 1 | 213 | 4.9 | 149 | 4.68 | 0.0006 | 0.56 | 10.7 | 0.017 | 0.41 | 0.07 |
| USGS-1700 | 8/11/2004 | 0.004 | 40 | <1 | 0 | <1 | <2 | 190 | 48 | 153 | 8 | 1 | 2 | 373 | 4.5 | 326 | 5.02 | 0.0019 | 0.95 | 0.12 | 0.062 | 1.08 | 0.25 |
| USGS-1700 | 10/6/2004 | 0.007 | JF%65 | <1 | 0 | <1 | 2 | 239 | 56 | 185 | 11 | 1 | 2 | 479 | 4 | 354 | 7.78 | 0.0019 | 1.37 | 0.44 | 0.027 | 1.33 | 0.23 |
| USGS-5519 | 6/29/2004 | 3.010 | <2 | 51 | 0 | 42 | <2 | 6 | 12 | 46 | 4 | <1 | <1 | 91 | 7.8 | 64 | 0.06 | <0.0001 | 0.004 | 0.14 | <0.001 | <0.003 | 0.07 |
| USGS-5519 | 8/11/2004 | 0.090 | <2 | 120 | 0 | 99 | <2 | 27 | 29 | 118 | 11 | <1 | <1 | 212 | 8.3 | 123 | <0.05 | <0.0001 | 0.002 | 0.07 | <0.001 | <0.003 | <0.01 |
| USGS-5519 | 10/6/2004 | 0.130 | JF%<2 | 101 | 0 | 83 | 5 | 26 | 26 | 106 | 10 | <1 | 1 | 207 | 8.1 | 124 | 0.07 | <0.0001 | <0.001 | 0.08 | <0.001 | <0.003 | 0.03 |

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-- - Indicates parameter not analyzed
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