TECHNICAL MEMORANDUM

Date: March 28, 2013
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From: John Malusa, RG
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Project No.: 123-92566
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RE: GROUNDWATER ASSESSMENT UPDATE: WEST PLANT SITE, SUPERIOR, ARIZONA

1.0 INTRODUCTION

This Technical Memorandum presents the first update of the Groundwater Assessment prepared by Golder Associates Inc. (Golder) on behalf of Resolution Copper Mining Company LLC (RCML). This work is required as part of the Area-Wide Aquifer Protection Permit (APP) No. P101703, for the West Plant Site (Figure 1). Specifically, this Technical Memorandum partially fulfills APP Compliance Schedule Item (CSI) No. 2.

- **CSI No. 2** – *Update groundwater assessment and groundwater model every 5 years*

Golder submitted the initial Groundwater Assessment in November 2007 (Golder, 2007), followed by the Groundwater Model in December 2008 (Golder, 2008). Both were approved by the Arizona Department of Environmental Quality (ADEQ) in February, 2008, and March, 2009, respectively.

The Groundwater Modeling component of CSI No. 2 is being provided as a standalone Technical Memorandum that references this updated Groundwater Assessment. The requirements for CSI No. 2 are set forth in Section 2.7.4.6 of the Area-Wide APP as follows:

> *The groundwater modeling report shall include hydrographs, trending analysis for each well and constituents in the compliance monitoring program; stiff diagrams and/or tri-linear diagrams as appropriate; updated quarterly groundwater contour maps; and groundwater modeling to assess fate, transport, and well spacing. The model shall assess the post-closure period required by this permit and recommend adjustments to the post-closure monitoring period based on aquifer properties, groundwater modeling results, trending analysis and groundwater quality data.*

The updated Groundwater Assessment follows the same format as the initial submittal but incorporates new information. This report is organized as follows:

- **Section 2 – Groundwater Assessment**
  - Physiography and Climate
  - Mine Operations and History

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- Surface Hydrology
- Hydrogeology
  - Hydrostratigraphy and Hydraulic Units
  - Groundwater Levels and Direction of Flow
  - Groundwater Quality
  - Groundwater Classifications
  - Exceedances of Groundwater Standards
  - Trending Analysis
- **Section 3 – Summary and Conclusions**

2.0 GROUNDWATER ASSESSMENT

The updated Groundwater Assessment of the West Plant Site is based on a variety of information available at the site. This assessment generally follows the same format as the initial with the addition of new data from the past 5 years, such as data from the groundwater monitoring well network. The compliance program currently includes 10 wells, 9 points of compliance (POC) wells, and 1 alert well (Table 1 and Figure 2). The recently installed Well MCC-6D is also included in this assessment as it will replace MCC-6C upon completion of ambient monitoring in second quarter of 2014. Consequently, RCML currently monitors 11 wells for water quality on a quarterly basis. A larger set of wells are used to construct the quarterly contour maps (Figure 3). No new hydraulic conductivity data are available since the initial assessment. The locations of the wells with hydraulic conductivity data are shown on Figure 4 and testing details are summarized in Table 2. Logs for wells used for this assessment are included in Attachment 1.

In addition to monitoring well data, the updated Groundwater Assessment summarizes physiographic, topographic, climatic, historical operations, and surface hydrology in the following sections.

2.1 Physiography and Climate

The West Plant Site is located in an alluvial valley near the edge of mountainous and rugged terrain comprising the Apache Leap. The Apache Leap rises to an elevation of approximately 4,600 feet above mean sea level (ft-amsl), and is characterized by steep slopes, cliff formations, and deeply incised canyons (Figure 5). The West Plant Site ranges in elevation from a high of approximately 3,975 ft-amsl in the northern portion of the site, to a low of approximately 2,675 ft-amsl at the southern edge of the site.

Mining activities have altered the site topography, including changes in watercourse patterns. Figure 5 shows the approximate location of the pre-mining watercourses (Apex Wash and Magma Wash), as identified on a 1942 U.S. Bureau of Mines Geologic Map (Arizona Bureau of Mines, 1942).

Climatic data consisting of daily precipitation measurements were first collected at the West Plant Site in 1920. That record continues to the present and includes 92 years of data. One meteorological station

was installed at the West Plant Site in 2002 (Figure 5). The self-recording equipment was installed on a 30-foot tower with lightning protection. The equipment consisted of a tipping bucket rain gauge, evaporation pan at ground level, wind speed anemometer, wind direction sensor, relative humidity sensor, temperature sensor, barometric pressure sensor, and pyranometer.

The annual rainfall from 1920 to 2012 averaged approximately 18 inches. Extreme precipitation years with annual rainfall exceeding 35 inches occurred in 1979 and 1992. The lowest annual total rainfall of approximately 5 inches occurred in 2002.

Average pan evaporation from 2002 through 2003 was 83 inches. Highest evaporation rates were generally in May through July corresponding with the lowest precipitation periods. Evaporation rates exceeded precipitation totals in all months.

2.2 Mining Operations History

Mining of the Magma Vein, a quartz-sulfide ore body, occurred from the late 1800s through the 1940s at the West Plant Site and was followed by the discovery of a carbonate replacement ore body to the east. Underground mining activities conducted from the late 1880s through mid-1996 produced approximately 26 million tons of ore at that time, out of which approximately 20 million tons were tailings. About 6 to 7 million tons of tailing were returned to the underground workings as structural support and the remainder sent to the tailing facilities at the West Plant Site. Approximately 200 acres of tailing generated from former milling operations are located at the West Plant Site. Many of the facilities associated with the mine site ceased operation or were closed prior to January 1, 1986, and are therefore exempt from regulation under the APP program (ADEQ, 2012). Major facilities that are exempt under the APP program, their function, and history of activity is as follows (Figure 5):

- Tailings Ponds 1/2 – Tailings from magma vein. Active from 1914 to mid to late 1920s
- Tailings Ponds 3/4 – Tailings from the magma vein. Active from mid to late 1920s to early to mid 1950s
- Slag Pile – Slag from smelter. Active from 1920s to early 1970s

APP facilities regulated under the Area-wide APP will either be clean closed by removal (subject to approval by the ADEQ) or closed in-place. The Area-wide APP facilities subject to **clean closed by removal** and their status is as follows:

- **Closed by Removal Facilities:**
  - **Mills Sands Pond** – Stored sand sized tailings material for use as underground mine backfill material. Active until approximately 1996. Closure completed and approved by ADEQ in September 2011.
  - **Depot Pond** – Retained overflow from the Smelter Pond. Closure completed and approved by ADEQ in July 2011.
- **Operating Facilities to be Closed by Removal:**

- **Indian Ponds** – Retained overflow from the Depot Pond. Currently active as final retention basin in stormwater control system. A downgradient seepage control system associated with this facility is also regulated under the APP. Closure workplan approved by ADEQ in May 2011.
- **Stormwater Pond on Tailings Pond 6** – Currently active as long term storage of stormwater for evaporation.

The APP facilities subject to closure in place and their status are as follows:

- **Closed In-place Facilities:**
  - **Tailings Pond 5** – Storage impoundment for tailings produced during mining of magma vein and carbonate replacement orebodies. Active between 1957 and 1971 then re-mined to produce fertilizer until 1986. Closure completed and approved by ADEQ in February 2011.
  - **Settling Pond 2** – The first retention treatment pond in the mine water treatment circuit and retained overflow water from the thickening tanks. Closure completed by construction of the North Sludge Storage Impoundment over the pond and approved by ADEQ in November 2010.
  - **Smelter Pond** – Retained overflow from stormwater/seepage water for reused and/or treatment and discharge. Water retained was classified as process water. Overflow was either pumped to Tailings Pond 6 for eventual reuse, or fed into an open channel to the Depot Pond. A lime slurry was introduce into water flowing through the open channel to the Depot Pond. Facility includes downgradient seepage control system. A downgradient seepage control system associated with this facility is also regulated under the APP. Closure completed and approved by ADEQ in February 2011.
  - **500 Yard Waste Rock Facility** – Waste rock facility containing approximately 2 million tons of material originating from the No. 5 Shaft, the access tunnel to the No. 3 Shaft, and the Never Sweat Tunnel. Closure Completed and approved by ADEQ in February 2009.
- **Facilities to be Closed In-place:**
  - **Tailings Pond 6 and 7** – Merged storage impoundment for tailings produced during mining of carbonate replacement orebodies. Tailings Pond 6 was active from 1971 to 1996. Tailings Pond 7 was active from 1974 to 1982. Closure of the inactive Tailings Pond 7 was moved from the Area-wide APP to an Individual APP (No. P106257) because the new permit is for a facility that will cap the Tailings Pond 7 and hence, it is more practical to regulate under the new Individual APP.
  - **Settling Pond 1** – Retained treated overflow from Settling Pond 2 and Tailings Pond 6. Water was used as process water in the mill and sand plant operations. Final design for closure approved by ADEQ in February 2011.

2.3 Surface Hydrology

Historical drainages are depicted on Figure 5 and current surface water drainages are depicted on Figure 6. The primary surface water drainage near the West Plant Site is Queen Creek. The creek is approximately 53 miles long with channel elevations that range from approximately 5,600 ft-amsl at its headwaters, to approximately 1,200 ft-amsl where it discharges to the Gila River near the San Tan Mountains. The Queen Creek reach adjacent to the site is ephemeral. The drainage pattern within the

West Plant Site is predominately from northeast to southwest. Flow in all of the drainages of the area is ephemeral.

The West Plant Site lies between two tributaries of Queen Creek, Apex Wash to the northwest and Magma Wash to the southeast. However, the course of these tributaries has been altered by mining activities. Apex Wash prior to mining flowed into Queen Creek west of the study area. Currently, only the lower reach of the wash flows to Queen Creek southwest of Tailings Pond 6. North of the study area, the wash was diverted in 1971 by the Apex Berm and Apex Tunnel (Figures 5 and 6) into the Silver King Wash located farther to the west. This removed any surface run-on water from entering the landfill and Tailings Ponds 6 and 7.

Runoff from the West Plant Site and any flows entering the study area along Magma Wash from the northeast were previously contained by various stormwater collection facilities (e.g., Smelter Pond, Depot Pond, and Indian Ponds), and pumped back to Tailings Ponds 6 (Figure 5). Stormwater occurring within the West Plant Site is also collected and pumped back to Tailings Ponds 6.

As part of closure, RCML has been converting the existing ”contact” storm water system to a new system for “non-contact” storm water, at the same time improving flood control at the West Plant Site (Figure 6). The new system diverts run-on around Area-wide APP facilities to the extent practical, and where impractical conveys run-on over the Area-wide APP facilities in channels lined with low permeability materials. As part of these upgrades, new ponds and channels have been added while some ponds and channels have been removed. Changes are indicated on Figure 6.

2.4 Geology

The geology and geologic history of the Superior Mining District is complex. Basement Precambrian rocks covered by sediments were faulted, uplifted, intruded, and mineralized. The West Plant Site is located west of the zone of faulting and mineralization within an alluvial valley. The most recent geologic map was published in 1969 (Peterson, 1969) included on Figure 7.

Geologic units in the Superior district range from Precambrian metasedimentary deposits to Quaternary Alluvium. Rocks east of the Concentrator Fault consist of Precambrian schist, diabase, quartzite, basalt, and limestone (Apache Group) overlain by Cambrian and Paleozoic sedimentary rocks, Tertiary Volcanics (Apache Leap Tuff), and Tertiary and Quaternary Alluvium. Deposits west of the Concentrator Fault (Figure 7) are Tertiary-Quaternary basin-fill deposits consisting of moderately to well-consolidated conglomerates (Gila Conglomerate at the West Plant Site) interbedded with fine-grained silts and sands, lava flows, volcanic ash, and mudstone (interbedded in the Gila Conglomerate at the West Plant Site) (B&C, 1999). A large alluvial fan deposit of Quaternary age lies on top of the Gila Conglomerate at the southeastern edge of the West Plant Site and extends to the east beneath the Town of Superior.

Numerous northerly and east-west trending faults are evident in the Precambrian, Cambrian, and Paleozoic rocks east of the study area. The major fault cutting across the east side of the site, as noted above, is the Concentrator Fault, which extends for more than 10 miles along the base of the Apache Leap escarpment (Figure 7) and has an offset of approximately 1,600 feet near the West Plant Site (Kuhn, 1942). The Concentrator Fault is not mineralized, and no mineral deposits are known to exist west of it. According to Hammer (1989), the ancestral Concentrator Fault system controlled the orientation of the Magma orebody and acted as a natural barrier to the westward migration of ore fluids in the Superior area.

The Main Fault, a less prominent fault to the east of the Concentrator Fault, exhibits rotational displacement and terminates against the Concentrator Fault in the Queen Creek drainage (Figure 7). Offset on the Main Fault is approximately 900 feet near the West Plant Site (Kuhn, 1942). The block between the Concentrator Fault and the Main Fault contains several associated minor faults.

2.5 Hydrogeology

This section describes general aspects of the regional hydrogeology and provides a detailed description of the site hydrogeology.

2.5.1 Regional Hydrogeology

In the regional sense, groundwater recharge occurs in the mountainous region east and northeast of the study area, and flows westward to southwestward towards the lower topographic valley regions. The Concentrator Fault (Figure 7), however, acts as a barrier to flow along the range front impeding groundwater flow to the west.

2.5.2 Site Hydrogeology

The discussion of site hydrogeology includes descriptions of the site hydrostratigraphy and associated hydraulic conductivities, groundwater levels and directions of flow, and groundwater quality.

2.5.2.1 Hydrostratigraphy and Hydraulic Conductivities

Three primary geologic units control the movement of groundwater beneath the West Plant Site: Gila Conglomerate, an unnamed mudstone interbed of the Gila Conglomerate, and Quaternary Alluvium (Figure 7). Even though the Gila Conglomerate is an extensive geologic unit, the much less extensive mudstone is a prominent geologic feature at the site. The third unit, the Quaternary Alluvium, is located along the southern boundary of the West Plant Site. A hydrogeologic cross section with the primary hydrostratigraphic units in presented on Figure 8.

B&C (1999) encountered the mudstone at approximately 20 feet below ground surface (ft-bgs) in the southern site area at Well MCC-4, and at the surface in the nearby excavated clay pit west of the Indian Ponds. The top of the mudstone and its lateral extent elsewhere on site were delineated using a seismic

survey. Subsequent monitoring well drilling largely substantiated the seismic survey results. The thickness of the unit, however, was not as readily determined from the seismic survey. To estimate the depth to the base of the mudstone, driller's logs from the ADWR Wells 55 database and corelogs were used to augment the seismic survey B&C (1999). Figure 7 includes the mudstone isopach map developed by B&C (1999). Based on core logs, the mudstone has a maximum thickness of 630 feet (B&C, 1999). The top of the mudstone is approximately 200 to 300 ft-bgs at its northern end.

Results of the seismic survey indicated that the mudstone pinches out in the northern portion of the West Plant Site, just south of well GAI-02-01 (Figures 7 and 8). B&C also interpreted that the unit thins to the east (B&C, 1999).

Based on the three geologic units described above and the site hydrogeologic conditions, six hydrostratigraphic units have been defined as follows (Figure 8):

- **Mudstone Unit–** applies to the lenticular fine grained formation within the Gila Conglomerate described above. The mudstone extends from the central portion of the site beyond the southern boundary
- **Unconfined Gila Unit** – applies to the thick zone of the Gila Conglomerate that lies north of the Mudstone Unit.
- **Confined Gila Unit** – applies to the portion of the Gila Conglomerate that lies beneath the Mudstone Unit
- **Shallow Unconfined Gila Unit** – applies to the portion of the Gila Conglomerate that overlies the Mudstone Unit
- **Alluvial Unit** – applies to recent alluvium located on the south side of the study area.
- **Fractured Bedrock Unit** – applies to Apache Leap Tuff underlying 500 yard stockpile on eastside of Concentrator Fault

Hydraulic characteristics of the above listed hydrostratigraphic units were estimated from hydraulic tests performed on 13 monitoring wells (Table 2). Seven of the tests were slug tests and eight of the tests were constant-rate pumping tests. For hydrostratigraphic units with more than one test result, a geometric mean of the test results was calculated to represent the estimated hydraulic conductivity of the unit. Estimated hydraulic conductivities for the hydrostratigraphic units are as follows:

- **Mudstone Unit** – 1.3×10^{-9} centimeter/second (cm/sec) (or 3.7×10^{-6} feet per day [ft/day])
- **Unconfined Gila Unit** – 3.4×10^{-7} cm/sec (9.7×10^{-4} ft/day)
- **Confined Gila Unit** – 3.7×10^{-7} cm/sec (1.1×10^{-3} ft/day)
- **Shallow Unconfined Gila Unit** – 2.0×10^{-6} cm/sec (5.7×10^{-3} ft/day)
- **Alluvial Unit** – 3.4×10^{-5} cm/sec (9.6×10^{-2} ft/day)
- **Fractured Bedrock Unit** – 5.4×10^{-7} cm/sec (1.5×10^{-3} ft/day)

The most notable characteristic of the results listed above is that the hydraulic conductivities of all of the units are remarkably low, with the exception of the Alluvial Unit. As described further in sections below,

the low hydraulic conductivities in turn result in very slow groundwater velocities, and limit the quantity of groundwater that flows through the site groundwater system.

2.5.2.2 Groundwater Levels and Direction of Flow

Within the West Plant Site, depths to groundwater vary from approximately 175 ft-bgs at well GAI-02-01 in the north to approximately10 ft-bgs in the Alluvial Unit located downgradient of the Smelter Pond (i.e., Smelter Pond POC Well) in the south. Sulfate precipitates and seasonal ponded water suggest that the water table seasonally daylights in the southern area.

Water level hydrographs for wells north and south of monitoring well MCC-2, located approximately in the center of the study area, are presented on Figures 9 and 10, respectively. Water level data used for the hydrographs is included in Attachment 2. Hydrographs indicate that groundwater levels are generally consistent over time with a slight downward trend at most wells. This downward trend may be due to the long-term drought the area is experiencing and facility closures.

The well showing the most change in groundwater levels is MCC-3C, located south of Tailings Ponds 3/4. The potentiometric surface in this deep Confined Gila Unit well decreased approximately 50 feet between 1998 and 2007. However, the well has recovered approximately 25 feet in the past 5 years. The start of the water level recovery correlates with the change in groundwater sampling protocol from standard purge methods to low flow purging techniques. Consequently, it is likely that water levels during standard purge methods were not truly static, and the water levels currently observed at this well are likely closer to static.

A combination of water levels from compliance wells and other wells are used to construct the groundwater contour maps. The most recent quarterly contour map is included as Figure 11. All of the 22 quarterly contour map submittals are included in Attachment 3.

Groundwater levels from the Shallow Unconfined Gila Unit, and groundwater levels from wells completed in the upper portion of the Gila Conglomerate Unit in the northern portion of the site, were used to construct water table contour maps. Groundwater levels from Well MCC-1, located west of Tailings Pond 6, were also used to approximate water table conditions at this location, though screened approximately 300 feet below the water table. Because of the deep screened interval, this well was removed from the contour map starting with the May 2010 quarterly submittal. All of the other groundwater levels used to construct the water table contour map were screened in the Gila Conglomerate Unit above the mudstone, or in the Unconfined Gila Conglomerate Unit at a depth of less than 70 feet below the water table. In addition, starting in September 2009, a well screened in the Settling Pond 1 and 2 pond sediments (i.e., SP1&2-Alert-B) was added to the contour map.

Also included on the contour maps are groundwater contours representing the deep potentiometric surface beneath the Mudstone Unit. Groundwater levels for the deep Confined Gila Unit were taken from

wells MCC-3C and MCC-4. In addition, groundwater levels from Well MCC-6B were included, even though the Mudstone Unit appears to pinch out just south of this well location, because the screened interval (500 to 580 ft-bgs) is at approximately the same elevation as the other two wells noted above, and a minimum of three wells are required for contouring purposes.

Based on the contour maps, the direction of groundwater flow at the water table is generally towards the southwest. The direction of flow beneath the mudstone appears to be nearly due south. The horizontal hydraulic gradients at the water table and beneath the mudstone are nearly the same, 0.049 and 0.048, respectively. The flow direction has not varied over the over the last 5 years (Attachment 3).

Two of the well clusters at the site are suitable for evaluating vertical gradients: the MCC-3 series wells, located south of Tailings Ponds 3/4, and the MCC-6 series wells, located southwest of Tailings Pond 6. The MCC-3 series wells show a downward vertical hydraulic gradient between the shallow well above the mudstone and the deeper well in the Gila Conglomerate below the mudstone. The MCC-6 series wells include MCC-6C (shallowest), MCC-6A (intermediate), and MCC-6B (deepest). The MCC-6 series wells show an upward vertical hydraulic gradient across all three wells.

2.5.2.3 Groundwater Quality

Water quality results and summary statistics for wells in the compliance program are included in Attachment 4. Results of each well are compared to their respected Alert Levels (ALs) and Aquifer Quality Limits (AQLs) with the exception of newly installed MCC-6D which will not have ALs and AQLs until ambient monitoring is complete in the second quarter of 2014. RCML collects samples on a quarterly basis.

The MCC-series wells were monitored as part of the sampling program prior to permit issuance (B&C, 1999a). Samples collected during this time frame were analyzed for trace metals, major ions, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs). VOC and SVOC sampling occurred at least twice without detection. Therefore, continued sampling for VOC and SVOC analytes was deemed unwarranted by ADEQ. However, later site characterization of the Settling Ponds indicated the presence of benzene in Settling Pond 1 porewater (Golder, 2006). Consequently, VOCs and SVOCs are included for the SP1&2-Alert-B analytical suite. Conditional APP CSI's 21, 22, and 23 required a Workplan, Report, and Corrective Action Plan (respectively) upon detection of VOCs. However, because no VOCs have been detected, ADEQ considers these conditional CSIs as completed.

Since permit issuance, analytical suites have been adjusted as dictated by the APP. In general, the new APP analytical suites include trace metals, major ions and radionuclides.

2.5.2.4 Groundwater Classifications

Piper plots graphically represent the chemistry of major cations (Ca, Mg, and Na) and anions (Cl, SO_4, and bicarbonate) in milliequivalents per liter. These diagrams facilitate identification of water types and aid in identifying changes in major ion chemistry through time. A piper plot was generated for each hydrostratigraphic unit and is presented in Attachment 5. Additionally, one piper plot is presented with all hydrostratigraphic units. To evaluate temporal changes, major ion concentrations from the initial routine sampling event and the most recent sampling event were plotted. If major ions were not analyzed during these sampling events, the sampling event closest in time to these events (i.e., the initial routine or most recent sampling event) were plotted.

Piper plots of groundwater from Unconfined Gila Unit wells (MCC-6C, -6D and TP5-POC-B) indicate a variety of water types. Wells MCC-6C and TP5-POC-B classify as Na-HCO_3 type water and Well MCC-6D classifies as Mg-SO_4 type water. The elevated sulfate in MCC-6D indicates influence from sulfide oxidation/gypsum dissolution. Temporal trends between the initial routine and most recent sampling event are evident in MCC-6C, but not the other wells. The more recent sample from this well shows a decrease in sulfate and calcium.

Groundwater from MCC-3C, screened in the Confined Gila Unit beneath the mudstone, classifies as Na-HCO_3 type water. The other Confined Gila Unit well, MCC-4, classifies as Na-SO_4-Cl type water. No temporal trends were noted from wells completed in this Confined Gila Unit.

Groundwater from wells screened in the Shallow Unconfined Gila Unit indicates Ca-SO_4 type water at MCC-9 and Ca-Mg-SO_4 type water at GAI-02-01. These wells are downgradient from major mine and/or tailing facilities, and indicate a water type consistent with oxidation of sulfides in the presence of carbonate minerals/gypsum dissolution. No temporal trends were noted from wells completed in this hydrostratigraphic unit.

Groundwater from wells screened in the Alluvial Unit indicates Ca-SO_4 type water at the Indian Ponds POC well and Mg-SO_4 type water at the Smelter Pond POC well. No temporal trends were noted at the Indian Ponds well however the Smelter Pond POC well shows that the major cations are trending from calcium to magnesium over time. In addition, with respect to major anions at the Smelter Pond POC well, sulfate concentrations are increasing relative to bicarbonate. This trend indicates an increase influence of sulfide oxidation.

Groundwater from the 500 YD Well, completed in the Fractured Bedrock Unit is classified as Ca-SO_4 type water. No temporal trends in major ions are noted at this well however; the high sulfate does indicate impacts from sulfide oxidation.

A statistical summary of the analytical results is presented in Attachment 4. Based on this summary, the pH values for groundwater are typically circumneutral to slightly alkaline. Wells with mean pH less than 6.5 standard units (su) include MCC-6D and SP1&2-Alert-B. Four wells have minimum pH values less than 6.5 su. Of these four wells, the low pH values reported at MCC-3C and MCC-4 (5.38 and 3.89 su, respectively) appear to be outliers likely due to poor field measurements or transcription errors. The statistical summary in Attachment 4 also shows some constituents are seldom detected throughout the West Plant Site. In particular, none of the VOCs or SVOCs have been detected above their reporting limits.

2.5.2.5 Exceedances of Water Quality Standards

All groundwater quality data collected to date for wells in the compliance program are presented in Attachment 4. Results are compared to the well specific ALs and AQLs starting with the first routine sampling event. The first routine sampling event for each well is indicated on the tables included in the attachment. Well MCC-6D is currently in the ambient monitoring program and consequently, does not have ALs or AQLs; this well is compared to Arizona Aquifer Water Quality Standards (AWQS). Of the 20 constituents with ALs and AQLs, only four constituents have had exceedances with only two of the four exceeded constituents being verified. A summary of exceedances of standards, including non-verified exceedances is included, in Table 3. A discussion of the exceedance history for each analyte follows.

2.5.2.5.1 Chromium

Chromium exceeded the AL at the Smelter Pond POC well on two occasions, August and October 2012. The results of verification sampling triggered by these exceedances were below ALs and consequently, no additional action has been taken. Both exceedances occurred shortly after a reclamation project that replaced the upper 2 feet of impacted materials surrounding the well location. The reclamation may have changed redox conditions as a result of the removal of organic rich surficial material.

2.5.2.5.2 Fluoride

Groundwater at the Smelter Pond POC well currently exceeds the AQL of 4 mg/L for fluoride. The first exceedance of fluoride occurred in December 2010. Results of verification sampling did not exceed the AQL and routine quarterly sampling was reinstated. In June 2012, another fluoride exceedance was detected. Verification sampling and subsequent monthly sampling have yielded results exceeding the AQL since the initial June 2012 exceedance. Materials from a non-APP facility may be the source of the fluoride and a workplan (Golder, 2013) to assess the source has been approved by ADEQ.

2.5.2.5.3 Gross Alpha

Unadjusted gross alpha standards have been exceeded at MCC-6D, Indian Ponds POC, Smelter Pond POC, 500 YD POC, and SP1&2-Alert-B wells. However, upon adjustment for uranium species (i.e., adjusted gross alpha), none of the wells exceeded gross alpha standards.

2.5.2.5.4 Nickel

Nickel exceeded AQL's for one sampling event at two wells, MCC-4 and the Indian Ponds POC well, but both may be related to well and/or pump disturbance. Verification sampling of the November 2011 MCC-4 exceedance was below standards; hence, no additional action has been taken. It is suspected that well disturbance during maintenance activities may have contributed to the MCC-4 nickel exceedance. Prior to the exceeding sampling event, the surface completion was converted to an above grade completion to protect the well head. During this activity, the low flow pump was observed to have corrosion issues. Residual corroded material possibly left on the pump after cleaning may have contributed to the exceedance.

The February, 2012, AQL exceedance at the Indian Ponds POC well has not been verified as the well has not produced sufficient water for sampling since the exceedance. However, corrosion of a newly installed dedicated sampling pump may be the source of the exceedance at this well. Nickel has been below the reporting limit for all but one of 18 prior sampling events. The only detection of nickel at this well was approximately one order of magnitude less than the exceedance. Given the analytical history, the newly installed dedicated pump was considered a possible source. To test the possibility that the pump was responsible, the pump was thoroughly decontaminated and an equipment blank was collected using distilled water. The sample results indicated an exceedance of the nickel AQL. Consequently, the pump is believed to be the source of the nickel.

2.5.2.5.5 Nitrite plus Nitrate (as Nitrogen)

Groundwater at the 500 YD POC well currently exceeds the AQL of 10 mg/L for nitrite plus nitrate. The first exceedance of these nitrogen species occurred in August 2012. Verification sampling and subsequent monthly sampling have yielded results exceeding the AQL since the initial exceedance. Within 30 days after receiving the laboratory results of the sixth sampling event that confirms the exceedance, a workplan to evaluate the source of these nitrogen species will be submitted to ADEQ. A possible source is blasting residues.

2.5.2.6 Trending Analysis

Each well and constituent in the compliance monitoring program were analyzed for trends. All data were first subjected to Seasonal Kendall analysis to filter out seasonal effects and, absent seasonality, to determine the potential existence of any significant, long-term trends. Analysis was performed using a program developed by the United States Geological Survey (Helsel et. al, 2006). Seasonal Kendall

analysis is a modification of Sen's slope estimation method that accounts for cyclical patterns in time series data. It is a common statistical tool for determining the presence or absence of long-term trends, but does not adequately quantify (estimate) the value of the slope that the trend describes. Seasonal Kendall results are included as Attachment 6.

Sen's non-parametric estimator of slope was then applied to those constituents that:

- Yielded a non-zero slope in Seasonal Kendall analysis
- Yielded significance at a 95 percent confidence level ($\alpha = 0.05$) in Seasonal Kendall analysis and
- Exhibited greater than 50 percent non-detections over the period of record

Sen's slope estimation method, which computes the median of slopes between all pairs of time points, is a more effective method than Seasonal Kendall analysis for estimating the true slope value of a data set. It is a non-parametric estimation method that is suitable for a moderate number of non-detections, and is relatively insensitive to outliers (EPA, 2006). In addition to the Kendall and Sen's slope estimator graphs, time series graphs are presented in Attachment 7.

Sen's analysis was performed using ProUCL Version 4.1.00, a computer program developed by the United States Environmental Protection Agency (EPA, 2010). Results imply trends for twelve constituents, two field parameters, and one physical parameter (Table 4 and Attachment 6). Four of the twelve trends indicate decreasing concentrations. Only two constituents with ALs or AQLs show an increasing trend. These include fluoride at the Smelter Pond POC well (increasing at approximately 1 miligram per liter per year [mg/L/yr]) and MCC-6C which has an arsenic concentration increasing by approximately 0.001 mg/L/yr.

3.0 SUMMARY AND CONCLUSIONS

The majority of wells and constituents meet their respective AQLs and ALs. Of the 10 wells currently in the compliance program, only two wells have had verified exceedances. These include fluoride at the Smelter Pond POC and nitrite plus nitrate at the 500 YD POC. Therefore, only 2 of the 20 constituents with ALs and AQLs have had exceedances verified. Additionally, organic compounds have not been detected during the APP compliance program.

The majority of water levels from the primary hydrostratigraphic units (i.e., the Gila Units) show relatively little water level change. The consistent water levels in the Gila Units are likely a result of the associated low hydraulic conductivities. In comparison, non-Gila hydrostratigraphic units have relatively large water level fluctuations. The largest fluctuations are observed in the Alluvial Unit where approximately 40 feet of variability is observed.

As with the water levels, water quality from Gila Unit groundwater is relatively stable in comparison to the non-Gila unit water quality. The consistent water quality of the Gila Units is likely a result of the associated low hydraulic conductivities and high acid neutralization capacity. The only verified exceedance to standards is fluoride in the Alluvial Unit and nitrite plus nitrate in the Fractured Bedrock Unit. The Gila Unit has had no verified exceedances.

4.0 REFERENCES

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TABLES

TABLE 1
MONITORING WELL COMPLIANCE PROGRAM

Monitoring Well Identification	Coordinates*			Well Construction Details				Monitoring Well Compliance Classification
	Groundwater Measuring Point Elevation (ft amsl)	Easting	Northing	Total Depth of Well Casing (ft bgs)	Screened Interval (ft bgs)	Date Installation Complete	Screened Geologic Unit	
Unconfined Gila Unit								
MCC-6C	2811.42	944,158.1	837,240.0	116	75 to 116	8/20/1997	Gila Conglomerate	POC Well (routine monitoring)
MCC-6D	2817.72	944,258.8	837,377.8	54.4	24.4 to 54.4	8/3/2012	Gila Conglomerate	POC Well (ambient monitoring)
TP5-POC-B	3024.58	947,331.2	837,679.6	135.5	90 to 130	6/16/2009	Gila Conglomerate	POC Well (routine monitoring)
Confined Gila Unit								
MCC-3C	2800.01	947,898.4	835,636.7	579	499 to 579	8/16/1997	Gila Conglomerate	POC Well (routine monitoring)
MCC-4	2676.43	944,407.9	832,966.5	250	200 to 250	3/23/1995	Gila Conglomerate	POC Well (routine monitoring)
Shallow Unconfined Gila Unit								
GAI-02-01	3008.15	945,370.1	837,325.0	200	152 to 206	4/23/2002	Gila Conglomerate	POC Well (routine monitoring)
MCC-9	2769.24	947,318.2	834,907.6	48	28 to 48	8/19/1997	Gila Conglomerate	POC Well (routine monitoring)
Alluvial Unit								
Indian Ponds POC	2674.25	945,032.8	832,934.3	52	7 to 47	5/31/2007	Alluvium	POC Well (routine monitoring)
Smelter Pond POC	2746.28	947,378.4	834,588.6	17.5	7 to 17	1/29/2007	Alluvium	POC Well (routine monitoring)
Bedrock Unit								
500 Yard POC	2,998.67	950,758.3	837,352.4	140	95 to 135	6/4/2007	Apache Leap Dacite Tuff	POC Well (routine monitoring)
Tailings Porewater								
SP1&2 Alert-B	2977.45	948,297.2	837,787.3	81	35.5 to 75.5	5/6/2009	Settling Ponds	POC Well (routine monitoring)

Notes:
ft amsl = feet above mean sea level
ft bgs = feet below ground surface
* = Arizona State Plane Central, NAD 83

TABLE 2
HYDRAULIC TESTING SUMMARY

Monitoring Well Identification	Screened Geologic Unit	Analysis Type	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Geometric Mean of Estimated Hydraulic Conductivity (cm/sec)	Geometric Mean of Estimated Hydraulic Conductivity (ft/day)
Mudstone Unit						
MCC-3B	Gila Mudstone	Theis*	1.3E-09	3.69E-06	1.30E-09	3.69E-06
Unconfined Gila Unit						
MCC-1	Gila Conglomerate	Bower and Rice Rising Head Slug Test	1.10E-06	3.12E-03	3.42E-07	9.69E-04
		Bower and Rice Falling Head Slug Test	1.40E-07	3.97E-04		
		Bower and Rice Falling Head Slug Test	3.50E-07	9.92E-04		
MCC-6A	Gila Conglomerate	Bower and Rice Rising Head Slug Test	1.10E-07	3.12E-04		
		Bower and Rice Falling Head Slug Test	2.50E-07	7.09E-04		
MCC-6B	Gila Conglomerate	Bower and Rice Rising Head Slug Test	2.80E-07	7.94E-04		
		Bower and Rice Falling Head Slug Test	3.50E-08	9.92E-05		
MCC-6C	Gila Conglomerate	Bower and Rice Falling Head Slug Test	7.10E-07	2.01E-03		
Settling Ponds 1 & 2 Alert Well	Gila Conglomerate	Cooper-Jacob Drawdown	1.76E-06	4.99E-03		
		Theis Recovery	7.06E-07	2.00E-03		
Tailings Pond 5 POC	Gila Conglomerate	Cooper-Jacob Drawdown	7.06E-07	2.00E-03		
		Theis Recovery	2.82E-07	7.99E-04		
Confined Gila Unit						
MCC-3C	Gila Conglomerate	Bower and Rice Rising Head Slug Test	1.10E-06	3.12E-03	3.73E-07	1.06E-03
		Bower and Rice Falling Head Slug Test	3.50E-07	9.92E-04		
MCC-4	Gila Conglomerate	Bower and Rice Rising Head Slug Test	2.80E-07	7.94E-04		
		Bower and Rice Falling Head Slug Test	1.80E-07	5.10E-04		
Shallow Unconfined Gila Unit						
GAI-02-01	Gila Conglomerate	Cooper-Jacob Drawdown	1.76E-06	4.99E-03	2.01E-06	5.69E-03
		Theis Recovery	1.06E-06	3.00E-03		
GAI-02-02	Gila Conglomerate	Cooper-Jacob Drawdown	2.47E-05	7.00E-02		
		Theis Recovery	2.12E-05	6.01E-02		
MCC-2	Gila Conglomerate	Bower and Rice Rising Head Slug Test	3.50E-08	9.92E-05		
		Bower and Rice Falling Head Slug Test	3.50E-07	9.92E-04		
MCC-9	Gila Conglomerate	Theis Recovery	1.10E-05	3.12E-02		
Bedrock Unit						
500 YD	Apache Leap	Bower and Rice Rising Head Slug Test	4.60E-07	1.30E-03	5.43E-07	1.54E-03
		Hvolslev Rising Head Slug Test	6.40E-07	1.81E-03		
Alluvial Unit						
Smelter Pond POC	Alluvium	Cooper-Jacob Drawdown	3.33E-05	9.44E-02	3.40E-05	9.64E-02
		Theis Recovery	3.47E-05	9.84E-02		

Notes:
* = Approximation based on long term recovery data
cm/sec = centimeter per second
ft/day = feet per day

TABLE 3
EXCEEDANCE HISTORY

Monitoring Well Identification	Well Construction Details				Monitoring Well Compliance Classification	AL and AQL Exceedances
	Total Depth of Well Casing (ft bgs)	Screened Interval (ft bgs)	Date Installation Complete	Screened Geologic Unit		
Unconfined Gila Unit						
MCC-6C	116	75 to 116	8/20/1997	Gila Conglomerate	POC Well (routine monitoring)	None
TP5-POC-B	135.5	90 to 130	6/16/2009	Gila Conglomerate	POC Well (routine monitoring)	None
Confined Gila Unit						
MCC-3C	579	499 to 579	8/16/1997	Gila Conglomerate	POC Well (routine monitoring)	None
MCC-4	250	200 to 250	3/23/1995	Gila Conglomerate	POC Well (routine monitoring)	Ni
Shallow Unconfined Gila Unit						
GAI-02-01	200	152 to 206	4/23/2002	Gila Conglomerate	POC Well (routine monitoring)	None
MCC-9	48	28 to 48	8/19/1997	Gila Conglomerate	POC Well (routine monitoring)	None
Alluvial Unit						
Indian Ponds POC	52	7 to 47	5/31/2007	Alluvium	POC Well (routine monitoring)	Ni
Smelter Pond POC	17.5	7 to 17	1/29/2007	Alluvium	POC Well (routine monitoring)	Cr and F
Bedrock Unit						
500 Yard POC	140	95 to 135	6/4/2007	Apache Leap Dacite Tuff	POC Well (routine monitoring)	Nitrate/Nitrite
Tailings Porewater						
SP1&2 Alert-B	81	35.5 to 75.5	5/6/2009	Settling Ponds	POC Well (routine monitoring)	None

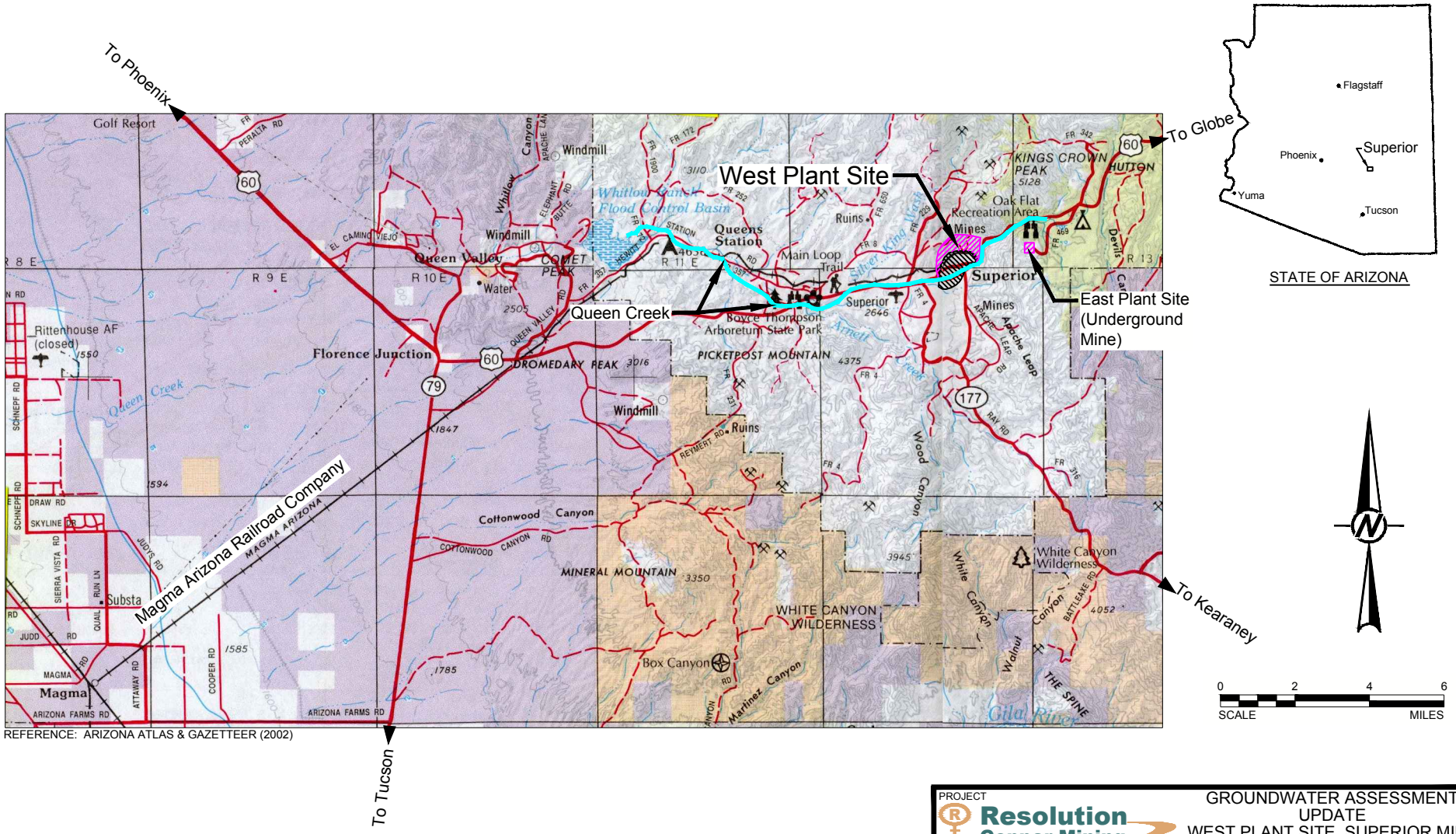
Notes:
ft bgs = feet below ground

TABLE 4
SEN'S SLOPE ESTIMATOR RESULTS

Well ID	Constituent	Type of Trend	Magnitude of Change (mg/L/yr)
GAI-02-01	Ca	Increase	0.97
	Cl	Increase	1.1
	HCO_3	Decrease	-3.4
	Mg	Increase	1.2
	SO_4	Increase	14.5
	TDS	Increase	20.3
Smelter Pond	F	Increase	1.0
	HCO_3	Increase	86.7
	Na	Increase	51.1
	SO_4	Increase	1,405
	TDS	Increase	1,648
MCC-3C	Field EC	Decrease	-10.31
MCC-4	As	Decrease	0.215
MCC-6C	As	Increase	0.001
	Field EC	Decrease	-13.17

Note:
Constituents listed are only those which, per Sen's analysis, show a significant trend at $\alpha \leq 0.05$
mg/L/yr = milligrams per liter per year

FIGURES



STATE OF ARIZONA

N

0 2 4 6
SCALE MILES

EXPLANATION

- MINE SITE
- TOWNSITE

PROJECT
Resolution Copper Mining

GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

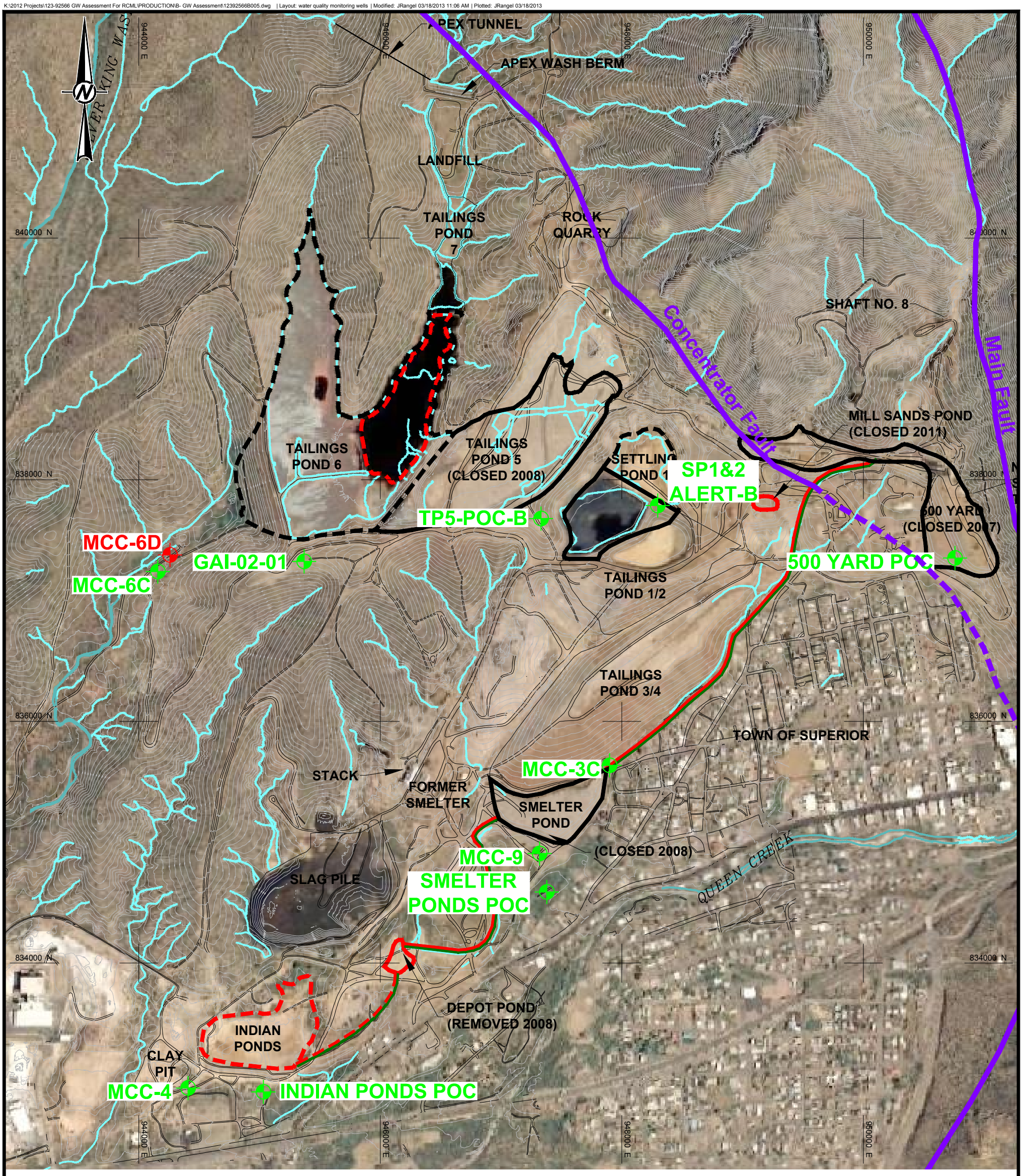
TITLE

SITE LOCATION MAP

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B001
DESIGN	JM	03-04-2013	SCALE	AS SHOWN
CADD	JHR	03-04-2013		
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 1



LEGEND

- EXISTING TOPOGRAPHY (C.I. = 10 FT)
- EXISTING ROADS
- EXISTING DRAINAGE
- PROPERTY LINE
- APP FACILITY CLEAN CLOSED BY REMOVAL (COMPLETED)
- APP FACILITY TO BE CLEAN CLOSED BY REMOVAL (FUTURE)
- APP FACILITY CLOSED IN-PLACE (COMPLETED)
- APP FACILITY TO BE CLOSED IN-PLACE (FUTURE)
- EXISTING FAULT (DASHED WHERE INFERRED)
- CHANNEL ASSOCIATED WITH MAIN FACILITY
- PROPERTY LINE
- POINT OF COMPLIANCE (POC) WELL LOCATION AMBIENT MONITORING
- POINT OF COMPLIANCE (POC) WELL LOCATION ROUTINE MONITORING

0 400 800 1200
SCALE FEET

1. 2010 TOPOGRAPHY PROVIDED BY RESOLUTION COPPER MINING, LLC.
2. GEOLOGY FROM *DI-13 – GEOLOGIC MAP OF PORTIONS OF THE GLOBE 30' X 60' QUADRANGLE, ARIZONA*, ARIZONA GEOLOGIC SURVEY, 1998.

PROJECT
Resolution Copper Mining
GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE
WATER QUALITY MONITORING WELLS

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B005
DESIGN	JM	03-04-2013	SCALE	SCALE
CADD	JHR	03-04-2013		
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 2

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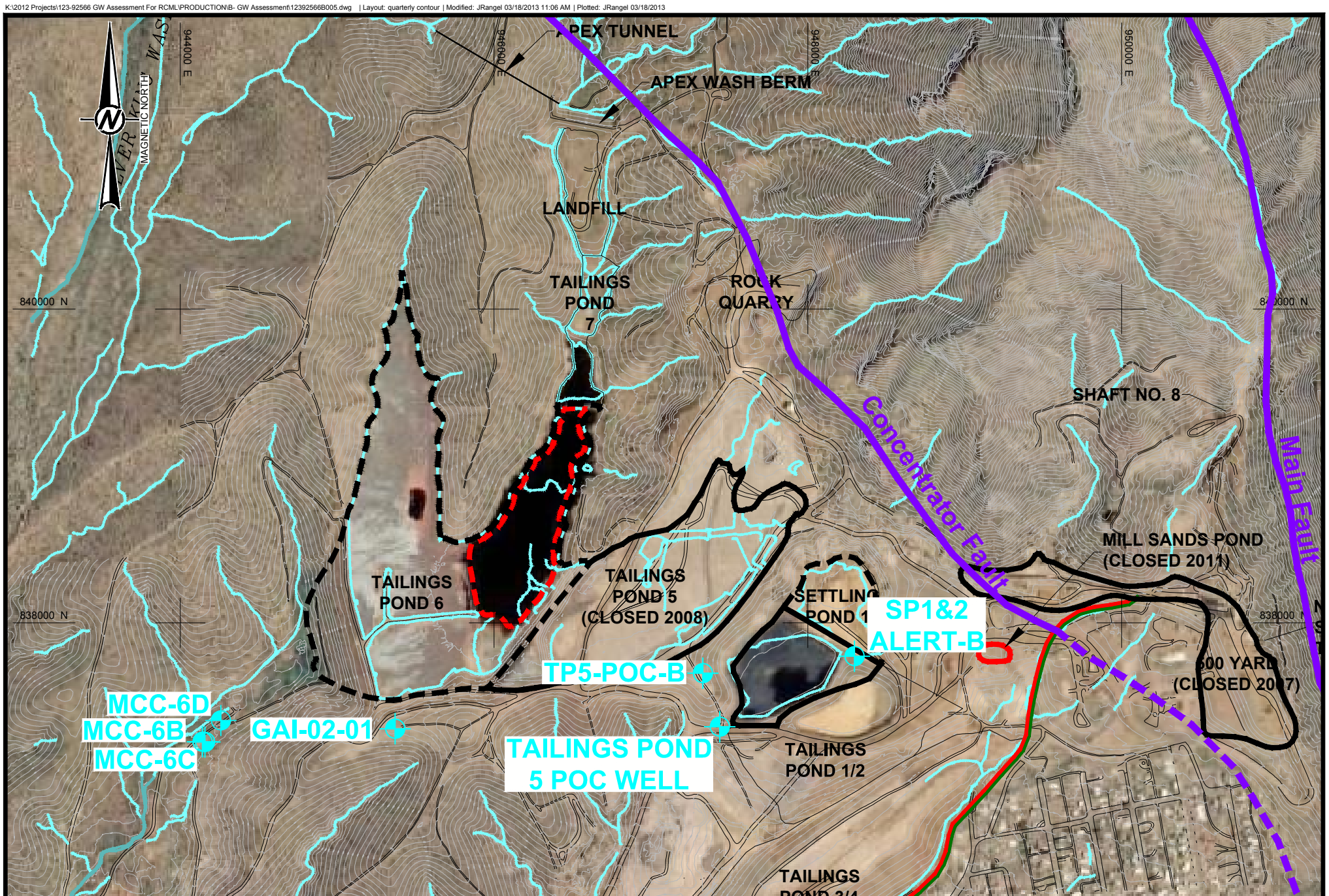

LEGEND

- EXISTING TOPOGRAPHY (C.I. = 10 FT)
- EXISTING ROADS
- EXISTING DRAINAGE
- PROPERTY LINE
- APP FACILITY CLEAN CLOSED BY REMOVAL (COMPLETED)
- APP FACILITY TO BE CLEAN CLOSED BY REMOVAL (FUTURE)
- APP FACILITY CLOSED IN-PLACE (COMPLETED)
- APP FACILITY TO BE CLOSED IN-PLACE (FUTURE)
- EXISTING FAULT (DASHED WHERE INFERRED)
- CHANNEL ASSOCIATED WITH MAIN FACILITY
- PROPERTY LINE
- MONITORING WELL USED FOR QUARTERLY CONTOUR MAP CONSTRUCTION

0 400 800 1200
SCALE FEET

1. 2010 TOPOGRAPHY PROVIDED BY RESOLUTION COPPER MINING, LLC.
2. GEOLOGY FROM *DI-13 – GEOLOGIC MAP OF PORTIONS OF THE GLOBE 30' X 60' QUADRANGLE, ARIZONA*, ARIZONA GEOLOGIC SURVEY, 1998.

PROJECT
Resolution Copper Mining
GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE
WELLS CURRENTLY USED FOR QUARTERLY CONTOUR CONSTRUCTION

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B005
DESIGN	JM	03-04-2013	SCALE	SCALE
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CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 3

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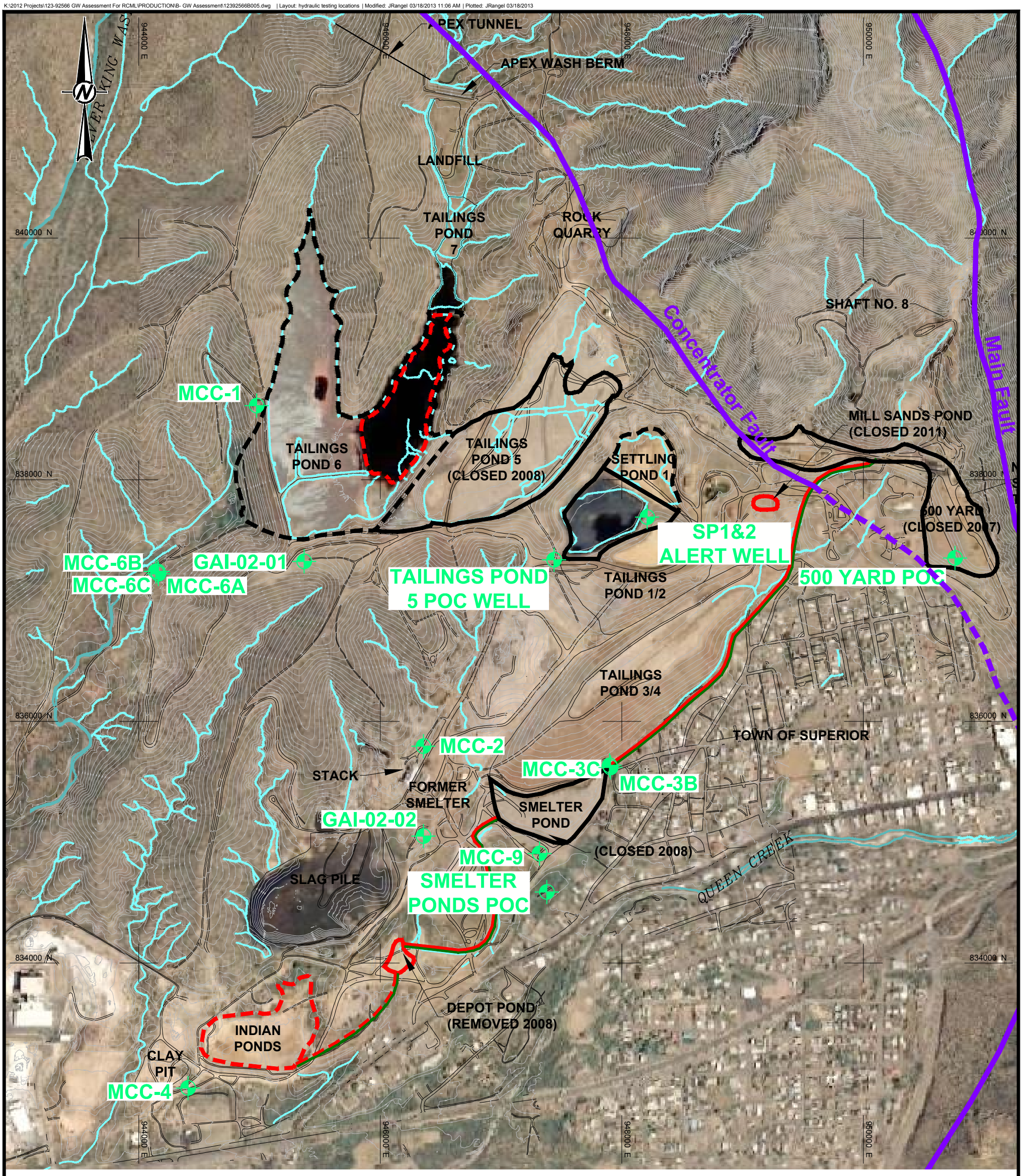

LEGEND

- EXISTING TOPOGRAPHY (C.I. = 10 FT)
- EXISTING ROADS
- EXISTING DRAINAGE
- PROPERTY LINE
- APP FACILITY CLEAN CLOSED BY REMOVAL (COMPLETED)
- APP FACILITY TO BE CLEAN CLOSED BY REMOVAL (FUTURE)
- APP FACILITY CLOSED IN-PLACE (COMPLETED)
- APP FACILITY TO BE CLOSED IN-PLACE (FUTURE)
- EXISTING FAULT (DASHED WHERE INFERRED)
- CHANNEL ASSOCIATED WITH MAIN FACILITY
- PROPERTY LINE
- MONITORING WELL WITH HYDRAULIC TESTING

0 400 800 1200
SCALE FEET

1. 2010 TOPOGRAPHY PROVIDED BY RESOLUTION COPPER MINING, LLC.
2. GEOLOGY FROM *DI-13 – GEOLOGIC MAP OF PORTIONS OF THE GLOBE 30' X 60' QUADRANGLE, ARIZONA*, ARIZONA GEOLOGIC SURVEY, 1998.

PROJECT
Resolution Copper Mining
GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE
HYDRAULIC TESTING LOCATIONS

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B005
DESIGN	JM	03-04-2013	SCALE	SCALE
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CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 4

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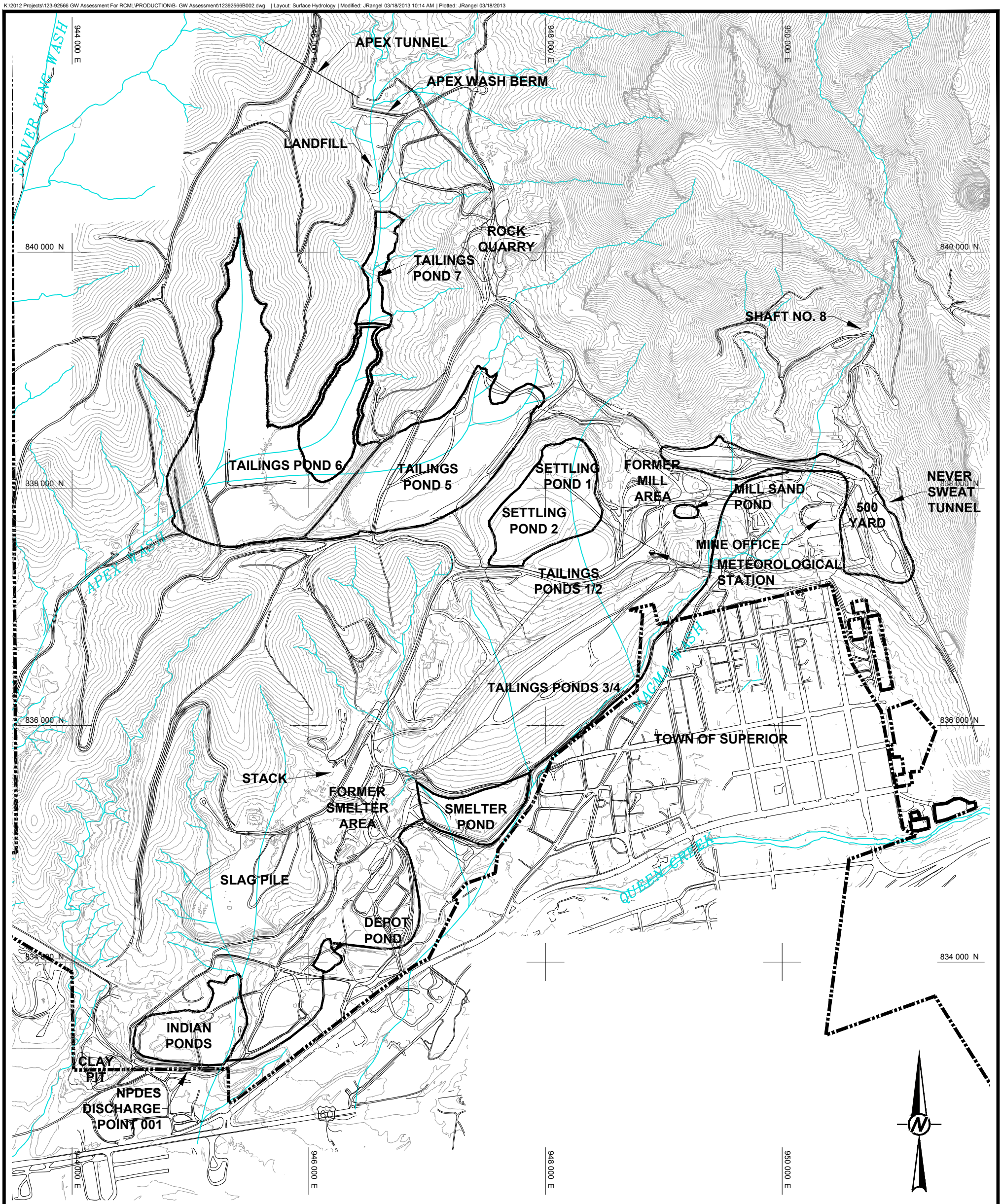

LEGEND

- EXISTING TOPOGRAPHY (C.I. = 10 FT)
- EXISTING ROADS
- HISTORICAL DRAINAGE
- PROPERTY LINE
- APP FACILITIES
- OTHER FACILITIES

REFERENCES

1.) 2010 TOPOGRAPHY PROVIDED BY RESOLUTION COPPER MINING, LLC.

2.) HISTORICAL DRAINAGE TAKEN FROM PLATE 1, "GEOLOGIC MAP OF THE SUPERIOR MINING AREA ARIZONA", ARIZONA BUREAU OF MINES BULLETIN 150, GEOLOGIC SERIES No. 16, UNIVERSITY OF ARIZONA BULLETIN Vol. XIII, No.1, JANUARY 1, 1942.

PROJECT
Resolution Copper Mining

GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE

HISTORICAL APP FACILITIES, TOPOGRAPHY, AND DRAINAGES: WEST PLANT SITE

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B002
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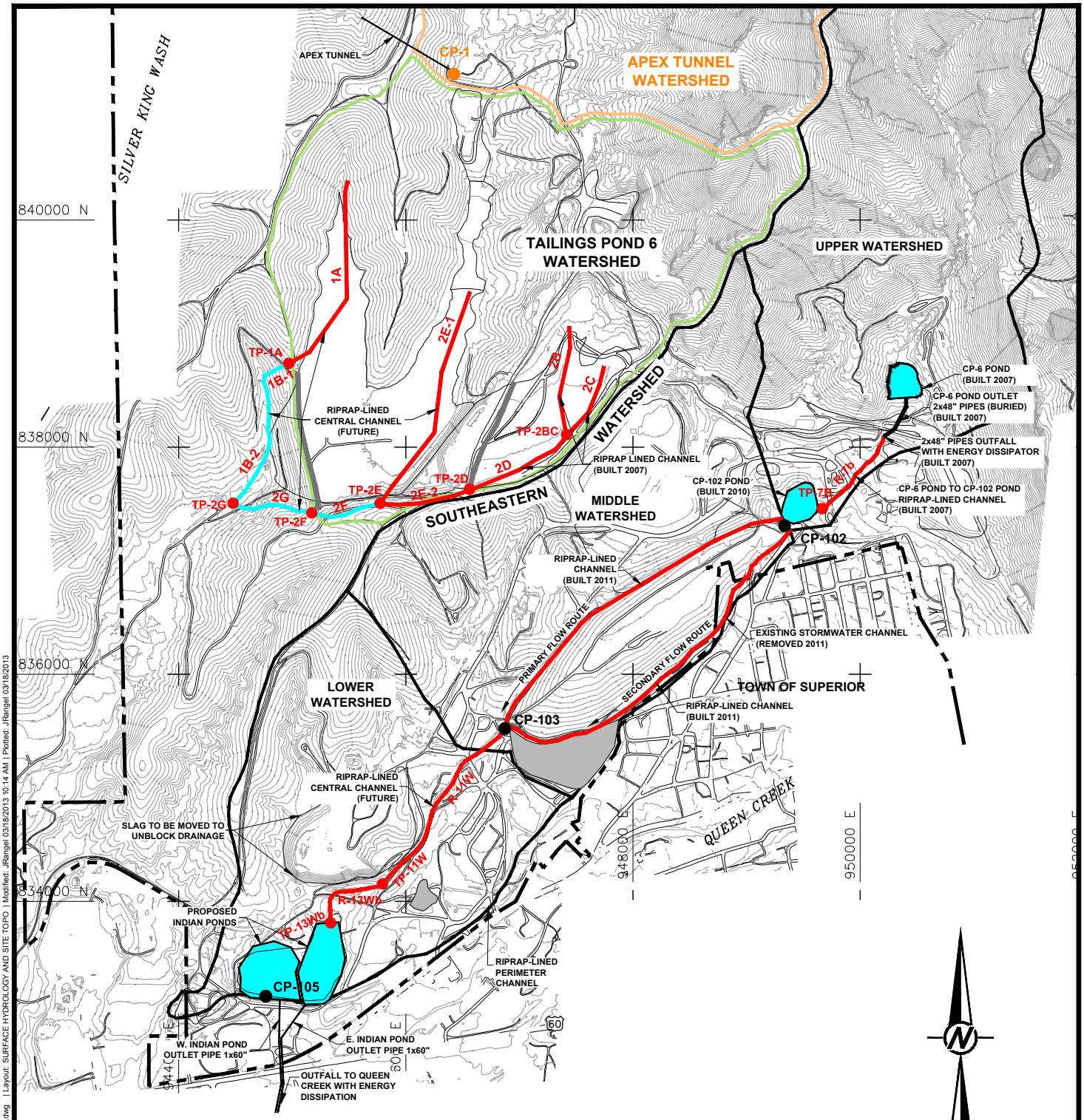
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 5



LEGEND

- CHANNEL REACH DESIGNED FOR 100 yr. 6 hr. EVENT
- CHANNEL REACH DESIGNED FOR 1/2 PROBABLE MAX. FLOOD
- TAILINGS POND 6 WATERSHED
- SOUTHEASTERN WATERSHED
- APEX TUNNEL WATERSHED
- PROPERTY LINE
- CONCENTRATION POINT
- TP-11Eb TERMINAL POINT
- SURFACE WATER CONTROL BERM
- ELIMINATED POND
- NEW POND

REFERENCES

1.) 2010 TOPOGRAPHY PROVIDED BYRESOLUTION COPPER MINING, LLC.

PROJECT

GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE

SURFACE HYDROLOGY: WEST PLANT SITE

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B006
DESIGN	JM	03-04-2013	SCALE	AS SHOWN
CADD	JHR	03-04-2013	FIGURE	6
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

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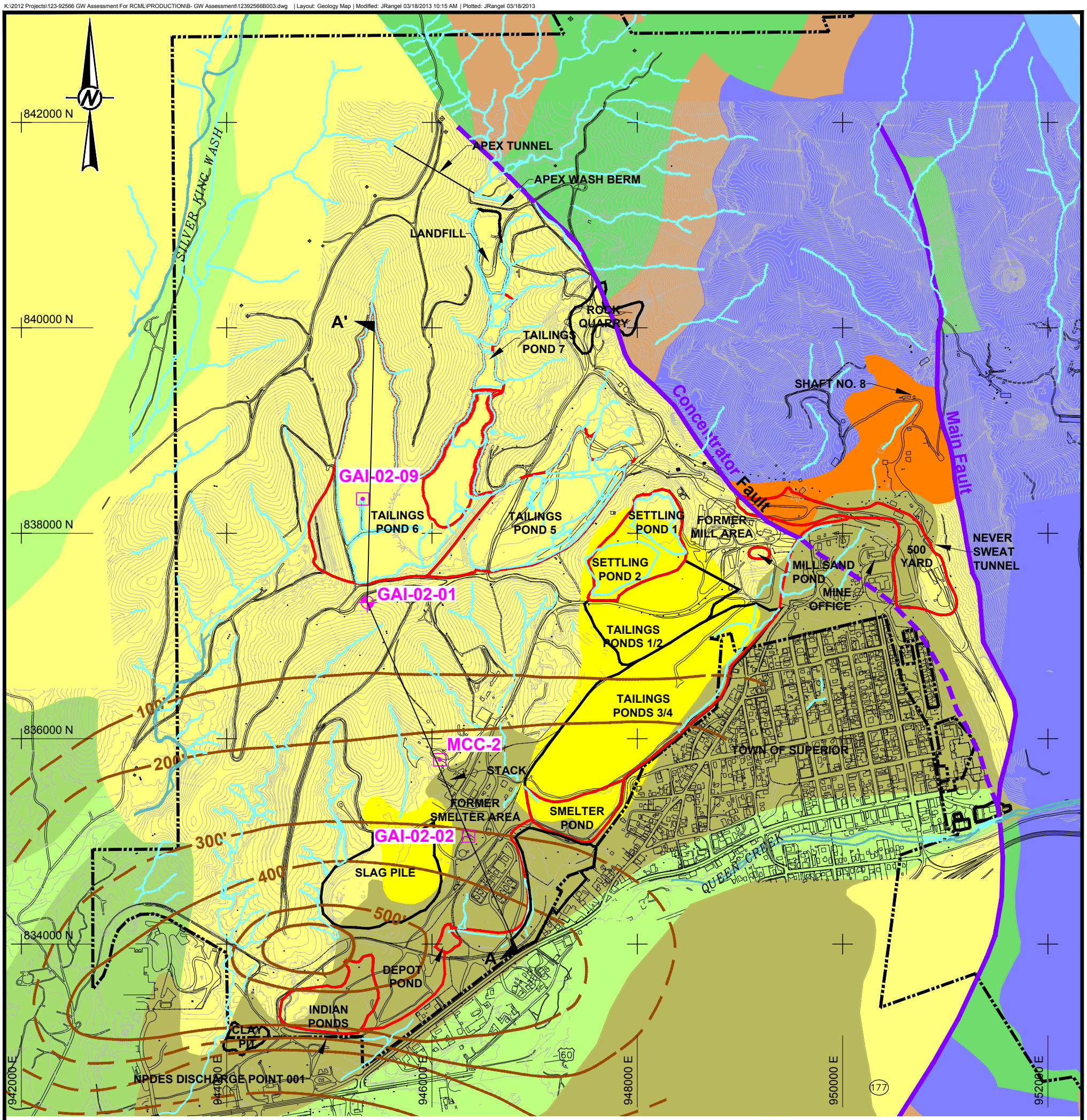

LEGEND

- EXISTING TOPOGRAPHY (C.I. = 10 FT)
- EXISTING ROADS
- EXISTING DRAINAGE
- EXISTING FENCE
- EXISTING FAULT (DASHED WHERE INFERRED)
- PROPERTY LINE
- AREA-WIDE APP FACILITIES
- OTHER FACILITIES
- POINT OF COMPLIANCE (POC) WELL LOCATION
- NON-APP WELL LOCATION (ACTIVE MONITORING)
- MUDSTONE ISOPACH CONTOUR (100 FT INTERVAL)
- A — A' CROSS-SECTION

NOTES

1. 2004 TOPOGRAPHY PROVIDED BY RESOLUTION COPPER MINING, LLC.
2. GEOLOGY FROM *DI-13 – GEOLOGIC MAP OF PORTIONS OF THE GLOBE 30' X 60' QUADRANGLE, ARIZONA*, ARIZONA GEOLOGIC SURVEY, 1998.

0 500 1000 1500
SCALE FEET

REFERENCES / SPECIFICATIONS

- EXTENT OF TAILINGS SLAG PILES, AND FILL IN 1968
- HOLOCENE ALLUVIUM
- QUARTERNARY ALLUVIAL FAN REMNANTS DEEPLY INCISED
- QUARTERNARY ALLUVIUM, UNDIFFERENTIATED
- TERTIARY/ QUARTERNARY GILA CONGLOMERATE
- TERTIARY APACHE LEAP TUFF
- PENNSYLVANIAN NACO LIMESTONE
- MISSISSIPPIAN, DEVONIAN, AND CAMBRIAN SEDIMENTARY ROCKS
- PRECAMBRIAN DIABASE
- PRECAMBRIAN APACHE GROUP

PROJECT
Resolution Copper Mining
GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

TITLE
GEOLOGY MAP WITH CROSS-SECTION LOCATION

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B003
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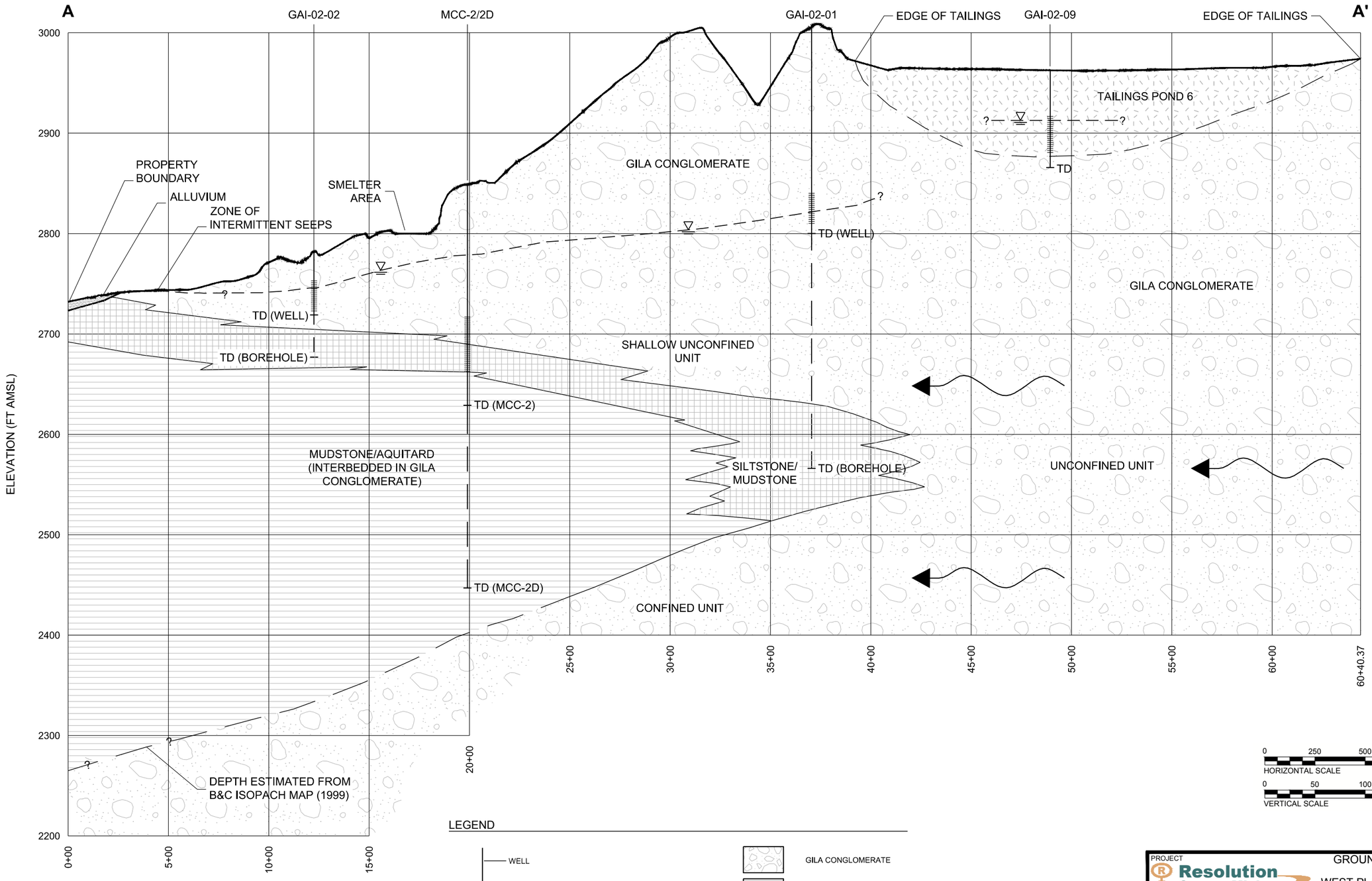
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 7



NOTES

1.) WATER LEVELS TAKEN MARCH 5 & 6, 2013.

2.) FT AMSL = FEET ABOVE MEAN SEA LEVEL

LEGEND

- WELL
- WATER TABLE
- SCREENED INTERVAL
- BACKFILLED BOREHOLE

TD = TOTAL DEPTH

- GILA CONGLOMERATE
- MUDSTONE
- SILTSTONE/MUDSTONE
- TAILINGS
- GENERAL DIRECTION OF GROUNDWATER FLOW

PROJECT

Resolution Copper Mining

GROUNDWATER ASSESSMENT UPDATE
WEST PLANT SITE, SUPERIOR MINE
SUPERIOR, ARIZONA

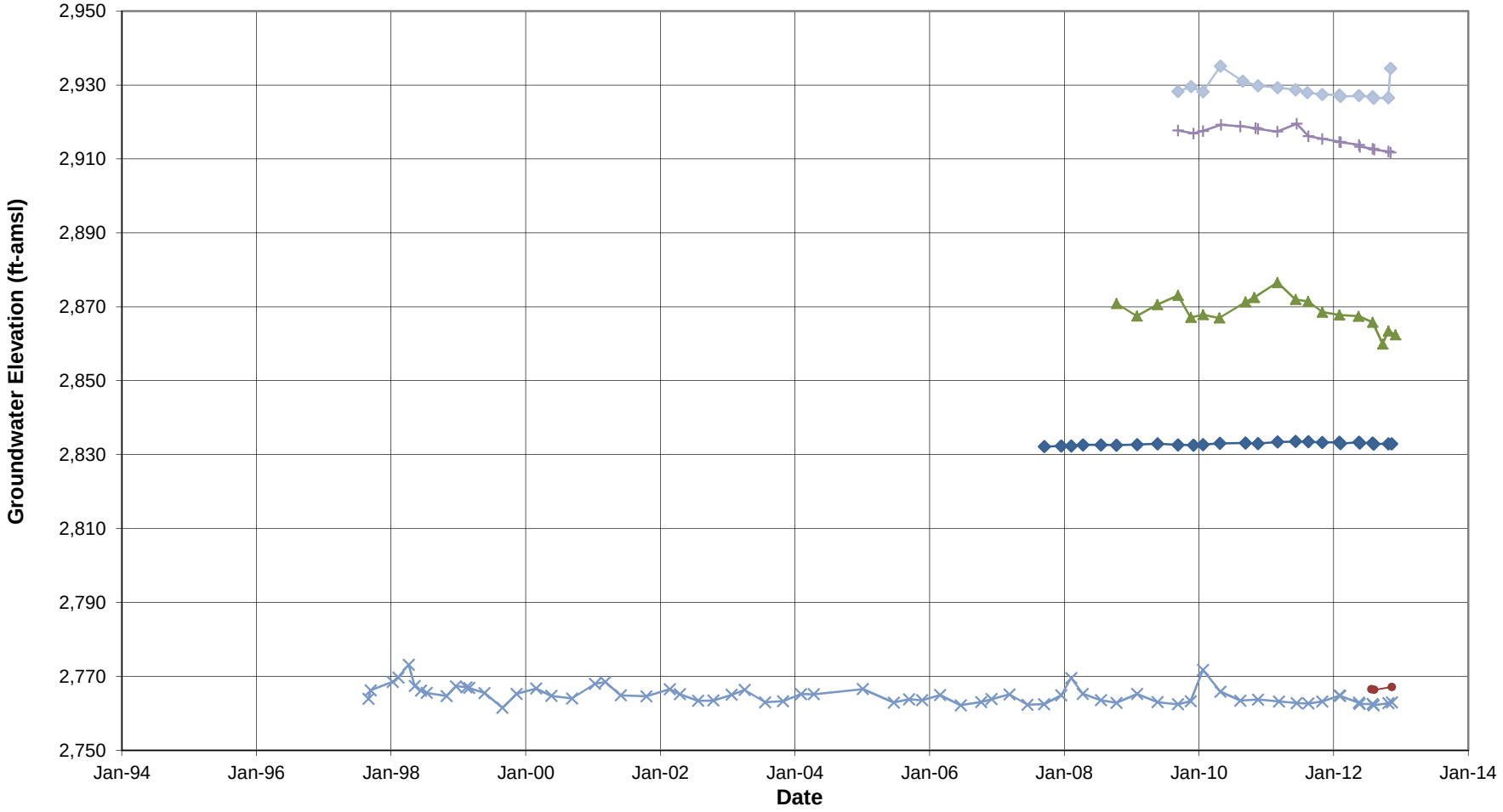
TITLE

SCHEMATIC CROSS-SECTION OF HYDROSTRATIGRAPHIC UNITS

Golder Associates

PROJECT No.		12392566.7	FILE No.	12392566B004
DESIGN	JM	03-04-2013	SCALE	AS SHOWN
CADD	JHR	03-04-2013		
CHECK	JM	03-04-2013		
REVIEW	JM	03-04-2013		

FIGURE 8



Legend

Golder Associates

Tucson, Arizona

TITLE

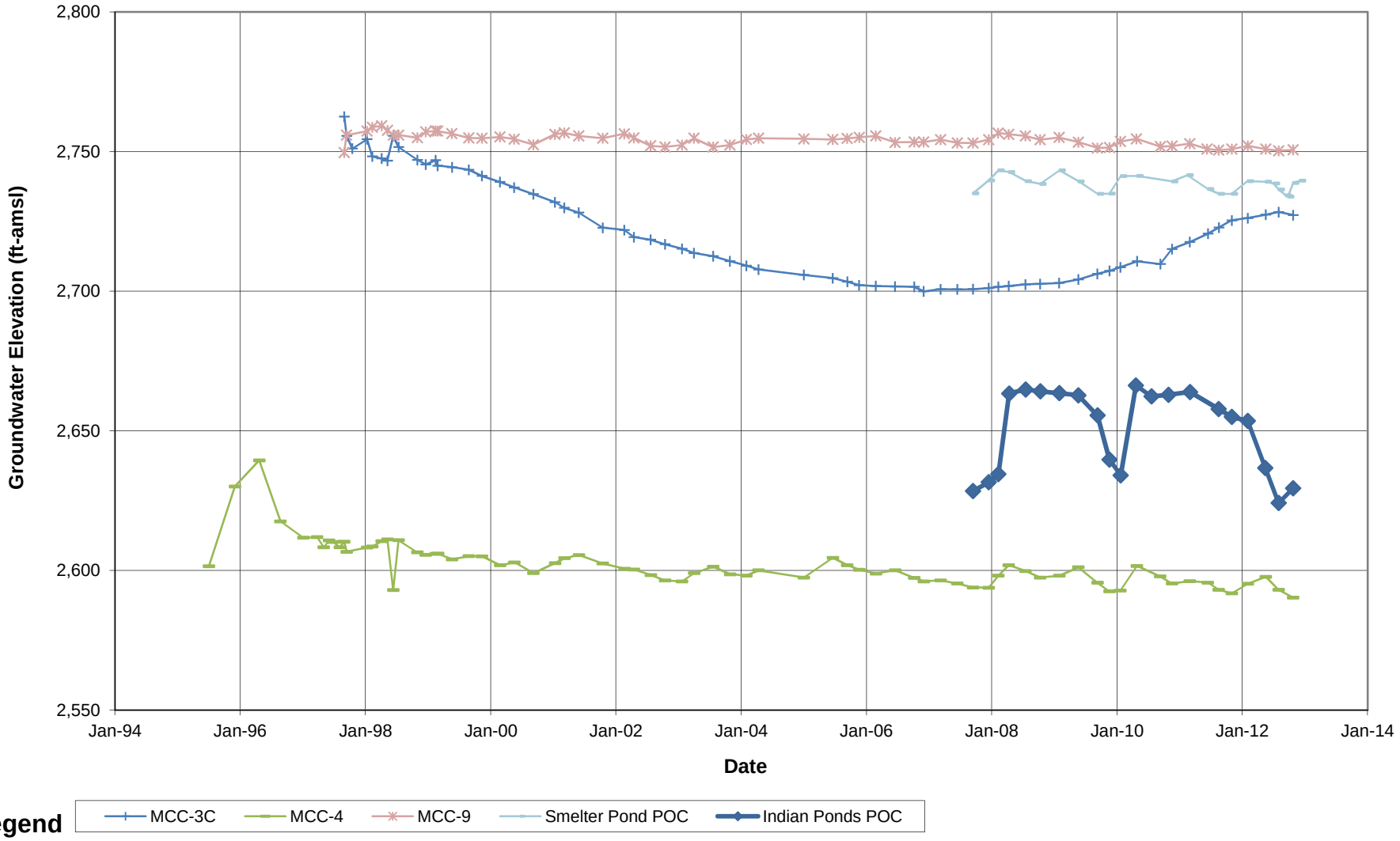
North Area Well Hydrographs

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment Update,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	2/7/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.		FIGURE NO.	9



Golder Associates

Tucson, Arizona

TITLE

South Area Wells Hydrographs

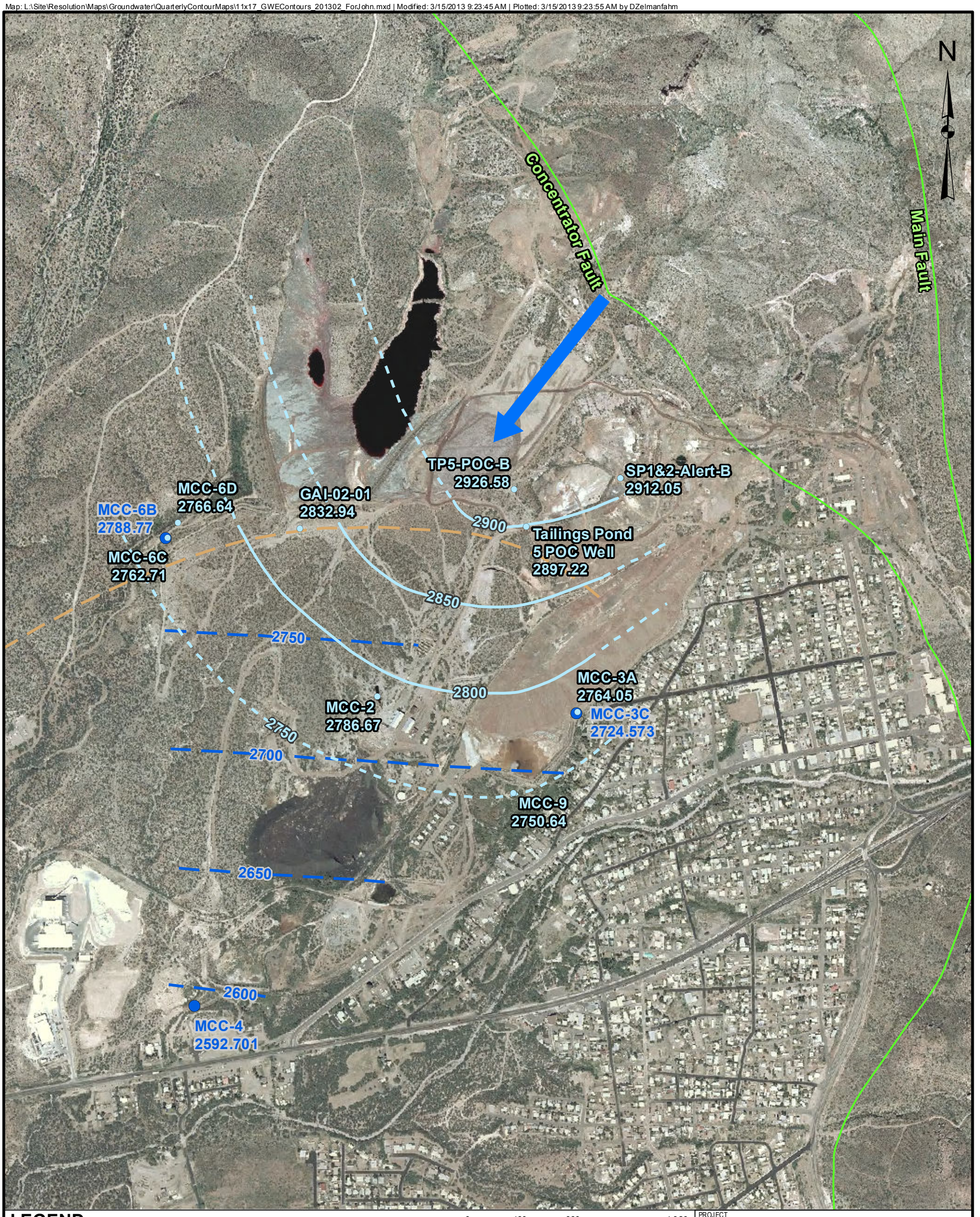
CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment Update,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	2/7/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.		FIGURE NO.	10

Map: L:\Site\Resolution\Maps\Groundwater\QuarterlyContourMaps\11x17_GWEContours_201302_ForJohn.mxd | Modified: 3/15/2013 9:23:45 AM | Plotted: 3/15/2013 9:23:55 AM by DZelmanfahm



LEGEND

Well with Groundwater Elevation
- Shallow or Upper Unstratified Unit
- Deep Confined Unit
- Groundwater Elevation Contour (50 ft)
- Inferred Groundwater Elevation Contour (50 ft)

Deep Confined Unit
- Groundwater Elevation Contour (50 ft)
- Inferred Groundwater Elevation Contour (50 ft)

- Approximate Northern Extent of Mudstone Aquitard
- Fault
- Approximate Direction of Regional Gradient

0 480 960 1,920

SCALE 1:10,212 FEET

NOTES

SP1&2-Alert-B well is completed in the Settling Ponds 1 & 2 Tailings.

REFERENCES

1) Projection: NAD 1983 StatePlane Arizona Central FIPS 0202 Feet.
2) Regional flow direction from Montgomery and Associates, 2001. Summary of Hydrogeologic Data for the Superior Area, Pinal and Gila Counties, Arizona. November 27, 2001.
3) March 2006 Aerial Provided by Arizona State Land Department.

PROJECT

Resolution Copper Mining

GROUNDWATER ASSESSMENT
WEST PLANT SITE
SUPERIOR MINE, SUPERIOR, AZ

TITLE

WATER TABLE CONTOUR MAP AND DEEP POTENTIOMETRIC SURFACE 4TH QUARTER 2012

Golder Associates
Tucson, Arizona

PROJECT No. 073-92562

FIGURE 11

ATTACHMENT 1
WELL LOGS
(ON DVD)

ATTACHMENT 2
WATER LEVEL TABLE

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
500 Yard POC	09/25/07	2998.67	dry	dry
500 Yard POC	12/26/07	2998.67	dry	dry
500 Yard POC	02/20/08	2998.67	dry	dry
500 Yard POC	04/21/08	2998.67	dry	dry
500 Yard POC	07/28/08	2998.67	dry	dry
500 Yard POC	10/22/08	2998.67	127.77	2870.90
500 Yard POC	02/10/09	2998.67	131.18	2867.49
500 Yard POC	06/01/09	2998.67	128.10	2870.57
500 Yard POC	09/22/09	2998.67	125.60	2873.07
500 Yard POC	11/30/09	2998.67	131.53	2867.14
500 Yard POC	02/04/10	2998.67	130.80	2867.87
500 Yard POC	05/04/10	2998.67	131.69	2866.98
500 Yard POC	09/24/10	2998.67	127.36	2871.31
500 Yard POC	11/10/10	2998.67	126.12	2872.55
500 Yard POC	03/16/11	2998.67	122.10	2876.57
500 Yard POC	06/22/11	2998.67	126.70	2871.97
500 Yard POC	08/30/11	2998.67	127.19	2871.48
500 Yard POC	11/15/11	2998.67	130.12	2868.55
500 Yard POC	02/16/12	2998.67	130.87	2867.80
500 Yard POC	05/30/12	2998.67	131.22	2867.45
500 Yard POC	08/15/12	2998.67	132.86	2865.81
500 Yard POC	10/08/12	2998.67	138.72	2859.95
500 Yard POC	11/08/12	2998.67	135.21	2863.46
500 Yard POC	12/17/12	2998.67	136.25	2862.42
GAI-02-01	09/26/07	3008.15	176.00	2832.15
GAI-02-01	12/26/07	3008.15	175.80	2832.35
GAI-02-01	02/20/08	3008.15	175.84	2832.31
GAI-02-01	04/23/08	3008.15	175.52	2832.63
GAI-02-01	07/29/08	3008.15	175.53	2832.62
GAI-02-01	10/22/08	3008.15	175.60	2832.55
GAI-02-01	02/12/09	3008.15	175.43	2832.72
GAI-02-01	06/03/09	3008.15	175.23	2832.92
GAI-02-01	09/21/09	3008.15	175.50	2832.65
GAI-02-01	12/15/09	3008.15	175.60	2832.55
GAI-02-01	02/04/10	3008.15	175.46	2832.69
GAI-02-01	05/07/10	3008.15	175.10	2833.05
GAI-02-01	09/24/10	3008.15	174.99	2833.16
GAI-02-01	11/30/10	3008.15	175.14	2833.01
GAI-02-01	03/17/11	3008.15	174.74	2833.41
GAI-02-01	06/23/11	3008.15	174.60	2833.55
GAI-02-01	09/01/11	3008.15	174.67	2833.48
GAI-02-01	11/15/11	3008.15	174.86	2833.29
GAI-02-01	02/16/12	3008.15	174.82	2833.33
GAI-02-01	06/01/12	3008.15	174.79	2833.36
GAI-02-01	08/15/12	3008.15	174.99	2833.16
GAI-02-01	11/08/12	3008.15	175.21	2832.94
Indian Ponds POC	09/25/07	2674.25	45.80	2628.45
Indian Ponds POC	12/26/07	2674.25	42.65	2631.60
Indian Ponds POC	02/20/08	2674.25	39.72	2634.53
Indian Ponds POC	04/23/08	2674.25	10.89	2663.36
Indian Ponds POC	07/29/08	2674.25	9.44	2664.81
Indian Ponds POC	10/22/08	2674.25	10.10	2664.15
Indian Ponds POC	02/10/09	2674.25	10.76	2663.49
Indian Ponds POC	06/01/09	2674.25	11.51	2662.74
Indian Ponds POC	09/22/09	2674.25	18.74	2655.51

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
Indian Ponds POC	11/30/09	2674.25	34.55	2639.70
Indian Ponds POC	02/04/10	2674.25	40.15	2634.10
Indian Ponds POC	05/04/10	2674.25	7.98	2666.27
Indian Ponds POC	08/03/10	2674.25	11.91	2662.34
Indian Ponds POC	11/10/10	2674.25	11.34	2662.91
Indian Ponds POC	03/16/11	2674.25	10.34	2663.91
Indian Ponds POC	08/30/11	2674.25	16.42	2657.83
Indian Ponds POC	11/15/11	2674.25	19.27	2654.98
Indian Ponds POC	02/16/12	2674.25	20.66	2653.59
Indian Ponds POC	05/29/12	2674.25	37.59	2636.66
Indian Ponds POC	08/15/12	2674.25	50.10	2624.15
Indian Ponds POC	11/08/12	2674.25	44.79	2629.46
MCC-1	07/05/95	2963.95	189.65	2774.30
MCC-1	12/04/95	2963.95	151.15	2812.80
MCC-1	04/24/96	2963.95	151.40	2812.55
MCC-1	08/26/96	2963.95	151.88	2812.07
MCC-1	01/07/97	2963.95	162.62	2801.33
MCC-1	03/28/97	2963.95	152.78	2811.17
MCC-1	05/06/97	2963.95	158.95	2805.00
MCC-1	06/05/97	2963.95	153.61	2810.34
MCC-1	07/01/97	2963.95	153.22	2810.73
MCC-1	08/08/97	2963.95	153.17	2810.78
MCC-1	09/03/97	2963.95	163.58	2800.37
MCC-1	09/17/97	2963.95	153.25	2810.70
MCC-1	01/15/98	2963.95	153.35	2810.60
MCC-1	02/13/98	2963.95	153.99	2809.96
MCC-1	04/10/98	2963.95	153.15	2810.80
MCC-1	06/16/98	2963.95	153.52	2810.43
MCC-1	07/17/98	2963.95	154.15	2809.80
MCC-1	11/04/98	2963.95	154.79	2809.16
MCC-1	12/23/98	2963.95	154.28	2809.67
MCC-1	02/19/99	2963.95	154.12	2809.83
MCC-1	03/05/99	2963.95	154.10	2809.85
MCC-1	05/25/99	2963.95	154.00	2809.95
MCC-1	09/01/99	2963.95	155.10	2808.85
MCC-1	11/17/99	2963.95	155.08	2808.87
MCC-1	03/02/00	2963.95	154.96	2808.99
MCC-1	05/24/00	2963.95	155.42	2808.53
MCC-1	09/13/00	2963.95	155.96	2807.99
MCC-1	09/20/05	2963.95	154.31	2809.64
MCC-1	11/29/05	2963.95	159.62	2804.33
MCC-1	03/07/06	2963.95	159.42	2804.53
MCC-1	06/27/06	2963.95	159.33	2804.62
MCC-1	10/17/06	2963.95	159.38	2804.57
MCC-1	12/12/06	2963.95	160.03	2803.92
MCC-1	03/20/07	2963.95	159.59	2804.36
MCC-1	09/25/07	2963.95	159.85	2804.10
MCC-1	12/26/07	2963.95	159.66	2804.29
MCC-1	02/19/08	2963.95	159.22	2804.73
MCC-1	04/22/08	2963.95	159.05	2804.90
MCC-1	07/29/08	2963.95	159.25	2804.70
MCC-1	10/22/08	2963.95	159.38	2804.57
MCC-1	02/12/09	2963.95	159.07	2804.88
MCC-1	06/02/09	2963.95	159.88	2804.07

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-1	09/22/09	2963.95	160.50	2803.45
MCC-1	02/05/10	2963.95	160.00	2803.95
MCC-1	05/13/10	2963.95	157.22	2806.73
MCC-1	09/27/10	2963.95	157.81	2806.14
MCC-1	12/01/10	2963.95	159.40	2804.55
MCC-1	03/01/11	2963.95	157.88	2806.07
MCC-1	06/29/11	2963.95	158.64	2805.31
MCC-1	09/02/11	2963.95	158.18	2805.77
MCC-1	11/15/11	2963.95	158.14	2805.81
MCC-1	02/16/12	2963.95	157.81	2806.14
MCC-1	06/01/12	2963.95	157.54	2806.41
MCC-1	08/15/12	2963.95	157.71	2806.24
MCC-1	11/08/12	2963.95	158.00	2805.95
MCC-2	07/05/95	2851.27	56.21	2795.06
MCC-2	12/04/95	2851.27	56.94	2794.33
MCC-2	04/24/96	2851.27	57.45	2793.82
MCC-2	08/26/96	2851.27	58.48	2792.79
MCC-2	01/07/97	2851.27	58.35	2792.92
MCC-2	03/28/97	2851.27	58.24	2793.03
MCC-2	05/06/97	2851.27	58.56	2792.71
MCC-2	06/05/97	2851.27	58.30	2792.97
MCC-2	07/01/97	2851.27	58.44	2792.83
MCC-2	08/08/97	2851.27	58.75	2792.52
MCC-2	09/03/97	2851.27	57.81	2793.46
MCC-2	09/17/97	2851.27	59.00	2792.27
MCC-2	01/15/98	2851.27	59.65	2791.62
MCC-2	02/13/98	2851.27	59.73	2791.54
MCC-2	04/10/98	2851.27	58.95	2792.32
MCC-2	05/13/98	2851.27	58.75	2792.52
MCC-2	06/16/98	2851.27	57.20	2794.07
MCC-2	07/17/98	2851.27	58.00	2793.27
MCC-2	11/04/98	2851.27	58.97	2792.30
MCC-2	12/23/98	2851.27	59.45	2791.82
MCC-2	02/19/99	2851.27	59.88	2791.39
MCC-2	03/05/99	2851.27	59.90	2791.37
MCC-2	05/26/99	2851.27	61.00	2790.27
MCC-2	09/01/99	2851.27	61.50	2789.77
MCC-2	11/17/99	2851.27	61.38	2789.89
MCC-2	03/02/00	2851.27	62.00	2789.27
MCC-2	05/24/00	2851.27	62.34	2788.93
MCC-2	09/13/00	2851.27	63.00	2788.27
MCC-2	01/16/01	2851.27	62.74	2788.53
MCC-2	03/13/01	2851.27	61.48	2789.79
MCC-2	06/05/01	2851.27	60.56	2790.71
MCC-2	10/23/01	2851.27	60.61	2790.66
MCC-2	02/26/02	2851.27	61.49	2789.78
MCC-2	04/23/02	2851.27	62.02	2789.25
MCC-2	07/30/02	2851.27	62.92	2788.35
MCC-2	10/22/02	2851.27	63.49	2787.78
MCC-2	01/29/03	2851.27	64.20	2787.07
MCC-2	04/09/03	2851.27	64.29	2786.98
MCC-2	07/30/03	2851.27	63.86	2787.41
MCC-2	11/05/03	2851.27	64.22	2787.05
MCC-2	02/10/04	2851.27	64.48	2786.79

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-2	04/20/04	2851.27	64.61	2786.66
MCC-2	01/10/05	2851.27	64.82	2786.45
MCC-2	06/28/05	2851.27	62.08	2789.19
MCC-2	09/20/05	2851.27	62.20	2789.07
MCC-2	11/29/05	2851.27	62.18	2789.09
MCC-2	03/07/06	2851.27	62.76	2788.51
MCC-2	06/27/06	2851.27	63.25	2788.02
MCC-2	10/17/06	2851.27	63.15	2788.12
MCC-2	12/12/06	2851.27	63.78	2787.49
MCC-2	03/20/07	2851.27	64.09	2787.18
MCC-2	09/25/07	2851.27	64.24	2787.03
MCC-2	12/26/07	2851.27	64.45	2786.82
MCC-2	02/20/08	2851.27	63.62	2787.65
MCC-2	04/23/08	2851.27	62.82	2788.45
MCC-2	07/29/08	2851.27	62.90	2788.37
MCC-2	10/21/08	2851.27	62.81	2788.46
MCC-2	02/12/09	2851.27	62.62	2788.65
MCC-2	06/02/09	2851.27	62.46	2788.81
MCC-2	09/22/09	2851.27	63.00	2788.27
MCC-2	11/30/09	2851.27	63.36	2787.91
MCC-2	02/05/10	2851.27	63.55	2787.72
MCC-2	05/13/10	2851.27	61.42	2789.85
MCC-2	09/27/10	2851.27	61.72	2789.55
MCC-2	12/01/10	2851.27	dry	dry
MCC-2	03/01/11	2851.27	61.00	2790.27
MCC-2	06/29/11	2851.27	61.73	2789.54
MCC-2	09/02/11	2851.27	62.87	2788.40
MCC-2	11/15/11	2851.27	63.23	2788.04
MCC-2	02/16/12	2851.27	63.56	2787.71
MCC-2	06/01/12	2851.27	63.78	2787.49
MCC-2	08/15/12	2851.27	64.18	2787.09
MCC-2	11/08/12	2851.27	64.60	2786.67
MCC-3A	07/05/95	2798.22	26.00	2772.22
MCC-3A	12/04/95	2798.22	25.60	2772.62
MCC-3A	04/24/96	2798.22	25.70	2772.52
MCC-3A	08/27/96	2798.22	26.68	2771.54
MCC-3A	01/07/97	2798.22	26.70	2771.52
MCC-3A	03/28/97	2798.22	26.15	2772.07
MCC-3A	05/06/97	2798.22	26.55	2771.67
MCC-3A	06/05/97	2798.22	25.55	2772.67
MCC-3A	07/01/97	2798.22	26.82	2771.40
MCC-3A	08/08/97	2798.22	27.00	2771.22
MCC-3A	09/03/97	2798.22	25.78	2772.44
MCC-3A	09/17/97	2798.22	75.55	2722.67
MCC-3A	10/20/97	2798.22	27.24	2770.98
MCC-3A	01/15/98	2798.22	26.98	2771.24
MCC-3A	02/13/98	2798.22	26.68	2771.54
MCC-3A	04/10/98	2798.22	10.42	2787.80
MCC-3A	05/13/98	2798.22	26.25	2771.97
MCC-3A	06/16/98	2798.22	26.15	2772.07
MCC-3A	07/17/98	2798.22	26.84	2771.38
MCC-3A	11/04/98	2798.22	28.72	2769.50
MCC-3A	12/23/98	2798.22	27.80	2770.42
MCC-3A	02/19/99	2798.22	27.88	2770.34

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-3A	03/02/99	2798.22	27.88	2770.34
MCC-3A	05/25/99	2798.22	28.24	2769.98
MCC-3A	08/31/99	2798.22	28.51	2769.71
MCC-3A	11/16/99	2798.22	28.92	2769.30
MCC-3A	03/01/00	2798.22	29.02	2769.20
MCC-3A	05/23/00	2798.22	29.33	2768.89
MCC-3A	09/12/00	2798.22	30.43	2767.79
MCC-3A	01/15/01	2798.22	29.13	2769.09
MCC-3A	03/12/01	2798.22	28.33	2769.89
MCC-3A	06/04/01	2798.22	28.39	2769.83
MCC-3A	10/22/01	2798.22	29.06	2769.16
MCC-3A	02/25/02	2798.22	29.21	2769.01
MCC-3A	04/22/02	2798.22	29.52	2768.70
MCC-3A	07/29/02	2798.22	30.84	2767.38
MCC-3A	10/21/02	2798.22	31.41	2766.81
MCC-3A	01/28/03	2798.22	31.44	2766.78
MCC-3A	04/08/03	2798.22	30.75	2767.47
MCC-3A	07/29/03	2798.22	31.57	2766.65
MCC-3A	11/04/03	2798.22	31.78	2766.44
MCC-3A	02/09/04	2798.22	31.42	2766.80
MCC-3A	04/19/04	2798.22	30.95	2767.27
MCC-3A	01/10/05	2798.22	31.50	2766.72
MCC-3A	06/27/05	2798.22	29.84	2768.38
MCC-3A	09/19/05	2798.22	30.17	2768.05
MCC-3A	11/28/05	2798.22	30.26	2767.96
MCC-3A	03/06/06	2798.22	30.03	2768.19
MCC-3A	06/26/06	2798.22	30.58	2767.64
MCC-3A	10/16/06	2798.22	31.18	2767.04
MCC-3A	03/19/07	2798.22	31.54	2766.68
MCC-3A	09/25/07	2798.22	28.54	2769.68
MCC-3A	12/26/07	2798.22	31.35	2766.87
MCC-3A	02/20/08	2798.22	30.07	2768.15
MCC-3A	04/21/08	2798.22	29.86	2768.36
MCC-3A	07/28/08	2798.22	30.19	2768.03
MCC-3A	10/21/08	2798.22	30.39	2767.83
MCC-3A	02/09/09	2798.22	29.97	2768.25
MCC-3A	06/01/09	2798.22	30.13	2768.09
MCC-3A	09/21/09	2798.22	dry	dry
MCC-3A	11/30/09	2798.22	31.36	2766.86
MCC-3A	02/03/10	2798.22	30.06	2768.16
MCC-3A	05/04/10	2798.22	28.72	2769.50
MCC-3A	09/24/10	2798.22	32.87	2765.35
MCC-3A	12/01/10	2798.22	30.20	2768.02
MCC-3A	03/15/11	2798.22	30.13	2768.09
MCC-3A	06/29/11	2798.22	30.89	2767.33
MCC-3A	09/01/11	2798.22	31.13	2767.09
MCC-3A	11/15/11	2798.22	31.23	2766.99
MCC-3A	02/16/12	2798.22	30.76	2767.46
MCC-3A	06/01/12	2798.22	31.10	2767.12
MCC-3A	08/15/12	2798.22	31.60	2766.62
MCC-3A	11/08/12	2798.22	31.73	2766.49
MCC-3B	09/05/96	2798.09	344.60	2453.49
MCC-3B	01/07/97	2798.09	335.95	2462.14
MCC-3B	03/28/97	2798.09	364.67	2433.42

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-3B	06/05/97	2798.09	363.85	2434.24
MCC-3B	07/01/97	2798.09	358.24	2439.85
MCC-3B	08/08/97	2798.09	350.75	2447.34
MCC-3B	09/03/97	2798.09	359.92	2438.17
MCC-3B	09/17/97	2798.09	343.30	2454.79
MCC-3B	10/20/97	2798.09	347.12	2450.97
MCC-3B	01/14/98	2798.09	355.00	2443.09
MCC-3B	02/13/98	2798.09	362.25	2435.84
MCC-3B	04/10/98	2798.09	356.00	2442.09
MCC-3B	05/13/98	2798.09	365.10	2432.99
MCC-3B	06/16/98	2798.09	344.56	2453.53
MCC-3B	07/17/98	2798.09	353.16	2444.93
MCC-3B	11/03/98	2798.09	349.42	2448.67
MCC-3B	12/23/98	2798.09	358.83	2439.26
MCC-3B	02/19/99	2798.09	348.86	2449.23
MCC-3B	03/03/99	2798.09	347.17	2450.92
MCC-3B	05/26/99	2798.09	342.70	2455.39
MCC-3B	08/31/99	2798.09	238.70	2559.39
MCC-3B	11/16/99	2798.09	309.14	2488.95
MCC-3B	03/01/00	2798.09	325.95	2472.14
MCC-3B	05/23/00	2798.09	341.42	2456.67
MCC-3B	09/12/00	2798.09	348.62	2449.47
MCC-3B	01/15/01	2798.09	216.94	2581.15
MCC-3B	03/12/01	2798.09	296.85	2501.24
MCC-3B	06/04/01	2798.09	297.49	2500.60
MCC-3B	10/22/01	2798.09	342.41	2455.68
MCC-3B	02/25/02	2798.09	343.19	2454.90
MCC-3B	04/22/02	2798.09	358.18	2439.91
MCC-3B	07/29/02	2798.09	358.36	2439.73
MCC-3B	10/21/02	2798.09	358.22	2439.87
MCC-3B	01/28/03	2798.09	353.91	2444.18
MCC-3B	04/08/03	2798.09	252.95	2545.14
MCC-3B	07/29/03	2798.09	329.75	2468.34
MCC-3B	11/04/03	2798.09	312.21	2485.88
MCC-3B	02/09/04	2798.09	320.67	2477.42
MCC-3B	04/19/04	2798.09	285.02	2513.07
MCC-3B	01/10/05	2798.09	134.65	2663.44
MCC-3B	06/27/05	2798.09	177.32	2620.77
MCC-3B	09/19/05	2798.09	261.95	2536.14
MCC-3B	11/28/05	2798.09	337.76	2460.33
MCC-3B	03/06/06	2798.09	337.00	2461.09
MCC-3B	06/26/06	2798.09	313.43	2484.66
MCC-3B	10/16/06	2798.09	226.81	2571.28
MCC-3B	12/11/06	2798.09	330.39	2467.70
MCC-3B	03/19/07	2798.09	315.96	2482.13
MCC-3B	09/25/07	2798.09	138.73	2659.36
MCC-3B	12/26/07	2798.09	35.63	2762.46
MCC-3B	02/20/08	2798.09	0.34	2797.75
MCC-3B	04/21/08	2798.09	3.99	2794.10
MCC-3B	07/28/08	2798.09	1.35	2796.74
MCC-3B	10/21/08	2798.09	0.59	2797.50
MCC-3B	02/09/09	2798.09	0.17	2797.92
MCC-3B	06/01/09	2798.09	1.36	2796.73
MCC-3B	09/21/09	2798.09	1.99	2796.10

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-3B	11/30/09	2798.09	dry	dry
MCC-3B	02/04/10	2798.09	dry	dry
MCC-3B	05/04/10	2798.09	87.66	2710.43
MCC-3B	09/24/10	2798.09	92.36	2705.73
MCC-3B	12/01/10	2798.09	2.09	2796.00
MCC-3B	03/15/11	2798.09	4.84	2793.25
MCC-3B	06/29/11	2798.09	2.40	2795.69
MCC-3B	09/02/11	2798.09	170.32	2627.77
MCC-3B	11/15/11	2798.09	154.07	2644.02
MCC-3B	02/16/12	2798.09	138.77	2659.32
MCC-3B	06/01/12	2798.09	124.67	2673.42
MCC-3B	08/15/12	2798.09	115.95	2682.14
MCC-3B	11/08/12	2798.09	106.94	2691.15
MCC-3C	09/03/97	2798.44	35.90	2762.54
MCC-3C	09/17/97	2798.44	42.85	2755.59
MCC-3C	10/20/97	2798.44	47.36	2751.08
MCC-3C	01/14/98	2798.44	44.00	2754.44
MCC-3C	02/13/98	2798.44	50.18	2748.26
MCC-3C	04/10/98	2798.44	50.90	2747.54
MCC-3C	05/13/98	2798.44	51.65	2746.79
MCC-3C	06/16/98	2798.44	42.84	2755.60
MCC-3C	07/17/98	2798.44	46.81	2751.63
MCC-3C	11/04/98	2798.44	51.40	2747.04
MCC-3C	12/23/98	2798.44	53.06	2745.38
MCC-3C	02/19/99	2798.44	51.51	2746.93
MCC-3C	03/03/99	2798.44	53.48	2744.96
MCC-3C	05/26/99	2798.44	54.02	2744.42
MCC-3C	08/31/99	2798.44	54.95	2743.49
MCC-3C	11/16/99	2798.44	57.17	2741.27
MCC-3C	03/01/00	2798.44	59.33	2739.11
MCC-3C	05/23/00	2798.44	61.27	2737.17
MCC-3C	09/12/00	2798.44	63.67	2734.77
MCC-3C	01/15/01	2798.44	66.54	2731.90
MCC-3C	03/12/01	2798.44	68.60	2729.84
MCC-3C	06/04/01	2798.44	70.29	2728.15
MCC-3C	10/22/01	2798.44	75.70	2722.74
MCC-3C	02/25/02	2798.44	76.52	2721.92
MCC-3C	04/22/02	2798.44	79.04	2719.40
MCC-3C	07/29/02	2798.44	79.99	2718.45
MCC-3C	10/21/02	2798.44	81.65	2716.79
MCC-3C	01/28/03	2798.44	83.20	2715.24
MCC-3C	04/08/03	2798.44	84.77	2713.67
MCC-3C	07/29/03	2798.44	85.91	2712.53
MCC-3C	11/04/03	2798.44	87.66	2710.78
MCC-3C	02/09/04	2798.44	89.29	2709.15
MCC-3C	04/19/04	2798.44	90.67	2707.77
MCC-3C	01/10/05	2798.44	92.62	2705.82
MCC-3C	06/27/05	2798.44	93.72	2704.72
MCC-3C	09/21/05	2798.44	95.07	2703.37
MCC-3C	11/28/05	2798.44	96.27	2702.17
MCC-3C	03/06/06	2798.44	96.61	2701.83
MCC-3C	06/26/06	2798.44	96.73	2701.71
MCC-3C	10/16/06	2798.44	96.84	2701.60
MCC-3C	12/11/06	2798.44	98.48	2699.96

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-3C	03/19/07	2798.44	97.73	2700.71
MCC-3C	06/25/07	2798.44	97.78	2700.66
MCC-3C	09/25/07	2798.44	97.69	2700.75
MCC-3C	12/26/07	2798.44	97.32	2701.12
MCC-3C	02/20/08	2798.44	96.88	2701.56
MCC-3C	04/21/08	2798.44	96.60	2701.84
MCC-3C	07/28/08	2798.44	96.02	2702.42
MCC-3C	10/21/08	2798.44	95.83	2702.61
MCC-3C	02/09/09	2798.44	95.49	2702.95
MCC-3C	06/01/09	2798.44	94.25	2704.19
MCC-3C	09/21/09	2798.44	92.20	2706.24
MCC-3C	11/30/09	2798.44	91.15	2707.29
MCC-3C	02/03/10	2798.44	89.83	2708.61
MCC-3C	05/11/10	2798.44	87.69	2710.75
MCC-3C	09/24/10	2798.44	88.70	2709.74
MCC-3C	12/01/10	2798.44	83.30	2715.14
MCC-3C	03/15/11	2798.44	80.80	2717.64
MCC-3C	06/29/11	2798.44	77.83	2720.61
MCC-3C	09/01/11	2798.44	75.67	2722.77
MCC-3C	11/15/11	2798.44	73.05	2725.39
MCC-3C	02/16/12	2798.44	72.25	2726.19
MCC-3C	06/01/12	2798.44	71.03	2727.41
MCC-3C	08/15/12	2798.44	70.09	2728.35
MCC-3C	11/08/12	2798.44	71.14	2727.30
MCC-4	07/05/95	2673.96	72.49	2601.47
MCC-4	12/04/95	2673.96	43.86	2630.10
MCC-4	04/24/96	2673.96	34.52	2639.44
MCC-4	08/26/96	2673.96	56.36	2617.60
MCC-4	01/07/97	2673.96	62.21	2611.75
MCC-4	03/28/97	2673.96	62.02	2611.94
MCC-4	05/06/97	2673.96	65.68	2608.28
MCC-4	06/05/97	2673.96	63.22	2610.74
MCC-4	07/01/97	2673.96	63.75	2610.21
MCC-4	08/08/97	2673.96	65.63	2608.33
MCC-4	09/03/97	2673.96	63.62	2610.34
MCC-4	09/17/97	2673.96	67.25	2606.71
MCC-4	01/15/98	2673.96	65.73	2608.23
MCC-4	02/13/98	2673.96	65.39	2608.57
MCC-4	04/10/98	2673.96	63.47	2610.49
MCC-4	05/13/98	2673.96	62.80	2611.16
MCC-4	06/16/98	2673.96	81.01	2592.95
MCC-4	07/17/98	2673.96	63.15	2610.81
MCC-4	11/04/98	2673.96	67.48	2606.48
MCC-4	12/23/98	2673.96	68.35	2605.61
MCC-4	02/19/99	2673.96	67.98	2605.98
MCC-4	03/05/99	2673.96	67.95	2606.01
MCC-4	05/26/99	2673.96	69.98	2603.98
MCC-4	09/01/99	2673.96	68.83	2605.13
MCC-4	11/17/99	2673.96	68.88	2605.08
MCC-4	03/02/00	2673.96	72.10	2601.86
MCC-4	05/24/00	2673.96	71.05	2602.91
MCC-4	09/12/00	2673.96	74.90	2599.06
MCC-4	01/17/01	2673.96	71.34	2602.62
MCC-4	03/13/01	2673.96	69.55	2604.41

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-4	06/05/01	2673.96	68.43	2605.53
MCC-4	10/23/01	2673.96	71.49	2602.47
MCC-4	02/26/02	2673.96	73.32	2600.64
MCC-4	04/23/02	2673.96	73.62	2600.34
MCC-4	07/30/02	2673.96	75.58	2598.38
MCC-4	10/22/02	2673.96	77.53	2596.43
MCC-4	01/29/03	2673.96	77.86	2596.10
MCC-4	04/09/03	2673.96	74.92	2599.04
MCC-4	07/30/03	2673.96	72.62	2601.34
MCC-4	11/05/03	2673.96	75.31	2598.65
MCC-4	02/09/04	2673.96	75.77	2598.19
MCC-4	04/20/04	2673.96	73.91	2600.05
MCC-4	01/10/05	2673.96	76.49	2597.47
MCC-4	06/28/05	2673.96	69.45	2604.51
MCC-4	09/20/05	2673.96	72.04	2601.92
MCC-4	11/29/05	2673.96	73.69	2600.27
MCC-4	03/07/06	2673.96	75.04	2598.92
MCC-4	06/27/06	2673.96	73.86	2600.10
MCC-4	10/17/06	2673.96	76.65	2597.31
MCC-4	12/12/06	2673.96	77.84	2596.12
MCC-4	03/19/07	2673.96	77.48	2596.48
MCC-4	06/25/07	2673.96	78.65	2595.31
MCC-4	09/25/07	2673.96	80.02	2593.94
MCC-4	12/26/07	2673.96	80.15	2593.81
MCC-4	02/20/08	2673.96	75.83	2598.13
MCC-4	04/21/08	2673.96	72.04	2601.92
MCC-4	07/28/08	2673.96	74.16	2599.80
MCC-4	10/21/08	2673.96	76.51	2597.45
MCC-4	02/10/09	2673.96	75.84	2598.12
MCC-4	06/02/09	2673.96	72.85	2601.11
MCC-4	09/22/09	2673.96	78.37	2595.59
MCC-4	11/30/09	2673.96	81.42	2592.54
MCC-4	02/03/10	2673.96	81.12	2592.84
MCC-4	05/10/10	2673.96	72.35	2601.61
MCC-4	09/23/10	2673.96	76.10	2597.86
MCC-4	12/01/10	2673.96	78.65	2595.31
MCC-4	03/15/11	2673.96	77.75	2596.21
MCC-4	06/28/11	2673.96	78.32	2595.64
MCC-4	08/31/11	2673.96	80.85	2593.11
MCC-4	11/15/11	2673.96	82.15	2591.81
MCC-4	02/16/12	2673.96	78.73	2595.23
MCC-4	06/01/12	2673.96	76.24	2597.72
MCC-4	08/15/12	2673.96	80.90	2593.06
MCC-4	11/08/12	2673.96	83.73	2590.23
MCC-6A	09/06/96	2811.14	30.83	2780.31
MCC-6A	01/07/97	2811.14	18.21	2792.93
MCC-6A	03/28/97	2811.14	24.03	2787.11
MCC-6A	05/06/97	2811.14	25.82	2785.32
MCC-6A	06/05/97	2811.14	17.85	2793.29
MCC-6A	07/01/97	2811.14	24.24	2786.90
MCC-6A	08/08/97	2811.14	23.20	2787.94
MCC-6A	09/03/97	2811.14	24.25	2786.89
MCC-6A	09/15/97	2811.14	24.25	2786.89
MCC-6A	01/13/98	2811.14	24.13	2787.01

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-6A	02/13/98	2811.14	24.31	2786.83
MCC-6A	04/10/98	2811.14	23.59	2787.55
MCC-6A	05/13/98	2811.14	23.70	2787.44
MCC-6A	06/16/98	2811.14	25.24	2785.90
MCC-6A	07/17/98	2811.14	23.90	2787.24
MCC-6A	11/02/98	2811.14	25.45	2785.69
MCC-6A	12/23/98	2811.14	24.80	2786.34
MCC-6A	02/19/99	2811.14	24.45	2786.69
MCC-6A	03/05/99	2811.14	26.34	2784.80
MCC-6A	05/27/99	2811.14	24.45	2786.69
MCC-6A	09/02/99	2811.14	24.73	2786.41
MCC-6A	11/18/99	2811.14	25.18	2785.96
MCC-6A	03/03/00	2811.14	25.08	2786.06
MCC-6A	05/25/00	2811.14	25.01	2786.13
MCC-6A	09/14/00	2811.14	25.70	2785.44
MCC-6A	01/17/01	2811.14	25.34	2785.80
MCC-6A	03/14/01	2811.14	25.10	2786.04
MCC-6A	06/06/01	2811.14	25.22	2785.92
MCC-6A	10/24/01	2811.14	25.86	2785.28
MCC-6A	02/27/02	2811.14	25.78	2785.36
MCC-6A	04/24/02	2811.14	25.91	2785.23
MCC-6A	07/31/02	2811.14	26.33	2784.81
MCC-6A	10/23/02	2811.14	26.83	2784.31
MCC-6A	01/30/03	2811.14	26.98	2784.16
MCC-6A	04/10/03	2811.14	26.52	2784.62
MCC-6A	07/30/03	2811.14	26.87	2784.27
MCC-6A	11/06/03	2811.14	27.41	2783.73
MCC-6A	02/11/04	2811.14	27.33	2783.81
MCC-6A	04/21/04	2811.14	26.95	2784.19
MCC-6A	01/12/05	2811.14	27.51	2783.63
MCC-6A	06/29/05	2811.14	26.40	2784.74
MCC-6A	09/21/05	2811.14	27.07	2784.07
MCC-6A	11/30/05	2811.14	27.36	2783.78
MCC-6A	03/08/06	2811.14	27.08	2784.06
MCC-6A	06/28/06	2811.14	26.91	2784.23
MCC-6A	10/18/06	2811.14	27.18	2783.96
MCC-6A	12/13/06	2811.14	27.56	2783.58
MCC-6A	03/20/07	2811.14	27.05	2784.09
MCC-6A	09/25/07	2811.14	27.39	2783.75
MCC-6A	12/26/07	2811.14	27.44	2783.70
MCC-6A	02/19/08	2811.14	26.69	2784.45
MCC-6A	04/22/08	2811.14	22.60	2788.54
MCC-6A	07/29/08	2811.14	28.70	2782.44
MCC-6A	10/22/08	2811.14	27.07	2784.07
MCC-6A	02/12/09	2811.14	26.64	2784.50
MCC-6A	06/03/09	2811.14	27.24	2783.90
MCC-6A	09/21/09	2811.14	27.12	2784.02
MCC-6A	11/30/09	2811.14	28.13	2783.01
MCC-6A	02/04/10	2811.14	27.35	2783.79
MCC-6A	05/10/10	2811.14	26.28	2784.86
MCC-6A	08/27/10	2811.14	26.25	2784.89
MCC-6A	11/30/10	2811.14	24.48	2786.66
MCC-6A	03/24/11	2811.14	26.21	2784.93
MCC-6A	06/28/11	2811.14	32.00	2779.14

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-6A	09/01/11	2811.14	26.69	2784.45
MCC-6A	11/15/11	2811.14	26.95	2784.19
MCC-6A	02/16/12	2811.14	26.57	2784.57
MCC-6A	06/01/12	2811.14	26.42	2784.72
MCC-6A	08/15/12	2811.14	26.85	2784.29
MCC-6A	11/08/12	2811.14	27.17	2783.97
MCC-6B	09/05/96	2811.85	30.30	2781.55
MCC-6B	01/08/97	2811.85	24.87	2786.98
MCC-6B	03/28/97	2811.85	17.95	2793.90
MCC-6B	05/06/97	2811.85	18.52	2793.33
MCC-6B	06/05/97	2811.85	24.35	2787.50
MCC-6B	07/01/97	2811.85	17.90	2793.95
MCC-6B	08/08/97	2811.85	17.87	2793.98
MCC-6B	09/03/97	2811.85	17.90	2793.95
MCC-6B	09/16/97	2811.85	17.93	2793.92
MCC-6B	10/21/97	2811.85	18.57	2793.28
MCC-6B	01/13/98	2811.85	18.15	2793.70
MCC-6B	02/13/98	2811.85	18.19	2793.66
MCC-6B	04/10/98	2811.85	18.03	2793.82
MCC-6B	05/13/98	2811.85	18.00	2793.85
MCC-6B	06/16/98	2811.85	18.93	2792.92
MCC-6B	07/17/98	2811.85	18.01	2793.84
MCC-6B	11/03/98	2811.85	19.52	2792.33
MCC-6B	12/23/98	2811.85	18.52	2793.33
MCC-6B	02/19/99	2811.85	18.44	2793.41
MCC-6B	03/05/99	2811.85	19.52	2792.33
MCC-6B	05/27/99	2811.85	18.65	2793.20
MCC-6B	09/02/99	2811.85	18.90	2792.95
MCC-6B	11/18/99	2811.85	19.27	2792.58
MCC-6B	03/03/00	2811.85	19.52	2792.33
MCC-6B	05/25/00	2811.85	19.63	2792.22
MCC-6B	09/14/00	2811.85	21.30	2790.55
MCC-6B	01/17/01	2811.85	20.16	2791.69
MCC-6B	03/14/01	2811.85	20.04	2791.81
MCC-6B	06/06/01	2811.85	20.15	2791.70
MCC-6B	10/24/01	2811.85	20.63	2791.22
MCC-6B	02/27/02	2811.85	20.87	2790.98
MCC-6B	04/24/02	2811.85	21.11	2790.74
MCC-6B	07/31/02	2811.85	21.45	2790.40
MCC-6B	10/23/02	2811.85	21.76	2790.09
MCC-6B	01/30/03	2811.85	22.20	2789.65
MCC-6B	04/10/03	2811.85	22.06	2789.79
MCC-6B	07/31/03	2811.85	22.48	2789.37
MCC-6B	11/06/03	2811.85	22.86	2788.99
MCC-6B	02/11/04	2811.85	23.04	2788.81
MCC-6B	04/21/04	2811.85	22.96	2788.89
MCC-6B	01/12/05	2811.85	23.47	2788.38
MCC-6B	06/29/05	2811.85	22.82	2789.03
MCC-6B	09/21/05	2811.85	22.85	2789.00
MCC-6B	11/30/05	2811.85	22.92	2788.93
MCC-6B	03/08/06	2811.85	22.64	2789.21
MCC-6B	06/28/06	2811.85	22.60	2789.25
MCC-6B	10/18/06	2811.85	22.59	2789.26
MCC-6B	12/13/06	2811.85	22.97	2788.88

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-6B	03/20/07	2811.85	22.84	2789.01
MCC-6B	09/25/07	2811.85	23.16	2788.69
MCC-6B	12/26/07	2811.85	23.12	2788.73
MCC-6B	02/19/08	2811.85	22.83	2789.02
MCC-6B	04/22/08	2811.85	22.62	2789.23
MCC-6B	07/29/08	2811.85	22.63	2789.22
MCC-6B	10/22/08	2811.85	22.61	2789.24
MCC-6B	02/12/09	2811.85	22.23	2789.62
MCC-6B	06/03/09	2811.85	23.07	2788.78
MCC-6B	09/21/09	2811.85	24.00	2787.85
MCC-6B	11/30/09	2811.85	24.03	2787.82
MCC-6B	02/04/10	2811.85	23.56	2788.29
MCC-6B	05/10/10	2811.85	23.17	2788.68
MCC-6B	08/27/10	2811.85	23.17	2788.68
MCC-6B	11/30/10	2811.85	23.29	2788.56
MCC-6B	03/24/11	2811.85	23.10	2788.75
MCC-6B	06/28/11	2811.85	22.42	2789.43
MCC-6B	09/01/11	2811.85	22.35	2789.50
MCC-6B	11/15/11	2811.85	22.66	2789.19
MCC-6B	02/16/12	2811.85	23.55	2788.30
MCC-6B	06/01/12	2811.85	22.57	2789.28
MCC-6B	08/15/12	2811.85	22.80	2789.05
MCC-6B	11/08/12	2811.85	23.08	2788.77
MCC-6C	09/03/97	2811.42	47.50	2763.92
MCC-6C	09/15/97	2811.42	45.20	2766.22
MCC-6C	01/13/98	2811.42	42.90	2768.52
MCC-6C	02/13/98	2811.42	41.72	2769.70
MCC-6C	04/10/98	2811.42	38.29	2773.13
MCC-6C	05/13/98	2811.42	44.00	2767.42
MCC-6C	06/16/98	2811.42	45.27	2766.15
MCC-6C	07/17/98	2811.42	45.89	2765.53
MCC-6C	11/02/98	2811.42	46.76	2764.66
MCC-6C	12/23/98	2811.42	44.09	2767.33
MCC-6C	02/19/99	2811.42	44.40	2767.02
MCC-6C	03/05/99	2811.42	44.58	2766.84
MCC-6C	05/27/99	2811.42	45.95	2765.47
MCC-6C	09/02/99	2811.42	49.95	2761.47
MCC-6C	11/18/99	2811.42	46.14	2765.28
MCC-6C	03/03/00	2811.42	44.72	2766.70
MCC-6C	05/25/00	2811.42	46.72	2764.70
MCC-6C	09/14/00	2811.42	47.40	2764.02
MCC-6C	01/17/01	2811.42	43.43	2767.99
MCC-6C	03/14/01	2811.42	42.96	2768.46
MCC-6C	06/06/01	2811.42	46.54	2764.88
MCC-6C	10/24/01	2811.42	46.82	2764.60
MCC-6C	02/27/02	2811.42	44.92	2766.50
MCC-6C	04/24/02	2811.42	46.25	2765.17
MCC-6C	07/31/02	2811.42	48.02	2763.40
MCC-6C	10/23/02	2811.42	47.95	2763.47
MCC-6C	01/30/03	2811.42	46.42	2765.00
MCC-6C	04/10/03	2811.42	45.07	2766.35
MCC-6C	07/31/03	2811.42	48.42	2763.00
MCC-6C	11/06/03	2811.42	48.13	2763.29
MCC-6C	02/11/04	2811.42	46.23	2765.19

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-6C	04/21/04	2811.42	46.28	2765.14
MCC-6C	01/12/05	2811.42	44.87	2766.55
MCC-6C	06/29/05	2811.42	48.51	2762.91
MCC-6C	09/21/05	2811.42	47.63	2763.79
MCC-6C	11/30/05	2811.42	47.89	2763.53
MCC-6C	03/08/06	2811.42	46.47	2764.95
MCC-6C	06/28/06	2811.42	49.23	2762.19
MCC-6C	10/18/06	2811.42	48.35	2763.07
MCC-6C	12/13/06	2811.42	47.58	2763.84
MCC-6C	03/20/07	2811.42	46.31	2765.11
MCC-6C	06/26/07	2811.42	49.11	2762.31
MCC-6C	09/25/07	2811.42	48.95	2762.47
MCC-6C	12/26/07	2811.42	46.57	2764.85
MCC-6C	02/19/08	2811.42	41.90	2769.52
MCC-6C	04/22/08	2811.42	46.17	2765.25
MCC-6C	07/29/08	2811.42	47.89	2763.53
MCC-6C	10/22/08	2811.42	48.60	2762.82
MCC-6C	02/12/09	2811.42	46.19	2765.23
MCC-6C	06/03/09	2811.42	48.39	2763.03
MCC-6C	09/21/09	2811.42	49.00	2762.42
MCC-6C	11/30/09	2811.42	48.13	2763.29
MCC-6C	02/04/10	2811.42	39.70	2771.72
MCC-6C	05/10/10	2811.42	45.56	2765.86
MCC-6C	08/27/10	2811.42	48.01	2763.41
MCC-6C	11/30/10	2811.42	47.70	2763.72
MCC-6C	03/24/11	2811.42	48.21	2763.21
MCC-6C	06/28/11	2811.42	48.66	2762.76
MCC-6C	09/01/11	2811.42	48.78	2762.64
MCC-6C	11/15/11	2811.42	48.23	2763.19
MCC-6C	02/16/12	2811.42	46.62	2764.80
MCC-6C	06/01/12	2811.42	48.54	2762.88
MCC-6C	08/15/12	2811.42	48.93	2762.49
MCC-6C	11/08/12	2811.42	48.71	2762.71
MCC-6D	08/09/12	2817.72	51.22	2766.50
MCC-6D	08/23/12	2817.72	51.37	2766.35
MCC-6D	11/27/12	2817.72	50.63	2767.09
MCC-9	09/03/97	2769.24	19.60	2749.64
MCC-9	09/15/97	2769.24	13.34	2755.90
MCC-9	01/13/98	2769.24	11.90	2757.34
MCC-9	02/13/98	2769.24	10.52	2758.72
MCC-9	04/10/98	2769.24	10.00	2759.24
MCC-9	05/13/98	2769.24	11.60	2757.64
MCC-9	06/16/98	2769.24	13.34	2755.90
MCC-9	07/17/98	2769.24	13.32	2755.92
MCC-9	11/04/98	2769.24	14.27	2754.97
MCC-9	12/23/98	2769.24	12.20	2757.04
MCC-9	02/19/99	2769.24	11.84	2757.40
MCC-9	03/02/99	2769.24	11.90	2757.34
MCC-9	05/25/99	2769.24	12.82	2756.42
MCC-9	09/01/99	2769.24	14.35	2754.89
MCC-9	11/17/99	2769.24	14.45	2754.79
MCC-9	03/01/00	2769.24	14.00	2755.24
MCC-9	05/23/00	2769.24	14.77	2754.47
MCC-9	09/12/00	2769.24	16.78	2752.46

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
MCC-9	01/16/01	2769.24	13.02	2756.22
MCC-9	03/12/01	2769.24	12.54	2756.70
MCC-9	06/04/01	2769.24	13.64	2755.60
MCC-9	10/22/01	2769.24	14.45	2754.79
MCC-9	02/25/02	2769.24	12.87	2756.37
MCC-9	04/22/02	2769.24	14.29	2754.95
MCC-9	07/29/02	2769.24	17.15	2752.09
MCC-9	10/21/02	2769.24	17.58	2751.66
MCC-9	01/28/03	2769.24	16.90	2752.34
MCC-9	04/08/03	2769.24	14.43	2754.81
MCC-9	07/29/03	2769.24	17.60	2751.64
MCC-9	11/04/03	2769.24	16.89	2752.35
MCC-9	02/09/04	2769.24	14.90	2754.34
MCC-9	04/19/04	2769.24	14.43	2754.81
MCC-9	01/10/05	2769.24	14.67	2754.57
MCC-9	06/27/05	2769.24	14.91	2754.33
MCC-9	09/19/05	2769.24	14.52	2754.72
MCC-9	11/29/05	2769.24	14.13	2755.11
MCC-9	03/06/06	2769.24	13.63	2755.61
MCC-9	06/26/06	2769.24	15.94	2753.30
MCC-9	10/16/06	2769.24	15.79	2753.45
MCC-9	12/11/06	2769.24	15.79	2753.45
MCC-9	03/19/07	2769.24	14.95	2754.29
MCC-9	06/25/07	2769.24	16.13	2753.11
MCC-9	09/25/07	2769.24	16.18	2753.06
MCC-9	12/26/07	2769.24	14.95	2754.29
MCC-9	02/19/08	2769.24	12.60	2756.64
MCC-9	04/21/08	2769.24	13.02	2756.22
MCC-9	07/28/08	2769.24	13.62	2755.62
MCC-9	10/21/08	2769.24	14.98	2754.26
MCC-9	02/09/09	2769.24	14.16	2755.08
MCC-9	06/01/09	2769.24	15.86	2753.38
MCC-9	09/21/09	2769.24	17.93	2751.31
MCC-9	11/30/09	2769.24	17.82	2751.42
MCC-9	02/03/10	2769.24	15.62	2753.62
MCC-9	05/07/10	2769.24	14.68	2754.56
MCC-9	09/24/10	2769.24	17.42	2751.82
MCC-9	12/01/10	2769.24	17.26	2751.98
MCC-9	03/15/11	2769.24	16.40	2752.84
MCC-9	06/23/11	2769.24	18.29	2750.95
MCC-9	08/31/11	2769.24	18.72	2750.52
MCC-9	11/15/11	2769.24	18.35	2750.89
MCC-9	02/16/12	2769.24	17.16	2752.08
MCC-9	06/01/12	2769.24	18.34	2750.90
MCC-9	08/15/12	2769.24	18.94	2750.30
MCC-9	11/08/12	2769.24	18.60	2750.64
Settling Ponds 1 and 2 Alert Well	09/25/07	2976.20	77.40	2898.80
Settling Ponds 1 and 2 Alert Well	12/26/07	2976.20	76.94	2899.26
Settling Ponds 1 and 2 Alert Well	02/20/08	2976.20	76.23	2899.97
Settling Ponds 1 and 2 Alert Well	04/22/08	2976.20	75.65	2900.55
Settling Ponds 1 and 2 Alert Well	07/29/08	2976.20	75.52	2900.68
Settling Ponds 1 and 2 Alert Well	10/22/08	2976.20	75.52	2900.68
Settling Ponds 1 and 2 Alert Well	02/11/09	2976.20	75.68	2900.52
Settling Ponds 1 and 2 Alert Well	06/03/09	2976.20	75.17	2901.03

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
Settling Ponds 1 and 2 Alert Well	09/22/09	2976.20	80.84	2895.36
Settling Ponds 1 and 2 Alert Well	11/30/09	2976.20	dry	dry
Settling Ponds 1 and 2 Alert Well	02/05/10	2976.20	85.27	2890.93
Settling Ponds 1 and 2 Alert Well	05/13/10	2976.20	80.06	2896.14
Settling Ponds 1 and 2 Alert Well	08/27/10	2976.20	80.16	2896.04
Settling Ponds 1 and 2 Alert Well	11/30/10	2976.20	80.85	2895.35
Settling Ponds 1 and 2 Alert Well	03/15/11	2976.20	81.40	2894.80
Settling Ponds 1 and 2 Alert Well	06/29/11	2976.20	81.89	2894.31
Settling Ponds 1 and 2 Alert Well	09/01/11	2976.20	82.75	2893.45
Settling Ponds 1 and 2 Alert Well	11/15/11	2976.20	84.25	2891.95
Settling Ponds 1 and 2 Alert Well	02/16/12	2976.20	85.88	2890.32
Settling Ponds 1 and 2 Alert Well	06/01/12	2976.20	86.69	2889.51
Settling Ponds 1 and 2 Alert Well	08/15/12	2976.20	87.34	2888.86
Settling Ponds 1 and 2 Alert Well	11/08/12	2976.20	88.71	2887.49
Settling Ponds 1 and 2 Alert Well-B	09/22/09	2977.45	59.74	2917.71
Settling Ponds 1 and 2 Alert Well-B	12/15/09	2977.45	60.50	2916.95
Settling Ponds 1 and 2 Alert Well-B	02/05/10	2977.45	59.86	2917.59
Settling Ponds 1 and 2 Alert Well-B	05/13/10	2977.45	58.20	2919.25
Settling Ponds 1 and 2 Alert Well-B	08/27/10	2977.45	58.60	2918.85
Settling Ponds 1 and 2 Alert Well-B	11/17/10	2977.45	59.08	2918.37
Settling Ponds 1 and 2 Alert Well-B	11/30/10	2977.45	59.30	2918.15
Settling Ponds 1 and 2 Alert Well-B	03/15/11	2977.45	60.05	2917.40
Settling Ponds 1 and 2 Alert Well-B	06/29/11	2977.45	57.91	2919.54
Settling Ponds 1 and 2 Alert Well-B	09/01/11	2977.45	61.30	2916.15
Settling Ponds 1 and 2 Alert Well-B	11/15/11	2977.45	61.97	2915.48
Settling Ponds 1 and 2 Alert Well-B	02/16/12	2977.45	62.81	2914.64
Settling Ponds 1 and 2 Alert Well-B	06/01/12	2977.45	63.62	2913.83
Settling Ponds 1 and 2 Alert Well-B	08/15/12	2977.45	64.68	2912.77
Settling Ponds 1 and 2 Alert Well-B	11/08/12	2977.45	65.40	2912.05
Smelter Pond POC	09/25/07	2746.28	11.21	2735.07
Smelter Pond POC	12/26/07	2746.28	6.59	2739.69
Smelter Pond POC	02/20/08	2746.28	3.01	2743.27
Smelter Pond POC	04/22/08	2746.28	3.58	2742.70
Smelter Pond POC	07/29/08	2746.28	6.87	2739.41
Smelter Pond POC	10/22/08	2746.28	7.84	2738.44
Smelter Pond POC	02/12/09	2746.28	2.99	2743.29
Smelter Pond POC	06/02/09	2746.28	6.95	2739.33
Smelter Pond POC	09/23/09	2746.28	11.41	2734.87
Smelter Pond POC	11/30/09	2746.28	11.35	2734.93
Smelter Pond POC	02/05/10	2746.28	5.05	2741.23
Smelter Pond POC	05/13/10	2746.28	4.98	2741.30
Smelter Pond POC	12/01/10	2746.28	6.95	2739.33
Smelter Pond POC	03/01/11	2746.28	4.74	2741.54
Smelter Pond POC	06/30/11	2746.28	9.71	2736.57
Smelter Pond POC	08/31/11	2746.28	11.37	2734.91
Smelter Pond POC	11/15/11	2746.28	11.43	2734.85
Smelter Pond POC	02/16/12	2746.28	6.87	2739.41
Smelter Pond POC	06/01/12	2746.28	7.08	2739.20
Smelter Pond POC	07/18/12	2746.28	7.70	2738.58
Smelter Pond POC	08/15/12	2746.28	9.83	2736.45
Smelter Pond POC	09/25/12	2746.28	11.92	2734.36
Smelter Pond POC	10/09/12	2746.28	12.43	2733.85
Smelter Pond POC	11/08/12	2746.28	7.50	2738.78
Smelter Pond POC	12/17/12	2746.28	6.73	2739.55

GROUNDWATER ELEVATIONS

Well	Measurement Date	Measuring Point Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)
Tailings Pond 5 POC Well	09/25/07	2965.32	68.87	2896.45
Tailings Pond 5 POC Well	12/26/07	2965.32	68.77	2896.55
Tailings Pond 5 POC Well	02/20/08	2965.32	68.22	2897.10
Tailings Pond 5 POC Well	04/22/08	2965.32	67.58	2897.74
Tailings Pond 5 POC Well	07/30/08	2965.32	67.74	2897.58
Tailings Pond 5 POC Well	10/22/08	2965.32	68.43	2896.89
Tailings Pond 5 POC Well	02/11/09	2965.32	67.37	2897.95
Tailings Pond 5 POC Well	06/02/09	2965.32	63.85	2901.47
Tailings Pond 5 POC Well	09/21/09	2965.32	65.45	2899.87
Tailings Pond 5 POC Well	11/30/09	2965.32	66.30	2899.02
Tailings Pond 5 POC Well	02/05/10	2965.32	66.46	2898.86
Tailings Pond 5 POC Well	05/10/10	2965.32	64.10	2901.22
Tailings Pond 5 POC Well	09/09/10	2965.32	64.95	2900.37
Tailings Pond 5 POC Well	11/30/10	2965.32	65.25	2900.07
Tailings Pond 5 POC Well	03/17/11	2965.32	64.87	2900.45
Tailings Pond 5 POC Well	06/23/11	2965.32	65.43	2899.89
Tailings Pond 5 POC Well	09/02/11	2965.32	66.24	2899.08
Tailings Pond 5 POC Well	11/15/11	2965.32	66.79	2898.53
Tailings Pond 5 POC Well	02/16/12	2965.32	66.74	2898.58
Tailings Pond 5 POC Well	06/01/12	2965.32	66.97	2898.35
Tailings Pond 5 POC Well	08/15/12	2965.32	67.58	2897.74
Tailings Pond 5 POC Well	11/08/12	2965.32	68.10	2897.22
Tailings Pond 5 POC Well-B	09/22/09	3024.58	96.30	2928.28
Tailings Pond 5 POC Well-B	12/01/09	3024.58	95.00	2929.58
Tailings Pond 5 POC Well-B	02/04/10	3024.58	96.38	2928.20
Tailings Pond 5 POC Well-B	05/10/10	3024.58	89.50	2935.08
Tailings Pond 5 POC Well-B	09/09/10	3024.58	93.56	2931.02
Tailings Pond 5 POC Well-B	11/30/10	3024.58	94.77	2929.81
Tailings Pond 5 POC Well-B	03/17/11	3024.58	95.27	2929.31
Tailings Pond 5 POC Well-B	06/23/11	3024.58	95.85	2928.73
Tailings Pond 5 POC Well-B	08/25/11	3024.58	96.65	2927.93
Tailings Pond 5 POC Well-B	11/15/11	3024.58	97.12	2927.46
Tailings Pond 5 POC Well-B	02/16/12	3024.58	97.31	2927.27
Tailings Pond 5 POC Well-B	06/01/12	3024.58	97.43	2927.15
Tailings Pond 5 POC Well-B	08/15/12	3024.58	97.73	2926.85
Tailings Pond 5 POC Well-B	11/08/12	3024.58	98.00	2926.58

Notes:
ft = feet
ft amsl = feet above mean sea level

ATTACHMENT 3
CONTOUR MAPS
(on dvd)

ATTACHMENT 4
ANALYTICAL RESULTS AND SUMMARY STATISTICS

ANALYTICAL RESULTS

TABLE 4-1a
GROUNDWATER QUALITY RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMTERS

Well Name	Sample Date	Physical Parameters and Other Constituents												Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha** (pCi/L)	Adjusted Gross Alpha** (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium*** (pCi/L)
Unconfined Gila Unit																										
MCC-6C	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	**8**	--	--	**3.2**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	09/16/97	--	--	--	<0.5	150	--	1440	490	--	--	<0.5	--	150	36	<1	--	28	270	810	--	--	--	--	--	--
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.3	--	<0.73	2	2	2
	01/14/98	8.34	--	22.6	<25	170	170	702	170	--	--	1.6	--	50	53	<0.5	2	8.8	160	290	--	--	--	--	--	--
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.6	--	<0.9	1.6	1.6	1.6
	04/08/98	--	--	--	<25	140	140	711	190	--	--	<0.5	--	60	26	0.67	2.3	9.9	180	280	--	--	--	--	--	--
	07/30/98	8.22	--	24.7	<25	170	170	471	72	--	--	<0.5	--	23	20	0.6	1.7	3.3	150	--	--	--	--	--	--	--
	11/03/98	--	--	--	<25	170	170	366	29	--	--	0.2	--	9.5	24	0.69	1.4	1.3	120	55	--	--	--	--	--	--
	03/05/99	8.23	400	22.7	2	160	160	500	78	--	--	--	0.12	25	22	0.7	1.5	3.8	150	160	--	--	--	--	--	--
	05/27/99	8.27	422	23.9	32	130	170	359	37	--	<0.1	0.1	--	12	20	0.67	1.6	1.8	130	73	--	--	--	--	--	--
	09/02/99	8.22	740	23.2	--	180	180	470	72	--	<0.1	<0.1	--	23	19	0.67	1.5	3.6	140	150	--	--	--	--	--	--
	11/18/99	8.15	551	23	--	180	180	380	42	--	<0.1	0.19	--	14	16	0.59	1.3	1.8	120	73	--	--	--	--	--	--
	03/03/00	8.02	537	21.4	2	160	170	346	29	--	<0.1	0.16	--	9.3	18	0.74	1.2	1.3	110	56	--	--	--	--	--	--
	05/25/00	7.74	508	24	5	160	160	286	24	--	<0.5	<0.5	--	6	20	2.7	3.8	2.3	95	47	--	--	--	--	--	--
	09/14/00	7.92	730	24.2	--	180	180	467	81	--	<1	<1	--	26	22	0.65	1.4	4	140	160	--	--	--	--	--	--
	01/18/01	8.19	540	20	--	170	170	507	100	--	--	--	0.07	33	26	0.66	1.5	5.4	140	200	--	--	--	--	--	--
	03/15/01	7.81	1140	13.7	--	170	170	559	130	--	<0.1	0.1	--	39	23	0.59	3.2	6.9	150	250	--	--	--	--	--	--
	06/07/01	7.96	360	23.8	--	180	180	429	71	--	<0.1	0.16	--	22	21	0.71	1.5	3.9	140	150	--	--	--	--	--	--
	10/25/01	8.43	380	22.1	--	160	160	461	83	--	<0.5	<0.5	--	26	19	0.81	1.5	4.5	140	170	--	--	--	--	--	--
	02/28/02	8.31	330	14.8	<25	180	180	421	63	--	<10	<10	--	20	23	0.68	1.5	3.1	120	120	--	--	--	--	--	--
	04/25/02	7.52	630	22.9	<25	170	170	426	19	--	--	--	0.14	3.1	22	0.7	1.2	0.43	80	110	--	--	--	--	--	--
	08/01/02	7.57	350	23.7	<25	180	180	411	69	--	<0.1	0.21	--	22	26	0.65	1.5	3.4	130	100	--	--	--	--	--	--
	10/24/02	7.47	330	21.7	<5	160	160	442	60	--	<0.1	0.19	--	19	30	0.71	<2	3	120	68	--	--	--	--	--	--
	01/31/03	7.48	349	22.5	<5	180	180	435	63	--	<0.1	0.16	--	20	19	0.68	<1	3.2	120	130	--	--	--	--	--	--
	04/10/03	7.49	408	23.3	<10	190	190	530	88	--	<0.02	<0.5	--	27	19	<2.5	1.8	5.2	130	220	--	--	--	--	--	--
	07/31/03	8.26	648	25.7	42	140	180	430	50	--	<0.02	<0.5	--	16	18	0.55	<2	2.6	100	110	--	--	--	--	--	--
	11/06/03	8.02	551	23.1	27	150	180	340	35	--	<0.02	<0.5	--	11	18	0.56	1.4	1.7	110	75	--	--	--	--	--	--
	02/12/04	7.34	330	17.7	<5	180	180	410	43	--	<0.0015	0.185	--	14	19	0.49	1.5	2.3	100	110	--	--	--	--	--	--
	04/22/04	7.87	542	23.1	<20	180	180	360	34	--	<0.02	<0.5	--	11	20	0.55	1.3	1.7	110	76	--	--	--	--	--	--
	01/12/05	7.41	648	22.6	<5	180	190	470	66	--	<0.1	0.11	--	21	20	0.66	1.4	3.4	130	150	--	--	--	--	--	--
	06/30/05	7.62	612	26	<5	180	180	410	41	--	<0.1	0.15	--	13	19	0.59	1.7	1.9	110	100	--	--	--	--	--	--
	09/22/05	7.25	362	25.6	<5	180	190	420	57	--	<0.1	0.18	--	18	17	0.68	1.7	2.8	130	130	--	--	--	--	--	--
	12/01/05	6.24	617	21.1	<5	190	190	410	63	--	<0.1	0.15	--	19	20	0.65	1.4	3.5	120	130	--	--	--	--	--	--
	03/09/06	7.46	555	21.7	<5	180	180	380	--	--	<0.1	0.17	--	14	18	0.63	1.6	2	130	92	--	--	--	--	--	--
	06/29/06	6.56	312	24.1	<5	170	170	310	29	--	<0.1	0.11	--	8.7	18	0.6	0.97	1.6	110	42	--	--	--	--	--	--
	10/19/06	8.39	457	21.7	6	180	190	320	28	--	<0.1	0.19	--	9.5	19	0.6	1.7	1.1	140	68	--	--	--	--	--	--
	12/14/06	8.31	746	21.18	8	200	210	390	47	--	<0.1	0.17	--	15	22	0.72	1.1	2.4	130	93	--	--	--	--	--	--
	03/21/07	8.4	667	22.4	6	190	200	520	76	--	<0.1	0.18	--	25	20	0.57	1.4	3.6	150	160	--	--	--	--	--	--
	6/27/2007*	6.9	447	27.3	--	--	--	--	--	--	<0.1	0.14	--	--	--	0.7	--	--	--	--	8	--	<0.3	<0.3	<0.3	<0.3
	09/26/07	8.93	396	23.7	--	--	--	--	--	--	<0.1	0.11	--	--	--	0.67	--	--	--	--	--	--	--	--	--	--
	12/26/07	7.44	382	21.4	--	--	--	--	--	--	<0.1	<0.1	--	--	18	0.66	--	--	--	14	5.4	--	<0.3	<0.3	<0.3	<0.3
	02/19/08	8.56	442	23.06	--	--	--	--	--	--	<0.1	0.1	--	--	--	0.67	--	--	--	--	6.9	--	<0.3	<0.4	<0.4	<0.4
	04/22/08	8.67	351	23.2	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.7	--	--	--	--	5	--	<0.3	<0.3	<0.3	<0.3
	07/29/08	8.08	373	24.1	--	--	--	--	11	--	<0.1	<0.2	--	--	--	0.69	--	--	--	--	5.9	--	<0.4	<0.3	<0.4	<0.4
	10/23/08	8.38	373	22.3	6	170	180	220	--	--	<0.1	<0.2	--	--	16	0.64	--	--	--	13	6.8	--	<0.3	<0.3	<0.3	<0.3
	02/12/09	8.95	479	18.3	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.69	--	--	--	--	6.3	--	<0.5	<0.4	<0.5	<0.5
	06/03/09	8.75	292	26.5	9.9	180	190	220	--	<13	<0.2	<0.2	--	3.4	16	0.59	<2	0.42	96	13	5.9	--	<0.8	<0.5	<0.8	<0.8
	09/21/09	8.88	279	24.3	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.75	--	--	--	--	7.1	1.4	<0.2	<0.4	<0.4	<0.4
	12/14/09	8.78	317	22	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.64	--	--	--	--	7.7	--	<0.3	<0.4	<0.4	<0.4
	02/04/10	8.73	341	22	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.74	--	--	--	--	8.6	--	<0.4	<0.3	<0.4	<0.4
	05/10/10	8.43	311	22.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.9	--	<0.3	<0.4	<0.4	<0.4
	08/27/10	8.27	311	24.1	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.59	--	--	--	--	3	--	<0.2	<0.5	<0.5	<0.5
	11/30/10	7.9	382	21.43	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.54	--	--	--	--	6.5	--	2.2	1.3	3.5	3.5
	03/24/11	8.12	335	24.7	11	160	170	220	11	--	<0.2	<0.2	--	3.5	17	0.64	<2	0.44	92	12	4.4	--	<0.4	<0.4	<0.4	<0.4
	06/28/11	8.67	359	24.75	8.9	160	170	260	--	--	<0.2	<0.2	--	--	--	0.69	--	--	--	12	6.3	--	0.3	<0.4	0.3	0.3
	09/01/11	8.62	337	23.72	--	--	--	--	--	--	<0.2	<0.2	--	--	--	0.71	--	--	--	--	5.8	--	<0.3	<0.4	<0.4	<0.4
	11/18/11	8.44	245	21.81	--	--	--	--	--	--	--	--	<0.1	--	--	0.51	--	--	--	--	6.9	--	<0.3	<0.3	<0.3	<0.3
	02/20/12	8.02	347	21.21	--	--	--	--	--	--	--	--	0.077	--	--	0.67	--	--	--	--	5.9	--	<0.3	<0.4	<0.4	<0.4
	06/05/12	8.59	403	25.54	--	--	--	--	--	--	--	--	0.069	--	--	0.69	--	--	--	--	6.1	--	<0.2	<0.4	<0.4	<0.4
	08/21/12	8.59	439	27.49	--	--	--	--	--	--	--	--	0.062	--	--	0.71	--	--	--	--	7.1	--	<0.4	<0.4	<0.4	<0.4
	11/27/12	8.59	384	23.62	<6	150	150	260	--	--	--	--	0.077	--	17	0.64	--	--	--	13	7.5	<1	<0.3	<0.4	<0.4	<0.4
MCC-6D	**AWQS**	**<6 or >9**	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	08/09/12	6.28	6606	26.2	<6	940	940	7800	--	5500	--	--	<2	560	57.0	1.8	6.9	1000	200	5700	**37**	<1	<0.5	<0.7	<0.7	--
	08/23/12	6.15	6746	23.36	<6	940	940	8000	5600	--	--	--	0.03	580	57	1.9	6.9	1000	200	5800	**38**	2.1	<0.3	<0.4	<0.4	<0.4
	11/27/12	6.28	6700	24.46	<6	920	920	8300	5900	--	--	--	<0.1	580	56	1.9	7.6	1100	230	5400	**38.6**	5.8	<0.5	<0.4	<0.4	<0.5
TP5-POC-B	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	**8**	--	--	**3.2**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	06/24/09	7.86	592	26	<6	200	200	360	--	150	--	--	3.8	32	42	0.48	2.8	18	68	41	5.4	--	<0.2	<0.4	<0.4	--
	09/23/09	8.26	426	25.1	<6	220	220	380	--	170	<0.2	4.5	--	36	34	0.53	3.9	28	79	37	4.3	--	<0.3	<0.4	<0.4	<0.4
	12/15/09	7.89	467	22.8	<6	220	220	340	--	160	<0.2	5.1	--	28	32	0.49	2.7	26	69	34	5.3	--	<0.4	<0.7	<0.7	<0.7
	02/04/10	7.49	465	22.3	<6	220	220	330	--	180	<0.2	5.1	--	28	32	0.47	2.8	26	66	32	6.5	--	<0.2	<0.4	<0.4	<0.4
	05/10/10	7.79	472	24.1	--	--	--	--	160	--	<0.2	5.2	--	26	--	0.36	5.1	24	64	--	6.5	--	<0.3	<0.4	<0.4	<0.4
	09/09/10	7.87	286	26.2	<6	210	210	350	180	--	<0.2	5.3	--	27	30	0.38	2.9	27	68	35	5	--	<0.3	<0.3	<0.3	<0.3
	11/30/10	7.26	578	22.26	<6	220	220	340	--	160	<0.2	5.2	--	25	28	0.35	2.4	25	64	33	6.7	--	<0.3	0.4	0.4	0.4
	03/17/11	7.72	578	24.6	<6	220	220	370	170	--	<0.2	5.3	--	24	28	0.37	2.1	26	64	30	6	--	<0.5	<0.5	<0.5	<0.5
	06/23/11	7.77	521	29.32	<6	230	230	360	160	--	<0.2	5.6	--	24	28	0.31	3.2	24	68	26	8.3	--	<0.3	<0.4	<0.4	<0.4
	08/25/11	7.89	427	25.01	<6	230	240	340	160	--	0.25	5.7	--	23	28	1.1	2.6	24	66	26	8.2	--	<0.3	<0.5	<0.5	<0.5
	11/16/2011*	7.65	334	24.28	<6	220	230	370	160	--	--	--	5.69	24	28	0.36	2.6	25	65	27	8	--	0.3	<0.4	0.3	0.3
	02/22/12	7.44	444	23.55	<6	230	230	350	160	--	--	--	6.02	23	29	0.39	2.3	25	65	28	8.3	--	<0.3	<0.4	<0.4	<0.4
	06/06/12	7.98	606	29.02	<6	230	230	370	170	--	--	--	6.1	24	29	0.34	2.3	25	66	28	7.2	--	<0.2	<0.4	<0.4	<0.4
	08/21/12	7.67	637	28.91	<6	220	220	370	160	--	--	--	5.7	25	29	0.36	2	25	61	28	6.3	--	0.4	<0.4	0.4	0.4
	11/20/12	7.8	581	23.79	<6	190	190	350	160	--	<0.2	5.9	5.6	24	28	0.31	<2	25	61	27	6.4	<1	<0.3	<0.5	<0.5	<0.5
Confined Gila Unit																										
	AQL	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	**8**	--	--	**3.23**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.2	--	1	1.3	2.3	2.3

TABLE 4-1a
GROUNDWATER QUALITY RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMTERS

Well Name	Sample Date	Physical Parameters and Other Constituents												Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha** (pCi/L)	Adjusted Gross Alpha** (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium*** (pCi/L)
MCC-3C	09/18/97	--	--	--	80	140	--	283	30	--	--	<0.5	--	4.6	6.9	<1	17	2.1	100	33	--	--	--	--	--	--
	10/21/97	6.45	--	26.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/16/98	9.4	--	27	<25	110	110	585	93	--	--	<0.5	--	34	13	1.5	3.8	1	150	240	--	--	--	--	--	--
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.5	--	1.3	<1.3	1.3	1
	03/11/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/10/98	--	--	--	<25	150	150	394	95	--	--	<1.25	--	36	11	2.7	1.5	1.1	110	75	--	--	--	--	--	--
	08/27/98	--	--	--	<25	160	160	286	24	--	--	--	0.6	9.5	11	3	1.1	<0.25	100	--	--	--	--	--	--	--
	11/05/98	--	--	--	<25	160	160	236	25	--	--	0.5	--	9.5	11	2.7	1.2	0.3	110	41	--	--	--	--	--	--
	03/03/99	8.39	460	30	24	140	160	291	19	--	--	0.4	--	7	10	2.5	1.3	0.3	100	38	--	--	--	--	--	--
	05/26/99	8.74	415	27	20	160	180	302	20	--	<0.1	0.6	--	7.5	11	2.9	1.5	0.36	98	27	--	--	--	--	--	--
	08/31/99	8.89	434	26	--	170	170	280	23	--	<0.1	0.65	--	8.5	11	2.3	1.6	0.34	86	24	--	--	--	--	--	--
	11/16/99	8.75	429	26.2	<25	180	180	270	34	--	<0.1	0.45	--	8	10	2.3	1.5	0.33	88	22	--	--	--	--	--	--
	03/01/00	8.18	416	23.6	4	160	160	289	17	--	<0.5	0.51	--	6.1	11	2.5	1.2	0.39	97	20	--	--	--	--	--	--
	05/23/00	8.43	4330	26.1	11	150	160	286	16	--	<0.5	0.65	--	5.4	12	2.5	<1	0.48	92	21	--	--	--	--	--	--
	09/12/00	8.48	430	25.4	13	140	150	238	15	--	<0.1	0.41	--	5.3	9.9	2.6	1.1	0.36	96	20	--	--	--	--	--	--
	01/16/01	8.14	470	23.3	2	160	160	249	18	--	<0.1	0.28	<0.05	6.5	13	2.6	1.1	0.38	89	22	--	--	--	--	--	--
	03/13/01	8.34	570	20.6	--	160	160	236	21	--	<0.1	0.29	--	7.7	13	2.6	<1	0.3	88	24	--	--	--	--	--	--
	06/05/01	8.67	250	25.4	--	160	160	269	17	--	<0.1	0.36	--	6.2	12	2.7	1.4	0.27	91	23	--	--	--	--	--	--
	10/23/01	7.85	440	26.8	8	150	160	257	14	--	<1	<1	--	4.8	13	0.99	<1	0.52	90	17	--	--	--	--	--	--
	02/26/02	8.16	275	24.7	<25	150	150	261	14	--	<0.5	<0.5	--	5.2	12	2.7	1	0.35	86	15	--	--	--	--	--	--
	04/23/02	9.09	310	27.2	<25	170	170	240	18	--	<1	<1	--	6.8	12	2.6	1.1	0.26	86	17	--	--	--	--	--	--
	07/30/02	8.68	440	28.2	<25	170	170	225	11	--	<0.1	0.43	--	4	15	2.4	<1	0.3	76	13	--	--	--	--	--	--
	10/22/02	8.46	220	24.9	20	140	160	257	10	--	<0.1	0.48	--	4.1	12	2.6	<2	<1	76	8	--	--	--	--	--	--
	01/29/03	8.73	494	26	16	130	150	223	11	--	<0.1	0.4	--	3.7	12	2.9	<1	0.33	80	15	--	--	--	--	--	--
	04/08/03	8.34	402	24.8	<10	160	160	270	12.9	--	<0.02	0.73	--	4.6	11	2.3	<1	<0.5	77	18	--	--	--	--	--	--
	07/29/03	9.27	434	27.8	<20	160	160	270	<10	--	0.13	<0.5	--	2	23	2.3	<2	<1	71	17	--	--	--	--	--	--
	11/04/03	9.08	402	23.9	62	100	160	270	10	--	0.022	<0.5	--	3.6	10	2.3	<1	<1	70	16	--	--	--	--	--	--
	02/10/04	9.11	415	26.9	54	110	160	250	7.29	--	0.069	0.334	--	2.7	11	2.7	<0.046	0.12	83	18	--	--	--	--	--	--
	04/20/04	7.82	500	26.8	39	140	170	270	15	--	<0.02	0.62	--	4.8	11	2.1	0.85	0.64	86	22	--	--	--	--	--	--
	01/11/05	8.22	400	23.4	<5	160	170	270	16	--	<0.02	<0.5	--	5.9	12	2.4	<1	<0.5	84	18	--	--	--	--	--	--
	06/28/05	8.94	448	29.1	32	150	180	300	11	--	<0.1	0.28	--	4	10	2.4	<1	<0.5	83	17	--	--	--	--	--	--
	09/22/05	7.52	436	26.6	6	160	170	250	10	--	<0.1	<0.1	--	4.2	12	2.5	1.2	<0.5	88	18	--	--	--	--	--	--
	11/29/05	8.2	409	26	24	140	160	260	<7.1	--	<0.1	<0.1	--	2.4	12	2.7	<1	<0.5	89	15	--	--	--	--	--	--
	03/07/06	8.24	389	25.4	32	140	170	240	--	--	<0.1	<0.1	--	2.2	11	2.6	<1	<0.5	94	13	--	--	--	--	--	--
	06/27/06	7.91	416	28.9	28	140	160	240	<7.1	--	<0.1	<0.1	--	2	10	2.3	0.51	<0.5	87	13	--	--	--	--	--	--
	10/17/06	9.29	357	26.5	34	130	170	260	<7.1	--	<0.1	0.18	--	<2	11	2.6	1.7	<0.5	86	16	--	--	--	--	--	--
	12/12/06	9.21	510	22.6	44	130	170	250	--	--	<0.1	<0.1	--	2.1	10	2.4	<0.5	0.083	89	12	--	--	--	--	--	--
	03/20/07	8.9	348	25	12	160	170	260	<7.1	--	<0.1	0.23	--	2.7	12	2.5	0.63	<0.5	92	14	--	--	--	--	--	--
	6/26/2007*	5.38	354	28.5	--	--	--	--	--	--	<0.1	0.22	--	--	--	2.5	--	--	--	--	4.4	--	<0.4	<0.3	<0.4	<0.4
	09/26/07	9.89	370	24.5	--	--	--	--	--	--	0.17	0.17	--	--	--	2.4	--	--	--	--	--	--	--	--	--	--
	12/27/07	7.26	360	21.7	--	--	--	--	--	--	<0.1	<0.1	--	--	--	2.3	--	--	--	--	3	--	<0.5	<0.4	<0.5	<0.5
	02/21/08	9.3	386	22.38	--	--	--	--	--	--	<0.1	<0.1	--	--	--	2.5	--	--	--	--	4	--	<0.4	<0.3	<0.4	<0.4
	04/22/08	9.28	331	24.2	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.6	--	--	--	--	2.3	--	<0.3	<0.3	<0.3	<0.3
	07/28/08	9.21	370	26.2	--	--	--	--	--	--	<0.1	<0.2	--	--	--	2.6	--	--	--	--	3.9	--	<0.4	<0.3	<0.4	<0.4
	10/21/08	9.39	346	24.8	--	--	--	--	--	--	<0.1	<0.2	--	--	--	2.4	--	--	--	--	3.8	--	<0.3	<0.4	<0.4	<0.4
	02/09/09	9.44	276	21.7	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.3	--	--	--	--	3.1	--	0.3	<0.3	0.3	0.3
	06/01/09	9.64	274	28.3	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.2	--	--	--	--	3	--	<0.4	<0.3	<0.4	<0.4
	09/21/09	9.34	264	26.1	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.3	--	--	--	--	3.4	1.6	<0.4	<0.5	<0.5	<0.5
	12/14/09	9.29	300	22.5	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.2	--	--	--	--	3.8	--	<0.3	<0.3	<0.3	<0.3
	02/03/10	9.41	298	22.6	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.4	--	--	--	--	5	--	<4	<3	<4	<4
	05/11/10	8.67	295	23.8	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.4	--	--	--	--	2.2	--	<0.5	<0.4	<0.5	<0.5
	09/24/10	8.42	199	26.7	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.4	--	--	--	--	2	--	<0.2	<0.4	<0.4	<0.4
	12/01/10	8.38	370	22.39	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.6	--	--	--	--	2.8	--	<0.4	<0.3	<0.4	<0.4
	03/15/11	9.01	372	24.4	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.5	--	--	--	--	2.9	--	<0.3	<0.4	<0.4	<0.4
	06/29/11	9.28	322	25.43	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.4	--	--	--	--	2.6	--	<0.2	<0.4	<0.4	<0.4
	09/01/11	8.98	324	24.87	--	--	--	--	--	--	<0.2	<0.2	--	--	--	2.4	--	--	--	--	2.7	--	<0.4	<0.4	<0.4	<0.4
	11/16/11	8.9	237	19.81	--	--	--	--	--	--	--	--	<0.1	--	--	2.1	--	--	--	--	3.9	--	<0.3	<0.4	<0.4	<0.4
	02/24/12	7.35	312	20.04	--	--	--	--	--	--	--	--	<0.1	--	--	2.5	--	--	--	--	4.6	--	<0.3	<0.4	<0.4	<0.4
	06/04/12	7.34	559	31.09	--	--	--	--	--	--	--	--	0.048	--	--	2.5	--	--	--	--	1.9	--	<0.3	<0.4	<0.4	<0.4
	08/20/12	7.36	768	30.45	--	--	--	--	--	--	--	--	<0.1	--	--	2.3	--	--	--	--	1.9	--	0.3	<0.4	0.3	0.3
	11/19/12	7.19	895	23.73	<6	120	120	600	--	--	--	--	<0.1	12	10	1.9	--	31	--	300	2.7	1.2	<0.3	<0.4	<0.4	<0.4
	AQL	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**10**	**--**	**--**	**7.76**	**--**	**--**	**--**	**--**	**15**	**15**	**--**	**--**	**5**	**5**
	AL	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**8**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**12**	**12**	**--**	**--**	**4**	**4**
	04/19/95	--	--	--	--	120	770	93	--	--	0.06	--	29	69	4.9	22	5.1	190	170	5.4	--	--	--	--	--	--
	07/07/95	--	--	--	9.6	110	120	730	--	--	0.05	--	5.2	59	6.5	6.4	0.33	190	140	--	--	--	--	--	--	--
	11/29/95	--	--	--	4.7	130	--	650	--	--	<2.3	--	--	87	<5	--	--	--	190	--	--	--	--	--	--	--
	12/04/95	--	--	--	--	--	--	--	--	--	--	--	21	--	--	14	6.4	170	--	--	--	--	--	--	--	--
	04/25/96	--	--	--	<1	55	55	790	71	--	<0.1	--	27	110	5.7	9.2	0.96	78	220	--	--	--	--	--	--	--
	08/27/96	--	--	--	12	98	110	680	18	--	<0.5	--	7.2	90	6.1	4.8	0.081	210	190	--	--	--	--	--	--	--
	01/08/97	--	--	--	12	93	110	720	21	--	<0.1	--	8	120	6	6	0.15	240	240	--	--	--	--	--	--	--
	05/09/97	--	--	--	<0.5	100	--	566	30	--	<0.1	--	8.4	100	4.3	4.7	0.38	170	200	--	--	--	--	--	--	--
	05/15/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	0.2	0.5	0.7	0.7
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.6	--	1.83	1.19	3.02	3
	09/18/97	--	--	--	<25	110	--	724	30	--	--	<0.5	--	11	160	4.4	7	0.31	210	200	--	--	--	--	--	--
	01/16/98	3.89	--	24	<25	97	97	656	25	--	--	<0.5	--	22	87	4.9	6.1	1	180	160	--	--	--	--	--	--
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.6
	04/10/98	--	--	--	<25	100	100	601	26	--	--	<1.25	--	10	95	2	6.3	0.27	190	120	--	--	--	--	--	--
	07/31/98	7.71	--	25.7	<25	120	120	635	34	--	--	--	<1.25	13	100	6.1	6.4	<0.25	220	--	--	--	--	--	--	--
	11/05/98	--	--	--	<25	120	120	515	20	--	--	<1	--	8.1	96	5.7	6.6	<0.25	210	180	--	--	--	--	--	--
	03/05/99	8.29	860	24.8	6	100	110	580	21	--	--	--	<0.05	8.6	81	6.3	5.6	<0.25	200	170	--	--	--	--	--	--
	05/26/99	8.4	930	25.1	8	110	120	580	21	--	<0.1	<0.1	--	8.2	81	7.4	5.9	<0.25	190	170	--	--	--	--	--	--
	09/01/99	7.7	937	22.9	--	120	120	620	21	--	<0.1	<0.1	--	8.1	82	7.1	5.5	0.16	190	180	--	--	--	--	--	--
	11/17/99	8.42	925	22.2	<25	110	110	580	22	--	<0.1	<0.1	--	8.9	68	5.3	5.4	<0.25	180	180	--	--	--	--	--	--
	03/02/00	8.29	920	25	7	98	100	605	21	--	<0.1	0.11	--	8.2	86	5.8	4.8	<0.25	170	170	--	--	--	--	--	--
	05/24/00	8.29	929	25.4	11	200	210	595	15	--	<1	<1	--	7.8	83	6	4.8	0.11	190	190	--	--	--	--	--	--
	09/12/00	8.27	1100	25.2	5	100	110	559	19	--	<1	<1	--	7.5	83	5.8	5.8	<0.25	190	180	--	--	--	--	--	--
	01/18/01	8.57	830	20.5	--	110	110	604	<1	--	--	--	<0.05	7.5	94	6.5	5.1	<0.25	170	190	--	--	--	--	--	--
	03/14/01	8.3	1430	20.8	4	120	130	629	19	--	<0.1	<0.01	--	7.2	86	6.7	5.4	0.18	160	200	--	--	--	--	--	--

TABLE 4-1a
GROUNDWATER QUALITY RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMTERS

Well Name	Sample Date	Physical Parameters and Other Constituents												Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha** (pCi/L)	Adjusted Gross Alpha** (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium*** (pCi/L)
MCC-4	06/06/01	8.24	520	26.3	17	93	110	550	<1	--	<0.5	<0.5	--	7.7	87	6.4	5.9	<0.25	190	180	--	--	--	--	--	--
	10/24/01	8.65	787	23.5	5.8	100	110	579	17	--	<1	<0.5	--	6.8	90	6	5.4	0.12	180	190	--	--	--	--	--	--
	02/27/02	8.48	890	24.8	<25	110	110	580	18	--	<0.1	<0.1	--	7.2	81	5.9	4.8	<0.25	170	160	--	--	--	--	--	--
	04/24/02	8.74	500	25.5	<25	120	120	543	20	--	<1	<1	--	8.2	77	6.5	4.9	<0.25	160	180	--	--	--	--	--	--
	07/31/02	8.44	890	25.3	<25	110	110	570	17	--	<0.1	<0.1	--	6.9	80	5.6	4.8	<0.25	170	160	--	--	--	--	--	--
	10/23/02	8.28	910	25.2	10	100	110	614	17	--	<0.1	<0.1	--	7	84	6.5	6.9	<1	170	130	--	--	--	--	--	--
	01/30/03	8.68	910	25.4	5	100	110	558	17	--	<0.1	<0.1	--	6.8	110	6.1	3.7	<0.25	170	160	--	--	--	--	--	--
	04/09/03	8.26	881	25.6	23	94	120	600	15	--	<0.02	<0.5	--	6	77	5.7	7.1	<0.5	170	210	--	--	--	--	--	--
	07/30/03	8.7	907	25.3	<20	120	120	610	17	--	<0.02	<0.5	--	6.4	71	5.6	6.6	<1	140	180	--	--	--	--	--	--
	11/05/03	8.64	909	25	43	81	120	590	19	--	<0.02	<0.5	--	7.2	65	5.3	7.5	<1	150	170	--	--	--	--	--	--
	02/11/04	8.33	672	23.4	<5	120	120	590	16	--	<0.0016	0.95	--	6.2	74	6	7.8	0.12	170	190	--	--	--	--	--	--
	04/21/04	8.24	909	24.9	31	89	120	610	18	--	<0.02	<0.5	--	6.8	68	5.1	6.5	0.25	180	170	--	--	--	--	--	--
	01/12/05	7.98	678	24.6	8	110	120	680	19	--	<0.1	<0.1	--	7.2	79	6.2	5.9	<0.5	180	180	--	--	--	--	--	--
	06/29/05	8.25	917	25.4	12	100	110	620	18	--	<0.1	<0.1	--	7.2	79	5.9	6	<0.5	160	190	--	--	--	--	--	--
	09/21/05	7.52	914	25.2	10	100	110	630	18	--	<0.1	<0.1	--	7.1	75	6.3	6.1	<0.5	150	180	--	--	--	--	--	--
	11/30/05	7.7	909	24.8	6	110	110	610	23	--	<0.1	<0.1	--	7.6	79	6.7	6.8	0.95	180	180	--	--	--	--	--	--
	03/08/06	8.13	738	24.6	<5	110	120	600	--	--	<0.1	<0.1	--	7.4	76	6.2	6.3	<0.5	180	180	--	--	--	--	--	--
	06/28/06	7.82	690	25.5	8	110	110	630	17	--	<0.1	<0.1	--	6.7	71	5.8	5.4	<0.5	180	210	--	--	--	--	--	--
	10/18/06	8.61	910	24.8	10	110	120	600	19	--	<0.1	<0.1	--	7.4	81	5.5	6.8	<0.5	220	190	--	--	--	--	--	--
	12/13/06	8.61	1278	24.87	24	89	110	640	--	--	<0.1	<0.1	--	8.1	80	6	5.9	0.44	190	200	--	--	--	--	--	--
	03/20/07	8.85	835	24.7	6	110	120	610	19	--	<0.1	<0.1	--	7.6	82	6.4	5.5	<0.5	190	--	--	--	--	--	--	--
	6/26/2007*	8.31	822	26.6	--	--	--	--	--	--	<0.1	<0.1	--	--	--	6.4	--	--	--	--	2.3	--	<0.4	<0.3	<0.4	<0.4
	09/25/07	8.97	687	24.1	--	--	--	--	--	--	<0.1	<0.1	--	--	--	6.4	--	--	--	--	2	--	<0.3	<0.3	<0.3	<0.3
	12/27/07	7.61	867	21.9	--	--	--	--	--	--	<0.1	<0.1	--	--	--	6.3	--	--	--	--	1.6	--	<0.4	<0.4	<0.4	<0.4
	02/21/08	8.51	933	21.65	--	--	--	--	--	--	<0.1	<0.1	--	--	--	6.5	--	--	--	--	1.1	--	<0.3	<0.3	<0.3	<0.3
	04/22/08	8.49	786	23.5	--	--	--	--	--	--	<0.2	<0.2	--	--	--	6.5	--	--	--	--	0.8	--	<0.2	<0.3	<0.3	<0.3
	07/28/08	8.09	980	24.3	--	--	--	--	--	--	<0.1	<0.2	--	--	--	7	--	--	--	--	2.1	--	<0.3	<0.3	<0.3	<0.3
	10/21/08	8.57	828	23.1	--	--	--	--	--	--	<0.1	<0.2	--	--	--	7	--	--	--	--	1.4	--	<0.3	<0.4	<0.4	<0.4
	02/10/09	8.62	658	17.1	--	--	--	--	--	--	<0.2	<0.2	--	--	--	5.7	--	--	--	--	1.1	--	<0.2	<0.4	<0.4	<0.4
	06/02/09	8.58	647	24.2	--	--	--	--	--	--	<0.2	<0.2	--	--	--	5.4	--	--	--	--	1.8	--	<0.2	<0.4	<0.4	<0.4
	09/22/09	8.63	647	24.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.9	<1	<0.3	<0.3	<0.3	<0.3
	12/14/09	8.51	703	22.4	--	--	--	--	--	--	<0.2	<0.2	--	--	--	6.5	--	--	--	--	2.5	--	<0.2	<0.4	<0.4	<0.4
	02/03/10	8.49	960	22.3	--	--	--	--	--	--	<0.2	<0.2	--	--	--	5.6	--	--	--	--	1.5	--	<0.4	<0.3	<0.4	<0.4
	05/10/10	7.95	950	24.4	--	--	--	--	--	--	<0.2	<0.2	--	--	--	5.4	--	--	--	--	2	--	<0.3	<0.4	<0.4	<0.4
	09/23/10	7.81	426	26.1	--	--	--	--	--	--	<0.2	<0.2	--	--	--	5.3	--	--	--	--	1.1	--	<0.6	<0.6	<0.6	<0.6
	12/01/10	7.8	850	21.4	--	--	--	--	--	--	<0.2	<0.2	--	--	--	6.8	--	--	--	--	2.7	--	<0.4	<0.4	<0.4	<0.4
	03/15/11	8.37	872	22.4	--	--	--	--	--	--	<0.2	<0.2	--	--	--	7.5	--	--	--	--	1.6	--	<0.2	<0.4	<0.4	<0.4
	06/28/11	7.7	803	26.35	<6	110	110	610	--	--	<0.2	<0.2	--	--	80	5.9	--	--	--	190	1.3	--	<0.2	<0.4	<0.4	<0.4
	08/31/11	8.53	753	23.56	--	--	--	--	--	--	<0.1	<0.2	--	--	--	6	--	--	--	--	1.4	--	<0.2	<0.4	<0.4	<0.4
	11/15/11	8.2	470	23.75	--	--	--	--	--	--	--	--	<0.1	--	--	5.4	--	--	--	--	1.4	--	<0.3	<0.4	<0.4	<0.4
	02/23/12	7.41	766	20.4	--	--	--	--	--	--	--	--	<0.1	--	--	5.3	--	--	--	--	1.8	--	0.7	<0.4	0.7	0.7
	06/04/12	7.2	926	27.38	--	--	--	--	--	--	--	--	0.051	--	--	6.5	--	--	--	--	3.4	--	<0.2	<0.4	<0.4	<0.4
	08/20/12	7.73	970	26.26	--	--	--	--	--	--	--	--	<0.1	--	--	6.9	--	--	--	--	1.3	--	<0.5	<0.4	<0.5	<0.5
	11/19/12	8.02	908	24.98	<6	120	120	600	--	--	--	--	<0.1	9.7	73	6.2	--	<2	--	190	3.4	1.2	<0.5	<0.4	<0.5	<0.5
	12/18/12	8.14	914	20.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shallow Unconfined Gila Unit																										
	AQL	--	--	--	--	--	--	--	--	--	--	--	10	--	--	4	--	--	--	--	15	15	--	--	5	5
	AL	--	--	--	--	--	--	--	--	--	--	--	8	--	--	3.2	--	--	--	--	12	12	--	--	4	4
GAI-02-01	05/08/02	--	--	--	<1.0	208	--	484	--	--	--	--	--	23.6	22.8	0.5	2.9	15.3	118	152	--	--	--	--	--	--
	05/29/02	--	--	--	<1.0	234	--	595	--	--	--	--	--	34.1	34.3	0.4	3.4	34.0	128	202	--	--	--	--	--	--
	03/20/03	--	--	--	<1.0	229	--	630	--	--	--	--	--	47.9	44.8	0.42	2.7	80.5	57.8	242	--	--	--	--	--	--
	09/27/07	8.11	1060	24.8	<5	260	260	720	500	--	<0.1	3.6	--	47	43	0.45	2.6	93	39	250	3.8	--	<0.4	<0.3	<0.4	<0.4
	12/26/07	7.41	1060	22.9	<5	250	250	720	530	--	<0.1	3.6	--	49	48	0.44	2.4	99	37	300	4.1	--	<0.3	<0.3	<0.3	<0.3
	02/20/08	7.58	1173	23.52	--	290	240	700	--	<7.1	<0.1	3.7	--	48	46	0.51	2.4	97	36	280	3.5	--	0.9	<0.3	0.9	0.9
	04/23/08	7.93	1050	24	<2	230	230	680	--	1982	<0.2	3.3	--	50	44	0.48	2.5	97	39	270	17.3	1.1	<0.4	<0.3	<0.4	<0.4
	07/29/08	7.42	1100	25.1	<6	230	230	680	530	510	<0.1	3.4	--	52	48	0.5	2.5	97	38	290	3.4	--	<0.3	<0.3	<0.3	<0.3
	10/22/08	7.57	1080	22.4	<6	240	240	700	--	510	<0.1	3.3	--	49	47	0.45	2.4	95	37	290	4.1	--	<0.2	<0.4	<0.4	<0.4
	02/12/09	8.05	1690	16.6	<6	240	240	780	540	--	<0.2	3.6	--	51	49	0.47	2.6	99	39	300	4.2	--	<0.2	<0.4	<0.4	<0.4
	06/03/09	7.29	759	26.5	<6	240	240	710	--	530	<0.2	3.5	--	49	48	0.49	2.5	98	37	310	4.4	--	<1	<0.6	<1	<1
	09/21/09	7.86	742	25.8	<6	240	240	810	--	520	<0.2	3.6	--	48	48	0.51	2.4	93	35	320	3.9	2.4	<0.3	<0.4	<0.4	<0.4
	12/15/2009*	7.81	1210	22.6	<6	230	230	790	--	520	<0.2	3.7	--	52	49	0.5	2.6	100	39	320	4.4	--	<0.3	<0.4	<0.4	<0.4
	02/04/10	7.99	1180	22.3	<6	230	230	720	--	510	<0.2	3.5	--	53	49	0.58	2.7	100	40	310	4.1	--	<0.3	<0.4	<0.4	<0.4
	05/07/10	7.52	1110	25.1	--	--	--	--	540	--	<0.2	3.6	--	50	--	0.54	2.3	100	37	--	4.2	--	<0.3	<0.5	<0.5	<0.5
	09/24/10	7.42	1028	25.4	<6	210	210	780	580	560	<0.2	3.5	--	56	50	0.42	2.4	110	40	320	3.2	--	<0.4	<0.5	<0.5	<0.5
	11/30/10	7.22	1065	22.27	<6	220	220	740	--	560	<0.2	3.5	--	50	49	0.52	2.4	98	37	320	3.6	--	<0.2	1.1	1.1	1.1
	03/17/11	8	1051	24.5	<6	220	220	780	540	--	<0.2	3.4	--	50	48	0.34	2.3	100	36	320	3.6	--	<0.5	<0.4	<0.5	<0.5
	06/23/11	7.95	968	29.41	<6	220	220	800	530	--	<0.2	3.5	--	51	50	0.45	2.7	98	37	310	2.6	--	<0.3	<0.3	<0.3	<0.3
	09/01/11	7.66	920	25.32	<6	220	220	740	530	--	<0.2	3.7	--	55	51	0.48	2.4	96	38	340	3.8	--	<0.2	<0.4	<0.4	<0.4
	11/18/11	7.71	665	24.56	<6	220	220	790	540	--	--	--	3.31	51	50	0.4	2.5	100	37	330	4.3	--	<0.3	<0.4	<0.4	<0.4
	02/21/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.8	--	<0.3	<0.4	<0.4	<0.4
	02/22/12	7.54	816	21.71	<6	220	220	770	540	--	--	--	<0.1	51	51	0.53	2.3	100	37	350	--	--	--	--	--	--
	06/06/12	8.04	1126	26.53	<6	230	230	800	550	--	--	--	4	53	29	0.5	2.3	100	37	360	5.1	--	<0.3	<0.4	<0.4	<0.4
	08/21/12	7.87	1186	27.14	<6	220	220	810	540	--	--	--	3.5	53	52	0.46	2.2	99	34	350	3.4	--	<0.4	<0.4	<0.4	<0.4
	11/26/12	7.71	1116	25.21	<6	200	200	790	540	--	--	--	3.5	52	47	0.52	2.5	100	38	330	3.9	<1	<0.4	<0.3	<0.4	<0.4
	AQL	--	--	--	--	--	--	--	--	--	--	--	10	--	--	4	--	--	--	--	15	15	--	--	5	5
	AL	--	--	--	--	--	--	--	--	--	--	--	8	--	--	3.2	--	--	--	--	12	12	--	--	4	4
	09/16/97	--	--	--	<0.5	250	--	1260	800	--	--	0.9	--	210	37	<1	--	72	87	670	--	--	--	--	--	--
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14.8	--	<0.83	3.2	3.2	3.2
	01/14/98	6.75	--	20.3	<25	240	240	1200	720	--	--	1.3	--	200	43	<0.5	4.1	51	82	490	--	--	--	--	--	--
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13.4	--	<0.7	<0.6	<0.7	<0.7
	04/08/98	--	--	--	<25	230	230	1280	840	--	--	1.3	--	230	45	<0.1	4.6	64	91	430	--	--	--	--	--	--
	07/30/98	7.03	--	23.8	<25	230	230	1140	720	--	--	1.5	--	210	43	<0.1	4.8	49	92	--	--	--	--	--	--	--
	11/03/98	--	--	--	<25	240	240	1320	810	--	--	1.1	--	220	46	<0.4	7.7	62	95	630	--	--	--	--	--	--
	03/02/99	7.13	--	22.9	--	240	240	1430	850	--	<1	1.4	--	240	45	<0.4	4	60	87	640	--	--	--	--	--	--
	05/25/99	7.13	1633	25.4	--	240	240	1370	920	--	<0.5	1.2	--	260	45	<0.4	4.1	66	91	680	--	--	--	--	--	--
	09/01/99	6.81	1660	23.7	--	260	260	1300	900	--	<0.1	1.2	--	260	41	<0.4	5.2	62	94	580	--	--	--	--	--	--
	11/17/99	7.14	1600	23.4	<25	250	250	1200	950	--	<0.1	1.4	--	260	40	<0.4	4.3	53	83	590	--	--	--	--	--	--
	03/01/00	7.04	1650	20.3	<25	220	220	1290	910	--	<1	1.3	--	270	43	<0.4	4.1	59	81	680	--	--	--	--	--	--

TABLE 4-1a
GROUNDWATER QUALITY RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMTERS

Well Name	Sample Date	Physical Parameters and Other Constituents												Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha** (pCi/L)	Adjusted Gross Alpha** (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium*** (pCi/L)
MCC-9	05/23/00	7.23	1580	22.6	<25	220	220	1190	740	--	<2	2.4	--	210	48	<0.4	4.3	52	86	630	--	--	--	--	--	--
	09/12/00	7.05	1620	23.3	--	230	230	1240	850	--	<1	1.2	--	240	41	<0.4	4.7	62	90	660	--	--	--	--	--	--
	01/17/01	--	1460	19.3	--	240	240	1270	848	--	--	--	0.78	230	49	<0.4	4.3	64	83	670	--	--	--	--	--	--
	03/13/01	6.78	2340	19.5	--	230	230	1410	920	--	<0.1	0.86	--	250	41	<0.4	4.5	73	84	800	--	--	--	--	--	--
	06/05/01	7.02	830	23.4	--	230	230	1290	570	--	<1	<1	--	230	44	<0.4	1.6	56	81	910	--	--	--	--	--	--
	10/23/01	6.57	1580	23.2	--	230	230	1320	780	--	<2	<2	--	210	41	1	3.9	62	74	700	--	--	--	--	--	--
	02/26/02	7.05	1150	22.1	<25	230	230	1220	760	--	<1	1	--	220	44	<0.4	4.1	50	77	530	--	--	--	--	--	--
	04/23/02	7.36	1430	23.4	<25	230	230	1090	700	--	<1	<1	--	200	37	<0.4	4.2	49	77	560	--	--	--	--	--	--
	07/30/02	7.35	1480	23.4	<25	230	230	1260	700	--	<0.5	0.96	--	190	46	<0.4	4.5	51	70	640	--	--	--	--	--	--
	10/22/02	7.08	810	24.2	<5	220	220	1210	820	--	<0.5	0.98	--	220	41	<0.4	5.5	66	72	540	--	--	--	--	--	--
	01/29/03	7.02	1340	21.5	<5	220	220	1220	680	--	<1	0.8	--	190	55	<0.4	4.2	51	74	610	--	--	--	--	--	--
	04/08/03	6.93	1350	22.6	<10	240	240	1200	680	--	<0.02	1.2	--	180	35	<2.5	5.5	52	66	640	--	--	--	--	--	--
	07/29/03	7.36	1380	24.1	<20	230	230	1200	700	--	<0.02	0.92	--	190	31	<0.5	5	55	86	490	--	--	--	--	--	--
	11/04/03	6.83	1390	23.2	<5	240	240	1300	740	--	<0.02	0.89	--	200	30	<0.5	5.2	60	88	600	--	--	--	--	--	--
	02/10/04	6.99	1350	22.9	<5	240	240	1200	660	--	<0.0015	0.9	--	180	31	0.24	5.9	51	70	570	--	--	--	--	--	--
	04/20/04	7.32	1370	22.7	<5	250	250	1200	680	--	<0.02	0.95	--	180	30	<0.5	5	53	92	560	--	--	--	--	--	--
	01/11/05	7.4	1240	20.7	<5	240	240	1300	760	--	<0.02	0.83	--	210	37	0.18	4.2	56	75	650	--	--	--	--	--	--
	06/28/05	7.05	1350	24.3	<5	240	240	1200	710	--	<0.1	0.83	--	200	39	0.15	4.5	49	69	580	--	--	--	--	--	--
	09/20/05	7.11	1470	24.9	<5	240	240	1300	780	--	<0.1	0.88	--	220	35	0.2	4.8	55	68	630	--	--	--	--	--	--
	11/30/05	6.64	1370	23.3	<5	240	240	1200	730	--	<0.1	0.91	--	210	38	0.27	5.2	53	79	590	--	--	--	--	--	--
	03/07/06	7.31	1290	21.9	<5	240	240	1200	--	--	<0.1	0.89	--	210	38	0.18	4.8	50	81	630	--	--	--	--	--	--
	06/27/06	6.94	1370	23.3	<5	240	240	1200	720	--	<0.1	0.74	--	210	35	0.14	4.3	48	81	590	--	--	--	--	--	--
	10/17/06	7.36	1630	22.5	<5	240	240	1200	670	--	<0.1	0.9	--	190	39	0.22	6.2	47	82	630	--	--	--	--	--	--
	12/12/06	7.18	2019	21.37	<5	240	240	1200	--	--	<0.1	0.85	--	210	36	0.2	4.2	50	81	610	--	--	--	--	--	--
	03/20/07	7.4	1410	22.2	<5	230	230	1200	680	--	<0.1	0.93	--	200	39	0.17	4.5	45	85	690	--	--	--	--	--	--
	6/26/2007*	3.6	1420	25.2	--	--	--	--	--	--	<0.1	0.82	--	--	--	0.2	--	--	--	--	11	--	<0.3	<0.3	<0.3	<0.3
	09/26/07	7.52	1410	22.6	--	--	--	--	--	--	<0.1	0.91	--	--	--	0.18	--	--	--	--	--	--	--	--	--	--
	12/27/07	7.56	1380	20.6	--	--	--	--	--	--	<0.1	0.87	--	--	--	0.17	--	--	--	--	9.5	--	<0.5	<0.4	<0.5	<0.5
	02/19/08	7.07	1433	22.27	--	--	--	--	--	--	<0.1	0.9	--	--	--	0.19	--	--	--	--	9.4	--	<0.3	<0.4	<0.4	<0.4
	04/21/08	7.05	1370	22.5	--	--	--	--	--	--	<0.2	0.91	--	--	--	0.24	--	--	--	--	8.7	--	<0.2	<0.3	<0.3	<0.3
	07/28/08	7.02	1460	23.1	--	--	--	--	--	--	<0.1	0.91	--	--	--	0.22	--	--	--	--	8.4	--	<0.4	<0.3	<0.4	<0.4
	10/21/08	7.2	1500	22	--	--	--	--	--	--	<0.1	0.88	--	--	--	0.2	--	--	--	--	12	1.3	0.4	<0.4	0.4	0.4
	02/09/09	7.24	1450	20.8	--	--	--	--	--	--	<0.2	0.94	--	--	--	0.22	--	--	--	--	9.7	--	<0.3	<0.4	<0.4	<0.4
	06/01/09	7.7	1400	25.4	--	--	--	--	--	--	<0.2	0.92	--	--	--	0.19	--	--	--	--	10.3	4.9	<0.3	<0.4	<0.4	<0.4
	09/21/09	7.19	1360	23.5	--	--	--	--	--	--	<0.2	0.93	--	--	--	0.25	--	--	--	--	11.4	2.7	<0.5	<0.5	<0.5	<0.5
	12/14/09	7.17	1540	21.1	--	--	--	--	--	--	<0.2	0.91	--	--	--	0.26	--	--	--	--	11.3	5.9	<0.3	<0.4	<0.4	<0.4
	02/03/10	7.51	1510	21.5	--	--	--	--	--	--	<0.2	0.9	--	--	--	0.27	--	--	--	--	9.8	--	<0.3	<0.3	<0.3	<0.3
	05/07/10	7.28	1530	21.1	--	--	--	--	--	--	<0.2	0.91	--	--	--	0.22	--	--	--	--	9.9	--	<0.3	<0.4	<0.4	<0.4
	09/24/10	7.39	1281	26.1	--	--	--	--	--	--	<0.2	0.88	--	--	--	0.2	--	--	--	--	8.7	--	<0.2	0.6	0.6	0.6
	12/01/10	6.65	1348	20.78	--	--	--	--	--	--	<0.2	0.86	--	--	--	0.22	--	--	--	--	9.7	--	<0.4	<0.3	<0.4	<0.4
	03/15/11	7.05	1388	22.7	--	--	--	--	--	--	<0.2	0.88	--	--	--	0.34	--	--	--	--	11.2	3.7	<0.2	<0.4	<0.4	<0.4
	06/23/11	7.01	1254	23.86	<6	230	230	1200	700	--	<0.2	0.88	--	200	39	0.22	4.3	47	80	580	8.3	--	<0.3	<0.3	<0.3	<0.3
	08/31/11	7.21	1231	25.05	--	--	--	--	--	--	0.37	0.9	--	--	--	0.18	--	--	--	--	8.4	--	0.3	<0.4	0.3	0.3
	11/15/11	6.74	769	23.26	--	--	--	--	--	--	--	--	0.855	--	--	0.23	--	--	--	--	10.1	1.9	<0.3	<0.4	<0.4	<0.4
	02/24/12	6.69	1140	22.31	--	--	--	--	--	--	--	--	0.804	--	--	0.34	--	--	--	--	11.5	3.9	<0.3	<0.4	<0.4	<0.4
	06/04/12	7.09	1550	28.62	--	--	--	--	--	--	--	--	0.88	--	--	0.19	--	--	--	--	11.6	4.2	<0.3	<0.4	<0.4	<0.4
	08/20/12	7.02	1626	27.8	--	--	--	--	--	--	--	--	0.84	--	--	0.21	--	--	--	--	8.5	--	<0.3	<0.4	<0.4	<0.4
	11/19/12	7.02	1535	22.55	<6	210	210	1200	--	--	--	--	0.85	210	36	0.19	--	48	--	650	9.9	1.6	<0.3	<0.4	<0.4	<0.4
Alluvial Unit																										
Indian Ponds POC	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	**8**	--	--	**3.2**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	09/27/07	7.41	4340	23.3	<5	280	280	3800	880	--	<10	7.3	--	250	1700	0.51	17	63	860	92	33	--	0.6	0.4	1	1
	12/28/07	7.59	5510	18.1	<5	280	280	3600	890	--	<10	7.2	--	250	1800	0.47	14	64	790	79	34.6	<1	0.5	<0.3	0.5	0.5
	02/21/08	6.92	6090	20.38	<5	290	290	3800	--	970	<10	7.1	--	260	1800	0.22	<2	69	1200	72	36.2	<1	<0.5	<0.4	<0.5	<0.5
	04/23/08	7.01	3670	21.6	<2	350	350	3800	--	113	<0.2	2.7	--	530	110	1.4	30	160	330	2100	26.5	5	<0.4	<0.3	<0.4	<0.4
	07/29/08	6.72	4180	25.6	<6	450	450	4000	2400	2300	<0.1	<0.2	--	670	92	1.6	43	170	320	2400	36	5.2	<0.3	<0.4	<0.4	<0.4
	10/23/08	6.45	3980	24.7	<6	460	460	3900	--	2300	<0.1	<0.2	--	660	47	1.4	40	160	240	2400	26	4.5	<0.2	<0.3	<0.3	<0.3
	02/11/09	6.95	3610	21.9	<6	490	490	3900	2300	--	<0.2	0.2	--	620	50	1.2	30	190	250	2300	32.6	<1	<0.3	<0.5	<0.5	<0.5
	06/02/09	7.05	3800	22.5	<6	530	530	3600	--	2500	<0.2	<0.2	--	610	55	1.3	27	200	210	2400	20.7	1.7	<0.3	<0.4	<0.4	<0.4
	09/23/09	6.83	4110	22.4	<6	400	400	4000	--	1700	<0.2	1	--	470	140	0.81	17	160	500	2400	37.4	<1	<0.2	<0.4	<0.4	<0.4
	12/1/2009*	7.02	4800	20.1	<6	410	410	4200	--	1800	<0.2	1.1	--	440	200	0.77	16	150	590	2300	**34**	<1	<0.4	<0.4	<0.4	<0.4
	02/05/10	6.92	4800	19.8	<6	380	380	4100	--	1800	<0.2	1.5	--	420	380	0.67	20	120	710	2100	**44.5**	3.6	<0.3	<0.4	<0.4	<0.4
	05/05/10	6.65	4330	24	<6	380	380	4000	2200	2100	<0.2	0.74	--	550	40	1.6	35	200	320	2600	**18.4**	1.4	<0.5	<0.6	<0.6	<0.6
	08/03/10	6.71	4410	24.6	<6	320	320	4200	2300	--	<0.2	0.5	--	540	66	1.2	15	220	320	2500	**16.6**	4.7	<0.6	<0.5	<0.6	<0.6
	11/11/10	6.81	4371	23.2	<6	380	380	4100	2400	2300	<0.2	<0.2	--	590	40	1.6	26	220	230	2500	**23**	3.9	<1.3	<2.3	<2.3	<2.3
	03/17/11	6.97	3644	28.5	<6	450	450	3900	2400	--	<0.2	<0.2	--	590	43	1.3	29	240	140	2300	**23**	2.5	<0.7	<0.7	<0.7	<0.7
	06/22/11	7.17	3787	27.83	<6	370	370	4100	2000	--	<0.2	0.23	--	490	100	1.1	17	190	400	2400	**21.4**	<1	<0.3	<0.4	<0.4	<0.4
	08/31/11	7.19	3764	25.19	<6	420	420	4200	1900	--	<0.1	0.54	--	490	150	0.93	17	170	500	2700	5.8	--	<0.2	<0.4	<0.4	<0.4
	02/22/12	7.07	3549	25.82	<6	330	330	4200	1600	--	--	--	0.365	420	270	0.85	15	150	610	2500	**41**	<1	<0.3	<0.4	<0.4	<0.4
Smelter Pond POC Well	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	**8**	--	--	**3.8**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	06/21/07	7.05	2500	22	<1	227	227	2070	--	1320	--	--	1.69	330	77.8	0.74	5.81	120	63.4	1167	29	23.8	0.57	1.4	--	--
	09/27/07	8.16	1710	22.3	<5	220	220	1400	900	--	<0.1	1.7	--	250	68	0.14	4.5	67	48	730	3.5	--	<0.3	<0.4	<0.4	<0.4
	12/28/07	7.48	2310	15.2	<5	230	230	1800	1200	--	<0.1	1.5	--	270	74	0.28	5.2	130	55	980	6.1	--	<0.2	<0.4	<0.4	<0.4
	02/21/08	7.12	3854	15.19	<5	350	350	4500	--	3100	<0.1	2.6	--	430	100	0.91	<2	480	170	2700	13.9	1.3	<0.4	<0.4	<0.4	<0.4
	04/22/08	7.1	7440	18.9	<2	700	700	10000	--	--	<2	0.74	--	470	170	3.7	36	1100	430	6400	30.7	5.7	<0.3	<0.5	<0.5	<0.5
	07/29/08	7	1870	23.2	<6	310	310	2800	2100	2000	<0.1	1.3	--	390	87	0.75	8.6	280	100	1800	7	--	<0.4	<0.4	<0.4	<0.4
	10/22/08	6.77	4600	20.1	<6	490	490	5100	--	3600	<0.1	1.1	--	440	120	1.3	16	600	210	3200	8.7	--	<0.3	<0.3	<0.3	<0.3
	02/12/09	7.27	8640	16.2	<6	590	590	6700	4100	--	<0.2	0.91	--	590	110	1.5	16	640	250	4200	25.5	<1	<0.4	<0.4	<0.4	<0.4
	06/02/09	7.28	2010	24	<6	270	270	2100	--	1900	<0.2	1.4	--	330	83	0.47	5.3	150	69	1400	1.4	--	<0.3	<0.4	<0.4	<0.4
	09/24/09	6.92	1850	25.4	<6	250	250	1400	--	1000	<0.2	1.5	--	250	71	0.23	3	65	73	760	2.5	--	<0.4	<0.4	<0.4	<0.4
	12/15/2009*	7.23	1820	18.1	<6	210	210	1400	--	920	<0.2	1.5	--	270	72	0.24	4.9	70	52	730	9.4	--	<0.4	<0.4	<0.4	<0.4
	02/05/10	7.22	10400	17	<6	470	470	14000	--	7300	0.29	7.1	--	580	280	3	39	1600	670	11000	**36.4**	4.5	<0.3	<0.5	<0.5	<0.5
	05/13/10	7.2	2210	20.2	<6	300	300	3700	--	2600	<0.2	1.3	--	510	98	0.7	9.1	370	150	2400	6.3	--	<0.5	<0.4	<0.5	<0.5
	12/01/10	6.7	11700	19.22	<6	1100	1100	19000	--	12000	<0.2	<0.2	--	450	310	**6.9**	59	2600	830	11000	**49.2**	7.7	<0.7	<0.4	<0.7	<0.7
	03/02/11	7.34	873	17.2	<6	760	760	11000	8400	--	<0.2	0.5	--	490	190	3.2	36	1700	580	7100	**19.1**	<1	<0.4	<0.3	<0.4	<0.4
	06/30/11	7.25	4024	26.79	<6	420	420	5000	2800	--	<0.2	1.3	--	320	130	1.3	13	490	210	3100	**16**	4.7	<0.4	<0.4	<0.4	<0.4
	09/01/11	7.24	1494	25.97	<6	200	200	1400	1000	--	<0.2	1.5	--	290	75	0.19	4	71	47	790	3.1	--	<0.4	<0.4	<0.4	<0.4

TABLE 4-1a
GROUNDWATER QUALITY RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMTERS

Well Name	Sample Date	Physical Parameters and Other Constituents												Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha** (pCi/L)	Adjusted Gross Alpha** (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium*** (pCi/L)
	11/17/11	7.3	1207	22.1	<6	210	210	1500	1100	--	--	--	1.11	310	78	0.22	4.4	81	54	840	5.3	--	<0.3	<0.4	<0.4	<0.4
	02/21/12	6.44	13700	16.86	<6	850	850	19000	13000	--	--	--	0.34	390	210	3.6	45	2900	660	16000	**109**	<1	<0.2	0.6	0.6	0.6
	06/05/12	7.09	9133	27.09	<6	720	720	12000	8300	--	--	--	0.093	480	110	**6**	36	1700	360	8500	**23**	<1	<0.2	<0.4	<0.4	<0.4
	07/19/12	7.08	9991	29.57	--	--	--	--	--	--	--	--	--	--	--	**5.8**	--	--	--	--	--	--	--	--	--	--
	08/15/12	7.21	10100	27.29	<6	730	730	12000	8300	--	--	--	0.42	500	120	**5.4**	44	1700	390	9200	**16**	<1	<0.3	<0.4	<0.4	<0.4
	09/25/12	7.04	10450	28.21	<6	750	750	12000	8700	--	--	--	0.25	490	110	**5.5**	43	1800	370	8700	<0.3	--	<0.4	<0.4	<0.4	<0.4
	10/09/12	7.06	1074	26.06	<6	730	730	12000	8700	--	--	--	0.17	520	100	**6**	45	1800	400	8700	11.9	<1	<0.3	<0.3	<0.3	<0.3
	11/14/12	--	--	--	<6	780	780	12000	8700	--	<1	<1	--	490	110	**6.3**	37	1800	360	8700	--	--	--	--	--	--
	11/15/12	7.24	10180	23.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**19**	3.7	<0.5	<0.4	<0.5	<0.5
	12/17/12	7.09	9810	20.45	<6	720	720	12000	--	--	--	--	1.6	470	110	**5.6**	35	1900	370	9600	**14.5**	2.4	0.4	<0.4	0.4	0.4
Fractured Bedrock Unit																										
500 YD	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.2**	--	--	--	--	**12**	**12**	--	--	**4**	**4**
	10/23/08	7.33	3240	21.2	<6	170	170	2000	--	1300	<0.1	6.5	--	380	13	0.28	5	75	110	1200	137	4.5	<0.3	<0.3	<0.3	<0.3
	02/11/09	7.28	2250	20.6	<6	170	170	1900	1200	--	<0.2	6.4	--	360	13	0.29	6.5	68	100	1300	146.8	8.4	<0.2	<0.3	<0.3	<0.3
	06/03/09	7.25	2170	25.3	<6	180	180	2000	--	1300	<0.2	6.4	--	380	13	0.29	4.7	72	110	1300	132.9	1.8	<0.8	<0.6	<0.8	<0.8
	09/23/09	6.6	2190	25.1	<6	170	170	2300	--	1300	<0.2	6.6	--	440	13	0.23	4.9	84	120	1400	132.6	5.2	<0.3	<0.4	<0.4	<0.4
	12/01/09	6.85	2770	22	<6	180	180	2500	--	1300	<0.2	7	--	400	190	0.31	18	76	140	1300	121.4	5.5	<0.3	<0.5	<0.5	<0.5
	02/05/10	6.49	3310	21.6	<6	180	180	2600	--	1300	<4	9.1	--	420	250	0.5	35	80	200	1300	113.8	<1	<0.5	<0.4	<0.5	<0.5
	05/05/10	6.52	2580	31.3	<6	170	170	2200	1500	1300	<0.2	9.7	--	470	100	0.24	8.7	84	140	1300	116	<1	<0.3	<0.5	<0.5	<0.5
	09/24/10	6.91	2081	24.8	<6	160	160	2200	1400	1400	<0.2	9.5	--	450	78	0.21	5.4	82	120	1300	98	<1	<0.2	<0.4	<0.4	<0.4
	11/11/10	6.86	2082	25.6	<6	170	170	2200	1300	1300	<0.2	10	--	400	79	0.28	6.4	77	120	1300	--	--	--	--	--	--
	03/17/11	7.13	1826	29.9	<6	170	170	2300	1300	--	<0.2	9.1	--	410	53	0.26	4.6	79	110	1400	97	<1	<0.5	<0.5	<0.5	<0.5
	06/22/11	7.32	2185	27.11	<6	170	170	2400	1400	--	<0.2	9.8	--	440	41	0.21	5.1	80	120	1400	113.5	4.1	<0.2	<0.4	<0.4	<0.4
	08/31/11	7.52	2150	26.78	<6	160	160	2500	1400	--	<0.2	10	--	440	34	0.2	5.7	79	110	1600	122.9	<1	<0.2	<0.4	<0.4	<0.4
	8/24/2012*	--	--	--	--	--	--	--	1700	--	--	--	**11**	530	--	--	4.7	100	120	--	--	--	--	--	--	--
	08/28/12	7.05	3058	27.62	<6	160	160	3100	--	--	--	--	**11**	--	29	0.2	--	--	--	2100	**137**	<1	<0.4	<0.5	<0.5	<0.5
	10/09/12	7.13	3214	26.27	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/14/12	7.33	2984	25.05	<6	150	150	2900	1800	--	<0.2	12	--	540	25	0.2	5.3	100	130	1800	--	--	--	--	--	--
	12/18/12	7.02	2862	22.34	--	--	--	--	1800	--	<0.2	12	--	560	--	--	5.3	100	130	--	--	--	--	--	--	--
Tailings Porewater																										
SP1&2-Alert-B	**AQL**	--	--	--	--	--	--	--	--	--	--	--	**10**	--	--	**4**	--	--	--	--	**15**	**15**	--	--	**5**	**5**
	AL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	06/23/09	6.73	4130	26.8	<6	210	210	4200	--	2800	--	--	<0.0	560	48.0	3.3	76	330	160	2500	41.5	3.3	0.30	<0.3	0.30	--
	09/23/09	6.61	3760	25.5	<6	66	66	3300	--	1900	0.45	0.85	--	520	45	1.2	43	150	130	2200	6.2	--	1.3	<0.4	1.3	1.3
	12/15/09	6.41	3390	20.2	<6	77	77	3400	--	1900	<0.2	1.1	--	100	47	1.2	54	160	160	2300	7.5	--	<0.3	<0.4	<0.4	<0.4
	02/05/10	6.58	4770	22.1	<6	200	200	4900	--	3100	<0.2	0.3	--	540	49	2.8	91	450	160	3400	43.3	3.5	0.7	<0.4	0.7	0.7
	05/13/10	6.38	4990	23.4	<6	220	220	5600	--	3000	<0.2	<0.2	--	470	50	2.6	88	450	140	3800	50.3	4.7	<0.4	<0.3	<0.4	<0.4
	08/27/10	6.56	4810	24.5	<6	190	190	5100	--	3200	<0.2	<0.2	--	540	50	2.4	96	490	150	3600	34	<1	<0.2	<0.5	<0.5	<0.5
	11/30/10	6.07	3242	22.09	<6	200	200	4600	--	3100	<0.2	0.26	--	480	48	2.1	84	470	140	3200	39	4.2	<0.4	<0.4	<0.4	<0.4
	03/15/11	6.15	3498	23.3	<6	180	180	5000	3300	--	<0.2	0.28	--	540	47	2.5	85	470	150	3300	39	7.1	<0.3	<0.4	<0.4	<0.4
	06/29/11	5.84	2781	23.63	<6	160	160	4400	2800	--	<0.2	0.41	--	530	47	1.8	73	370	140	3000	43	6.5	0.5	<0.4	0.5	0.5
	9/1/2011*	6.31	3435	23.48	<6	180	180	4600	3000	--	<0.2	0.21	--	560	48	2.1	85	390	150	3300	**36**	2.1	0.4	<0.4	0.4	0.4
	11/17/11	6.04	2159	24.45	<6	150	150	4100	2700	--	--	--	0.257	500	48	1.2	72	360	130	2900	**42.1**	3	1.1	<0.4	1.1	1.1
	02/23/12	6.08	2711	24.09	<6	66	66	3100	1800	--	--	--	0.73	540	51	1.2	51	100	130	2300	9.7	--	1.5	<0.4	1.5	1.5
	06/06/12	6.21	3260	25.81	<6	73	73	3100	1900	--	--	--	0.6	570	52	1.5	58	110	130	2300	7.3	--	1.8	<0.4	1.8	1.8
	08/23/12	6.04	3148	28.83	<6	120	120	3800	1900	--	--	--	0.73	560	53	2	65	110	130	2900	**35**	7.1	1.4	<0.4	1.4	1.4
	11/20/12	6.05	3162	24.34	<6	98	98	4900	2400	--	<0.2	0.21	0.34	510	50	1.8	74	280	130	3400	**42**	<1	0.9	<0.3	0.9	0.9

Notes:
* = Start of routine sampling and comparison to ALs and AQLs
* *= If gross alpha exceeds AL or AQL, adjusted gross alpha was analyzed for comparison to AL and AQL
*** = Combined Radium (Radium, Total) = Radium 226 + Radium 228
AL = Alert Level; AQL = Aquifer Quality Limit; AWQS = Aquifer Water Quality Standards
11 = AL, AQL, or AWQS exceedance
POC = Point of Compliance
TDS = Total Dissolved Solids
SC = Specific Conductance
pCi/L = pico Curies per Liter
mS/cm = microSiemens per centimeter
mg/L = milligrams per liter
SU = Standard Unit

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
Unconfined Gila Unit																				
	AQL	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	09/16/97	<0.025	<0.001	0.003	0.02	<0.0025	<0.0025	<0.005	<0.005	<0.0025	0.03	0.023	<0.0002	0.016	<0.02	<0.001	<0.001	<0.005	<0.001	0.021
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/14/98	<0.025	<0.001	0.007	0.017	<0.001	<0.0025	<0.005	<0.005	<0.0025	<0.05	0.071	<0.0002	0.025	<0.02	0.001	0.001	<0.005	<0.001	<0.05
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/08/98	<0.025	<0.001	0.006	0.013	<0.0005	<0.002	<0.005	<0.005	0.008	<0.05	0.086	<0.0002	0.023	<0.02	<0.001	0.002	<0.005	<0.0001	<0.05
	07/30/98	<0.025	<0.001	0.011	0.0061	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.01	<0.0002	0.022	<0.02	<0.001	0.0014	<0.005	<0.001	<0.05
	11/03/98	<0.025	<0.001	0.012	0.0027	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	<0.0025	<0.0002	0.022	<0.02	0.0024	0.001	<0.005	<0.0005	<0.05
	03/05/99	<0.025	<0.005	0.0086	0.0059	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	<0.0025	<0.0002	0.019	<0.02	<0.005	<0.005	<0.005	<0.0025	<0.05
	05/27/99	<0.025	<0.001	0.014	0.0031	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.006	<0.0002	0.022	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	09/02/99	0.039	<0.001	0.011	0.0065	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.0043	<0.0002	0.018	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	11/18/99	<0.025	<0.001	0.014	0.0027	<0.0025	<0.002	<0.005	<0.005	0.0023	<0.05	0.0041	<0.0002	0.022	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	03/03/00	0.055	<0.001	0.016	0.0027	<0.0025	<0.002	<0.005	<0.00055	0.018	<0.03	<0.0025	<0.0002	0.02	<0.02	0.0011	<0.001	<0.005	<0.0005	<0.05
	05/25/00	0.035	0.0022	0.06	0.011	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.062	0.0059	<0.0002	0.0073	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	09/14/00	<0.025	<0.001	0.014	0.0045	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	<0.0025	<0.0002	0.018	<0.02	<0.001	0.0013	<0.005	<0.0005	<0.05
	01/18/01	<0.025	<0.001	0.011	0.0053	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	<0.0025	<0.0002	0.016	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	03/15/01	0.17	<0.001	0.014	0.88	<0.002	<0.002	<0.005	<0.005	<0.0025	0.066	<0.0025	<0.0002	0.017	<0.02	<0.001	0.0019	<0.005	<0.0005	0.47
	06/07/01	0.18	<0.001	0.012	0.0036	<0.002	<0.002	<0.005	<0.005	<0.0025	0.096	0.0052	<0.0002	0.02	<0.02	<0.001	0.0011	<0.005	<0.0005	<0.05
	10/25/01	<0.025	<0.001	0.011	0.0077	<0.002	<0.002	<0.005	<0.005	<0.0025	<0.05	<0.0025	<0.0002	0.014	<0.02	<0.001	0.0014	<0.005	<0.0005	<0.05
	02/28/02	<0.025	<0.001	0.01	0.0034	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	<0.0025	<0.0002	0.013	<0.02	<0.001	<0.001	<0.005	<0.001	<0.05
	04/25/02	0.034	<0.001	0.024	0.0031	<0.0025	<0.0025	<0.005	<0.005	0.0055	0.06	0.0058	<0.0002	0.0073	<0.02	<0.001	<0.001	<0.005	<0.001	<0.05
	08/01/02	<0.025	<0.001	0.01	0.0029	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	<0.0025	<0.0002	0.011	<0.02	<0.001	<0.001	<0.005	<0.001	<0.05
	10/24/02	<0.1	<0.003	0.013	<0.01	<0.001	<0.003	<0.01	<0.01	<0.01	<0.1	<0.01	<0.0002	0.015	<0.01	<0.003	<0.006	<0.005	<0.001	<0.05
	01/31/03	<0.025	<0.001	0.015	<0.0025	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	<0.0025	<0.0002	0.011	<0.02	<0.001	<0.001	<0.005	<0.001	<0.05
	04/10/03	<0.05	<0.005	0.0088	<0.005	<0.0005	<0.0015	<0.005	<0.005	<0.005	<0.05	<0.005	<0.0002	0.013	<0.005	<0.005	<0.005	<0.0025	<0.025	<0.025
	07/31/03	<0.05	<0.001	0.012	<0.005	<0.0005	<0.0015	<0.005	<0.005	<0.005	<0.05	<0.005	<0.0002	0.014	<0.005	<0.001	<0.001	<0.0025	<0.0005	<0.05
	11/06/03	0.1	<0.001	0.014	<0.005	<0.0005	<0.0015	<0.005	<0.005	<0.005	<0.05	<0.005	<0.0002	0.013	<0.005	<0.001	<0.001	<0.0025	<0.001	0.0076
	02/12/04	<0.028	<0.001	0.014	0.0027	<0.00005	0.00064	0.0014	<0.0008	<0.0028	<0.012	0.0018	<0.00008	0.015	<0.001	<0.001	<0.001	<0.0004	<0.001	<0.0038
	04/22/04	<0.013	<0.005	0.013	0.002	<0.0003	<0.0003	0.0013	0.00068	<0.0016	<0.032	0.0039	<0.0002	0.014	<0.001	<0.005	<0.005	<0.0006	<0.005	0.0099
MCC-6C	01/12/05	<0.5	<0.002	0.016	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	06/30/05	<0.5	<0.002	0.013	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	09/22/05	<0.5	<0.002	0.013	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	12/01/05	<0.5	<0.002	0.013	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	03/09/06	<0.5	<0.002	0.015	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	06/29/06	<0.5	<0.002	0.015	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	10/19/06	<0.5	<0.002	0.017	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	12/14/06	<0.05	<0.002	0.015	<0.01	<0.002	<0.005	<0.005	<0.01	<0.01	<0.04	<0.02	<0.0002	<0.02	<0.01	<0.001	<0.002	<0.01	<0.001	<0.02
	03/21/07	<0.5	<0.002	0.013	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	6/27/2007*	--	<0.002	0.018	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	09/26/07	--	<0.002	0.025	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	12/26/07	<0.5	<0.002	0.03	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	02/19/08	--	<0.002	0.026	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	04/22/08	--	<0.003	0.026	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	07/29/08	--	<0.003	0.025	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	10/23/08	--	0.0039	0.026	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/12/09	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/03/09	<0.2	<0.003	0.025	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	0.014	<0.01	<0.005	<0.002	--	<0.005	<0.05
	09/21/09	--	<0.003	0.023	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/14/09	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/04/10	--	<0.003	0.022	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	05/10/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/27/10	--	<0.015	0.025	<0.01	<0.001	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.005	<0.01	--	<0.005	--

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																	
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
	11/30/10	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	03/24/11	<0.2	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	0.021	<0.01	<0.001	<0.002	--	<0.001	<0.05
	06/28/11	--	<0.003	0.025	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/01/11	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/18/11	--	<0.006	0.025	<0.01	<0.001	<0.002	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.002	<0.004	--	<0.002	--
	02/20/12	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/05/12	--	<0.003	0.027	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	08/21/12	--	<0.003	0.024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/27/12	--	<0.003	0.023	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.003	--	<0.001	--
MCC-6D	**AWQS**	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	08/09/12	<0.2	<0.012	0.011	0.029	<0.001	<0.001	0.062	--	0.012	<0.1	23	<0.0002	<0.01	0.022	<0.002	<0.008	--	<0.002	<0.05
	08/23/12	<0.2	<0.006	0.0042	0.027	0.0013	<0.001	0.065	--	<0.01	<0.1	22	<0.0002	<0.01	0.021	<0.001	0.002	--	<0.001	<0.05
	11/27/12	<0.2	<0.003	0.0053	0.025	<0.001	<0.001	<0.01	--	<0.01	<0.1	20	<0.0002	<0.01	0.021	<0.001	<0.003	--	<0.001	<0.05
TP5-POC-B	**AQL**	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	06/24/09	<0.2	<0.003	0.0028	0.058	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.059	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	09/23/09	<0.2	<0.003	0.0027	0.07	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	12/15/09	<0.2	<0.003	0.0025	0.057	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	02/04/10	<0.2	<0.003	0.0026	0.052	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	05/10/10	<0.2	<0.003	0.0026	0.048	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	09/09/10	<0.2	<0.003	0.0026	0.049	<0.001	<0.001	<0.01	--	0.011	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	11/30/10	<0.2	<0.003	0.0025	0.041	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	03/17/11	<0.2	0.00025	0.0028	0.037	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	06/23/11	<0.2	<0.003	0.0027	0.039	<0.001	<0.001	<0.01	--	0.012	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0024	--	<0.001	0.11
	08/25/11	<0.2	<0.015	0.0024	0.037	<0.001	<0.005	<0.01	--	0.011	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
	11/16/2011*	<0.2	<0.003	0.0027	0.039	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	02/22/12	<0.2	<0.003	0.0024	0.034	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	06/06/12	<0.2	<0.003	0.0026	0.035	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	08/21/12	<0.2	<0.003	0.0026	0.035	<0.001	<0.001	<0.01	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	11/20/12	<0.2	<0.003	<0.003	0.029	<0.001	<0.001	<0.01	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.001	--	<0.001	<0.05
Confined Gila Unit																				
	AQL	**--**	**0.006**	**0.2**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**--**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/18/97	0.039	<0.001	0.061	0.02	<0.0025	<0.0025	<0.005	<0.005	0.0038	0.03	<0.0025	<0.0002	0.009	<0.02	<0.001	<0.001	<0.005	<0.001	0.014
	10/21/97	--	--	<0.001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/16/98	<0.025	0.001	0.076	0.012	<0.001	<0.0025	<0.005	<0.005	0.0029	0.051	0.021	<0.0002	0.016	<0.02	0.001	0.002	<0.005	<0.001	<0.05
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	03/11/98	--	--	0.043	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/10/98	0.051	0.002	0.09	0.012	<0.0005	<0.002	<0.005	<0.005	0.0037	0.051	0.1	<0.0002	0.016	<0.02	<0.001	<0.001	<0.005	<0.0001	<0.05
	08/27/98	<0.025	0.0011	0.18	0.0077	<0.0025	<0.002	<0.005	<0.005	0.0068	0.13	0.011	<0.0002	0.017	<0.02	0.0018	0.0022	<0.005	<0.0005	<0.05
	11/05/98	0.033	0.0019	0.16	0.013	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.14	<0.0025	<0.0002	<0.005	<0.02	0.0019	0.0012	<0.005	<0.0005	<0.05
	03/03/99	0.084	<0.005	0.15	0.012	<0.0025	<0.002	<0.005	<0.005	0.0089	0.2	0.015	0.00024	0.015	<0.02	<0.005	<0.005	<0.005	<0.0025	<0.05
	05/26/99	<0.025	0.0051	0.14	0.013	<0.0025	<0.002	<0.005	<0.005	0.015	0.27	0.023	<0.0002	0.022	<0.02	0.0029	0.0012	<0.005	<0.0005	0.066
	08/31/99	0.046	0.0059	0.15	0.015	<0.0025	<0.002	<0.005	<0.005	0.0066	0.22	0.021	<0.0002	0.019	<0.02	0.0027	0.0015	0.0063	<0.0005	<0.05
	11/16/99	<0.025	0.0055	0.16	0.015	<0.0025	<0.002	<0.005	<0.005	0.0091	0.17	0.015	<0.0002	0.019	<0.02	0.0015	<0.001	<0.005	<0.0005	<0.05
	03/01/00	0.05	0.0026	0.15	0.013	<0.0025	<0.002	<0.005	<0.00055	0.0082	0.18	0.014	<0.0002	0.016	<0.02	0.002	<0.001	<0.005	<0.0005	<0.05
	05/23/00	0.04	<0.001	0.0051	0.012	<0.0025	<0.002	<0.005	<0.005	0.05	19	0.021	<0.0002	0.016	<0.02	0.0018	0.0013	<0.005	<0.0005	0.067
	09/12/00	0.05	0.0049	0.16	0.0095	<0.0025	<0.002	<0.005	<0.005	0.007	0.096	0.01	<0.0002	0.041	<0.02	0.0017	0.0014	<0.005	<0.0005	<0.05
	01/16/01	0.051	0.0028	0.15	0.011	<0.0025	<0.002	<0.005	<0.005	0.017	0.071	0.025	<0.0002	0.015	<0.02	0.0011	<0.001	<0.005	<0.0005	0.19
	03/13/01	0.051	<0.001	<0.001	0.013	<0.0025	<0.002	<0.005	<0.005	0.011	0.074	0.037	<0.0002	0.015	<0.02	0.0097	<0.001	<0.005	<0.0005	0.14
	06/05/01	<0.025	0.0037	0.14	0.012	<0.002	<0.002	<0.005	<0.005	<0.0025	0.12	0.024	<0.0002	0.016	<0.02	0.0018	<0.001	<0.005	<0.0005	0.18
	10/23/01	<0.025	0.0021	0.14	0.0091	<0.002	<0.0025	<0.005	<0.005	0.014	0.11	0.036	0.00042	0.017	<0.02	<0.001	<0.001	<0.005	<0.0005	0.13
	02/26/02	0.036	<0.001	0.14	0.0091	<0.0025	<0.0025	<0.005	<0.005	0.0075	<0.05	0.023	<0.0002	0.017	<0.02	0.0014	<0.001	<0.005	<0.001	0.092

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
MCC-3C	04/23/02	0.052	0.002	0.14	0.0096	<0.0025	<0.0025	<0.005	<0.005	0.0077	0.075	0.0076	<0.0002	0.013	<0.02	0.0017	<0.001	<0.005	<0.001	0.16
	07/30/02	<0.025	0.0026	0.17	0.0049	<0.0025	<0.0025	<0.005	<0.005	0.0085	<0.05	0.0061	<0.0002	0.015	<0.02	0.0025	<0.001	<0.005	<0.001	0.096
	10/22/02	<0.1	<0.003	0.14	<0.01	<0.001	<0.003	<0.01	<0.01	0.022	<0.1	<0.01	--	0.015	<0.01	<0.003	<0.003	<0.005	<0.001	<0.05
	01/29/03	<0.025	0.002	0.16	0.0028	<0.0025	0.0028	<0.005	<0.005	0.0089	0.076	0.0065	<0.0002	0.019	<0.02	0.0013	<0.001	<0.005	<0.001	<0.05
	04/08/03	<0.05	<0.005	0.15	0.0058	<0.0005	<0.0015	<0.005	<0.005	<0.005	0.093	0.013	<0.0002	0.016	<0.005	<0.005	<0.005	<0.0025	<0.025	0.053
	07/29/03	<0.05	<0.001	0.16	<0.005	0.00065	0.007	<0.005	<0.005	<0.005	0.065	<0.005	<0.0002	0.015	<0.005	0.001	<0.001	0.0056	<0.0005	<0.05
	11/04/03	0.085	<0.001	0.14	0.006	<0.0005	<0.0015	<0.005	0.0078	0.0051	0.13	0.018	<0.0002	0.015	<0.005	<0.001	<0.001	<0.0025	<0.001	0.089
	02/10/04	0.055	0.0018	0.17	0.0098	0.0015	0.0088	0.0094	<0.0008	0.013	0.11	0.0097	<0.00008	0.016	<0.001	0.0018	<0.001	<0.0004	<0.001	0.046
	04/20/04	<0.013	0.0011	0.16	0.0056	<0.0003	<0.0003	0.00088	<0.0006	0.004	0.061	0.007	<0.0002	0.016	<0.001	0.001	<0.001	<0.0006	<0.001	0.044
	01/11/05	<0.5	0.0027	0.14	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	0.0014	<0.002	<0.005	<0.001	0.088
	06/28/05	<0.5	<0.002	0.16	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	09/22/05	<0.5	0.0028	0.14	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	11/29/05	<0.5	<0.002	0.15	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	03/07/06	<0.5	<0.002	0.17	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	06/27/06	<0.5	<0.002	0.16	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	10/17/06	<0.5	<0.002	0.18	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	12/12/06	<0.05	<0.002	0.18	<0.01	<0.002	<0.005	<0.005	<0.01	<0.01	<0.04	<0.02	<0.0002	<0.02	<0.01	<0.001	<0.002	<0.01	<0.001	<0.02
	03/20/07	<0.5	<0.002	0.16	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	0.057
	6/26/2007*	--	<0.002	0.16	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	09/26/07	--	<0.002	0.17	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	12/27/07	--	<0.002	0.19	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	02/21/08	--	<0.003	0.17	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	04/22/08	--	<0.003	0.16	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	07/28/08	--	<0.003	0.15	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	10/21/08	--	<0.003	0.15	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/09/09	--	<0.003	0.15	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/01/09	--	<0.003	0.15	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/21/09	--	<0.003	0.13	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/14/09	--	<0.003	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/03/10	--	<0.003	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	05/11/10	--	<0.003	0.15	<0.01	<0.001	<0.001	<0.01	--	--	--	--	0.00029	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/24/10	--	<0.003	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/01/10	--	0.00039	0.13	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	03/15/11	--	0.00055	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/29/11	--	<0.003	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/01/11	--	<0.003	0.13	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/16/11	--	0.00031	0.14	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/24/12	--	<0.003	0.13	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/04/12	--	<0.003	0.12	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	08/20/12	--	<0.003	0.064	0.019	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/19/12	--	<0.003	0.064	0.018	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.001	--	<0.001	--
	AQL	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	04/19/95	3.6	<0.5	<0.01	0.085	<0.01	<0.005	0.018	<0.05	<0.05	2.8	0.41	<0.0002	0.55	<0.05	0.008	<0.01	<0.05	<0.5	0.059
	07/07/95	7.4	<0.5	<0.01	0.061	<0.01	<0.005	0.009	<0.05	<0.05	4	0.18	<0.0002	0.89	<0.05	0.015	<0.01	<0.05	<0.5	<0.05
	11/29/95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/04/95	14	<0.5	<0.01	0.12	<0.01	<0.005	0.05	<0.05	<0.05	11	0.35	<0.0002	0.92	0.11	0.0059	<0.01	<0.05	<0.5	0.063
	04/25/96	17	<0.006	<0.01	0.13	<0.004	<0.005	0.042	<0.05	<0.05	13	0.41	0.0006	0.86	<0.05	0.022	<0.01	<0.05	<0.002	0.099
	08/27/96	<0.5	<0.006	<0.01	<0.05	<0.004	<0.005	0.005	<0.05	<0.05	0.16	<0.05	<0.0002	1.1	<0.05	<0.005	<0.01	<0.05	<0.002	<0.05
	01/08/97	<0.5	0.0063	<0.01	<0.05	<0.004	<0.005	<0.005	<0.05	<0.05	0.21	<0.05	<0.0002	1.1	<0.05	<0.005	<0.01	<0.05	<0.002	<0.05
	05/09/97	0.64	<0.002	0.0038	0.0072	<0.0025	<0.0025	<0.01	<0.01	<0.0025	0.41	0.03	<0.0002	1.3	<0.03	<0.002	<0.01	<0.01	<0.002	0.02
	05/15/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/18/97	0.69	<0.001	0.004	0.0062	<0.0025	<0.0025	<0.005	<0.005	0.0065	0.43	0.03	<0.0002	1.1	<0.02	<0.001	<0.001	<0.005	<0.001	0.018

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
MCC-4	01/16/98	<0.025	<0.001	0.002	0.0044	<0.001	<0.0025	<0.005	<0.005	<0.0025	<0.05	0.018	<0.0002	1.1	<0.02	0.002	<0.001	<0.005	<0.001	<0.05
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/10/98	0.4	<0.001	0.004	0.0043	<0.0005	<0.002	<0.005	<0.005	<0.0025	0.23	0.034	<0.0002	1.1	<0.02	<0.001	<0.001	<0.005	<0.0001	<0.05
	07/31/98	0.19	0.0018	0.0045	0.0047	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.17	0.037	<0.0002	1	<0.02	<0.001	0.0054	<0.005	<0.001	<0.05
	11/05/98	0.14	<0.001	0.0049	0.0034	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.089	<0.0025	<0.0002	1.1	<0.02	0.0028	0.0023	<0.005	<0.0005	<0.05
	03/05/99	0.051	<0.005	<0.005	0.0038	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.06	0.014	<0.0002	1.1	<0.02	<0.005	<0.005	<0.005	<0.0025	<0.05
	05/26/99	0.22	<0.001	0.0036	<0.0025	<0.0025	<0.002	0.006	<0.005	<0.0025	0.17	0.012	<0.0002	1.1	<0.02	<0.001	0.0025	<0.005	<0.0005	<0.05
	09/01/99	0.12	<0.001	0.0022	0.0042	<0.0025	<0.002	<0.005	<0.005	0.0039	0.15	0.015	<0.0002	1.1	<0.02	<0.001	0.0032	<0.005	<0.0005	<0.05
	11/17/99	<0.025	<0.001	0.0039	0.0032	<0.0025	<0.002	<0.005	<0.005	0.0027	<0.05	0.0054	<0.0002	1.3	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	03/02/00	0.05	<0.001	0.0042	0.0026	<0.0025	<0.002	<0.005	<0.00055	<0.0025	<0.03	0.0089	<0.0002	1.2	<0.02	<0.001	0.005	<0.005	<0.0005	<0.05
	05/24/00	0.13	<0.001	0.0037	0.0033	<0.005	<0.004	<0.01	<0.01	<0.005	0.099	0.0082	<0.0002	<0.01	<0.04	<0.001	0.0037	<0.01	<0.0005	<0.1
	09/12/00	0.18	0.0025	0.004	0.0032	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.094	0.011	<0.0002	1.1	<0.02	<0.001	0.0015	<0.005	<0.0005	<0.05
	01/18/01	0.11	<0.001	0.0027	0.0036	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.068	0.0051	<0.0002	1.1	<0.02	<0.001	0.0013	<0.005	<0.0005	<0.05
	03/14/01	0.31	<0.001	0.0049	0.0032	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.17	0.02	<0.0002	1.1	<0.02	0.0036	0.0042	<0.005	<0.0005	<0.05
	06/06/01	0.2	<0.001	<0.001	0.004	<0.002	<0.002	<0.005	<0.005	0.0078	0.11	<0.0025	<0.0002	1.2	<0.02	<0.001	0.0039	<0.005	<0.0005	<0.05
	10/24/01	0.17	<0.001	0.0028	0.0037	<0.002	<0.0025	<0.005	<0.005	<0.0025	0.12	0.0094	<0.0002	1	<0.02	<0.001	0.0014	<0.005	<0.0005	<0.05
	02/27/02	0.082	<0.001	0.0025	0.003	<0.0025	<0.0025	<0.005	<0.005	<0.002	0.086	<0.0025	<0.0002	1	<0.02	<0.001	0.0019	<0.005	<0.001	<0.05
	04/24/02	0.2	<0.001	0.02	0.0044	<0.0025	<0.0025	<0.005	<0.005	<0.002	0.14	0.0083	<0.0002	1	<0.02	<0.001	0.0014	<0.005	<0.001	<0.05
	07/31/02	0.032	<0.001	<0.001	<0.0025	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	0.005	<0.0002	0.96	<0.02	<0.001	0.0034	<0.005	<0.001	<0.05
	10/23/02	<0.1	<0.003	<0.004	<0.01	<0.001	<0.003	<0.01	<0.01	<0.01	<0.1	<0.01	--	0.94	<0.01	<0.003	<0.003	<0.005	<0.001	<0.05
	01/30/03	0.14	<0.001	0.0027	<0.0025	<0.0025	<0.0025	<0.005	<0.005	0.0036	0.063	0.0044	<0.0002	0.99	<0.02	<0.001	0.0024	<0.005	<0.001	<0.05
	04/09/03	0.11	<0.005	<0.005	<0.005	<0.0005	<0.0015	<0.005	<0.005	<0.005	0.089	0.0066	<0.0002	0.96	<0.005	<0.005	<0.005	<0.0025	<0.025	<0.025
	07/30/03	0.14	<0.001	0.0028	<0.005	0.00058	<0.0015	<0.005	<0.005	<0.005	0.082	0.0058	<0.0002	0.98	<0.005	<0.001	<0.001	<0.0025	<0.0005	<0.05
	11/05/03	0.24	<0.001	0.0023	<0.005	<0.0005	<0.0015	<0.005	<0.005	<0.005	0.082	0.015	0.0003	1	<0.005	<0.001	<0.001	<0.0025	<0.001	0.0084
	02/11/04	0.21	<0.001	0.0032	0.004	0.00067	0.0012	0.0026	0.0081	<0.0028	0.14	0.021	<0.00008	1	0.0024	<0.001	0.0023	<0.0004	<0.001	<0.0038
	04/21/04	0.13	0.0029	0.0028	0.0026	0.00045	<0.0003	<0.0005	0.0059	<0.0016	0.091	0.017	<0.0002	0.97	<0.001	<0.001	<0.001	<0.0006	<0.001	<0.0055
	01/12/05	<0.5	<0.002	0.0026	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	1.1	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	06/29/05	<0.5	<0.002	0.0023	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	1	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	09/21/05	<0.5	<0.002	0.0031	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	0.024	<0.0002	1	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	11/30/05	1.9	<0.002	0.0026	0.013	<0.004	<0.005	<0.01	<0.05	<0.02	0.98	0.032	<0.0002	1	<0.05	0.0015	<0.002	<0.005	<0.001	<0.05
	03/08/06	<0.5	<0.002	0.0028	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	1.1	<0.05	<0.001	0.0036	<0.005	<0.001	<0.05
	06/28/06	<0.5	<0.002	0.0019	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	0.88	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	10/18/06	<0.5	<0.002	0.0019	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	0.92	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	12/13/06	1.1	<0.002	0.0029	<0.01	<0.002	<0.005	<0.005	<0.01	<0.01	0.68	0.022	<0.0002	1.1	<0.01	<0.001	<0.002	<0.01	<0.001	<0.02
	03/20/07	<0.5	<0.002	0.0021	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	1.1	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	6/26/2007*	--	<0.002	0.003	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	09/25/07	--	<0.002	0.0023	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	12/27/07	--	<0.002	0.0031	<0.01	<0.004	0.0019	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	02/21/08	--	<0.003	0.0034	<0.01	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	0.0021	--	<0.001	--
	04/22/08	--	<0.003	0.0037	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	07/28/08	--	<0.003	0.0035	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	10/21/08	--	<0.003	0.0037	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/10/09	--	<0.003	0.0035	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/02/09	--	<0.003	0.0033	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	0.0023	--	<0.001	--
	09/22/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/09	--	<0.003	0.0031	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/03/10	--	<0.003	0.0029	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	05/10/10	--	<0.003	0.0029	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/23/10	--	<0.003	0.0027	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/01/10	--	<0.003	0.0028	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	03/15/11	--	0.00032	0.0032	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	0.012	<0.001	<0.002	--	<0.001	--
	06/28/11	--	<0.003	0.0029	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	0.0026	--	<0.001	--
	08/31/11	--	<0.003	0.0026	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	0.002	--	<0.001	--
	11/15/11	--	<0.003	0.0025	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	0.019	<0.001	<0.002	--	<0.001	--

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																	
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
	02/23/12	--	<0.003	0.0022	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	0.027	<0.001	<0.002	--	<0.001	--
	06/04/12	--	<0.003	0.0023	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	0.02	<0.001	<0.002	--	<0.001	--
	08/20/12	--	<0.003	0.0022	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	0.013	<0.001	<0.002	--	<0.001	--
	11/19/12	--	<0.003	<0.003	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	**0.19**	<0.001	<0.001	--	<0.001	--
	12/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	0.036	--	--	--	--	--
Shallow Unconfined Gila Unit																				
GAI-02-01	**AQL**	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	05/08/02	0.02	<0.005	0.02	0.022	<0.002	<0.002	<0.006	<0.006	<0.003	<0.02	0.061	<0.0002	0.020	<0.01	<0.005	<0.01	<0.005	<0.001	0.008
	05/29/02	0.02	<0.005	<0.01	0.018	<0.002	<0.002	<0.006	<0.006	<0.003	<0.02	0.079	<0.0002	0.030	<0.01	<0.005	<0.01	<0.005	<0.001	0.029
	03/20/03	<0.020	<0.005	0.016	0.0114	<0.002	<0.002	<0.006	<0.006	0.0065	<0.02	0.0047	<0.0002	0.0159	<0.01	<0.005	<0.01	<0.005	<0.001	0.0946
	09/27/07	<0.5	<0.002	0.0027	0.014	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0024	--	<0.001	<0.05
	12/26/07	<0.5	<0.002	0.0036	0.011	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0027	--	<0.001	<0.05
	02/20/08	<0.5	<0.002	0.0028	0.011	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0027	--	<0.001	<0.05
	04/23/08	<0.2	<0.003	0.0034	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0024	--	<0.001	<0.05
	07/29/08	<0.2	<0.003	0.0033	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	10/22/08	<0.2	<0.003	0.0029	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	02/12/09	<0.2	<0.003	0.003	0.012	<0.001	0.0042	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0025	--	<0.001	<0.05
	06/03/09	<0.2	<0.003	0.0032	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	<0.002	--	<0.005	<0.05
	09/21/09	<0.2	<0.003	0.003	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	12/15/2009*	<0.2	<0.003	0.003	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	02/04/10	<0.2	<0.003	0.0028	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	05/07/10	<0.2	<0.003	0.0028	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	09/24/10	<0.2	<0.003	0.0028	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	11/30/10	<0.2	<0.003	0.0029	0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	03/17/11	<0.2	0.0004	0.0032	0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0025	--	<0.001	<0.05
	06/23/11	<0.2	<0.003	0.0029	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0037	--	<0.001	<0.05
	09/01/11	<0.2	<0.003	0.0031	0.01	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0042	--	<0.001	<0.05
	11/18/11	<0.2	<0.006	0.003	0.011	<0.001	<0.002	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.002	<0.004	--	<0.002	<0.05
	02/21/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/22/12	<0.2	<0.003	0.0026	0.011	<0.001	<0.001	0.012	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0029	--	<0.001	<0.05
	06/06/12	<0.2	<0.003	0.0028	0.011	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	08/21/12	<0.2	<0.003	0.0026	0.012	<0.001	<0.001	0.013	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0029	--	<0.001	<0.05
	11/26/12	<0.2	<0.003	<0.003	<0.01	<0.001	<0.001	<0.01	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.003	--	<0.001	<0.05
	AQL	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	09/16/97	<0.025	<0.001	0.002	0.02	<0.0025	<0.0025	<0.005	<0.005	0.016	<1	4.2	<0.0002	<0.005	<0.02	<0.001	<0.001	<0.005	<0.001	0.063
	09/17/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	01/14/98	<0.025	<0.001	0.002	0.015	<0.001	<0.0025	<0.005	<0.005	<0.0025	<0.05	0.27	<0.0002	<0.005	<0.02	<0.001	<0.001	<0.005	<0.001	<0.05
	01/19/98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/08/98	0.032	<0.001	0.002	0.016	<0.0005	<0.002	<0.005	<0.005	<0.0025	0.056	0.62	<0.0002	<0.005	<0.02	<0.001	0.003	<0.005	<0.0001	0.09
	07/30/98	<0.025	0.0012	0.0028	0.013	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.016	<0.0002	<0.005	<0.02	<0.001	0.0025	<0.005	<0.001	<0.05
	11/03/98	<0.025	<0.001	0.0019	0.016	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.31	<0.0002	<0.005	<0.02	<0.001	0.0019	<0.005	<0.0005	<0.05
	03/02/99	<0.025	<0.001	0.0019	0.016	<0.0025	<0.002	<0.005	<0.005	<0.0025	<0.05	0.17	<0.0002	<0.005	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	05/25/99	<0.025	<0.001	0.002	0.015	<0.0025	<0.002	0.007	<0.005	0.0028	0.055	0.13	<0.0002	<0.005	0.12	<0.001	<0.001	<0.005	<0.0005	0.057
	09/01/99	0.051	<0.001	0.0015	0.015	<0.0025	<0.002	<0.005	<0.005	0.0031	<0.05	0.11	<0.0002	<0.005	<0.02	<0.001	0.0026	<0.005	<0.0005	<0.05
	11/17/99	<0.025	<0.001	0.0024	0.014	<0.0025	<0.002	<0.005	<0.005	0.0045	<0.05	0.022	<0.0002	<0.005	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	03/01/00	<0.025	<0.001	0.0041	0.015	<0.0025	<0.002	<0.005	<0.00055	<0.0025	<0.03	0.098	<0.0002	<0.005	<0.02	<0.001	0.0028	<0.005	<0.0005	<0.05
	05/23/00	<0.025	<0.001	0.0015	0.014	<0.0025	<0.002	<0.005	<0.005	<0.0025	0.11	0.056	<0.0002	<0.005	<0.02	<0.001	0.0017	<0.005	<0.0005	<0.05
	09/12/00	<0.025	<0.001	0.0038	0.015	<0.0025	<0.002	<0.005	<0.005	0.005	<0.05	0.61	<0.0002	<0.005	<0.02	<0.001	0.0016	<0.005	<0.0005	<0.05
	01/17/01	0.11	<0.001	0.0011	0.15	<0.0025	<0.002	<0.005	<0.005	0.0044	<0.05	0.66	<0.0002	<0.005	<0.02	<0.001	<0.001	<0.005	<0.0005	<0.05
	03/13/01	0.026	<0.001	0.0021	0.016	<0.0025	<0.002	<0.005	<0.005	0.0026	<0.05	0.48	<0.0002	<0.005	<0.02	<0.001	0.0026	<0.005	<0.0005	<0.05
	06/05/01	<0.025	<0.001	0.0021	0.016	<0.002	<0.002	<0.005	<0.005	<0.0025	<0.05	0.018	<0.0002	<0.005	<0.02	<0.001	0.0025	<0.005	<0.0005	<0.05
	10/23/01	<0.025	<0.001	0.0026	0.012	<0.002	<0.0025	<0.005	<0.005	<0.0025	<0.05	0.17	0.00056	<0.005	<0.02	<0.001	0.0022	<0.005	<0.0005	<0.05

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
MCC-9	02/26/02	<0.025	<0.001	0.001	0.013	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	<0.0025	<0.0002	<0.005	<0.02	<0.001	0.0014	<0.005	<0.001	<0.05
	04/23/02	0.036	0.0011	<0.001	0.013	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	0.0039	<0.0002	<0.005	<0.02	<0.001	0.0024	<0.005	<0.001	<0.05
	07/30/02	<0.025	<0.001	<0.001	0.013	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	0.15	<0.0002	<0.005	<0.02	<0.001	0.0016	<0.005	<0.001	<0.05
	10/22/02	<0.1	<0.003	<0.004	0.013	<0.001	<0.003	<0.01	<0.01	<0.01	<0.1	0.26	--	<0.01	<0.01	<0.003	<0.003	<0.005	<0.001	<0.05
	01/29/03	<0.025	<0.001	0.0026	0.013	<0.0025	<0.0025	<0.005	<0.005	<0.002	<0.05	<0.0025	<0.0002	<0.005	<0.02	<0.001	0.0014	<0.005	<0.001	<0.05
	04/08/03	<0.05	<0.005	<0.005	0.013	<0.0005	<0.0015	<0.005	<0.005	<0.005	<0.05	<0.005	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.0025	<0.025	<0.025
	07/29/03	<0.05	<0.001	0.0022	0.012	0.00057	<0.0015	<0.005	<0.005	<0.005	<0.05	0.11	<0.0002	<0.005	<0.005	<0.001	<0.001	<0.0025	<0.0005	<0.05
	11/04/03	0.066	<0.001	<0.001	0.012	<0.0005	<0.0015	<0.005	0.0057	<0.005	<0.05	0.29	<0.0002	<0.005	<0.005	<0.001	<0.001	<0.0025	<0.001	0.0081
	02/10/04	<0.028	<0.001	0.0024	0.012	<0.00005	<0.0003	<0.0012	0.0064	<0.0028	<0.012	0.009	<0.00008	0.00089	<0.001	<0.001	0.0012	<0.0004	<0.001	0.011
	04/20/04	<0.013	<0.001	0.0022	0.012	<0.0003	<0.0003	<0.0005	<0.0006	<0.0016	<0.032	0.0091	<0.0002	0.0015	0.0013	<0.001	<0.001	<0.0006	<0.001	0.0084
	01/11/05	<0.5	<0.002	0.0022	0.014	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	06/28/05	<0.5	<0.002	0.0017	0.012	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	09/20/05	<0.5	<0.002	0.0022	0.013	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	11/30/05	<0.5	<0.002	0.0023	0.018	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	0.058
	03/07/06	<0.5	<0.002	0.0024	0.012	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0036	<0.005	<0.001	<0.05
	06/27/06	<0.5	<0.002	0.0028	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	10/17/06	<0.5	<0.002	0.001	0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	12/12/06	<0.05	<0.002	0.003	0.014	<0.002	<0.005	<0.005	<0.01	<0.01	<0.04	<0.02	<0.0002	<0.02	<0.01	<0.001	<0.002	<0.01	<0.001	0.041
	03/20/07	<0.5	<0.002	0.0023	<0.01	<0.004	<0.005	<0.01	<0.05	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	<0.005	<0.001	<0.05
	6/26/2007*	--	<0.002	0.0027	0.014	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	09/26/07	--	<0.002	0.0023	0.013	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	12/27/07	--	<0.002	0.0026	0.012	<0.004	<0.005	<0.01	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	02/19/08	--	<0.002	0.0021	0.011	<0.004	<0.005	0.013	--	--	--	--	<0.0002	--	<0.05	<0.001	<0.002	--	<0.001	--
	04/21/08	--	<0.003	0.0026	<0.01	<0.001	<0.001	0.015	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	07/28/08	--	<0.003	0.0023	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	10/21/08	--	<0.003	0.0025	0.012	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/09/09	--	<0.003	0.0024	0.012	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/01/09	--	<0.003	0.0023	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/21/09	--	<0.003	0.0022	0.012	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/14/09	--	<0.003	0.0024	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/03/10	--	<0.003	0.0022	<0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	05/07/10	--	<0.003	0.0022	0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	09/24/10	--	<0.003	0.0022	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	12/01/10	--	<0.003	0.0021	0.01	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	03/15/11	--	<0.003	0.0024	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/23/11	<0.2	<0.003	0.0022	0.012	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	08/31/11	--	<0.003	0.002	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/15/11	--	<0.003	0.002	0.011	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	02/24/12	--	<0.003	0.0022	0.012	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	06/04/12	--	<0.003	0.0022	0.013	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	08/20/12	--	<0.003	0.0021	0.014	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.002	--	<0.001	--
	11/19/12	--	<0.003	<0.003	0.012	<0.001	<0.001	<0.01	--	--	--	--	<0.0002	--	<0.01	<0.001	<0.001	--	<0.001	--
Alluvial Unit																				
Indian Ponds POC	**AQL**	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.045**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	09/27/07	<0.5	<0.002	0.001	0.2	<0.004	<0.005	<0.01	--	<0.02	<0.2	0.053	<0.0002	<0.05	<0.05	<0.001	0.017	--	<0.001	<0.05
	12/28/07	<0.5	<0.002	0.001	0.16	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0041	--	<0.001	<0.05
	02/21/08	<0.5	<0.003	0.013	0.17	<0.004	<0.005	<0.01	--	0.029	<0.2	<0.02	0.00044	<0.05	<0.05	<0.001	0.046	--	<0.001	<0.05
	04/23/08	<0.2	<0.003	0.034	0.036	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.006	--	<0.001	0.065
	07/29/08	<0.2	<0.003	0.043	0.038	<0.001	<0.001	<0.01	--	0.015	<0.05	<0.01	0.00046	<0.01	<0.01	<0.001	0.0072	--	<0.001	<0.05
	10/23/08	<0.2	<0.003	0.043	0.037	<0.001	<0.001	<0.01	--	0.012	<0.05	0.42	<0.0002	<0.01	0.013	<0.001	0.0094	--	<0.001	<0.05
	02/11/09	<0.2	<0.015	0.027	0.033	<0.001	<0.001	<0.01	--	0.011	<0.05	0.2	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
	06/02/09	<0.2	<0.003	0.028	0.031	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.048	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	09/23/09	<0.2	<0.003	0.012	0.038	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0067	--	<0.001	<0.05
	12/1/2009*	<0.2	<0.003	0.014	0.035	<0.001	<0.005	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	0.0031	0.0035	--	<0.001	<0.05

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
	02/05/10	<0.2	<0.003	0.01	0.038	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.071	<0.0002	<0.01	<0.01	<0.001	0.002	--	<0.001	<0.05
	05/05/10	<0.2	<0.015	0.045	0.025	<0.001	<0.005	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
	08/03/10	<0.2	<0.003	0.017	0.03	<0.001	<0.001	<0.01	--	<0.01	0.18	0.11	<0.0002	<0.01	<0.01	<0.001	0.0051	--	<0.001	<0.05
	11/11/10	<0.2	<0.003	0.03	0.026	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0038	--	<0.001	<0.05
	03/17/11	<0.2	<0.015	0.044	0.024	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.01	--	<0.001	<0.05
	06/22/11	0.22	<0.003	0.016	0.031	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.013	<0.0002	<0.01	<0.01	<0.001	0.006	--	<0.001	<0.05
	08/31/11	<0.2	<0.003	0.012	0.034	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0059	--	<0.001	<0.05
	02/22/12	<0.2	<0.003	0.008	0.031	<0.001	<0.001	0.017	--	<0.01	<0.05	0.14	<0.0002	<0.01	**0.12**	<0.001	0.0056	--	<0.001	<0.05
	AQL	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	06/21/07	<0.011	0.00022	0.0033	0.0322	<0.0002	<0.0003	0.00059	--	<0.0021	<0.0072	0.007	<0.0001	0.0024	0.0018	<0.0024	0.0021	--	<0.00002	0.0011
	09/27/07	<0.5	<0.002	0.0033	0.025	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	--	<0.001	<0.05
	12/28/07	<0.5	<0.002	0.0042	0.021	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	<0.002	--	<0.001	<0.05
	02/21/08	<0.5	<0.003	0.0065	0.039	<0.004	<0.005	<0.01	--	<0.02	<0.2	<0.02	<0.0002	<0.05	<0.05	<0.001	0.0047	--	<0.001	<0.05
	04/22/08	<0.2	<0.003	0.016	0.04	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.024	<0.0002	<0.01	<0.01	<0.001	0.0094	--	<0.001	0.15
	07/29/08	<0.2	<0.003	0.0061	0.035	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	10/22/08	<0.2	<0.003	0.0096	0.042	<0.001	<0.001	<0.01	--	0.013	<0.05	<0.01	<0.0002	<0.01	<0.01	0.0037	0.0084	--	<0.001	<0.05
	02/12/09	<0.2	<0.015	0.0085	0.046	<0.001	<0.001	<0.01	--	0.017	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
	06/02/09	<0.2	<0.003	0.0046	0.019	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.022	<0.0002	<0.01	<0.01	<0.001	0.0034	--	<0.001	<0.05
	09/24/09	<0.2	<0.003	0.0041	0.11	<0.001	<0.001	<0.01	--	<0.01	0.42	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0023	--	<0.001	<0.05
Smelter Pond POC Well	12/15/2009*	0.98	<0.003	0.004	0.023	<0.001	<0.001	<0.01	--	<0.01	0.55	0.044	<0.0002	<0.01	<0.01	0.0013	<0.002	--	<0.001	<0.05
	02/05/10	<0.2	<0.015	0.02	0.042	0.0011	<0.005	<0.01	--	0.031	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	0.023	--	<0.005	<0.05
	05/13/10	<0.2	<0.003	0.0068	0.039	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	0.00031	<0.01	<0.01	<0.001	0.0033	--	<0.001	<0.05
	12/01/10	<0.2	<0.006	0.0023	0.026	<0.001	<0.002	<0.01	--	0.011	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.002	<0.004	--	<0.002	<0.05
	03/02/11	0.52	<0.015	0.018	0.03	<0.001	<0.005	<0.01	--	<0.01	0.34	0.023	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
	06/30/11	<0.2	<0.003	0.0075	0.024	<0.001	<0.001	<0.01	--	0.01	0.061	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0052	--	<0.001	<0.05
	09/01/11	<0.2	<0.003	0.0039	0.014	<0.001	<0.001	<0.01	--	<0.01	0.065	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0026	--	<0.001	<0.05
	11/17/11	<0.2	<0.006	0.0045	0.026	<0.001	<0.002	<0.01	--	<0.01	<0.05	0.036	<0.0002	<0.01	<0.01	<0.002	<0.004	--	<0.002	<0.05
	02/21/12	<0.2	<0.003	0.027	0.026	<0.001	<0.001	0.08	--	0.022	<0.05	0.12	<0.0002	<0.01	<0.01	<0.001	0.012	--	<0.001	0.053
	06/05/12	<0.2	<0.003	0.017	0.045	<0.001	<0.001	<0.01	--	<0.01	<0.05	1.6	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	07/19/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/15/12	<0.2	<0.006	0.019	0.052	0.0019	<0.002	**0.092**	--	0.016	<0.1	0.74	<0.0002	<0.01	0.014	<0.002	0.0056	--	<0.002	0.054
	09/25/12	<0.2	<0.003	0.023	0.042	<0.001	<0.001	0.073	--	<0.01	<0.1	1.1	<0.0002	<0.01	0.01	0.0011	0.0037	--	<0.001	0.065
	10/09/12	<0.2	<0.003	0.018	0.044	0.0019	<0.001	**0.083**	--	0.016	<0.1	0.76	<0.0002	<0.01	0.01	<0.001	0.0032	--	<0.001	0.077
	11/14/12	<0.2	<0.003	0.014	0.045	<0.001	<0.001	<0.01	--	<0.01	<0.1	1	<0.0002	<0.01	<0.01	<0.001	0.0041	--	<0.001	<0.05
	11/15/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/17/12	<0.2	<0.003	0.013	0.022	<0.001	<0.001	<0.01	--	<0.01	<0.1	0.22	<0.0002	<0.01	<0.01	<0.001	0.0051	--	<0.001	0.068
Fractured Bedrock Unit																				
	AQL	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.005**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**0.0048**	**0.04**	**1.6**	**0.0032**	**0.004**	**0.08**	**--**	**--**	**--**	**--**	**0.0016**	**--**	**0.08**	**0.04**	**0.04**	**--**	**0.0016**	**--**
	10/23/08	<0.2	<0.003	0.0018	0.032	<0.001	<0.001	<0.01	--	<0.01	0.086	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0062	--	<0.001	<0.05
	02/11/09	<0.2	<0.003	0.0013	0.03	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.021	<0.0002	<0.01	0.015	<0.001	0.0047	--	<0.001	<0.05
	06/03/09	<0.2	<0.003	0.0016	0.029	<0.001	<0.001	<0.01	--	<0.01	<0.05	0.023	<0.0002	<0.01	<0.01	<0.005	<0.002	--	<0.005	<0.05
	09/23/09	<0.2	<0.003	0.0021	0.039	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0065	--	<0.001	<0.05
	12/01/09	<0.2	<0.003	0.0018	0.033	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.003	--	<0.001	<0.05
	02/05/10	<0.2	<0.003	0.0027	0.028	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0032	--	<0.001	<0.05
	05/05/10	<0.2	<0.015	<0.005	0.025	<0.001	<0.005	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	<0.05
500 YD	09/24/10	<0.2	<0.003	0.0014	0.029	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0021	--	<0.001	<0.05
	11/11/10	<0.2	<0.003	0.0015	0.024	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0028	--	<0.001	<0.05
	03/17/11	<0.2	<0.015	0.002	0.023	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0086	--	<0.001	<0.05
	06/22/11	<0.2	<0.003	0.0019	0.026	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0061	--	<0.001	<0.05
	08/31/11	<0.2	<0.003	0.0015	0.024	<0.001	<0.001	<0.01	--	<0.01	<0.05	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0053	--	<0.001	<0.05
	8/24/2012*	<0.2	<0.006	<0.001	0.026	<0.001	<0.002	0.014	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	0.012	--	<0.001	<0.05

TABLE 4-1b
GROUNDWATER QUALITY RESULTS FOR METAL

Well Name	Sample Date	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
	08/28/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/09/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/14/12	<0.2	<0.003	<0.003	0.025	<0.001	<0.001	<0.01	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	0.012	--	<0.001	<0.05
	12/18/12	<0.2	<0.003	<0.003	0.024	<0.001	<0.001	<0.01	--	<0.01	<0.1	<0.01	<0.0002	<0.01	<0.01	<0.001	0.0088	--	<0.001	<0.05
Tailings Porewater																				
SP1&2-Alert-B	**AQL**	**--**	**0.006**	**0.05**	**2**	**0.004**	**0.011**	**0.1**	**--**	**--**	**--**	**--**	**0.002**	**--**	**0.1**	**0.05**	**0.05**	**--**	**0.002**	**--**
	AL	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	06/23/09	<0.20	<0.20	0.0049	<0.010	<0.0010	0.010	<0.010	--	0.21	0.090	11	<0.00020	<0.010	<0.010	0.0016	0.0038		<0.0010	1.4
	09/23/09	<0.2	<0.003	0.0014	0.012	<0.001	<0.001	<0.01	--	0.052	<0.05	3.4	<0.0002	<0.01	<0.01	<0.001	0.0089	--	<0.001	<0.05
	12/15/09	<0.2	<0.003	0.0014	<0.01	<0.001	<0.001	<0.01	--	<0.01	0.83	2.8	<0.0002	<0.01	<0.01	<0.001	0.007	--	<0.001	<0.05
	02/05/10	<0.2	<0.003	0.0031	<0.01	<0.001	0.0051	<0.01	--	0.25	0.39	14	<0.0002	<0.01	<0.01	<0.001	0.012	--	<0.001	1.6
	05/13/10	<0.2	<0.003	0.0042	<0.01	<0.001	0.0055	<0.01	--	0.2	0.65	16	0.00031	<0.01	<0.01	<0.002	<0.004	--	<0.002	2
	08/27/10	<0.2	<0.015	<0.005	<0.01	<0.001	0.0054	0.011	--	0.078	0.69	15	<0.0002	<0.01	<0.01	<0.005	<0.01	--	<0.005	1.9
	11/30/10	<0.2	<0.003	0.006	<0.01	<0.001	0.0044	<0.01	--	0.05	0.76	13	<0.0002	<0.01	<0.01	<0.001	0.017	--	<0.001	1.7
	03/15/11	<0.2	<0.015	0.0073	<0.01	<0.001	0.0059	<0.01	--	0.029	0.17	12	<0.0002	<0.01	<0.01	<0.001	0.02	--	<0.001	1.6
	06/29/11	<2	<0.003	0.0048	0.011	<0.001	0.0036	<0.01	--	0.077	0.86	11	<0.0002	<0.01	<0.01	<0.001	0.0027	--	<0.001	1.5
	9/1/2011*	<0.2	<0.003	0.0056	<0.01	<0.001	0.0037	<0.01	--	0.075	0.83	10	<0.0002	<0.01	<0.01	<0.001	<0.01	--	<0.001	1.5
	11/17/11	<0.2	<0.03	<0.01	<0.01	<0.001	0.0026	<0.01	--	0.063	0.7	9.2	<0.0002	0.01	<0.01	<0.01	<0.02	--	0.0017	1.3
	02/23/12	<0.2	<0.003	<0.001	0.011	<0.001	<0.001	0.011	--	0.052	0.5	2.2	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	06/06/12	<0.2	<0.003	<0.001	0.012	<0.001	<0.001	<0.01	--	0.045	1.4	2.2	<0.0002	<0.01	<0.01	<0.001	<0.002	--	<0.001	<0.05
	08/23/12	<0.2	<0.006	<0.002	0.011	<0.001	<0.002	0.013	--	0.036	<0.1	2.1	<0.0002	<0.01	<0.01	<0.001	<0.004	--	<0.001	<0.05
	11/20/12	<0.2	<0.003	<0.003	<0.01	<0.001	0.002	<0.01	--	0.061	0.48	7.8	<0.0002	<0.01	<0.01	<0.001	<0.001	--	<0.001	0.94

Notes:
* = Start of routine sampling and comparison to ALs and AQLs
AL = Alert Level; AQL = Aquifer Quality Limit; AWQS = Aquifer Water Quality Standards
11 = AL, AQL, or AWQS exceedance
POC = Point of Compliance
mg/L = milligrams per liter

TABLE 4-1C
GROUNDWATER QUALITY RESULTS FOR ORGANIC COMPOUNDS

Well Name	Sample Date	SVOC															VOC				
		2-Methylnaphthalene	Acenaphthene	Acenapthylene	Anthracene	Benz(a)anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenzofuran	Fluor-anthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	1,2,4-Trimethylbenzene	Benzene	Ethylbenzene	Toluene	Xylenes, total
Tailings Porewater																					
	AQL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	AL	--	--	--	--	--	**0.0002**	--	--	--	--	--	--	--	--	--	--	**0.005**	**0.7**	**1**	**10**
SP1&2-Alert-B	06/23/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	09/23/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	12/15/09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	02/05/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	05/13/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	08/27/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	11/17/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	03/15/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	06/29/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	07/29/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	09/01/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<1	<1	<1.5
	09/27/11	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	11/17/11	<10	<10	<10	<10	<10	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	12/29/11	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	02/23/12	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	06/06/12	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	08/23/12	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5
	11/20/12	<10	<10	<10	<10	<10	<0.05	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.5	<0.5	<0.5	<0.5	<1.5

Notes:
units - ug/L (micrograms per liter) unless otherwise indicated
SVOC = semi-volatile organic compounds
VOC = volatile organic compounds

SUMMARY STATISTICS

TABLE 4-2a
GROUNDWATER STATISTICAL RESULTS - MAJOR IONS, RADIOCHEMISTRY AND MISC. PARAMETERS

Well Name	Statistical Parameter	Physical Parameters and Other Constituents											Major Anions and Cations							Radiochemistry					
		Field pH (SU)	Field SC (mS/cm)	Field Temperature (Celsius)	CO_3^{-2} (mg/L as $CaCO_3$)	HCO_3^- (mg/L as $CaCO_3$)	Total Alkalinity (mg/L as $CaCO_3$)	TDS (mg/L)	Hardness (Dissolved) (mg/L)	Hardness (Total) (mg/L)	NO_2^- (mg/L as Nitrogen)	NO_3^{-2} (mg/L as Nitrogen)	$NO_3^{-2}+NO_2^-$ (mg/L as Nitrogen)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	SO_4 (mg/L)	Gross Alpha (pCi/L)	Adjusted Gross Alpha (pCi/L)	RA226 (pCi/L)	RA228 (pCi/L)	RA226 + RA228 (calc) (pCi/L)	Combined Radium (pCi/L)
MCC-6C	Count	55	53	55	33	40	39	40	36	1	44	49	8	37	40	57	36	37	37	40	24	2	24	24	24	24
	Non-Detect Count	---	---	---	20	0	0	0	0	1	44	26	1	0	0	3	5	0	0	0	0	1	22	21	20	20
	Non-Detect %	---	---	---	61	0	0	0	0	100	100	53	13	0	0	5	14	0	0	0	0	50	92	88	83	83
	Minimum	6.24	245	13.70	2	130	140	220	11	--	--	0.1	0.062	3.1	16	0.49	0.97	0.42	80	12	3.0	1.4	0.3	1.3	0.3	0.3
	Maximum	8.95	1140	27.49	42	200	210	1440	490	--	--	1.6	0.140	150.0	53	2.70	3.80	28.00	270	810	8.6	1.4	2.2	2.0	3.5	3.5
	Mean	8.07	454	22.79	13	170	176	437	74	--	--	0.2	0.088	22.7	21	0.69	1.63	3.79	130	127	6.6	1.4	1.3	1.6	1.9	1.9
	Median	8.22	396	23.06	8	170	180	416	62	--	--	0.2	0.077	19.0	20	0.67	1.50	3.00	130	105	6.7	1.4	1.3	1.6	1.8	1.8
	Standard Deviation	0.58	161	2.51	13	15	13	196	81	--	--	0.3	0.030	24.6	6	0.29	0.56	4.58	32	132	1.3	--	1.3	0.4	1.3	1.3
	Coef. Of Variation	0.07	0.36	0.11	0.99	0.09	0.07	0.45	1.10	--	--	1.39	0.34	1.08	0.30	0.41	0.35	1.21	0.24	1.04	0.20	--	1.07	0.22	0.71	0.71
MCC-6D	Count	3	3	3	3	3	3	3	2	1	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	2
	Non-Detect Count	---	---	---	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	3	3	3	2
	Non-Detect %	---	---	---	100	0	0	0	0	0	--	--	67	0	0	0	0	0	0	0	0	33	100	100	100	100
	Minimum	6.15	6606	23.36	--	920	920	7800	5600	5500	--	--	0.03	560	56	1.8	6.9	1000	200	5400	37.0	2.1	--	--	--	--
	Maximum	6.28	6746	26.22	--	940	940	8300	5900	5500	--	--	0.03	580	57	1.9	7.6	1100	230	5800	38.6	5.8	--	--	--	--
	Mean	6.24	6684	24.68	--	933	933	8033	5750	5500	--	--	0.03	573	57	1.9	7.1	1033	210	5633	37.9	4.0	--	--	--	--
	Median	6.28	6700	24.46	--	940	940	8000	5750	5500	--	--	0.03	580	57	1.9	6.9	1000	200	5700	38.0	4.0	--	--	--	--
	Standard Deviation	0.08	71	1.44	--	12	12	252	212	--	--	--	--	12	1	0.1	0.4	58	17	208	0.8	2.6	--	--	--	--
	Coef. Of Variation	0.01	0.01	0.06	--	0.01	0.01	0.03	0.04	--	--	--	--	0.02	0.01	0.03	0.06	0.06	0.08	0.04	0.02	0.66	--	--	--	--
TP5-POC-B	Count	15	15	15	14	14	14	14	10	5	10	10	6	15	14	15	15	15	15	14	15	1	15	15	15	14
	Non-Detect Count	---	---	---	14	0	0	0	0	0	9	0	0	0	0	0	1	0	0	0	0	1	13	14	12	11
	Non-Detect %	---	---	---	100	0	0	0	0	0	90	0	0	0	0	0	7	0	0	0	0	100	87	93	80	79
	Minimum	7.26	286.3	22.26	--	190	190	330	160	150	0.25	4.5	3.8	23	28	0.31	2.0	18	61	26	4.3	--	0.3	0.4	0.3	0.3
	Maximum	8.26	637.0	29.32	--	230	240	380	180	180	0.25	5.9	6.1	36	42	1.10	5.1	28	79	41	8.3	--	0.4	0.4	0.4	0.4
	Mean	7.76	494.3	25.15	--	219	220	356	164	164	0.25	5.3	5.5	26	30	0.44	2.8	25	66	31	6.6	--	0.4	0.4	0.4	0.4
	Median	7.79	472.0	24.60	--	220	220	355	160	160	0.25	5.3	5.7	25	29	0.37	2.7	25	66	29	6.5	--	0.4	0.4	0.4	0.4
	Standard Deviation	0.24	102.6	2.34	--	12	13	15	7	11	--	0.4	0.8	4	4	0.19	0.8	2	4	5	1.3	--	0.1	--	0.1	0.1
	Coef. Of Variation	0.03	0.21	0.09	--	0.05	0.06	0.04	0.04	0.07	--	0.07	0.15	0.14	0.13	0.44	0.29	0.09	0.06	0.15	0.19	--	0.20	--	0.16	0.16
MCC-3C	Count	55	53	55	33	36	35	36	33	0	47	52	7	36	36	58	35	36	35	35	24	2	24	24	24	24
	Non-Detect Count	---	---	---	12	0	0	0	5	0	43	30	5	1	0	1	15	13	0	0	0	0	20	23	20	20
	Non-Detect %	---	---	---	36	0	0	0	15	--	91	58	71	3	0	2	43	36	0	0	0	0	83	96	83	83
	Minimum	5.38	198.8	19.81	2	100	110	223	7.29	--	0.022	0.17	0.048	2	6.9	0.99	0.51	0.083	70	8	1.9	1.2	0.3	1.3	0.3	0.3
	Maximum	9.89	4330.0	31.09	80	180	180	600	95.00	--	0.170	0.73	0.600	36	23.0	3.00	17.00	31.000	150	300	8.2	1.6	1.3	1.3	2.3	2.3
	Mean	8.54	468.5	25.36	27	148	161	284	22.40	--	0.098	0.42	0.324	7	11.6	2.43	2.11	1.809	91	35	3.4	1.4	0.7	1.3	1.1	1.0
	Median	8.68	389.0	25.40	24	150	160	265	16.50	--	0.100	0.41	0.324	5	11.0	2.50	1.20	0.350	88	18	3.1	1.4	0.7	1.3	0.8	0.7
	Standard Deviation	0.84	553.804	2.50	20	18.264	14	82	21.15	--	0.065	0.16	0.390	7	2.4	0.31	3.56	6.377	14	60	1.3	0.3	0.5	--	1.0	0.9
	Coef. Of Variation	0.10	1.18	0.10	0.75	0.12	0.09	0.29	0.94	--	0.67	0.39	1.20	1.05	0.20	0.13	1.69	3.52	0.15	1.70	0.39	0.20	0.70	--	0.91	0.97
MCC-4	Count	56	54	56	41	43	41	44	38	0	45	56	8	43	44	64	42	43	42	42	26	2	25	25	25	26
	Non-Detect Count	---	---	---	16	0	0	0	2	0	45	52	7	0	0	1	0	25	0	0	0	1	22	23	22	23
	Non-Detect %	---	---	---	39	0	0	0	5	--	100	93	88	0	0	2	0	58	0	0	0	50	88	92	88	88
	Minimum	3.89	426.3	17.10	4	55	55	515	15	--	--	0.05	0.051	5.2	59	2.0	3.7	0.081	78	120	0.8	1.2	0.20	0.50	0.70	0.7
	Maximum	8.97	1430.0	27.38	43	200	210	790	93	--	--	0.95	0.051	29.0	160	7.5	22.0	6.400	240	240	5.4	1.2	1.83	1.19	3.02	3.0
	Mean	8.17	843.4	24.10	12	107	115	618	24	--	--	0.29	0.051	9.3	85	6.0	6.5	0.962	180	181	2.0	1.2	0.91	0.85	1.47	1.5
	Median	8.29	885.5	24.75	10	110	110	608	19	--	--	0.09	0.051	7.6	81	6.0	6.0	0.290	180	180	1.7	1.2	0.70	0.85	0.70	0.7
	Standard Deviation	0.70	172.3	1.88	9	19	19	58	15	--	--	0.44	--	5.3	17	0.8	2.9	1.781	26	22	1.0	--	0.84	0.49	1.34	1.3
	Coef. Of Variation	0.09	0.20	0.08	0.78	0.18	0.17	0.09	0.64	--	--	1.50	--	0.56	0.20	0.14	0.45	1.85	0.14	0.12	0.51	--	0.92	0.58	0.91	0.91
GAI-02-01	Count	22	22	22	23	24	21	24	14	10	17	17	5	25	24	25	25	25	25	24	22	3	22	22	22	22
	Non-Detect Count	---	---	---	23	0	0	0	0	1	17	0	1	0	0	0	0	0	0	0	0	1	21	21	20	20
	Non-Detect %	---	---	---	100	0	0	0	0	10	100	0	20	0	0	0	0	0	0	0	0	33	95	95	91	91
	Minimum	7.22	665	16.60	--	200	200	484	500	510	--	3.3	3.31	23.6	22.8	0.34	2.2	15.3	34	152	2.6	1.1	0.9	1.1	0.9	0.9
	Maximum	8.11	1690	29.41	--	290	290	810	580	1982	--	3.7	4.00	56.0	52.0	0.58	3.4	110.0	128	360	17.3	2.4	0.9	1.1	1.1	1.1
	Mean	7.71	1053	24.26	--	230	229	730	538	689	--	3.5	3.58	49.0	45.7	0.47	2.5	92.0	45	299	4.5	1.8	0.9	1.1	1.0	1.0
	Median	7.71	1063	24.68	--	230	230	740	540	520	--	3.5	3.50	50.0	48.0	0.48	2.5	98.0	37	310	3.9	1.8	0.9	1.1	1.0	1.0
	Standard Deviation	0.27	208	2.53	--	18	14	78	17	485	--	0.1	0.30	6.6	7.1	0.053	0.2	21.0	24	48	2.9	0.9	--	--	0.1	0.1
	Coef. Of Variation	0.03	0.20	0.10	--	0.08	0.06	0.11	0.03	0.70	--	0.04	0.08	0.14	0.16	0.11	0.10	0.23	0.53	0.16	0.65	0.53	--	--	0.14	0.14
MCC-9	Count	54	52	55	29	37	36	37	34	0	47	52	6	37	37	58	35	37	36	36	24	9	24	24	24	24
	Non-Detect Count	---	---	---	29	0	0	0	0	0	46	3	0	0	0	24	0	0	0	0	0	0	22	22	20	20
	Non-Detect %	---	---	---	100	0	0	0	0	--	98	6	0	0	0	41	0	0	0	0	0	0	92	92	83	83
	Minimum	3.6	769	19.30	--	210	210	1090	570	--	0.37	0.74	0.78	180	30	0.14	1.6	45	66	430	8.3	1.3	0.3	0.6	0.3	0.3
	Maximum	7.7	2340	28.62	--	260	260	1430	950	--	0.37	2.40	0.88	270	55	1.00	7.7	73	95	910	14.8	5.9	0.4	3.2	3.2	3.2
	Mean	7.0	1424	22.92	--	235	235	1244	765	--	0.37	1.01	0.83	215	40	0.24	4.6	55	82	620	10.3	3.3	0.4	1.9	1.1	1.1
	Median	7.1	1410	22.90	--	240	240	1210	740	--	0.37	0.91	0.85	210	40	0.21	4.5	53	82	630	9.9	3.7	0.4	1.9	0.5	0.5
	Standard Deviation	0.5	248	1.81	--	10	10	70	91	--	--	0.27	0.04	24	5	0.14	0.9	7	8	84	1.6	1.6	0.1	1.8	1.4	1.4
	Coef. Of Variation	0.08	0.17	0.08	--	0.04	0.04	0.06	0.12	--	--	0.27	0.04	0.11	0.14	0.60	0.20	0.13	0.10	0.14	0.16	0.47	0.20	0.97	1.23	1.23
Indian Ponds POC	Count	18	18	18	18	18	18	18	11	10	17	17	1	18	18	18	18	18	18	18	18	16	18	18	18	18
	Non-Detect Count	---	---	---	18	0	0	0	0	0	17	5	0	0	0	0	1	0	0	0	0	7	16	17	16	16
	Non-Detect %	---	---	---	100	0	0	0	0	0	100	29	0	0	0	0	6	0	0	0	0	44	89	94	89	89
	Minimum	6.45	3549	18.1	--	280	280	3600	880	113	--	0.2	0.365	250	40	0.22	14	63	140	72	5.8	1.4	0.5	0.4	0.5	0.5
	Maximum	7.59	6090	28.5	--	530	530	4200	2400	2500	--	7.3	0.365	670	1800	1.60	43	240	1200	2700	44.5	5.2	0.6	0.4	1.0	1.0
	Mean	6.97	4264	23.3	--	387	387	3967	1934	1788	--	2.5	0.365	492	394	1.05	24	161	473	2008	28.4	3.6	0.6	0.4	0.8	0.8
	Median	6.96	4145	23.3	--	380	380	4000	2200	1950	--	1.1	0.365	510	105	1.15	20	165	365	2400	29.6	3.9	0.6	0.4	0.8	0.8
	Standard Deviation	0.27	685	2.8	--	72	72	194	575	736	--	2.9	--	133	638	0.42	9	53	277	899	9.9	1.4	0.1	--	0.4	0.4
	Coef. Of Variation	0.04	0.16	0.12	--	0.19	0.19	0.05	0.30	0.41	--	1.16	--	0.27	1.62	0.40	0.39	0.33	0.59	0.45	0.35	0.40	0.13	--	0.47	0.47
Smelter Pond POC Well	Count	26	26	26	25	25	25	25	14	10	17	17	8	25	25	26	25	25	25	25	25	14	25	25	24	24
	Non-Detect Count	---	---	---	25	0	0	0	0	0	16	2	0	0	0	0	1	0	0	0	1	6	23	23	22	22
	Non-Detect %	---	---	---	100	0	0	0	0	0	94	12	0	0	0	0	4	0	0	0	4	43	92	92	92	92
	Minimum	6.44	873	15.19	--	200	200	1400	900	920	0.29	0.5	0.093	250	68	0.14	3	65	47	730	1.4	1.3	0.40	0.6	0.4	0.4
	Maximum	8.16	13700	29.57	--	1100	1100	19000	13000	12000	0.29	7.1	1.690	590	310	6.90	59	2900	830	16000	109.0	23.8	0.57	1.4	0.6	0.6
	Mean	7.15	5575	21.86	--	503	503	7435	5521	3574	0.29	1.7	0.709	412	123	2.69	23	969	279	5188	19.4	6.7	0.49	1.0	0.5	0.5
	Median	7.16	3939	22.05	--	470	470	5100	6200	2300	0.29	1.4	0.380	440	110	1.40	16	600	210	3200	14.2	4.6	0.49	1.0	0.5	0.5
	Standard Deviation	0.30	4197	4.32	--	262	262	5704	4030	3497	--	1.6	0.6565	104	63	2.45	18	890	227	4348	22.5	7.2	0.12	0.6	0.1	0.1
	Coef. Of Variation	0.04	0.75	0.20	--	0.52	0.52	0.77	0.73	0.98	--	0.90	0.93	0.25	0.52	0.91	0.78	0.92	0.81	0.84	1.16	1.07	0.25	0.57	0.28	0.28
500 YD	Count	16	16	16	14	14	14	14	10	8	14	15	2	15	14	14	15	15	15	14	12	12	12	12	12	12
	Non-Detect Count	---	---	---	14	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	6	12	12	12	12
	Non-Detect %	---	---	---	100	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	50	100	100	100	100
	Minimum	6.49	1826	20.6	--	150	150	1900	1200	1300	--	6.4	11	360	13	0.2	4.6	68	100	1200	97.0	1.8	--	--	--	--
	Maximum	7.52	3310	31.3	--	180	180	3100	1800	1400	--	12.0	11	560	250	0.5	35.0	100	200	2100	146.8	8.4	--	--	--	--
	Mean	7.04	2560	25.2	--	169	169	2364	1480	1313	--	9.1	11	441	67	0.3	8.4	82	125	1429	122.4	4.9	--	--	--	--
	Median	7.09	2415	25.2	--	170	170	2300	1400	1300	--	9.5	11	440	38	0.3	5.3	80	120	1300	122.2	4.9	--	--	--	--
	Standard Deviation	0.31	497	3.1	--	9	9	339	215	35	--	2.1	0	61	72	0.1	8.1	10	24	246	15.6	2.1	--	--	--	--
	Coef. Of Variation	0.04	0.19	0.12	--	0.05	0.05	0.14	0.15	0.03	--	0.23	0.00	0.14	1.08	0.30	0.97	0.12	0.19	0.17	0.13	0.44	--	--	--	--
SP1&2-Alert-B	Count	15	15	15	15	15	15	15	8	7	10	10	6	15	15	15	15	15	15	15	15	11	15	15	15	14
	Non-Detect Count	---	---	---	15	0	0	0	0	0	9	2	1	0	0	0	0	0	0	0	0	2	5	15	5	5
	Non-Detect %	---	---	---	100	0	0	0	0	0	90	20	17	0	0	0	0	0	0	0	0	18	33	100	33	36
	Minimum	5.84	2159	20.20	--	66	66	3100	1800	1900	0.45	0.21	0.257	100	45	1.2	43	100	130	2200	6.2	2.1	0.3	--	0.3	0.4
	Maximum	6.73	4990	28.83	--	220	220	5600	3300	3200	0.45	1.10	0.730	570	53	3.3	96	490	160	3800	50.3	7.1	1.8	--	1.8	1.8
	Mean	6.27	3550	24.17	--	146	146	4273	2475	2714	0.45	0.45	0.531	501	49	2.0	73	313	142	2960	31.7	4.6	1.0	--	1.0	1.1
	Median	6.21	3390	24.09	--	160	160	4400	2550	3000	0.45	0.29	0.600	540	48	2.0	74	360	140	3000	39.0	4.2	1.0	--	1.0	1.1
	Standard Deviation	0.26	815	2.07	--	57	57	789	565	570	--	0.34	0.221	115	2	0.7	16	148	12	528	15.5	1.9	0.5	--	0.5	0.5
	Coef. Of Variation	0.04	0.23	0.09	--	0.39	0.39	0.18	0.23	0.21	--	0.74	0.42	0.23	0.04	0.33	0.22	0.47	0.09	0.18	0.49	0.41	0.52	--	0.52	0.45

Notes:
POC = Point of Compliance
TDS = Total Dissolved Solids
SC = Specific Conductance
pCi/L = pico Curies per Liter
mS/cm = microSiemens per centimeter
mg/L = milligrams per liter
SU = Standard Unit

TABLE 4-2b
GROUNDWATER STATISTICAL RESULTS FOR METALS

Well Name	Statistical Parameter	Dissolved Metals (mg/L)																		
		Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Mn	Hg	Mo	Ni	Pb	Se	Ag	Tl	Zn
MCC-6C	Count	38	57	57	57	57	57	57	35	37	37	37	57	37	57	57	57	35	57	37
	Non-Detect Count	31	55	0	36	57	56	55	34	33	32	25	57	9	57	54	49	35	57	33
	Non-Detect %	82	96	0	63	100	98	96	97	89	86	68	100	24	100	95	86	100	100	89
	Minimum	0.034	0.0022	0.003	0.002	--	0.00064	0.0013	0.00068	0.0023	0.030	0.0018	--	0.0073	--	0.0010	0.001	--	--	0.0076
	Maximum	0.180	0.0039	0.060	0.880	--	0.00064	0.0014	0.00068	0.0180	0.096	0.0860	--	0.0250	--	0.0024	0.002	--	--	0.4700
	Mean	0.088	0.0031	0.018	0.048	--	0.00064	0.0014	0.00068	0.0085	0.063	0.0189	--	0.0165	--	0.0015	0.001	--	--	0.1271
	Median	0.055	0.0031	0.015	0.005	--	0.00064	0.0014	0.00068	0.0068	0.062	0.0059	--	0.0160	--	0.0011	0.001	--	--	0.0155
	Standard Deviation	0.064	0.0012	0.009	0.191	--	--	0.0001	--	0.0068	0.023	0.0285	--	0.0047	--	0.0008	0.000	--	--	0.2287
	Coef. Of Variation	0.73	0.39	0.48	3.98	--	--	0.05	--	0.80	0.37	1.51	--	0.28	--	0.52	0.28	--	--	1.80
MCC-6D	Count	3	3	3	3	3	3	3	0	3	3	3	3	3	3	3	3	0	3	3
	Non-Detect Count	3	3	0	0	2	3	1	0	2	3	0	3	3	0	3	2	0	3	3
	Non-Detect %	100	100	0	0	67	100	33	--	67	100	0	100	100	0	100	67	--	100	100
	Minimum	--	--	0.0042	0.025	0.0013	--	0.062	--	0.012	--	20.0	--	--	0.021	--	0.002	--	--	--
	Maximum	--	--	0.0110	0.029	0.0013	--	0.065	--	0.012	--	23.0	--	--	0.022	--	0.002	--	--	--
	Mean	--	--	0.0068	0.027	0.0013	--	0.064	--	0.012	--	21.7	--	--	0.021	--	0.002	--	--	--
	Median	--	--	0.0053	0.027	0.0013	--	0.064	--	0.012	--	22.0	--	--	0.021	--	0.002	--	--	--
	Standard Deviation	--	--	0.0037	0.002	--	--	0.002	--	--	--	1.5	--	--	0.001	--	--	--	--	--
	Coef. Of Variation	--	--	0.53	0.07	--	--	0.03	--	--	--	0.07	--	--	0.03	--	--	--	--	--
TP5-POC-B	Count	15	15	15	15	15	15	15	0	15	15	15	15	15	15	15	15	0	15	15
	Non-Detect Count	15	14	1	0	15	15	15	0	12	15	14	15	15	15	15	14	0	15	14
	Non-Detect %	100	93	7	0	100	100	100	--	80	100	93	100	100	100	100	93	--	100	93
	Minimum	--	0.00025	0.0024	0.029	--	--	--	--	0.011	--	0.059	--	--	--	--	0.0024	--	--	0.11
	Maximum	--	0.00025	0.0028	0.070	--	--	--	--	0.012	--	0.059	--	--	--	--	0.0024	--	--	0.11
	Mean	--	0.00025	0.0026	0.044	--	--	--	--	0.011	--	0.059	--	--	--	--	0.0024	--	--	0.11
	Median	--	0.00025	0.0026	0.039	--	--	--	--	0.011	--	0.059	--	--	--	--	0.0024	--	--	0.11
	Standard Deviation	--	--	0.0001	0.011	--	--	--	--	0.001	--	--	--	--	--	--	--	--	--	--
	Coef. Of Variation	--	--	0.05	0.26	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--
MCC-3C	Count	35	58	60	58	58	58	58	35	35	35	35	57	35	58	58	58	35	58	35
	Non-Detect Count	21	36	2	32	56	55	56	34	13	12	13	54	10	58	38	51	33	58	19
	Non-Detect %	60	62	3	55	97	95	97	97	37	34	37	95	29	100	66	88	94	100	54
	Minimum	0.033	0.00031	0.0051	0.0028	0.00065	0.0028	0.00088	0.0078	0.0029	0.03	0.0061	0.00024	0.009	--	0.0010	0.0012	0.0056	--	0.014
	Maximum	0.085	0.00590	0.1900	0.0200	0.00150	0.0088	0.00940	0.0078	0.0500	19.00	0.1000	0.00042	0.041	--	0.0097	0.0022	0.0063	--	0.190
	Mean	0.052	0.00249	0.1402	0.0112	0.00108	0.0062	0.00514	0.0078	0.0109	0.94	0.0211	0.00032	0.017	--	0.0021	0.0015	0.0060	--	0.095
	Median	0.051	0.00205	0.1500	0.0120	0.00108	0.0070	0.00514	0.0078	0.0084	0.11	0.0165	0.00029	0.016	--	0.0018	0.0014	0.0060	--	0.089
	Standard Deviation	0.015	0.00163	0.0351	0.0043	0.00060	0.0031	0.00602	--	0.0099	3.94	0.0196	0.00009	0.006	--	0.0019	0.0004	0.0005	--	0.052
	Coef. Of Variation	0.30	0.65	0.25	0.38	0.56	0.50	1.17	--	0.91	4.21	0.93	0.29	0.32	--	0.89	0.26	0.08	--	0.55
MCC-4	Count	42	64	64	64	64	64	64	42	42	42	42	63	42	65	64	64	42	64	42
	Non-Detect Count	12	59	12	39	61	62	57	40	37	12	12	61	1	56	56	43	42	64	36
	Non-Detect %	29	92	19	61	95	97	89	95	88	29	29	97	2	86	88	67	100	100	86
	Minimum	0.032	0.00032	0.0019	0.0026	0.00045	0.0012	0.0026	0.0059	0.0027	0.06	0.0044	0.0003	0.55	0.0024	0.0015	0.0013	--	--	0.0084
	Maximum	17.000	0.00630	0.0200	0.1300	0.00067	0.0019	0.0500	0.0081	0.0078	13.00	0.4100	0.0006	1.30	0.1900	0.0220	0.0054	--	--	0.0990
	Mean	1.663	0.00276	0.0034	0.0195	0.00057	0.0015	0.0189	0.0070	0.0049	1.20	0.0590	0.0005	1.03	0.0477	0.0076	0.0028	--	--	0.0446
	Median	0.195	0.00250	0.0029	0.0040	0.00058	0.0015	0.0090	0.0070	0.0039	0.15	0.0160	0.0005	1.00	0.0200	0.0048	0.0024	--	--	0.0395
	Standard Deviation	4.052	0.00221	0.0025	0.0372	0.00011	0.0005	0.0193	0.0016	0.0022	3.07	0.1169	0.0002	0.13	0.0621	0.0073	0.0012	--	--	0.0350
	Coef. Of Variation	2.44	0.80	0.73	1.91	0.20	0.32	1.02	0.22	0.44	2.56	1.98	0.47	0.12	1.30	0.96	0.42	--	--	0.79
GAI-02-01	Count	25	25	25	25	25	25	25	3	25	25	25	25	25	25	25	25	3	25	25
	Non-Detect Count	23	24	2	5	25	24	23	3	24	25	22	25	22	25	25	15	3	25	22
	Non-Detect %	92	96	8	20	100	96	92	100	96	100	88	100	88	100	100	60	100	100	88
	Minimum	0.02	0.0004	0.0026	0.010	--	0.0042	0.012	--	0.0065	--	0.0047	--	0.0159	--	--	0.0024	--	--	0.0080
	Maximum	0.02	0.0004	0.0200	0.022	--	0.0042	0.013	--	0.0065	--	0.0790	--	0.0300	--	--	0.0042	--	--	0.0946
	Mean	0.02	0.0004	0.0043	0.012	--	0.0042	0.013	--	0.0065	--	0.0482	--	0.0220	--	--	0.0029	--	--	0.0439
	Median	0.02	0.0004	0.0030	0.011	--	0.0042	0.013	--	0.0065	--	0.0610	--	0.0200	--	--	0.0027	--	--	0.0290
	Standard Deviation	0.00	--	0.0044	0.003	--	--	0.001	--	--	--	0.0388	--	0.0073	--	--	0.0006	--	--	0.0452
	Coef. Of Variation	0.00	--	1.02	0.24	--	--	0.06	--	--	--	0.80	--	0.33	--	--	0.21	--	--	1.03
MCC-9	Count	36	58	58	58	58	58	58	35	36	36	36	57	36	58	58	58	35	58	36
	Non-Detect Count	30	56	6	5	57	58	55	33	29	33	13	56	34	55	58	42	35	58	28
	Non-Detect %	83	97	10	9	98	100	95	94	81	92	36	98	94	95	100	72	100	100	78
	Minimum	0.026	0.0011	0.0010	0.01	0.00057	--	0.007	0.0057	0.0026	0.055	0.0039	0.00056	0.00089	0.0013	--	0.0012	--	--	0.0081
	Maximum	0.110	0.0012	0.0041	0.15	0.00057	--	0.015	0.0064	0.0160	0.110	4.2000	0.00056	0.00150	1.0000	--	0.0036	--	--	0.0900
	Mean	0.054	0.0012	0.0022	0.02	0.00057	--	0.012	0.0061	0.0055	0.074	0.3814	0.00056	0.00120	0.3738	--	0.0022	--	--	0.0421
	Median	0.044	0.0012	0.0022	0.01	0.00057	--	0.013	0.0061	0.0044	0.056	0.1500	0.00056	0.00120	0.1200	--	0.0023	--	--	0.0490
	Standard Deviation	0.031	0.0001	0.0005	0.02	--	--	0.004	0.0005	0.0047	0.031	0.8574	--	0.00043	0.5456	--	0.0007	--	--	0.0304
	Coef. Of Variation	0.58	0.06	0.24	1.20	--	--	0.36	0.08	0.86	0.43	2.25	--	0.36	1.46	--	0.31	--	--	0.72
Indian Ponds POC	Count	18	18	18	18	18	18	18	0	18	18	18	18	18	18	18	18	0	18	18
	Non-Detect Count	17	18	0	0	18	18	17	0	14	17	10	16	18	16	17	4	0	18	17
	Non-Detect %	94	100	0	0	100	100	94	--	78	94	56	89	100	89	94	22	--	100	94
	Minimum	0.22000	--	0.001	0.024	--	--	0.017	--	0.011	0.18	0.013	0.00044	--	0.013	0.0031	0.002	--	--	0.065
	Maximum	0.22000	--	0.045	0.200	--	--	0.017	--	0.029	0.18	0.420	0.00046	--	0.120	0.0031	0.046	--	--	0.065
	Mean	0.22000	--	0.022	0.057	--	--	0.017	--	0.017	0.18	0.132	0.00045	--	0.067	0.0031	0.009	--	--	0.065
	Median	0.22000	--	0.017	0.035	--	--	0.017	--	0.014	0.18	0.091	0.00045	--	0.067	0.0031	0.006	--	--	0.065
	Standard Deviation	--	--	0.015	0.056	--	--	--	--	0.008	--	0.131	0.00001	--	0.076	--	0.011	--	--	--
	Coef. Of Variation	--	--	0.68	0.99	--	--	--	--	0.50	--	0.99	0.03	--	1.14	--	1.22	--	--	--
Smelter Pond POC Well	Count	25	25	25	25	25	25	25	0	25	25	25	25	25	25	25	25	0	25	25
	Non-Detect Count	23	24	0	0	22	25	20	0	17	20	12	24	24	21	22	9	0	25	18
	Non-Detect %	92	96	0	0	88	100	80	--	68	80	48	96	96	84	88	36	--	100	72
	Minimum	0.52	0.00022	0.0023	0.014	0.0011	--	0.00059	--	0.010	0.061	0.007	0.00031	0.0024	0.0018	0.0011	0.0021	--	--	0.0011
	Maximum	0.98	0.00022	0.0270	0.110	0.0019	--	0.09200	--	0.031	0.550	1.600	0.00031	0.0024	0.0140	0.0037	0.0230	--	--	0.1500
	Mean	0.75	0.00022	0.0106	0.036	0.0016	--	0.06572	--	0.017	0.287	0.438	0.00031	0.0024	0.0090	0.0020	0.0061	--	--	0.0669
	Median	0.75	0.00022	0.0075	0.035	0.0019	--	0.08000	--	0.016	0.340	0.120	0.00031	0.0024	0.0100	0.0013	0.0044	--	--	0.0650
	Standard Deviation	0.33	--	0.0073	0.018	0.0005	--	0.03704	--	0.007	0.218	0.538	--	--	0.0051	0.0014	0.0053	--	--	0.0442
	Coef. Of Variation	0.43	--	0.69	0.51	0.28	--	0.56	--	0.40	0.76	1.23	--	--	0.57	0.71	0.86	--	--	0.66
500 YD	Count	15	15	15	15	15	15	15	0	15	15	15	15	15	15	15	15	0	15	15
	Non-Detect Count	15	15	4	0	15	15	14	0	15	14	13	15	15	14	15	2	0	15	15
	Non-Detect %	100	100	27	0	100	100	93	--	100	93	87	100	100	93	100	13	--	100	100
	Minimum	--	--	0.0013	0.023	--	--	0.014	--	--	0.086	0.021	--	--	0.015	--	0.0021	--	--	--
	Maximum	--	--	0.0027	0.039	--	--	0.014	--	--	0.086	0.023	--	--	0.015	--	0.0120	--	--	--
	Mean	--	--	0.0018	0.028	--	--	0.014	--	--	0.086	0.022	--	--	0.015	--	0.0063	--	--	--
	Median	--	--	0.0018	0.026	--	--	0.014	--	--	0.086	0.022	--	--	0.015	--	0.0061	--	--	--
	Standard Deviation	--	--	0.0004	0.004	--	--	--	--	--	--	0.001	--	--	--	--	0.0033	--	--	--
	Coef. Of Variation	--	--	0.22	0.16	--	--	--	--	--	--	0.06	--	--	--	--	0.53	--	--	--
SP1&2-Alert-B	Count	15	15	15	15	15	15	15	0	15	15	15	15	15	15	15	15	1	15	15
	Non-Detect Count	15	15	6	10	15	5	12	0	1	2	0	14	14	15	14	8	1	14	5
	Non-Detect %	100	100	40	67	100	33	80	--	7	13	0	93	93	100	93	53	100	93	33
	Minimum	--	--	0.0014	0.011	--	0.002	0.011	--	0.029	0.09	2.1	0.00031	0.01	--	0.0016	0.0027	0	0.0017	0.94
	Maximum	--	--	0.0073	0.012	--	0.010	0.013	--	0.250	1.40	16.0	0.00031	0.01	--	0.0016	0.0200	0	0.0017	2.00
	Mean	--	--	0.0043	0.011	--	0.005	0.012	--	0.091	0.64	8.8	0.00031	0.01	--	0.0016	0.0102	--	0.0017	1.54
	Median	--	--	0.0048	0.011	--	0.005	0.011	--	0.062	0.69	10.0	0.00031	0.01	--	0.0016	0.0089	--	0.0017	1.55
	Standard Deviation	--	--	0.0020	0.001	--	0.002	0.001	--	0.072	0.34	5.0	--	--	--	--	0.0065	--	--	0.30
	Coef. Of Variation	--	--	0.47	0.05	--	0.46	0.10	--	0.79	0.52	0.57	--	--	--	--	0.64	--	--	0.19

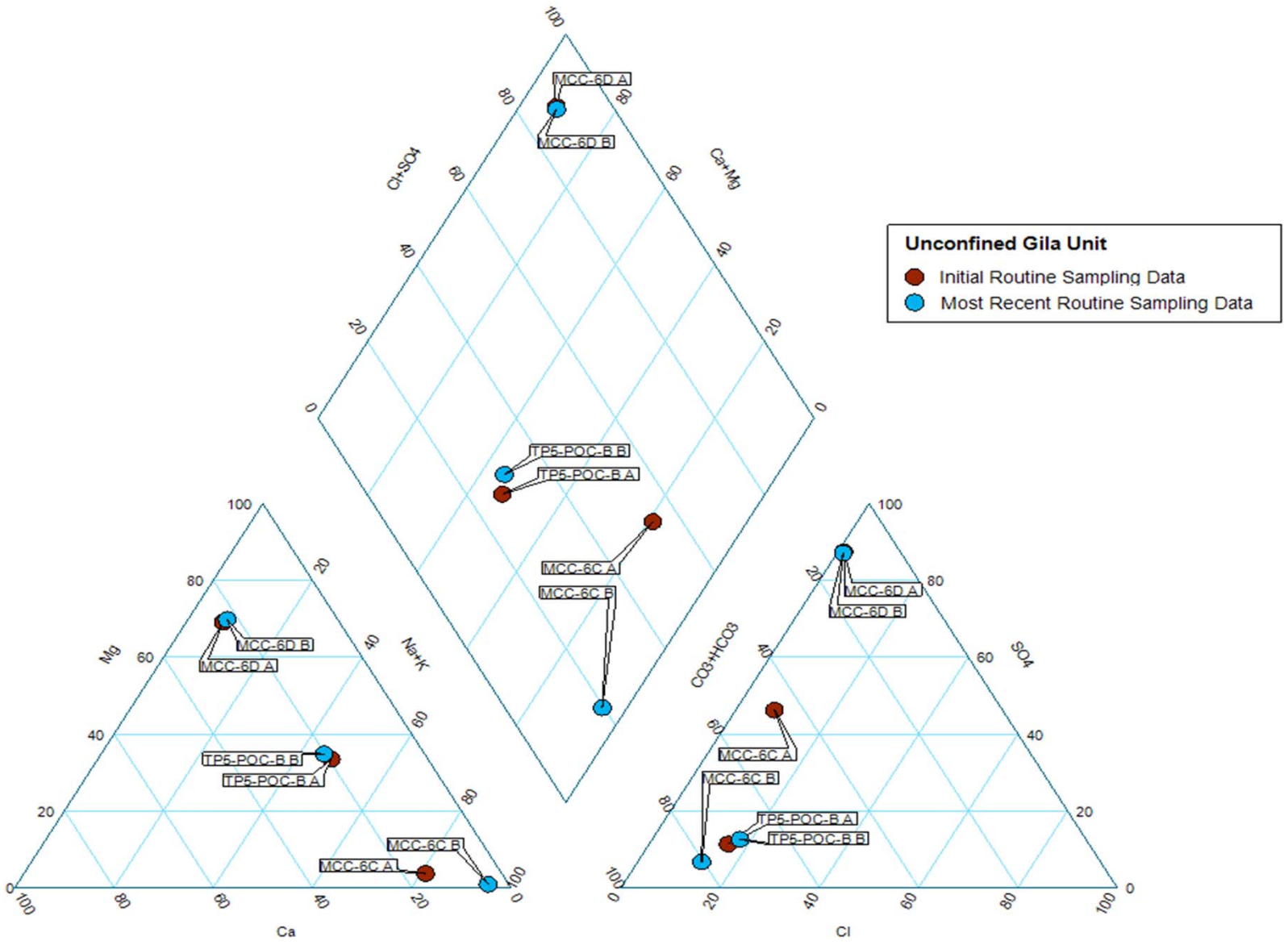
Notes:
POC = Point of Compliance
mg/L = milligrams per liter

TABLE 4-2c
GROUNDWATER STATISTICAL RESULTS FOR ORGANIC COMPOUNDS

Well Name	Statistical Parameter	SVOC															VOC				
		2- Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)-anthracene	Benzo(a)-pyrene	Benzo(b)-fluoranthene	Benzo(k)-fluoranthene	Chrysene	Dibenzofuran	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	1,2,4-Trimethylbenzene	Benzene	Ethylbenzene	Toluene	Xylenes, total
SP1&2-Alert-B	Count	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	18	18	18	18
	Non-Detect Count	7	7	7	7	7	6	7	7	7	7	7	7	7	7	7	7	18	18	18	18
	Non-Detect %	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Maxiumum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Mean	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Median	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Standard Deviation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Coef. Of Variation	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
units - ug/L (micrograms per liter) unless otherwise indicated
SVOC = semi-volatile organic compounds
VOC = volatile organic compounds

ATTACHMENT 5
PIPER DIAGRAMS



Golder Associates Tucson, Arizona

TITLE

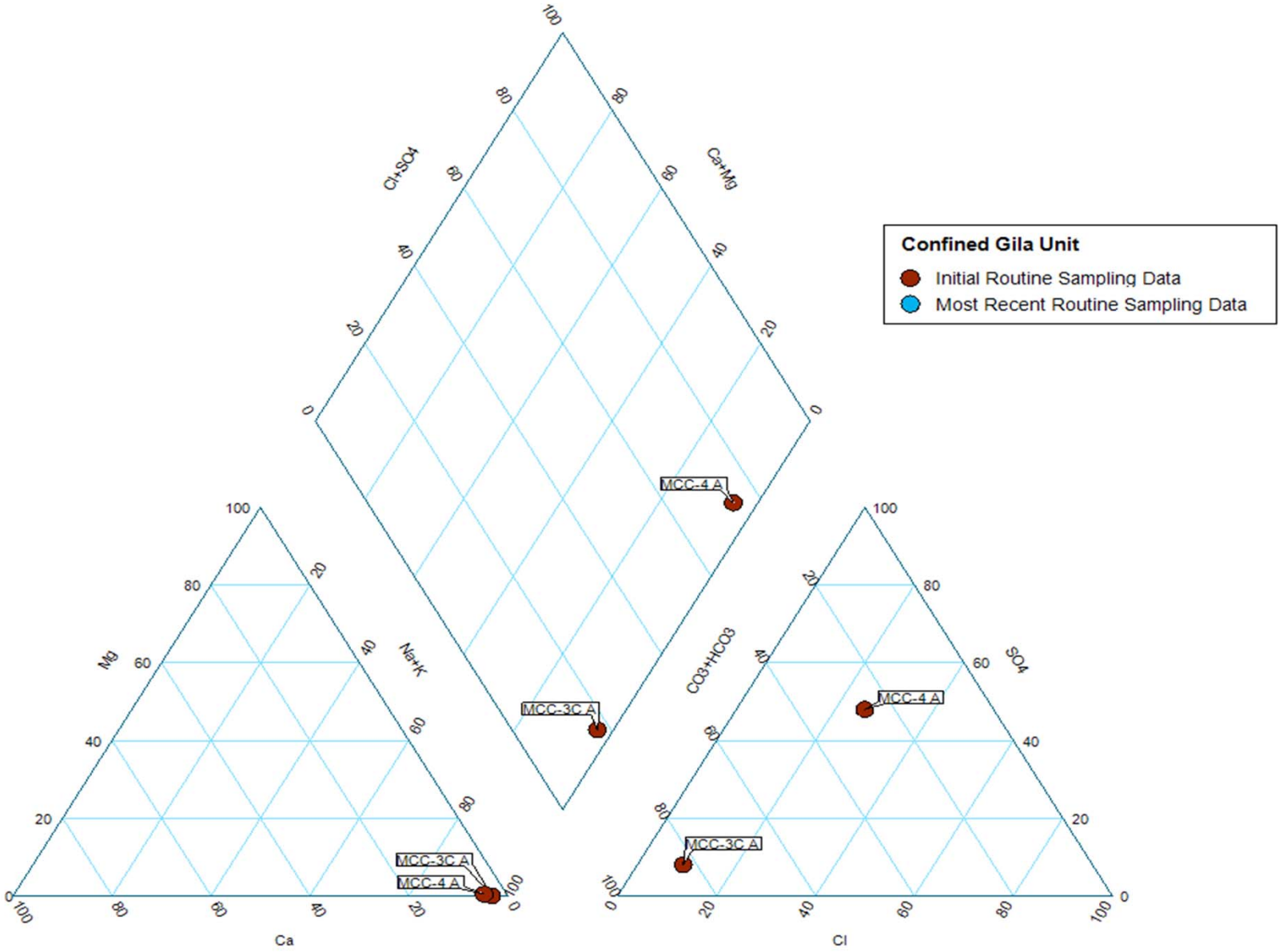
Unconfined Gila Unit

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-1



Golder Associates Tucson, Arizona

TITLE

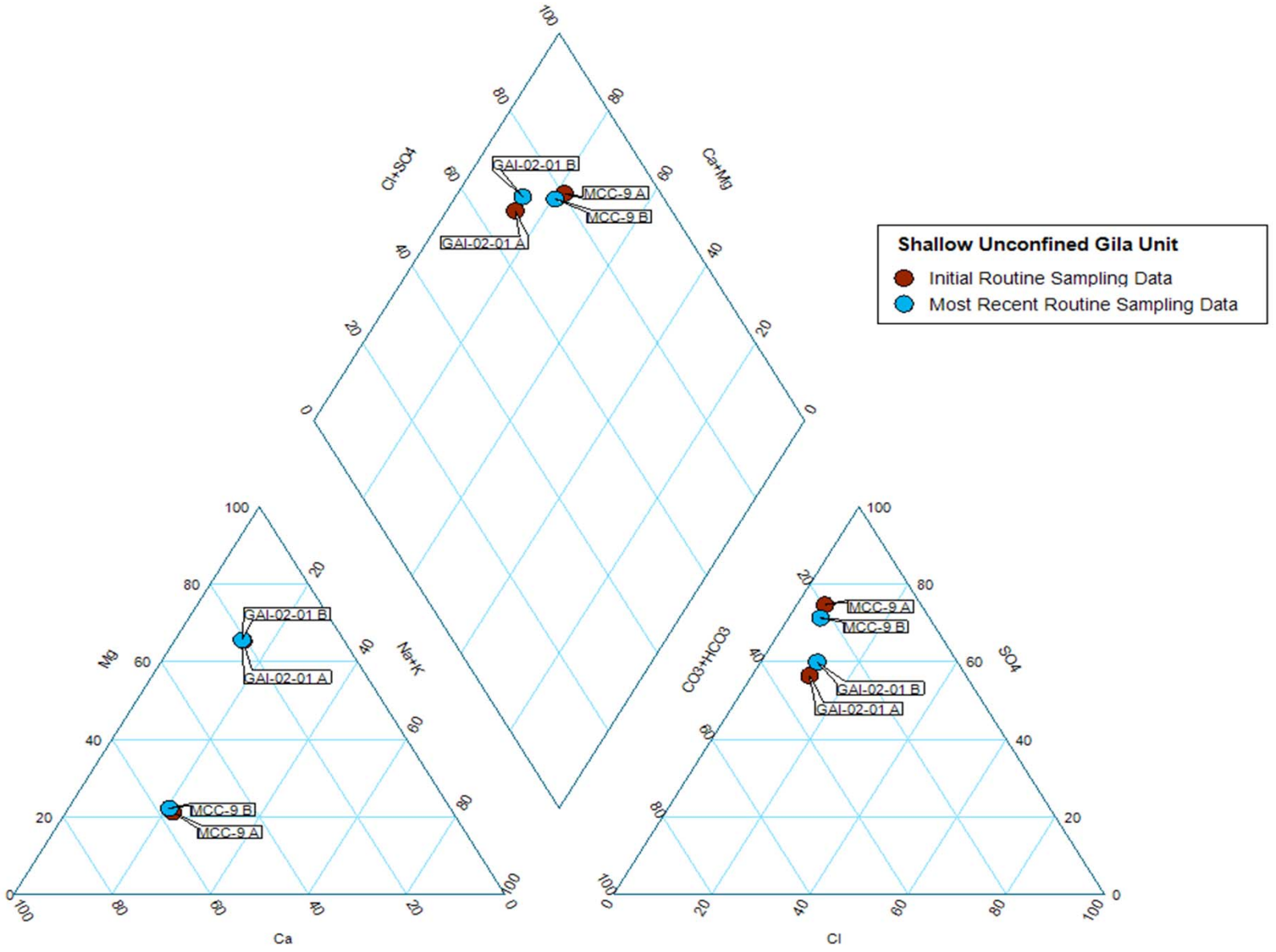
Confined Gila Unit

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-2



Golder Associates Tucson, Arizona

TITLE

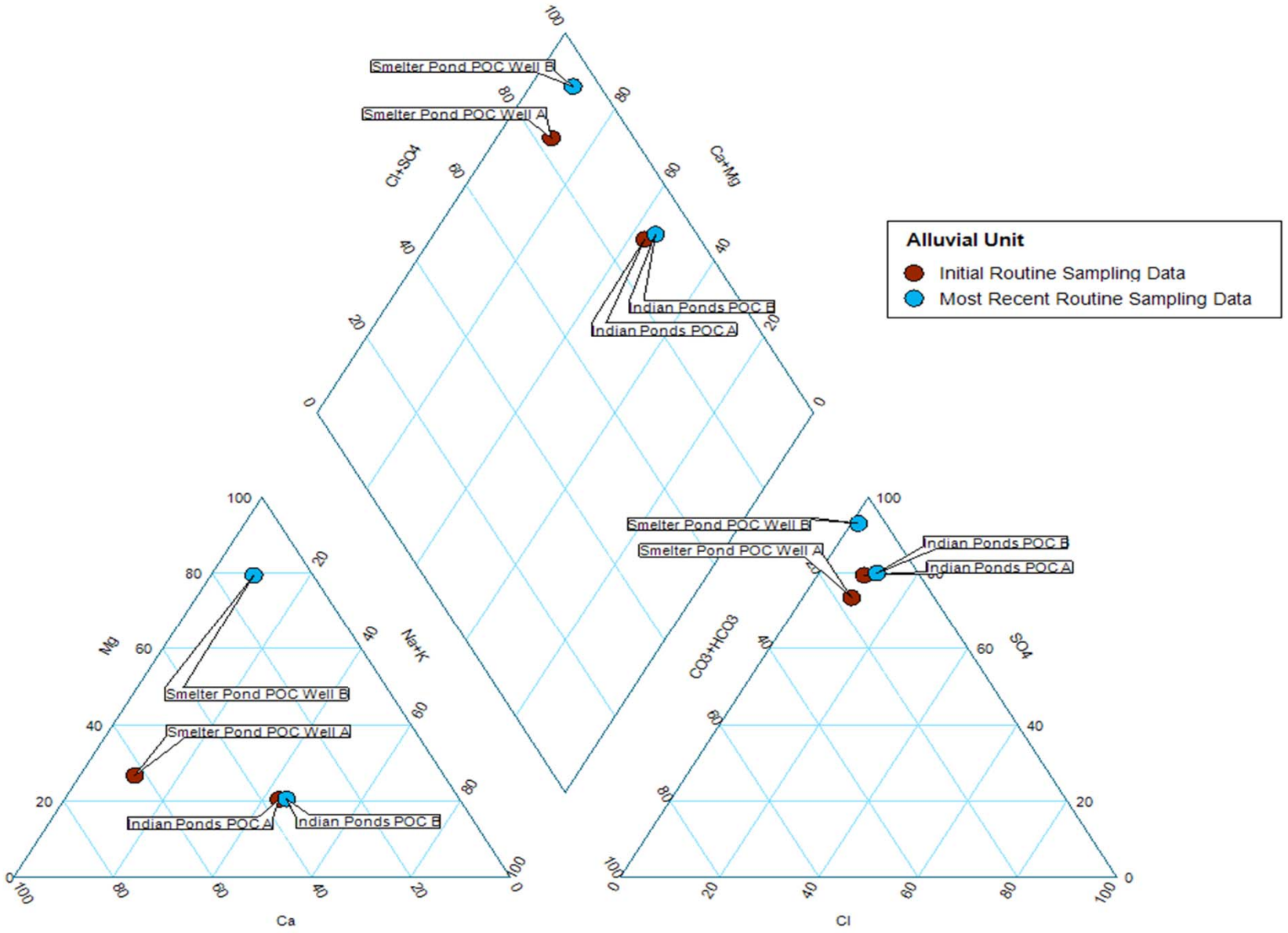
Shallow Unconfined Gila Unit

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-3



Golder Associates Tucson, Arizona

TITLE

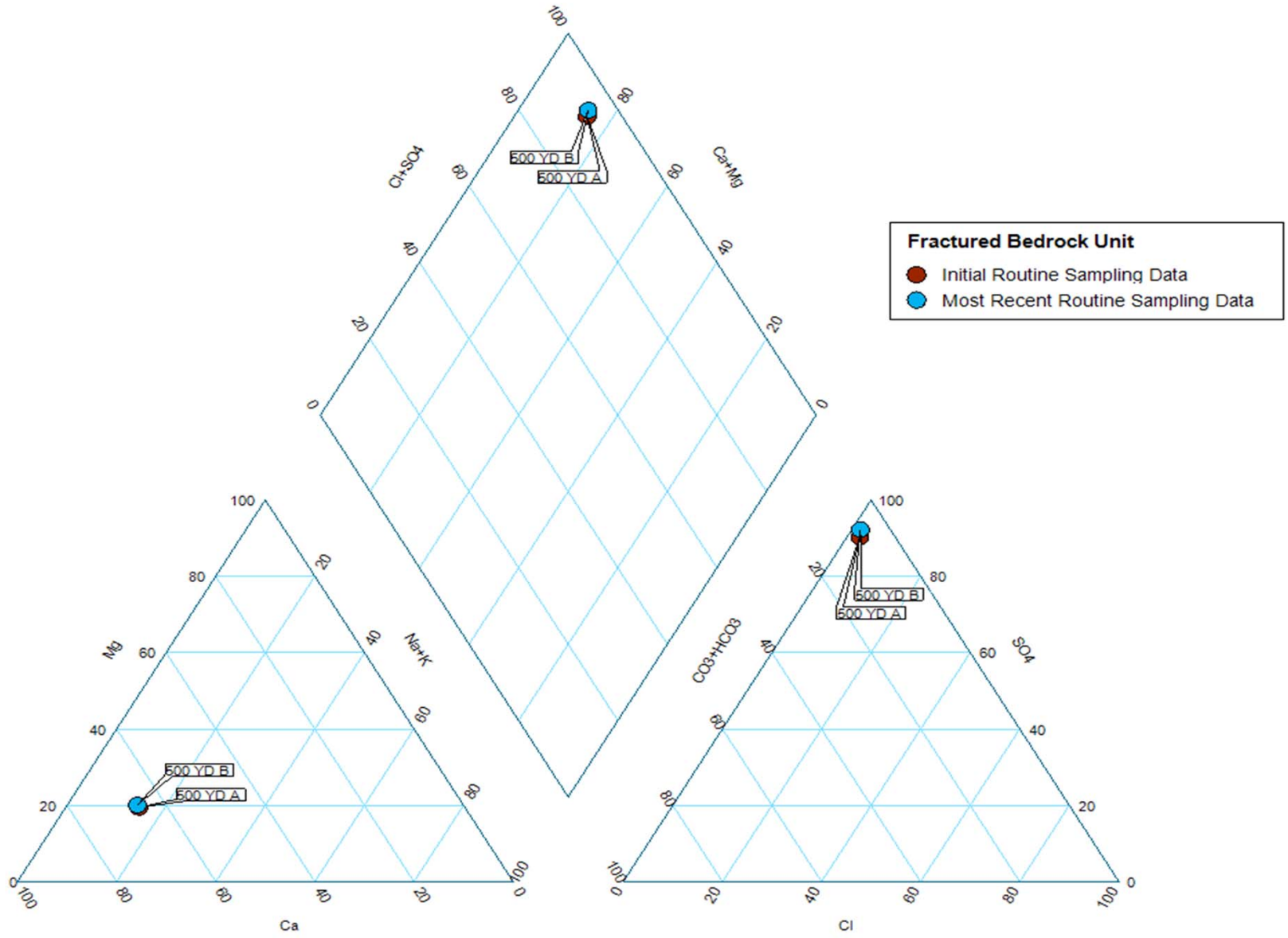
Alluvial Unit

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-4



Golder Associates Tucson, Arizona

TITLE

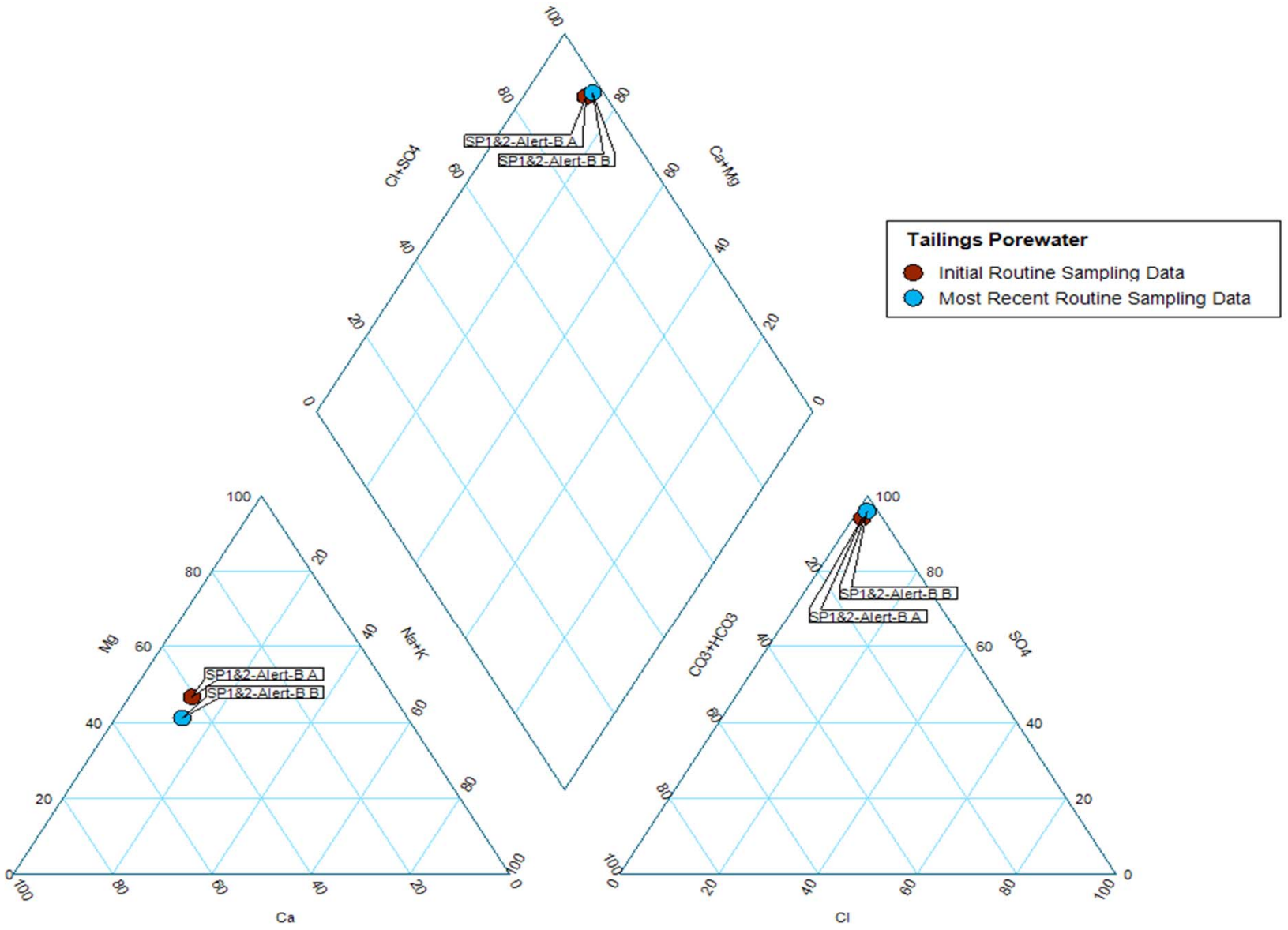
Fractured Bedrock Unit

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-5



Golder Associates Tucson, Arizona

TITLE

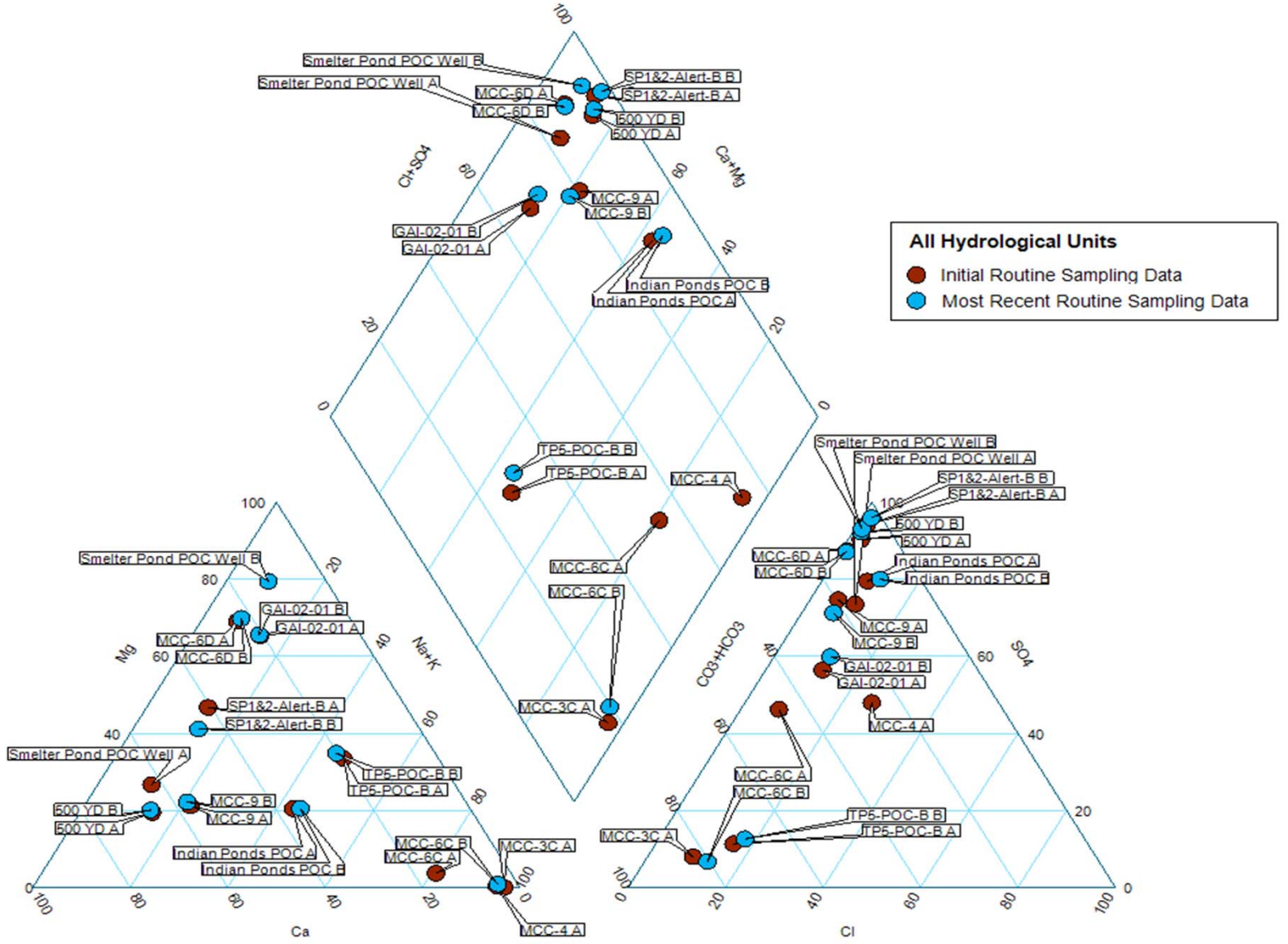
Tailings Porewater

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/15/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	5-6



Golder Associates Tucson, Arizona	TITLE: **All Hydrological Units**				
CLIENT/PROJECT: Resolution Copper Mining Groundwater Assessment West Plant Site, Superior Mine, Superior, Arizona	DRAWN: CB	DATE: 3/15/2013	JOB NO.: 123-92566		
	CHECKED: JM	SCALE: NA	DWG. NO.: NA		
	REVIEWED:	FILE NO.: NA	FIGURE NO.: 5-7		

ATTACHMENT 6
STATISTICAL ANALYSIS

SEASONAL KENDALL & SEN'S
PROGRAMS AND INPUT/OUTPUT FILES
(ON ATTACHED DVD)

SEN'S SLOPE ESTIMATOR GRAPHS

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:27:15 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Ca

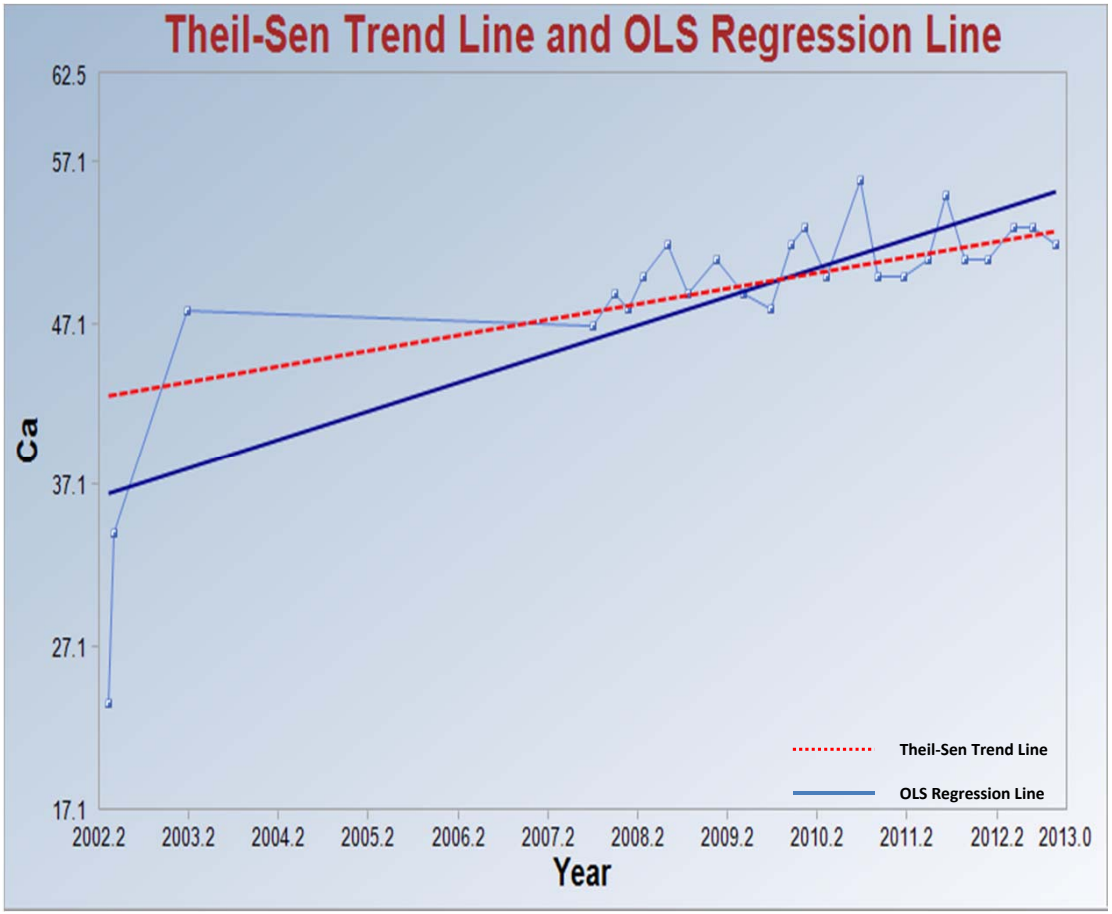
General Statistics

Number of Events	25
Number of Values	25
Minimum	23.6
Maximum	56
Mean	49.02
Geometric Mean	48.42
Median	50
Standard Deviation	6.628
SEM	1.326

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	174
Standard Deviation of S	42.47
Number of Slopes	300
Theil-Sen Slope	0.971
Theil-Sen Intercept	-1901
M1	108.4
M2	191.6
95% LCL of Slope (0.025)	0.559
95% UCL of Slope (0.975)	1.72
M1'	115.1
One-sided 95% lower limit of Slope	0.614

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Calcium	FIGURE NO.: 6-1

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:53:04 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Cl

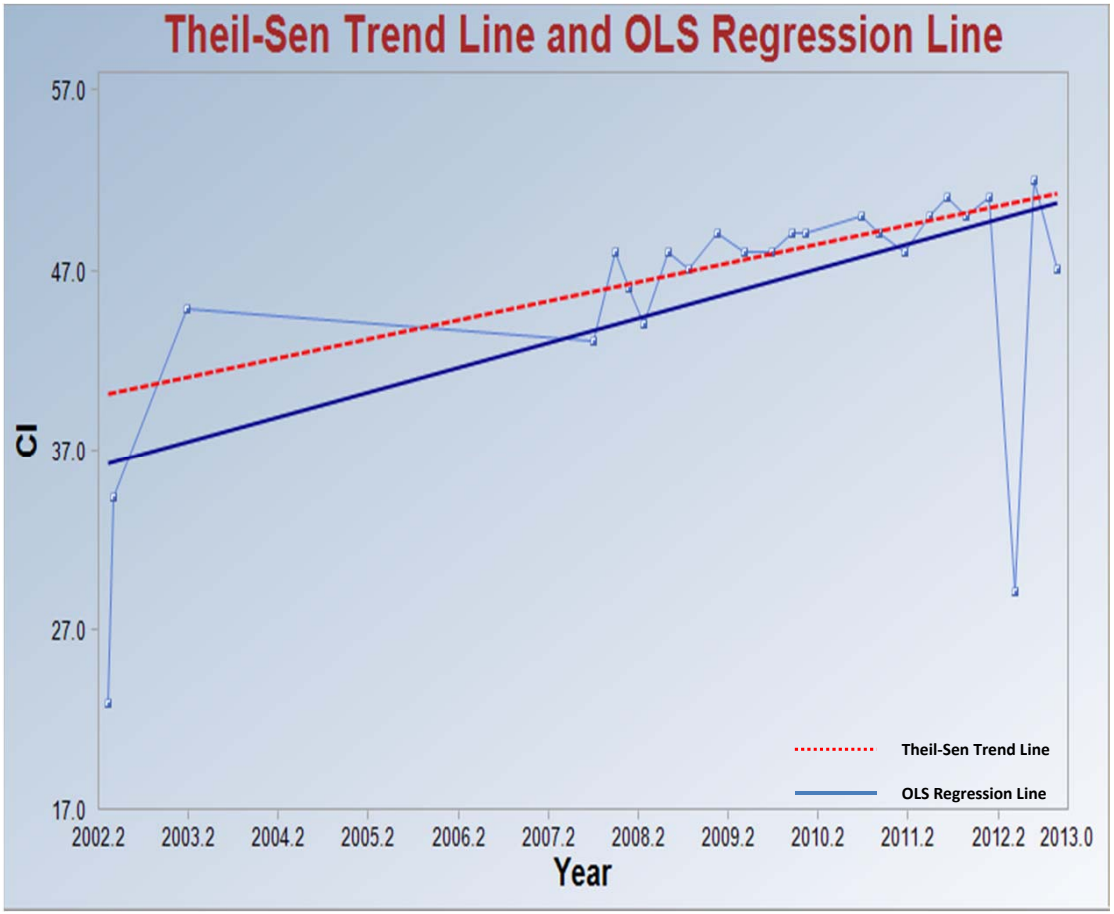
General Statistics

Number of Events	24
Number of Values	24
Minimum	22.8
Maximum	52
Mean	45.75
Geometric Mean	45.04
Median	48
Standard Deviation	7.129
SEM	1.455

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	153
Standard Deviation of S	39.93
Number of Slopes	276
Theil-Sen Slope	1.055
Theil-Sen Intercept	-2073
M1	98.87
M2	177.1
95% LCL of Slope (0.025)	0.629
95% UCL of Slope (0.975)	1.593
M1'	105.2
One-sided 95% lower limit of Slope	0.667

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Chloride	FIGURE NO.: 6-2

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:57:03 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

HCO3-

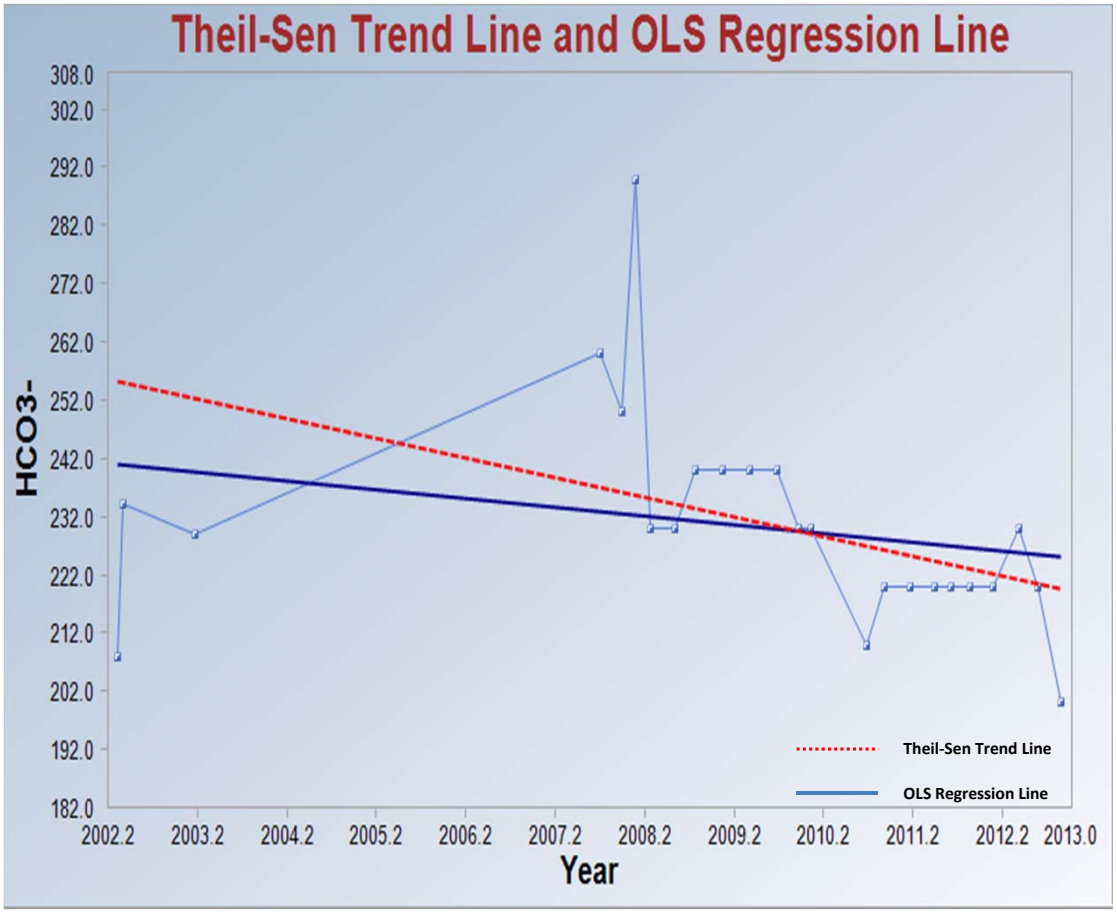
General Statistics

Number of Events	24
Number of Values	24
Minimum	200
Maximum	290
Mean	230.5
Geometric Mean	229.8
Median	230
Standard Deviation	18.41
SEM	3.758

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	-109
Standard Deviation of S	39.44
Number of Slopes	276
Theil-Sen Slope	-3.385
Theil-Sen Intercept	7034
M1	99.35
M2	176.7
95% LCL of Slope (0.025)	-7.811
95% UCL of Slope (0.975)	0
M1'	170.4
One-sided 95% lower limit of Slope	-0.665

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Bicarbonate,	FIGURE NO.: 6-3

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:50:19 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Mg

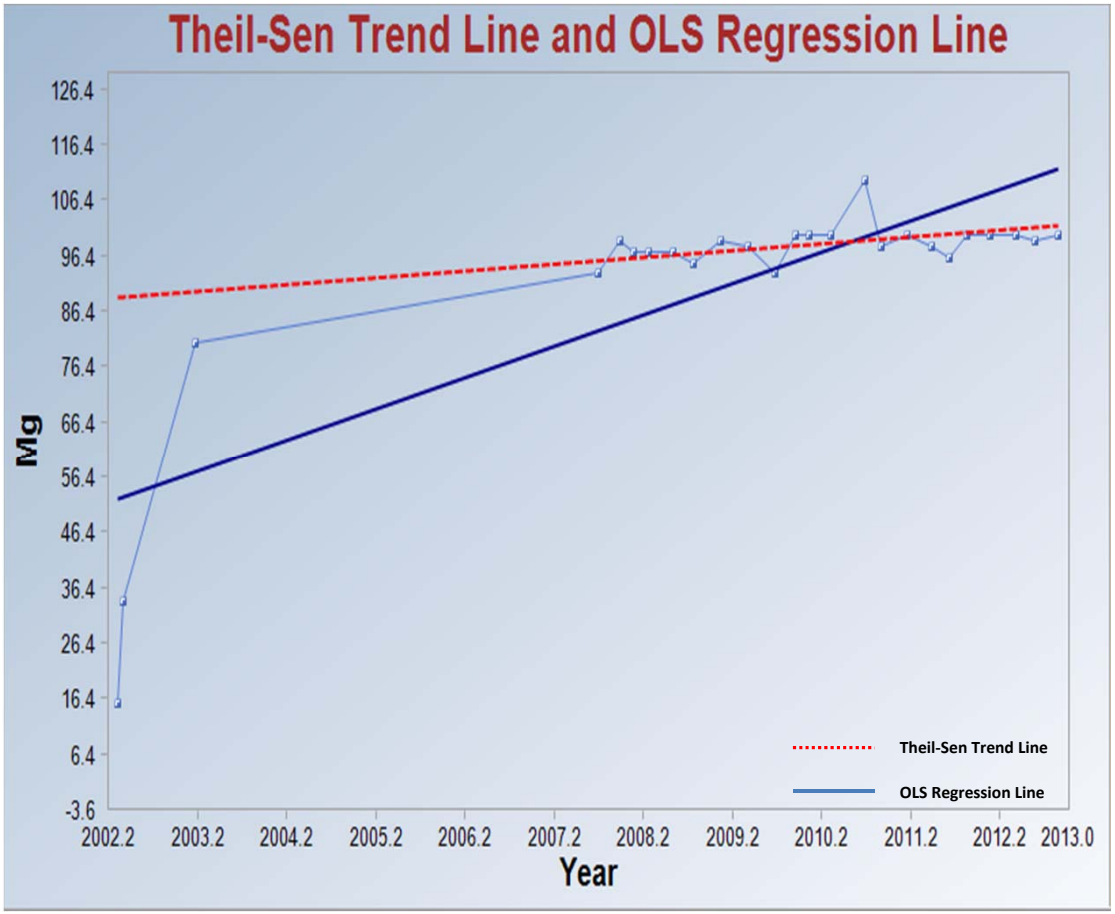
General Statistics

Number of Events	25
Number of Values	25
Minimum	15.3
Maximum	110
Mean	91.95
Geometric Mean	86.95
Median	98
Standard Deviation	20.99
SEM	4.198

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	152
Standard Deviation of S	41.9
Number of Slopes	300
Theil-Sen Slope	1.223
Theil-Sen Intercept	-2361
M1	108.9
M2	191.1
95% LCL of Slope (0.025)	0.382
95% UCL of Slope (0.975)	2.253
M1'	115.5
One-sided 95% lower limit of Slope	0.486

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Magnesium	FIGURE NO.: 6-4

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:42:44 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

SO4

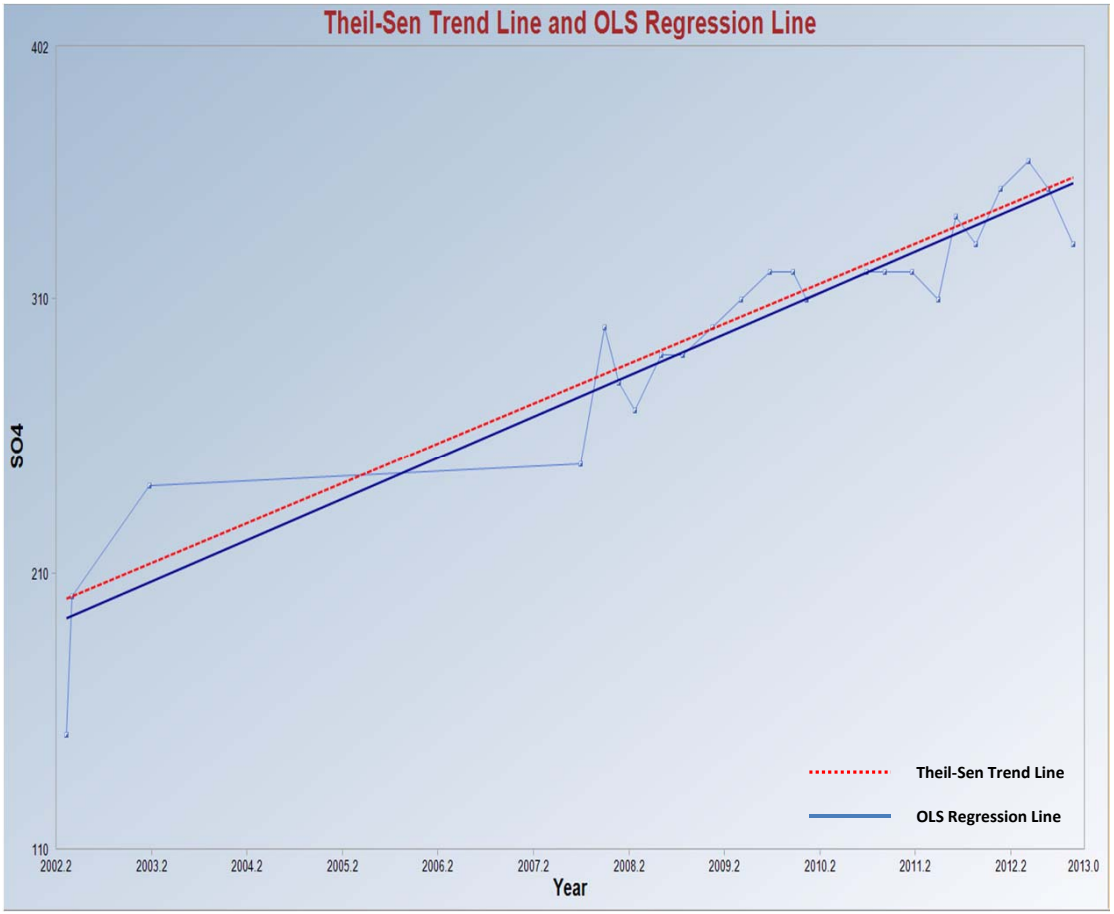
General Statistics

Number of Events	24
Number of Values	24
Minimum	152
Maximum	360
Mean	298.6
Geometric Mean	294
Median	310
Standard Deviation	48.06
SEM	9.81

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	223
Standard Deviation of S	40.01
Number of Slopes	276
Theil-Sen Slope	14.54
Theil-Sen Intercept	-28905
M1	98.79
M2	177.2
95% LCL of Slope (0.025)	11.57
95% UCL of Slope (0.975)	18.04
M1'	105.1
One-sided 95% lower limit of Slope	12.11

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Sulfate	FIGURE NO.: 6-5

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 2:49:18 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

TDS

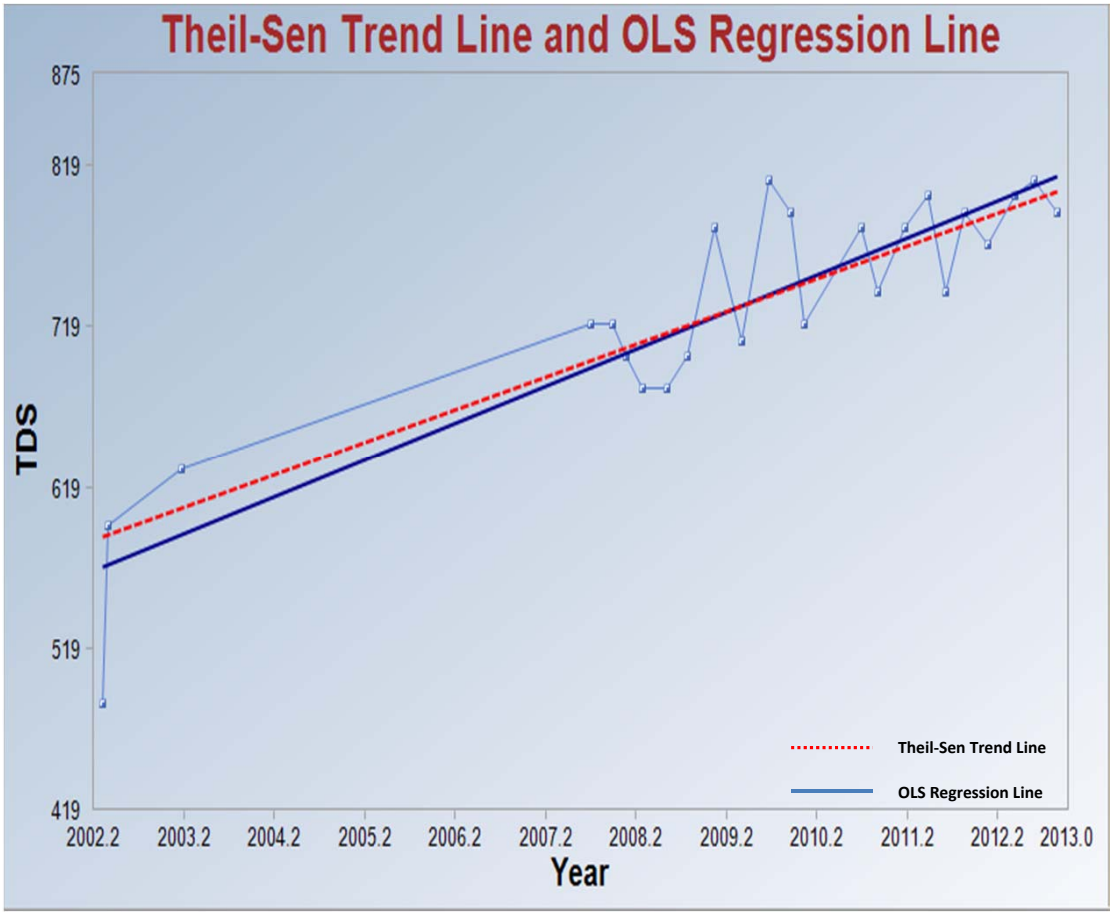
General Statistics

Number of Events	24
Number of Values	24
Minimum	484
Maximum	810
Mean	730
Geometric Mean	725.4
Median	740
Standard Deviation	77.72
SEM	15.87

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	170
Standard Deviation of S	40.12
Number of Slopes	276
Theil-Sen Slope	20.26
Theil-Sen Intercept	-39985
M1	98.69
M2	177.3
95% LCL of Slope (0.025)	14.4
95% UCL of Slope (0.975)	26.43
M1'	105
One-sided 95% lower limit of Slope	15.71

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: GAI-02-01 - Total Dissolved Solids	FIGURE NO.: 6-6

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:19:18 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

F

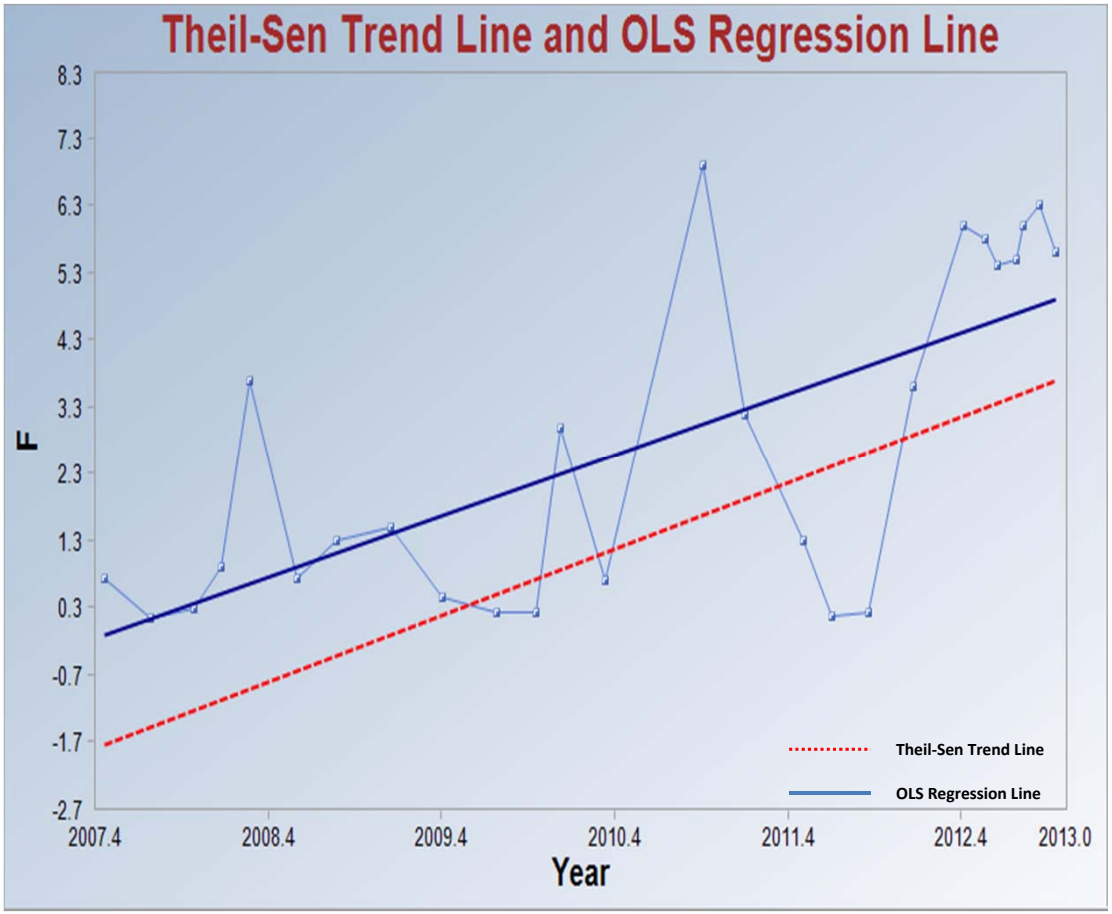
General Statistics

Number of Events	26
Number of Values	26
Minimum	0.14
Maximum	6.9
Mean	2.691
Geometric Mean	1.408
Median	1.4
Standard Deviation	2.448
SEM	0.48

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	141
Standard Deviation of S	45.35
Number of Slopes	325
Theil-Sen Slope	0.992
Theil-Sen Intercept	-1994
M1	118.1
M2	206.9
95% LCL of Slope (0.025)	0.413
95% UCL of Slope (0.975)	1.234
M1'	125.2
One-sided 95% lower limit of Slope	0.559

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: Smelter Pond - Fluoride	FIGURE NO.: 6-7

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:05:54 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

HCO3-

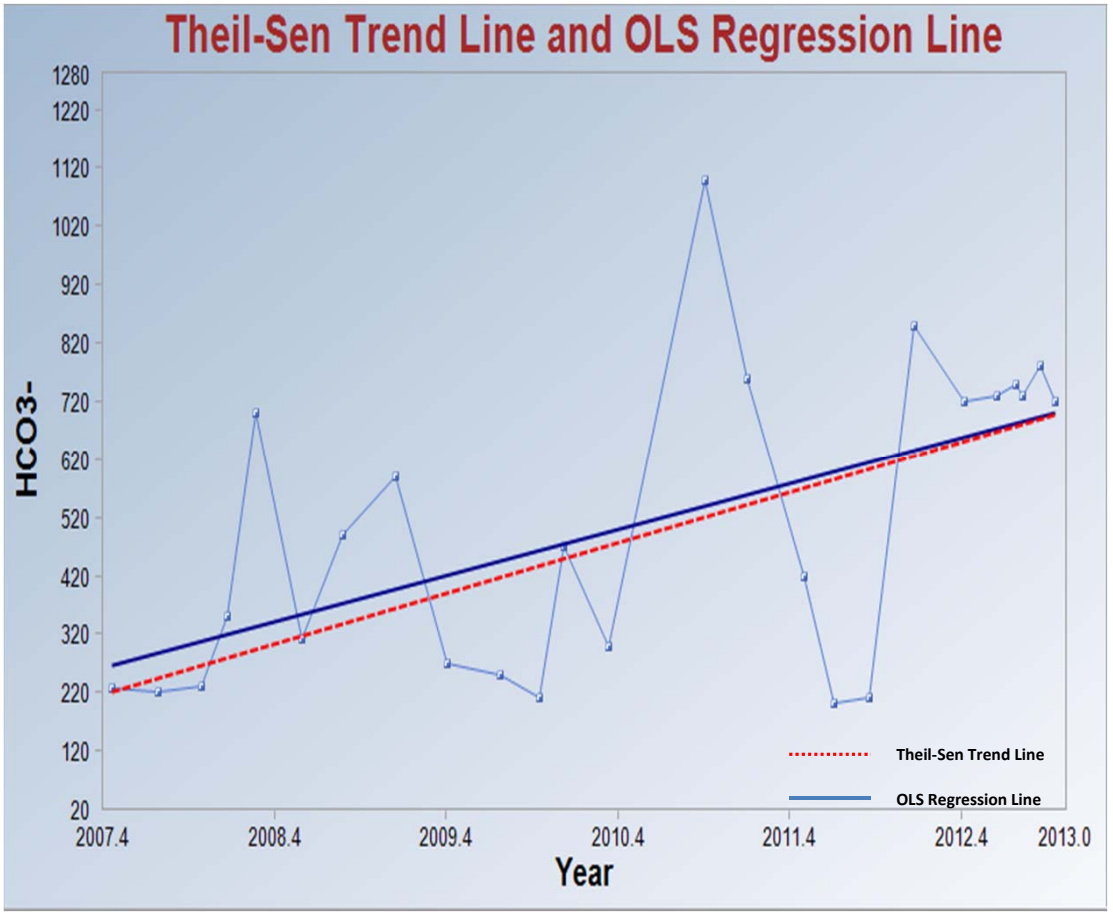
General Statistics

Number of Events	25
Number of Values	25
Minimum	200
Maximum	1100
Mean	503.5
Geometric Mean	436.9
Median	470
Standard Deviation	261.9
SEM	52.39

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	105
Standard Deviation of S	42.78
Number of Slopes	300
Theil-Sen Slope	86.7
Theil-Sen Intercept	-173821
M1	108.1
M2	191.9
95% LCL of Slope (0.025)	12.01
95% UCL of Slope (0.975)	113.7
M1'	114.8
One-sided 95% lower limit of Slope	27.47

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: Smelter Pond - Bicarbonate	FIGURE NO.: 6-8

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:13:41 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Na

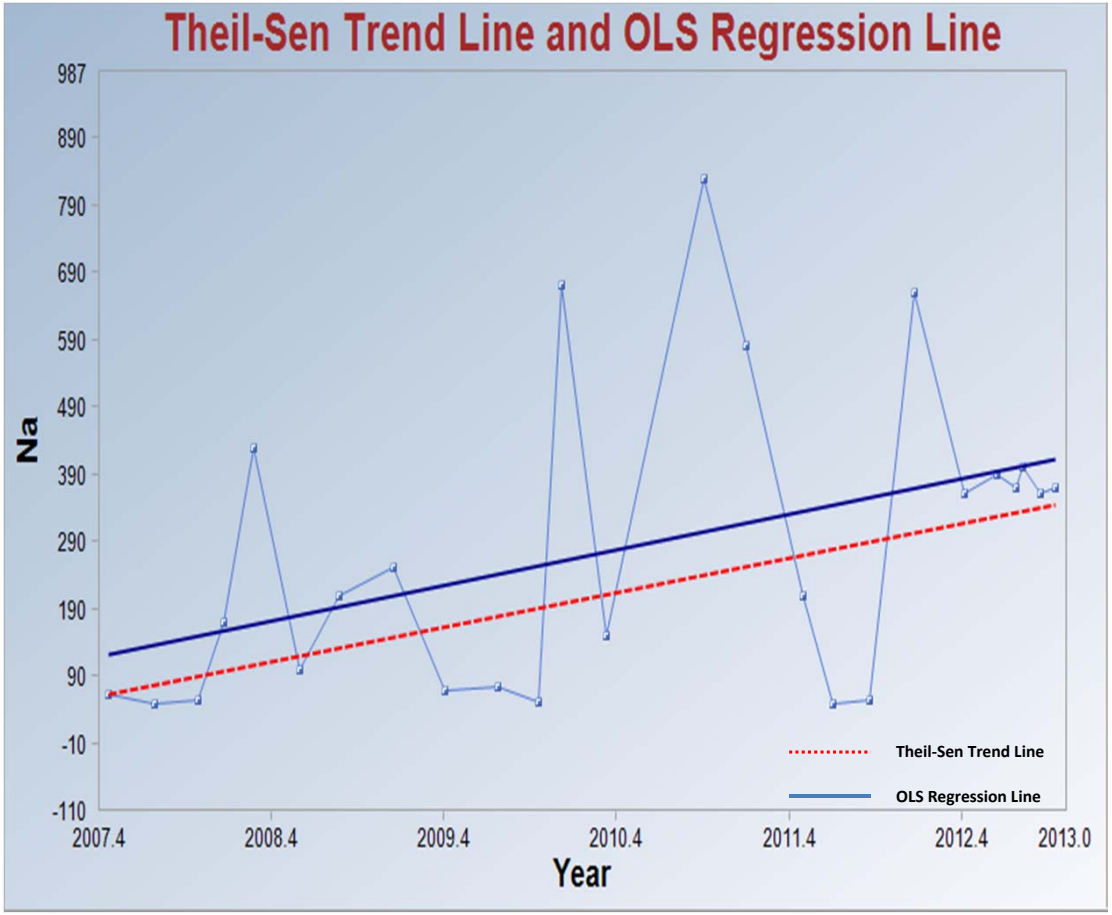
General Statistics

Number of Events	25
Number of Values	25
Minimum	47
Maximum	830
Mean	278.9
Geometric Mean	188.8
Median	210
Standard Deviation	226.9
SEM	45.37

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	87
Standard Deviation of S	42.78
Number of Slopes	300
Theil-Sen Slope	51.06
Theil-Sen Intercept	-102443
M1	108.1
M2	191.9
95% LCL of Slope (0.025)	0.0771
95% UCL of Slope (0.975)	91.37
M1'	114.8
One-sided 95% lower limit of Slope	10.24

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: Smelter Pond - Sodium	FIGURE NO.: 6-9

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:15:00 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

SO4

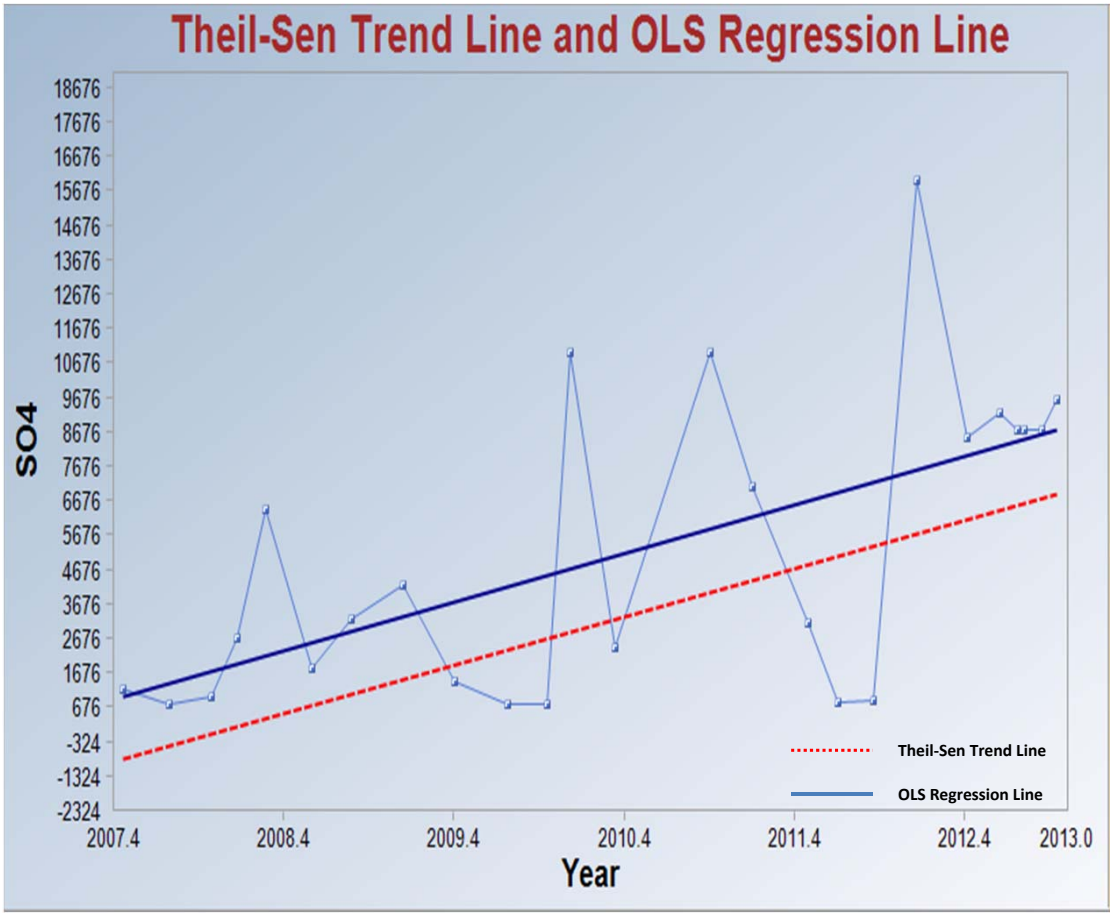
General Statistics

Number of Events	25
Number of Values	25
Minimum	730
Maximum	16000
Mean	5188
Geometric Mean	3299
Median	3200
Standard Deviation	4348
SEM	869.6

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	119
Standard Deviation of S	42.75
Number of Slopes	300
Theil-Sen Slope	1405
Theil-Sen Intercept	-2820663
M1	108.1
M2	191.9
95% LCL of Slope (0.025)	428.6
95% UCL of Slope (0.975)	1917
M1'	114.8
One-sided 95% lower limit of Slope	519.6

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: Smelter Pond - Sulfate	FIGURE NO.: 6-10

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:10:46 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

TDS

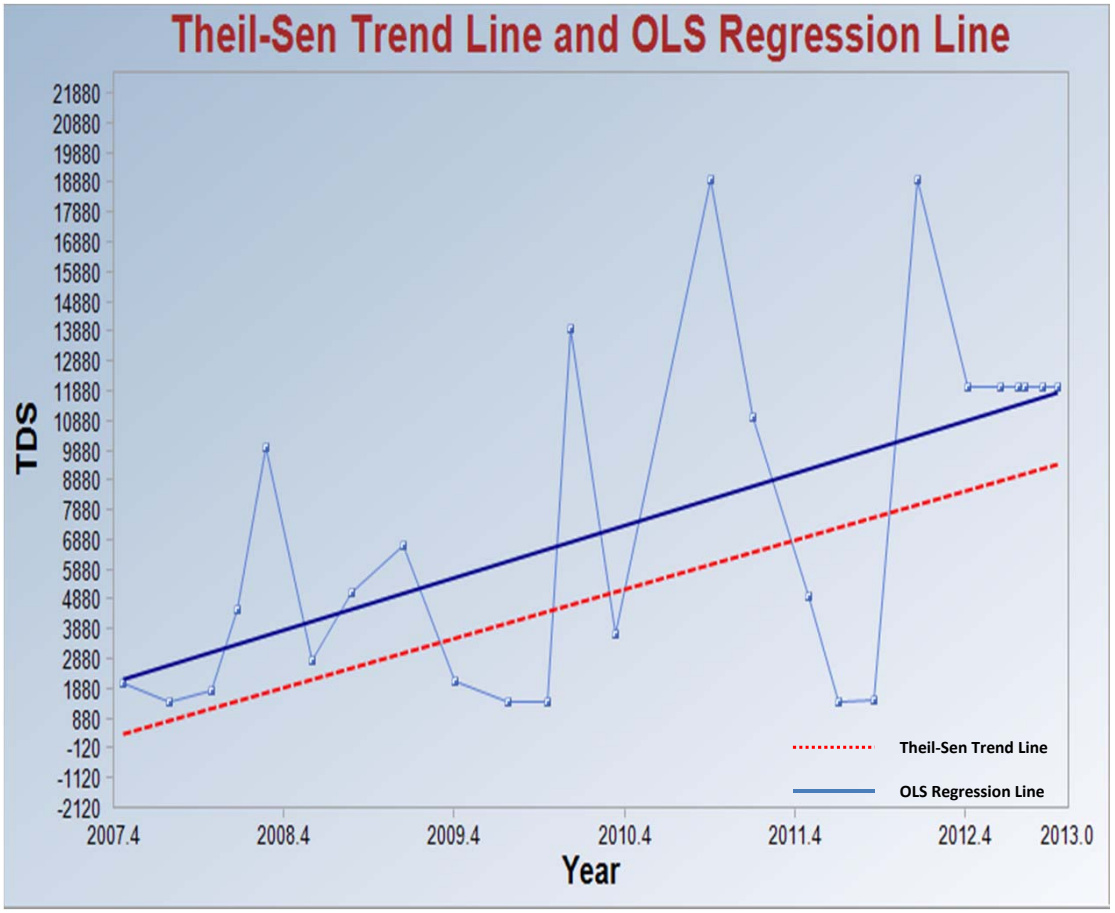
General Statistics

Number of Events	25
Number of Values	25
Minimum	1400
Maximum	19000
Mean	7435
Geometric Mean	5141
Median	5100
Standard Deviation	5704
SEM	1141

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	110
Standard Deviation of S	42.37
Number of Slopes	300
Theil-Sen Slope	1648
Theil-Sen Intercept	-3308614
M1	108.5
M2	191.5
95% LCL of Slope (0.025)	34.81
95% UCL of Slope (0.975)	2344
M1'	115.2
One-sided 95% lower limit of Slope	431.4

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: Smelter Pond - Total Dissolved Solids	FIGURE NO.: 6-11

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 4:44:02 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Field EC

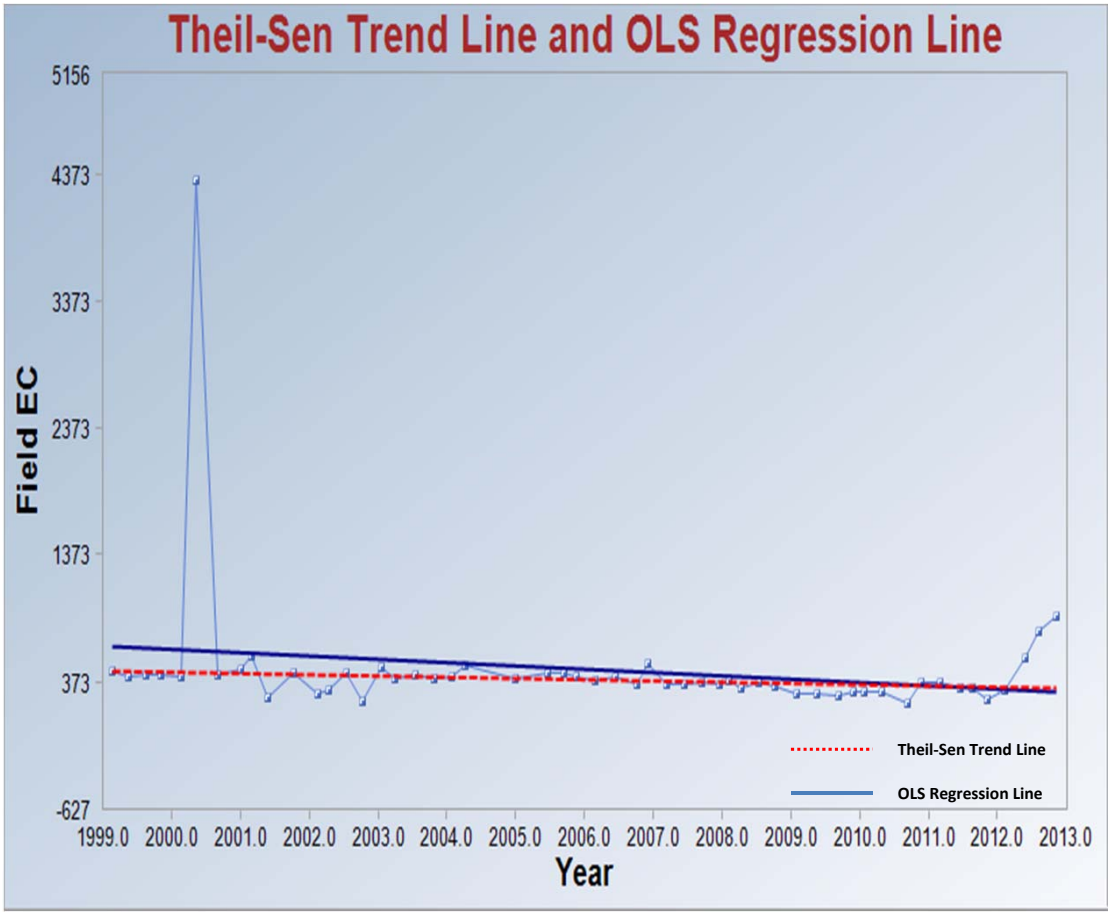
General Statistics

Number of Events	53
Number of Values	53
Minimum	198.8
Maximum	4330
Mean	468.5
Geometric Mean	396.6
Median	389
Standard Deviation	553.8
SEM	76.07

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	-412
Standard Deviation of S	130.3
Number of Slopes	1378
Theil-Sen Slope	-10.31
Theil-Sen Intercept	21075
M1	561.3
M2	816.7
95% LCL of Slope (0.025)	-15.13
95% UCL of Slope (0.975)	-5.454
M1'	796.2
One-sided 95% lower limit of Slope	-6.177

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: MCC-3C - Field Electrical Conductivity	FIGURE NO.: 6-12

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 5:00:25 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

As

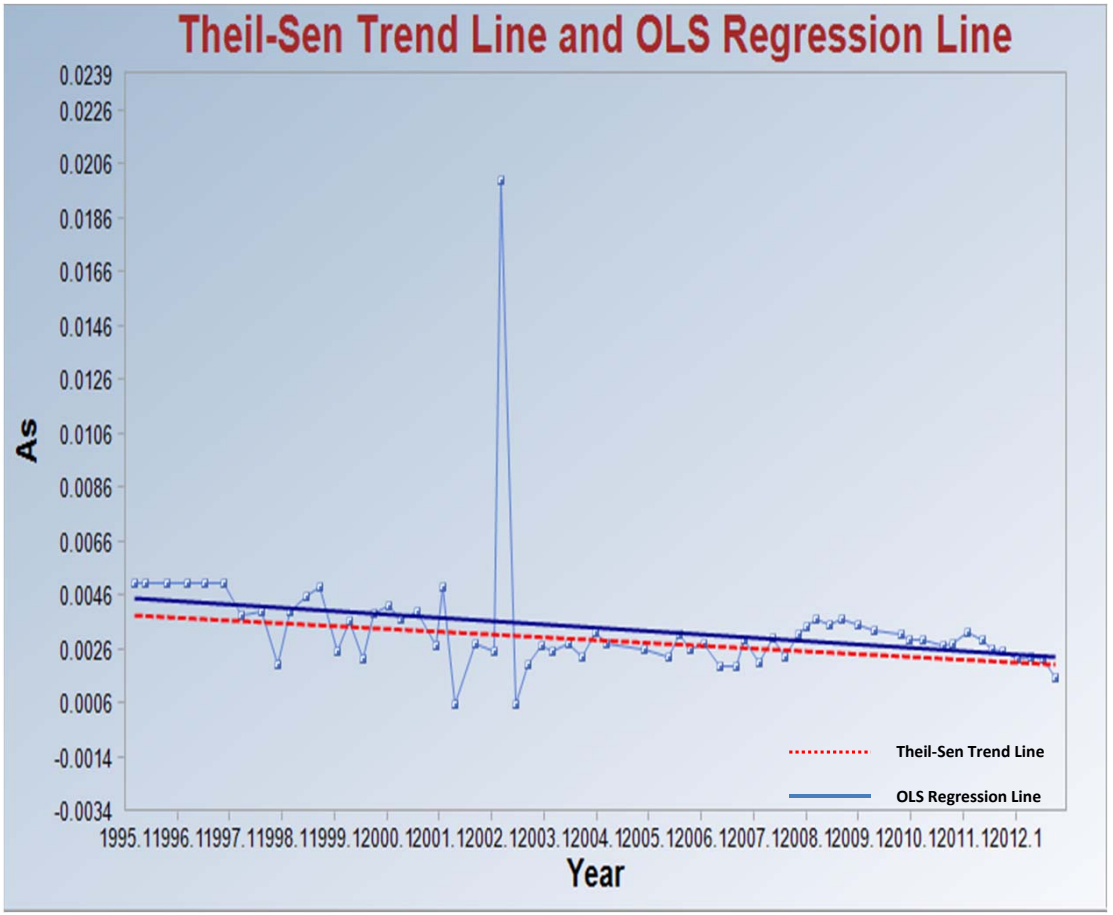
General Statistics

Number of Events	64
Number of Values	64
Minimum	5.00E-04
Maximum	0.02
Mean	0.00336
Geometric Mean	0.00297
Median	0.0029
Standard Deviation	0.00235
SEM	2.94E-04

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	-637
Standard Deviation of S	172.3
Number of Slopes	2016
Theil-Sen Slope	-1.06E-04
Theil-Sen Intercept	0.215
M1	839.1
M2	1177
95% LCL of Slope (0.025)	-1.48E-04
95% UCL of Slope (0.975)	-5.23E-05
M1'	1150
One-sided 95% lower limit of Slope	-5.98E-05

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: MCC-4 - Arsenic	FIGURE NO.: 6-13

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:41:08 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

As

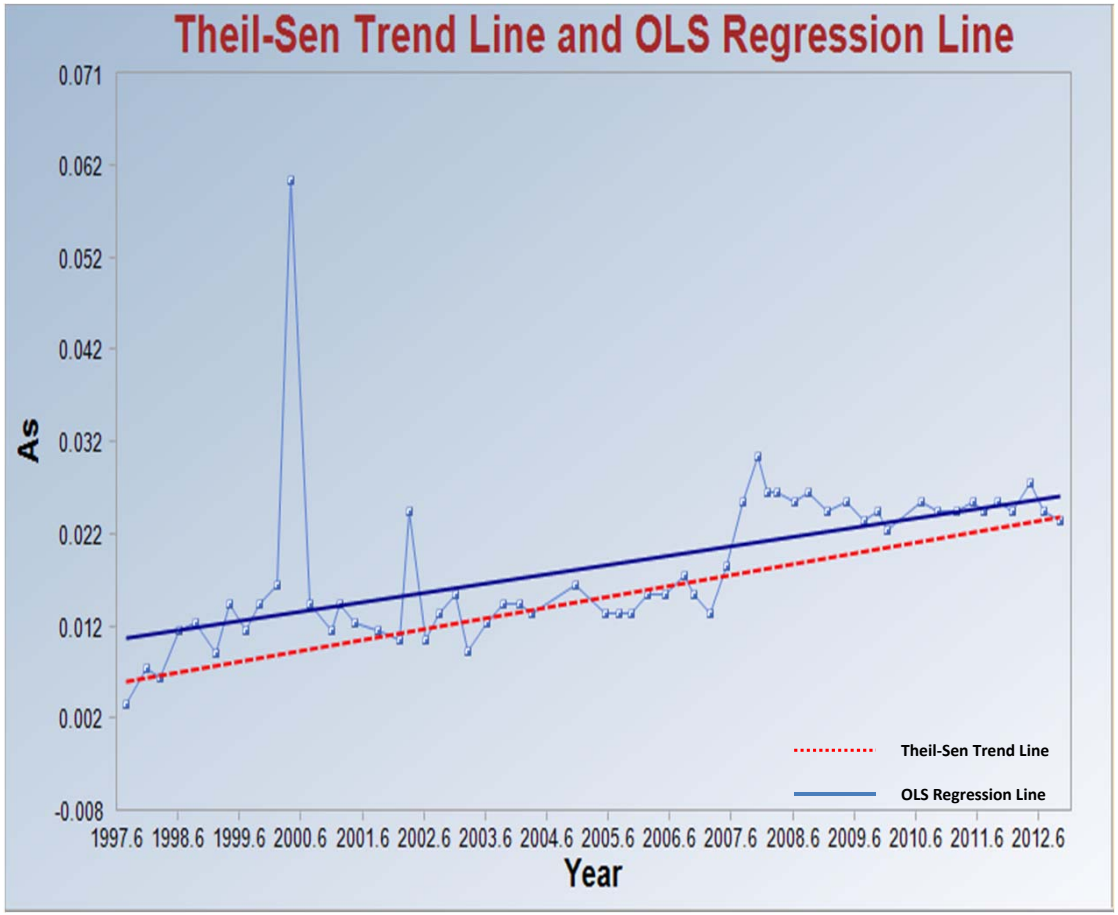
General Statistics

Number of Events	57
Number of Values	57
Minimum	0.003
Maximum	0.06
Mean	0.018
Geometric Mean	0.0162
Median	0.015
Standard Deviation	0.00868
SEM	0.00115

Approximate inference for Theil-Sen Trend Test

Mann-Kendall Statistic (S)	866
Standard Deviation of S	144.7
Number of Slopes	1596
Theil-Sen Slope	0.00117
Theil-Sen Intercept	-2.337
M1	656.2
M2	939.8
95% LCL of Slope (0.025)	9.32E-04
95% UCL of Slope (0.975)	0.0014
M1'	679
One-sided 95% lower limit of Slope	9.80E-04

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: MCC-6C - Arsenic,	FIGURE NO.: 6-14

Theil-Sen Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/20/2013 3:43:45 PM
From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Field EC

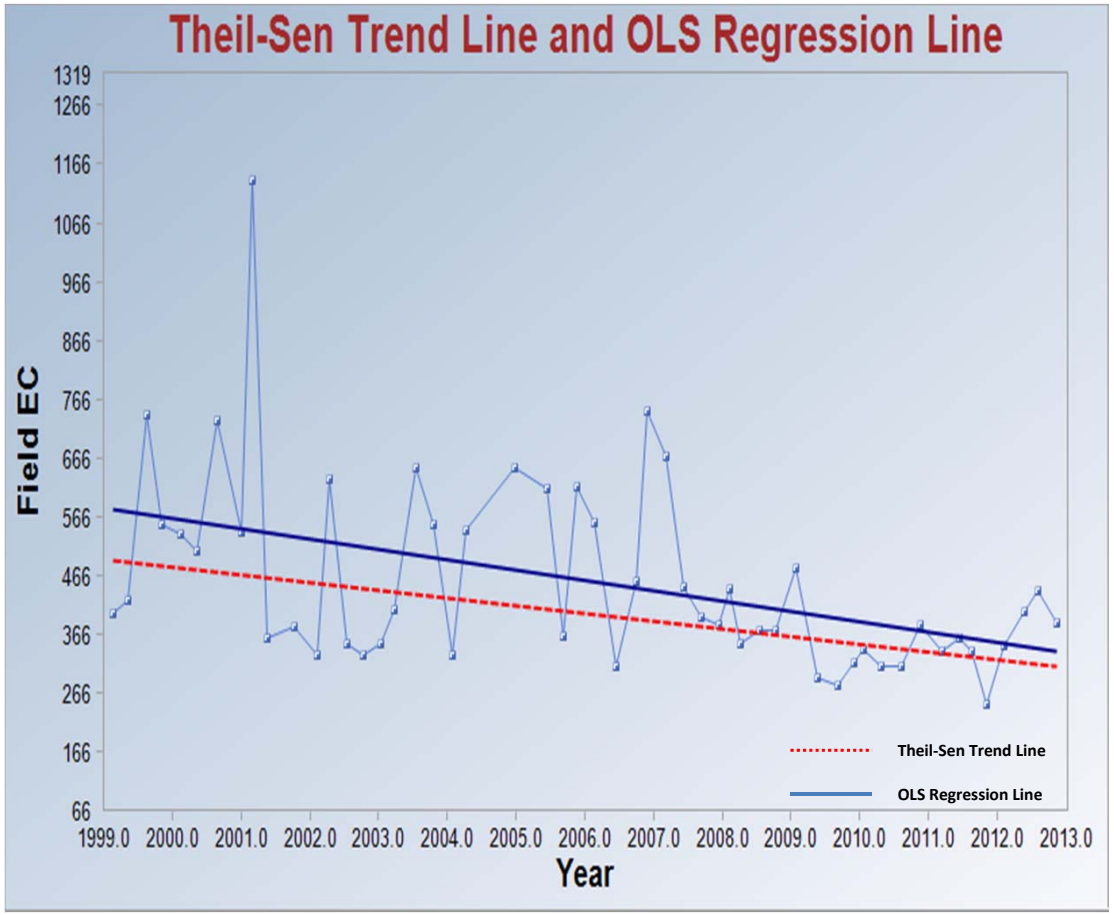
General Statistics

Number of Events	60
Number of Values	60
Minimum	245
Maximum	1140
Mean	443.2
Geometric Mean	421.9
Median	384
Standard Deviation	155.9
SEM	20.13

Approximate inference for Theil-Sen Trend Test

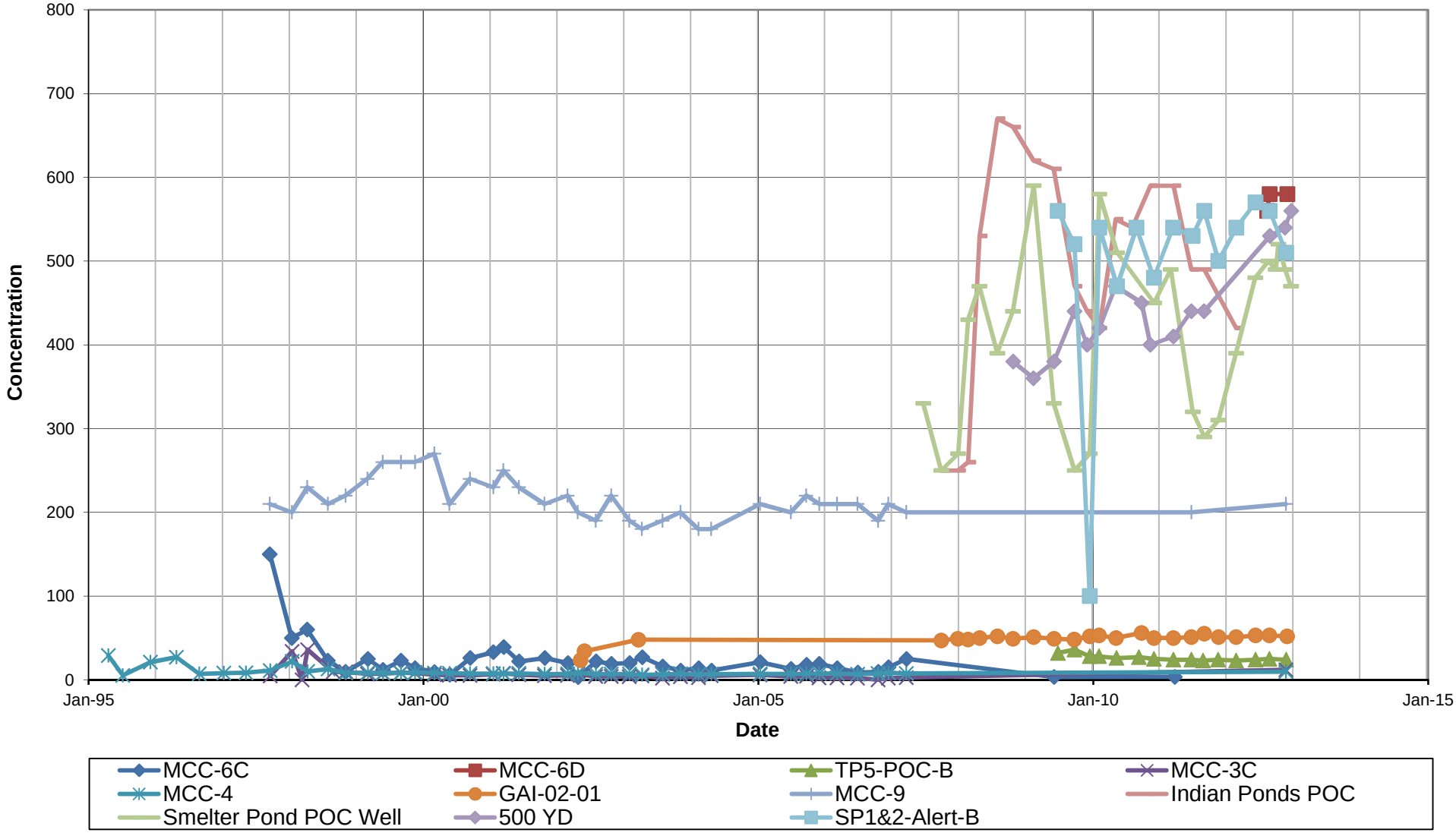
Mann-Kendall Statistic (S)	-515
Standard Deviation of S	156.7
Number of Slopes	1770
Theil-Sen Slope	N/A
Theil-Sen Intercept	N/A
M1	731.4
M2	1039
95% LCL of Slope (0.025)	-20.33
95% UCL of Slope (0.975)	-4.739
M1'	1014
One-sided 95% lower limit of Slope	-5.41

Statistically significant evidence of an increasing trend at the specified level of significance.



Golder Associates Tucson, AZ	PROJECT/REPORT: Groundwater Assessment	JOB NO.: 123-92566
	TITLE: MCC-6C - Electrical Conductivity	FIGURE NO.: 6-15

ATTACHMENT 7
TIME SERIES GRAPHS



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

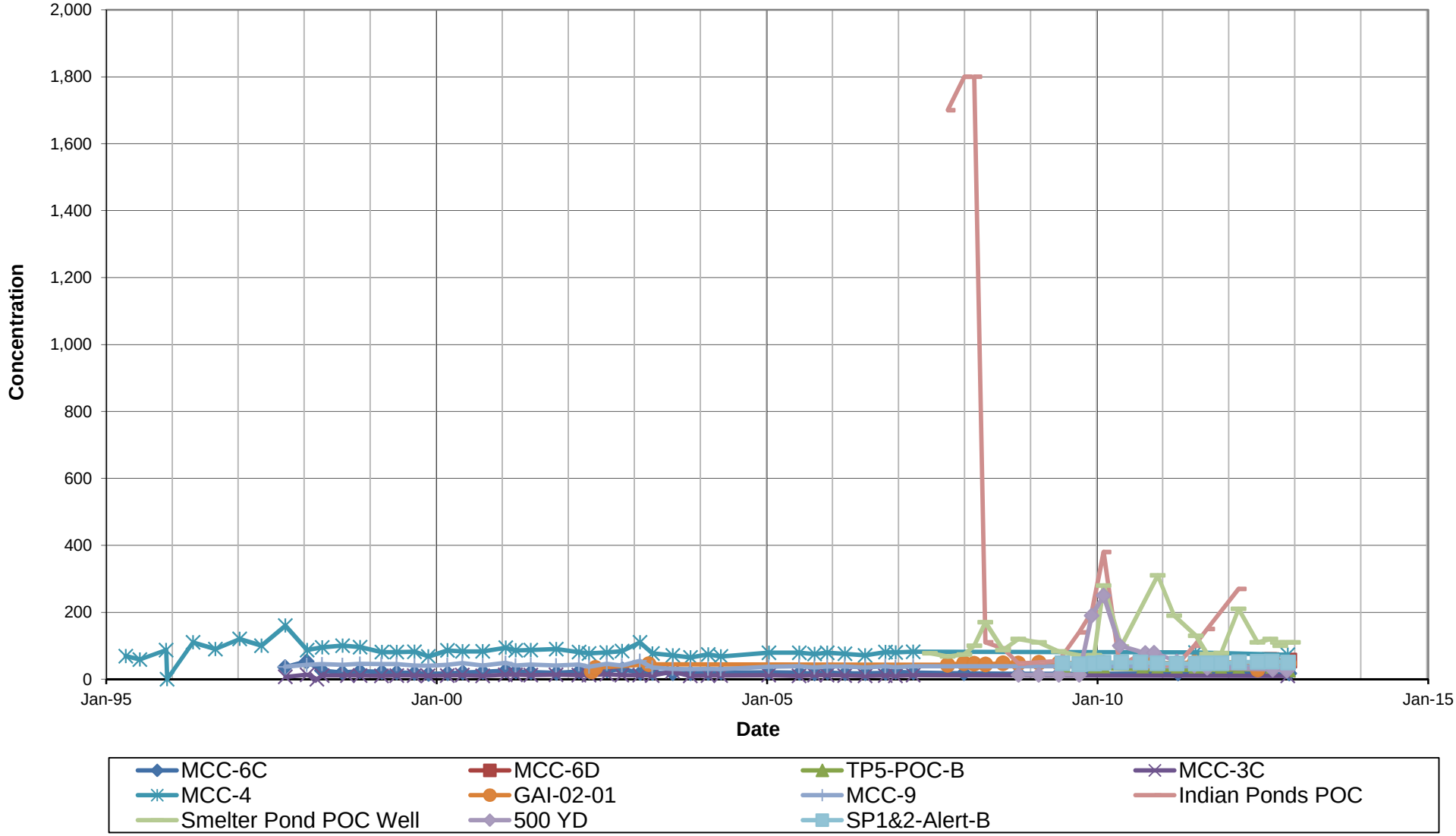
Calcium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-1



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

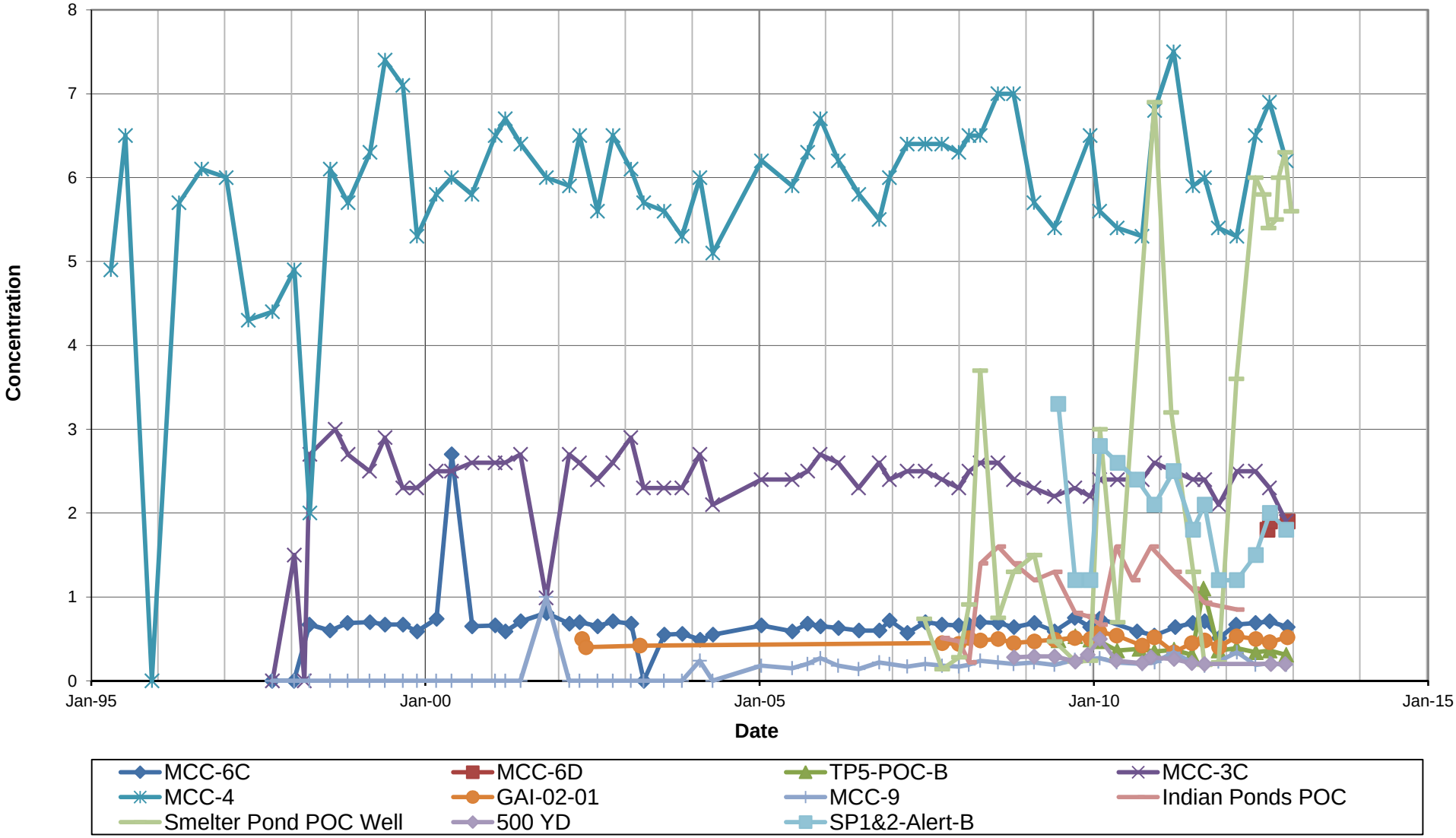
Chloride (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DOCUMENT NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-2



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

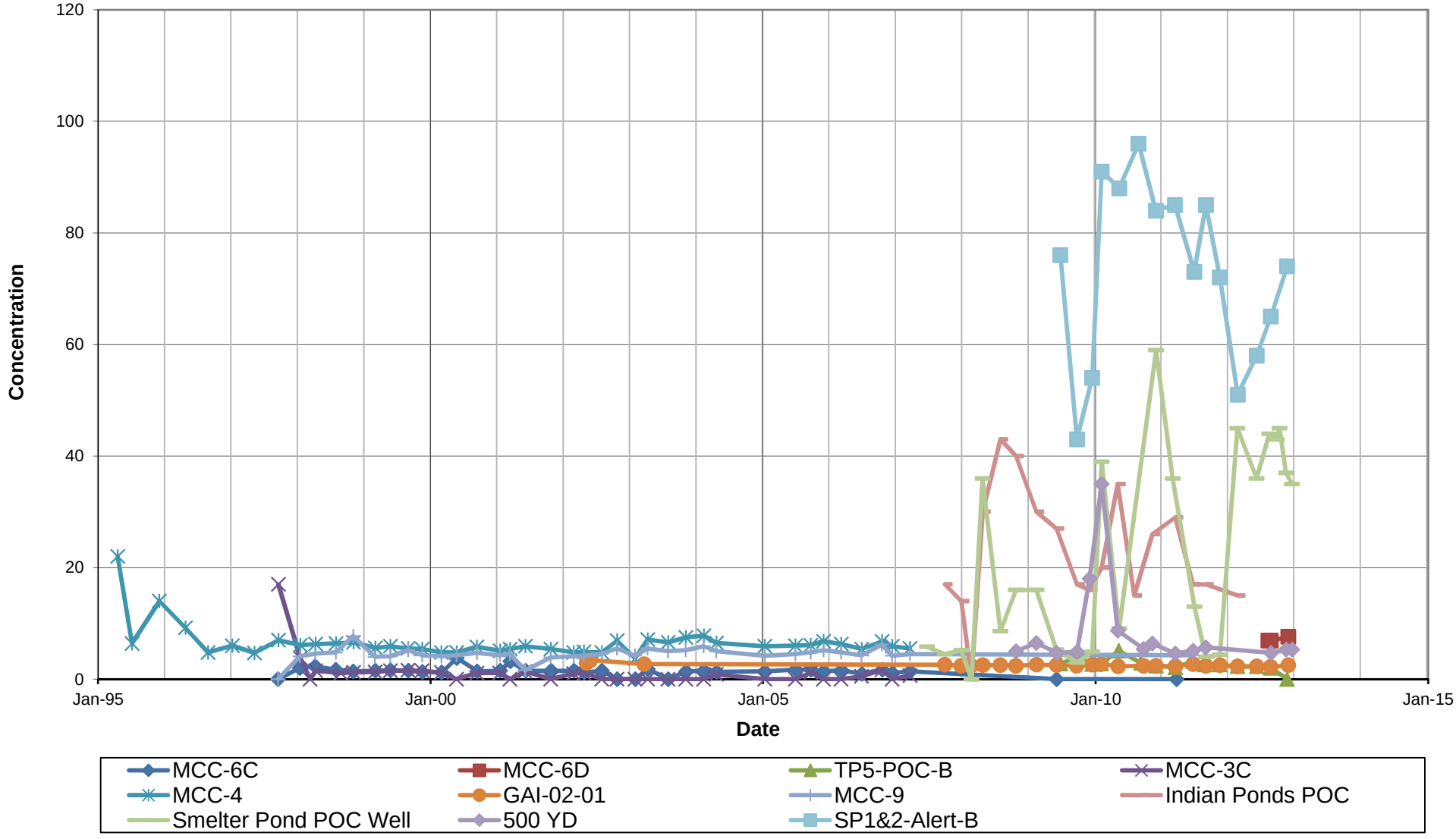
Fluoride (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-3



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

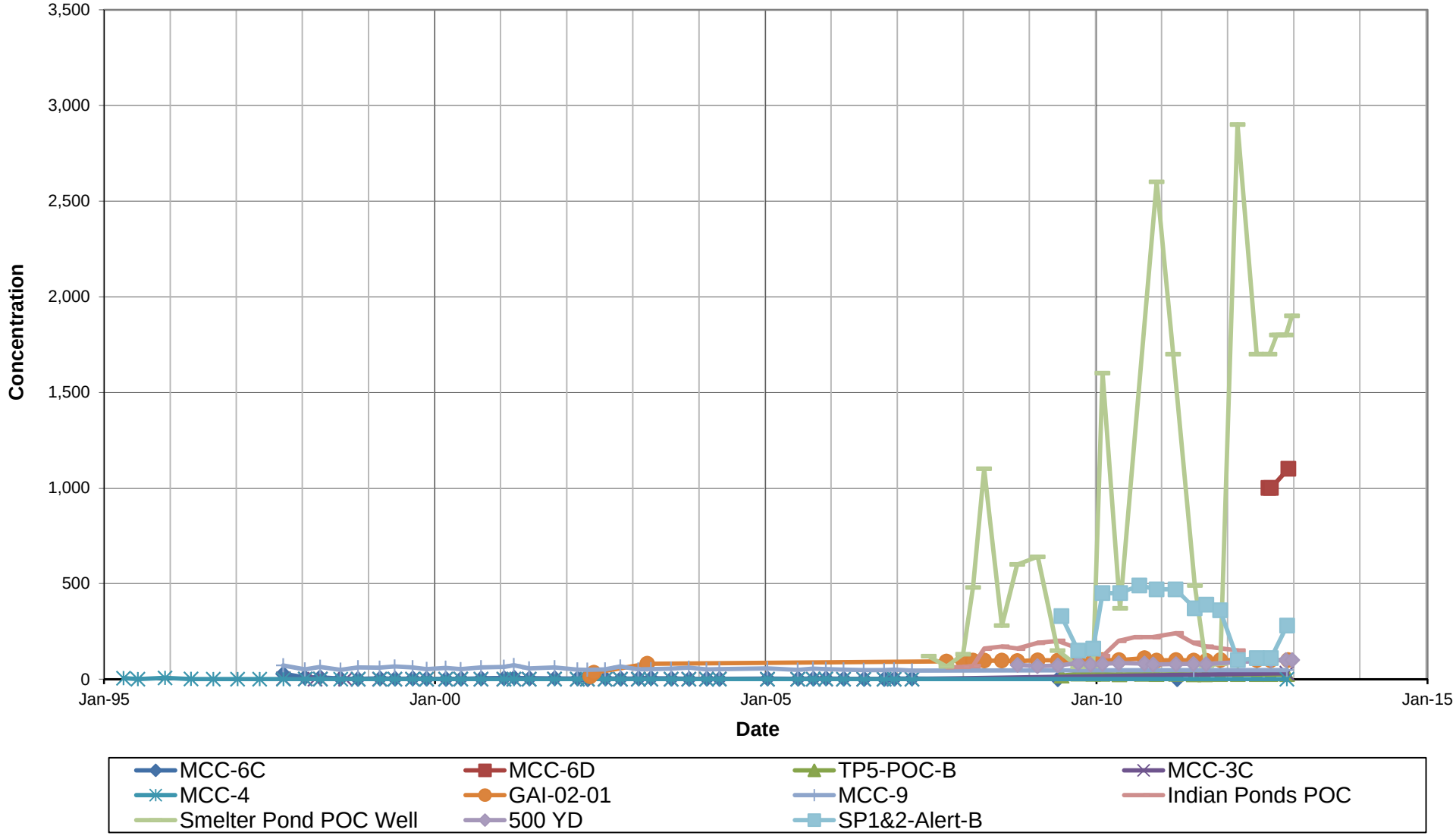
Potassium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-4



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

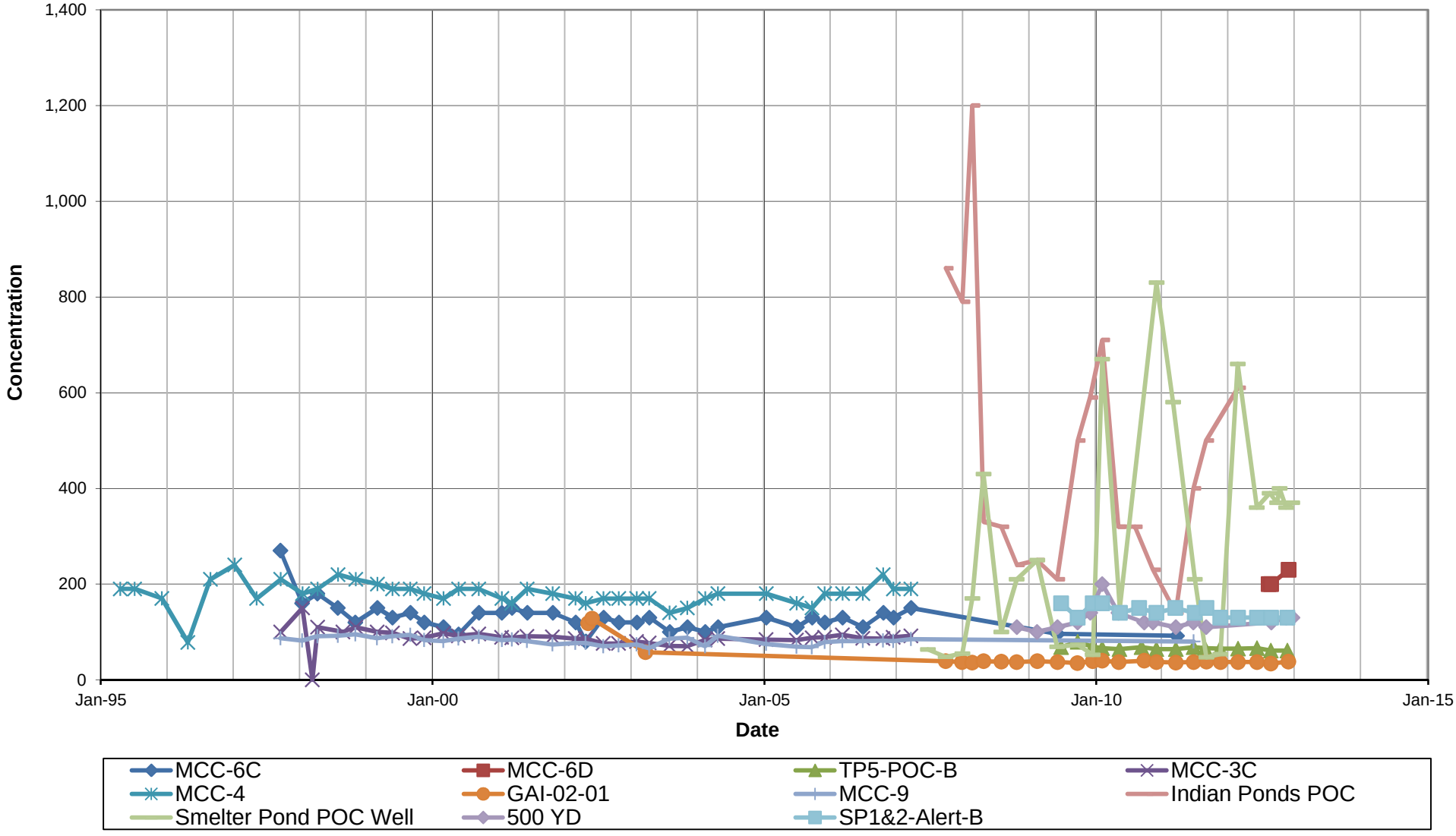
Magnesium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-5



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

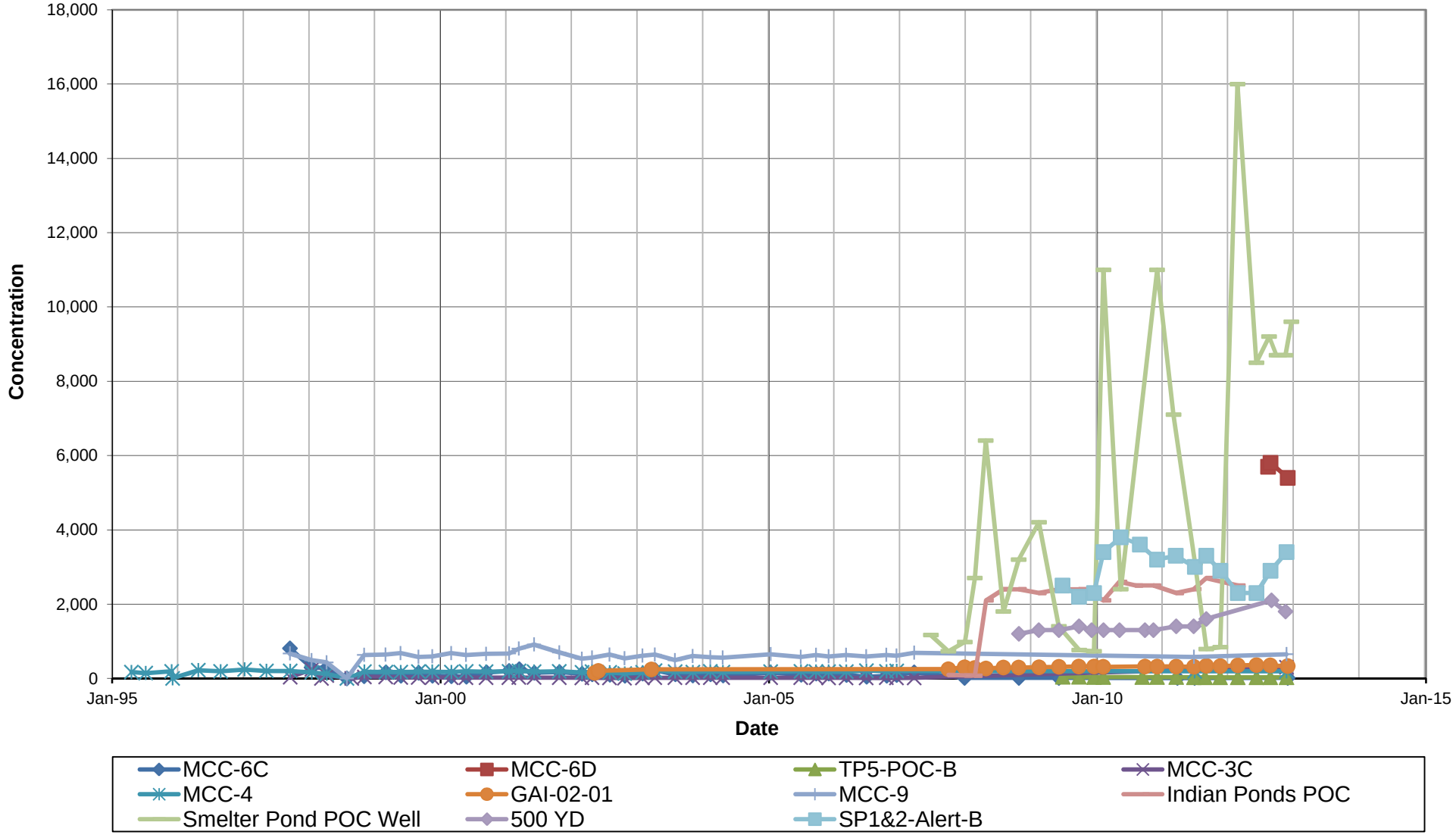
Sodium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-6



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

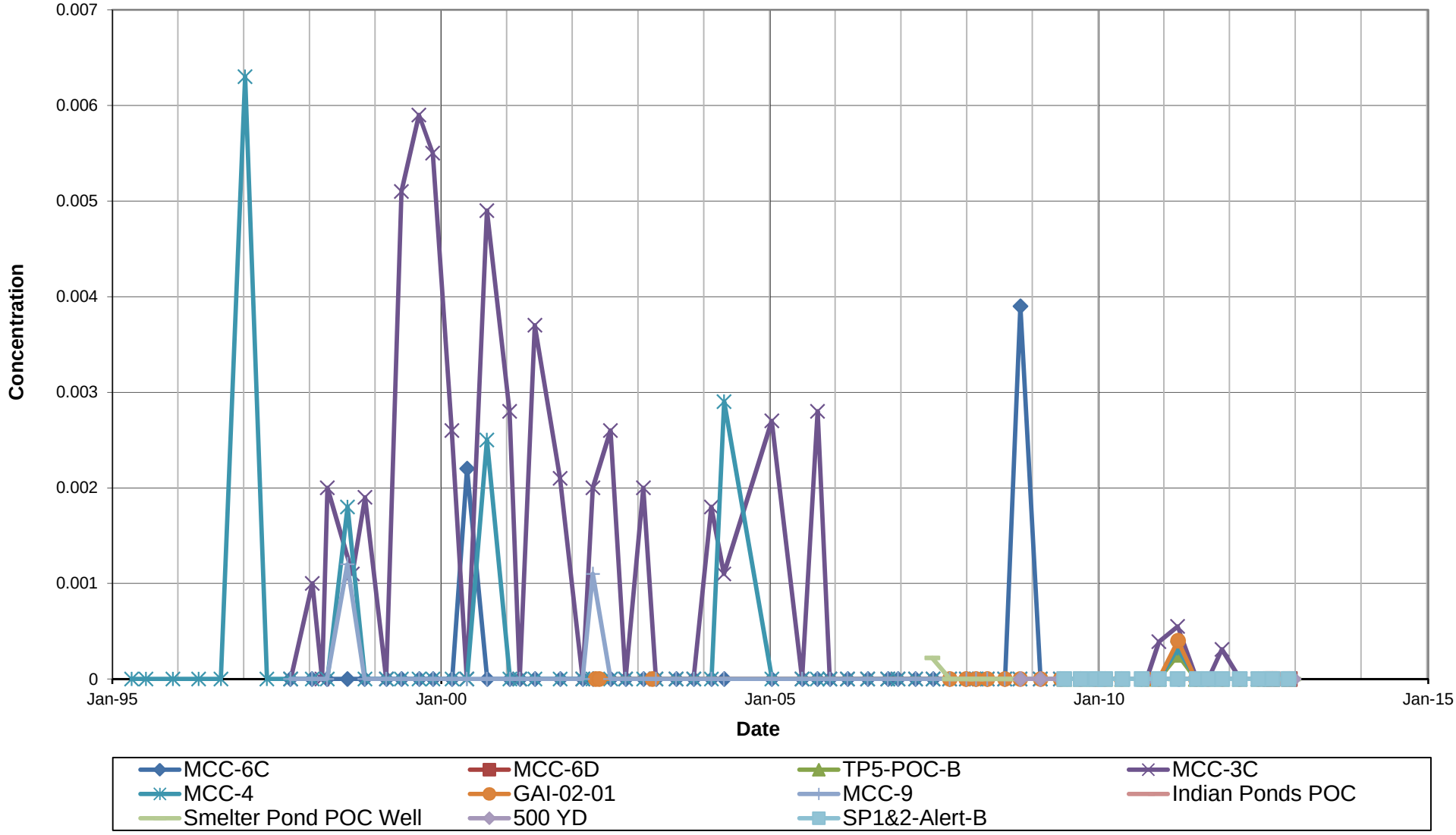
Sulfate (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-7



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

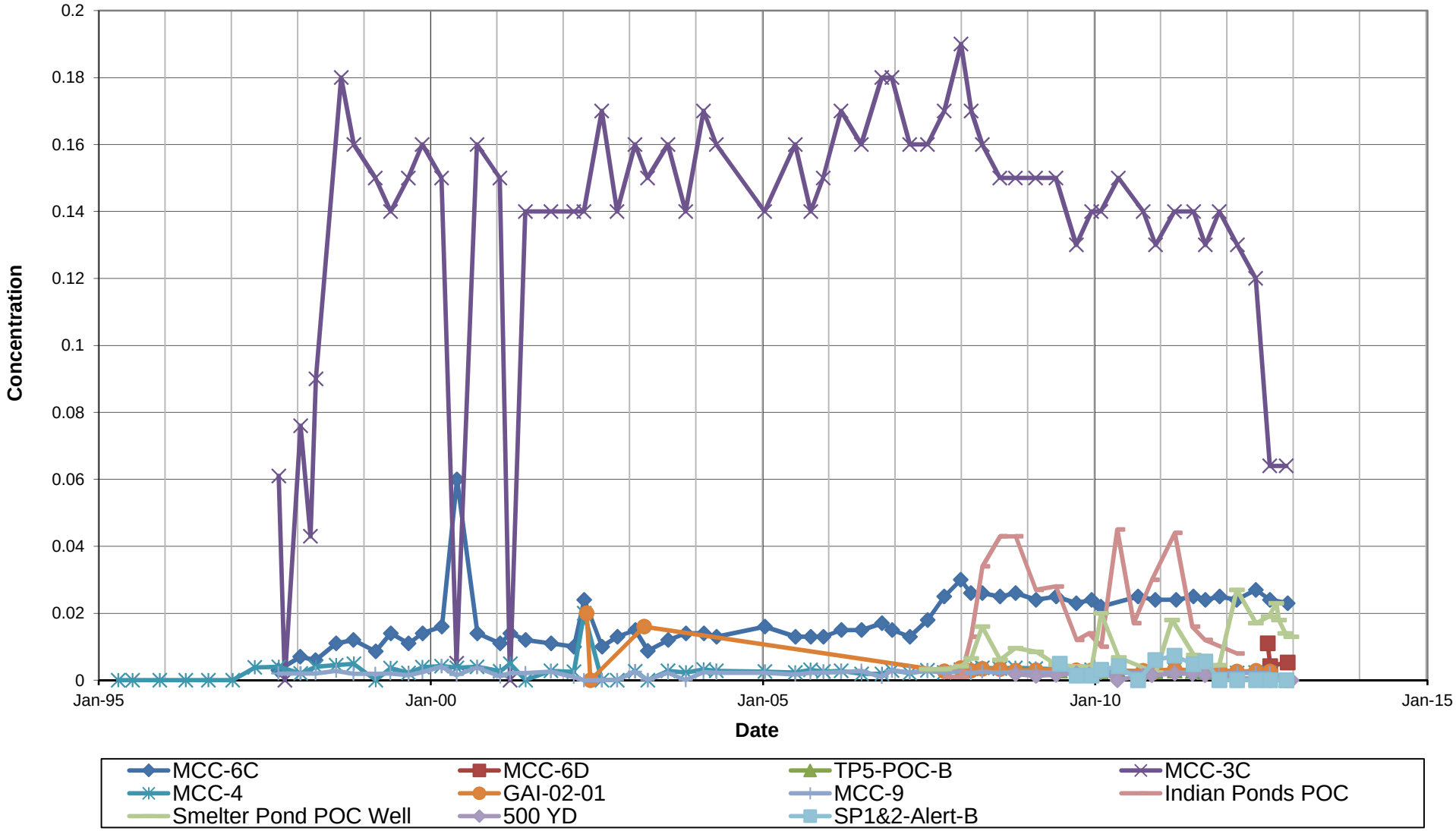
Antimony (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-8



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

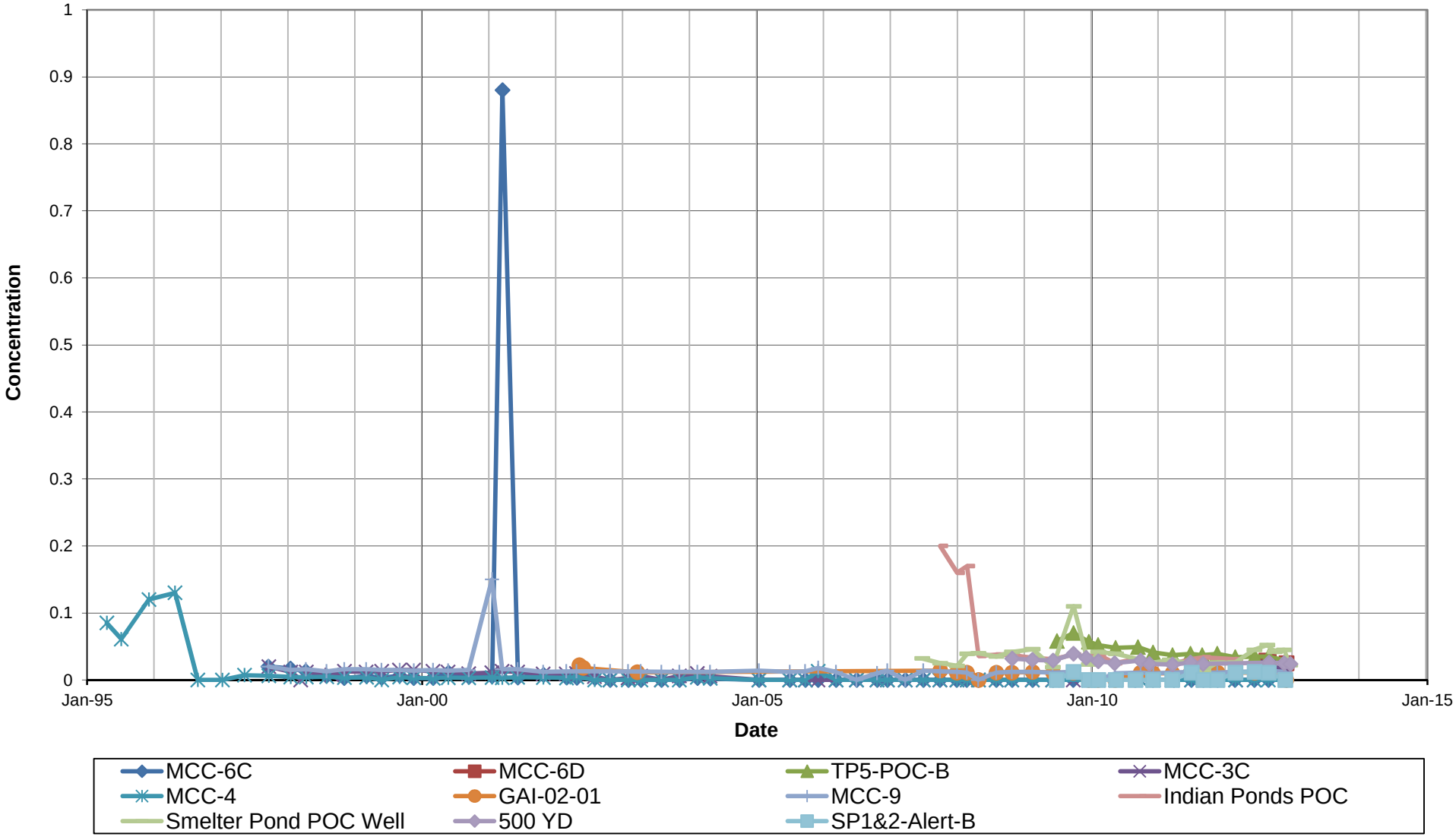
Arsenic (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-9



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

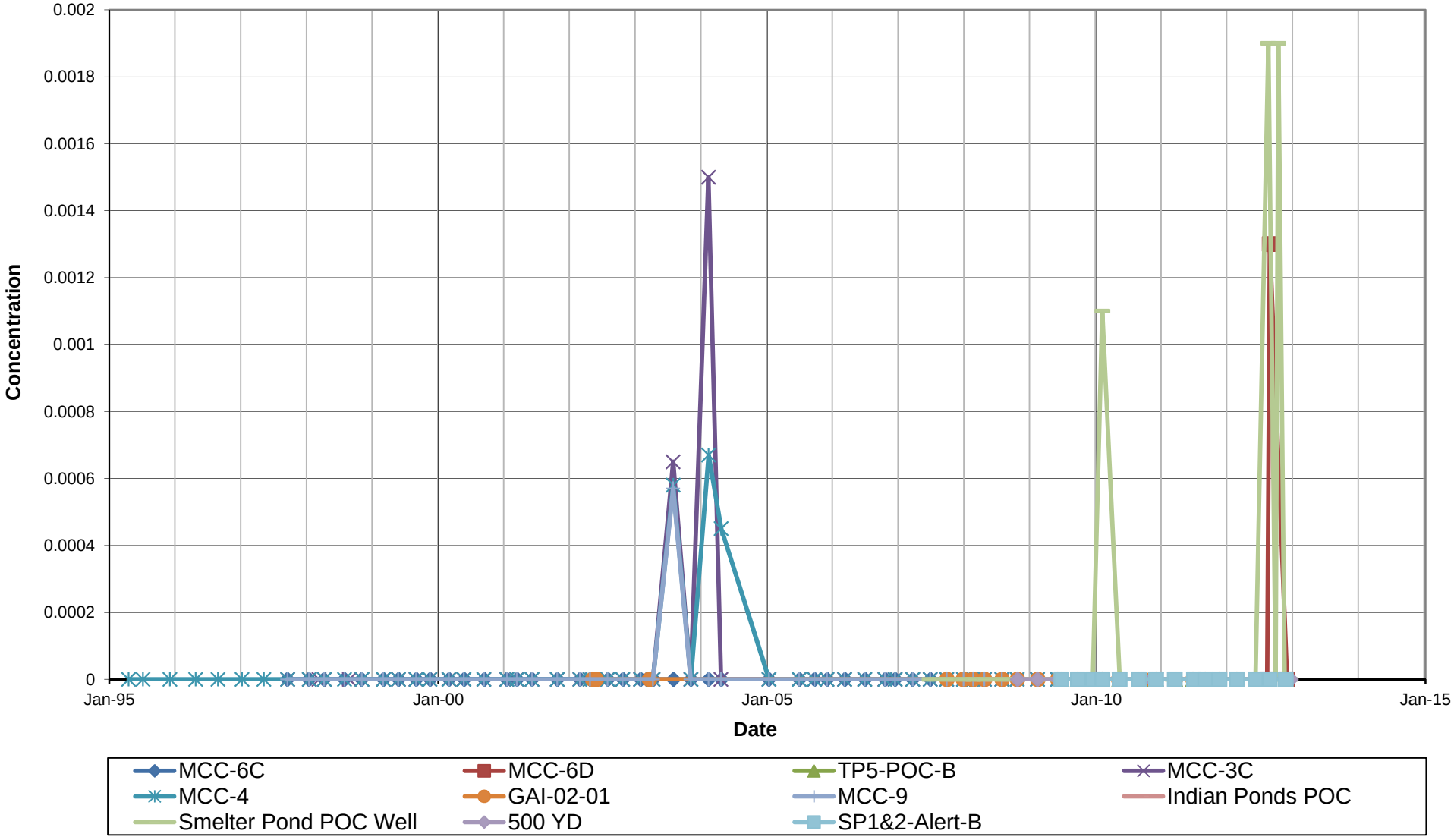
Barium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-10



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

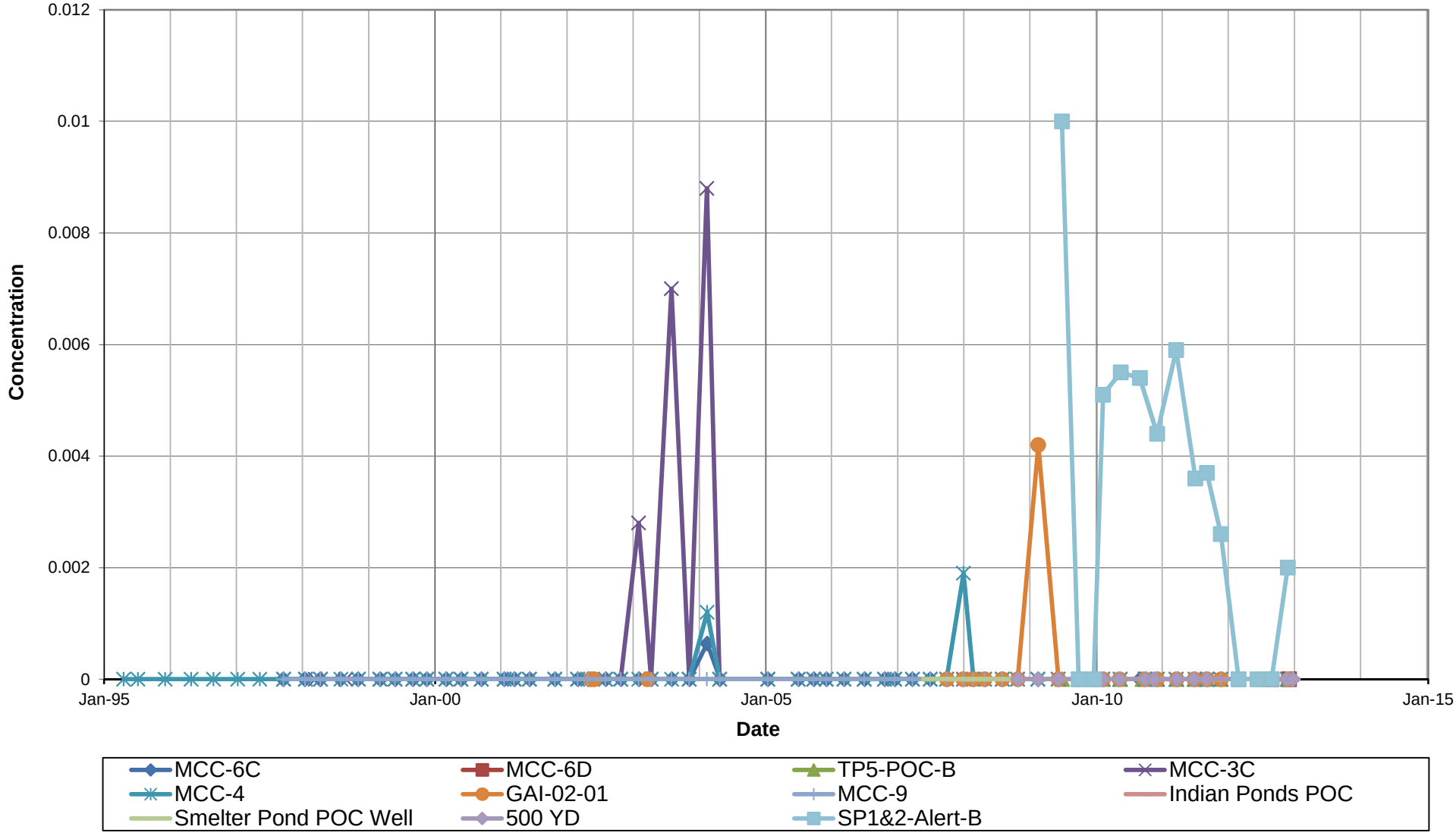
Beryllium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-11



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

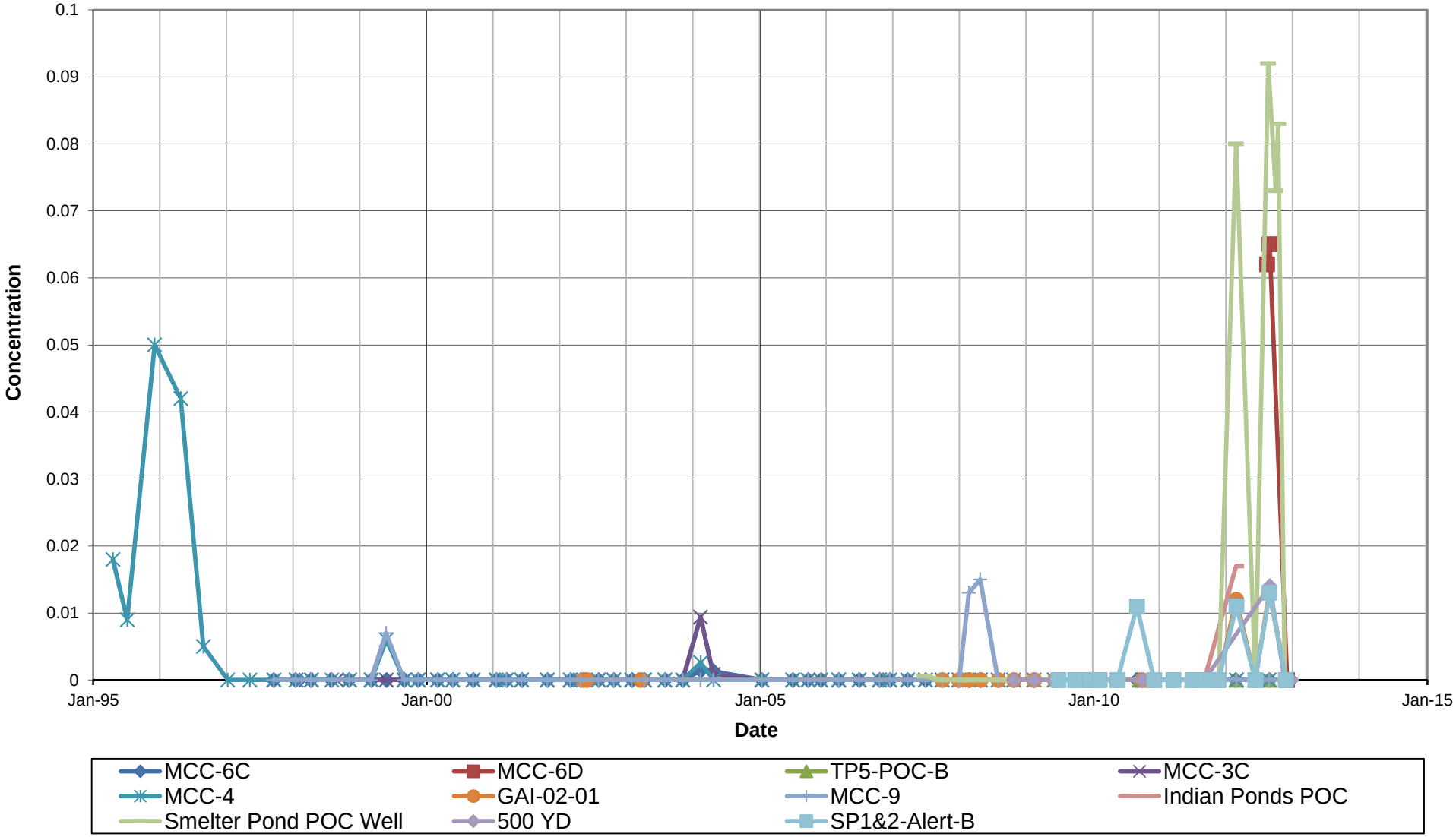
Cadmium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-12



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

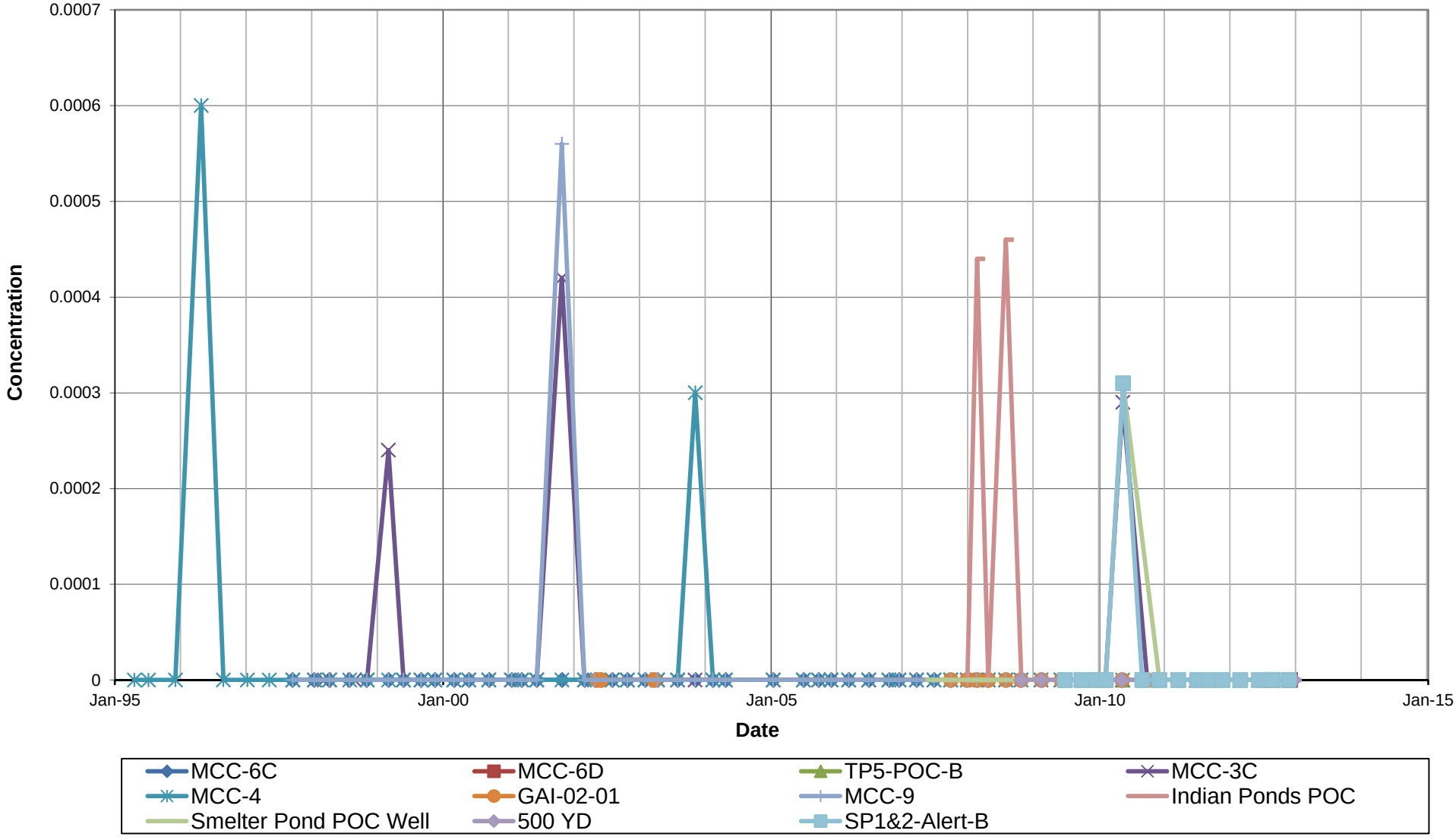
Chromium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-13



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

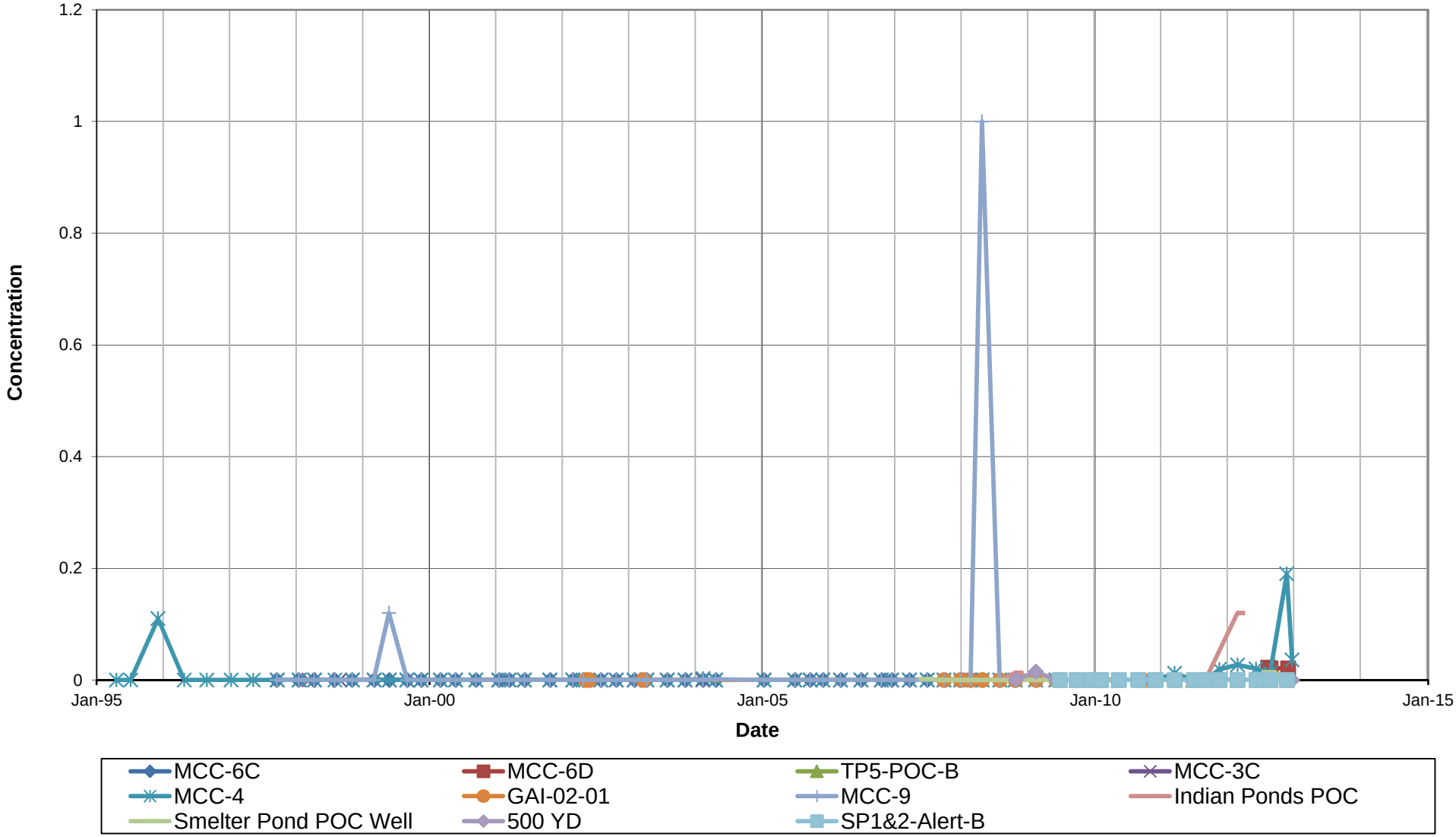
Mercury (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-14



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

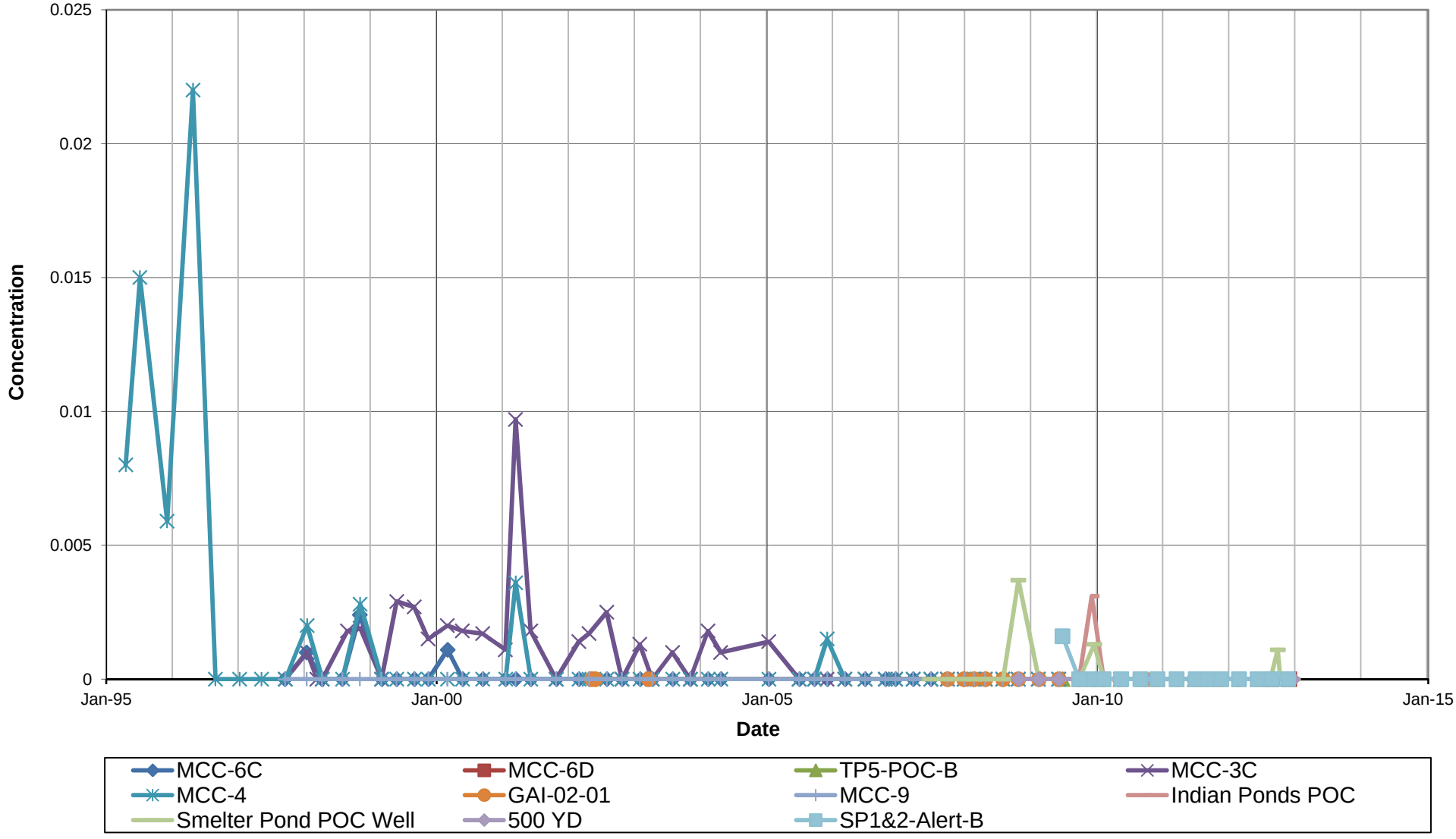
Nickel (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-15



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

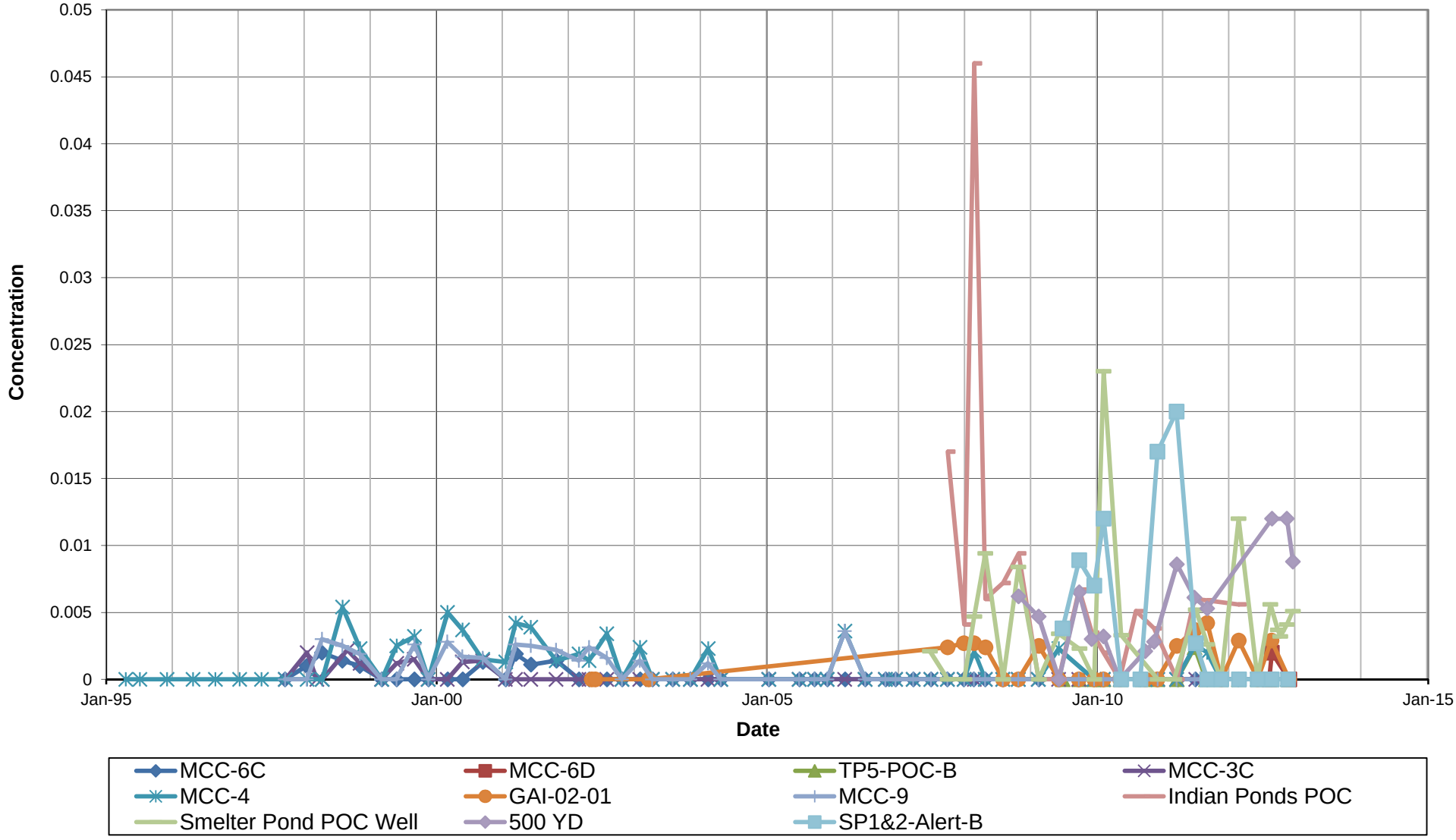
Lead (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-16



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

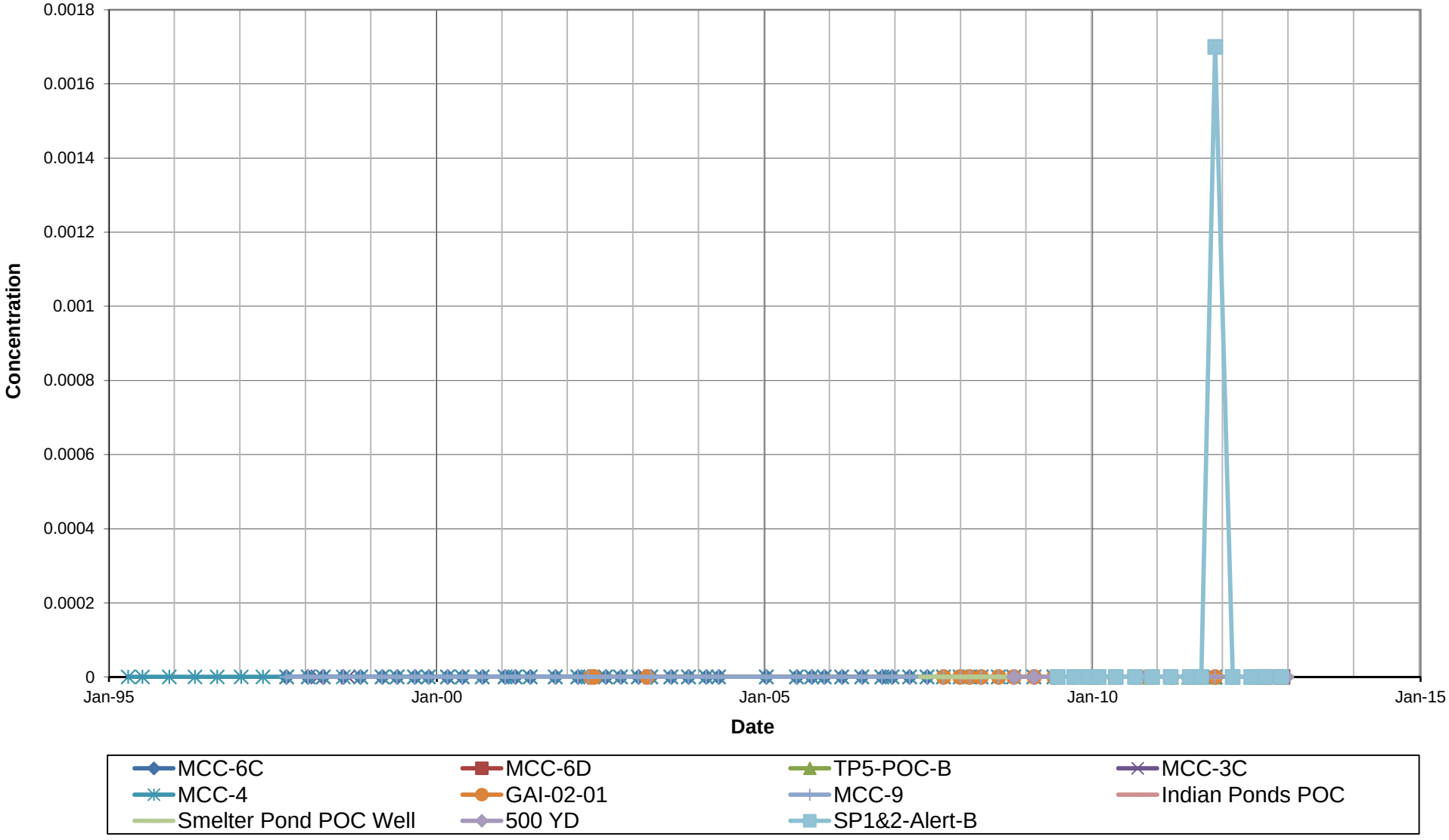
Selenium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-17



Non detected analytical results are indicated on the graph as zero, see table for actual reporting limit.

Golder Associates Tucson, Arizona

TITLE

Thallium (mg/L)

CLIENT/PROJECT

Resolution Copper Mining

Groundwater Assessment,
West Plant Site, Superior Mine,
Superior, Arizona

DRAWN	CB	DATE	3/18/2013	JOB NO.	123-92566
CHECKED	JM	SCALE	NA	DWG. NO.	NA
REVIEWED		FILE NO.	NA	FIGURE NO.	7-18

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

Africa	+ 27 11 254 4800
Asia	+ 852 2562 3658
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Inc.
4730 N. Oracle Road, Suite 210
Tucson, AZ 85705 USA
Tel: (520) 888-8818
Fax: (520) 888-8817

Golder Associates

500 YARD POC WELL

AZ STATE PLANE CENTRAL NAD 83

NORTHING: 837352 ELEVATION (TOC):2998.67

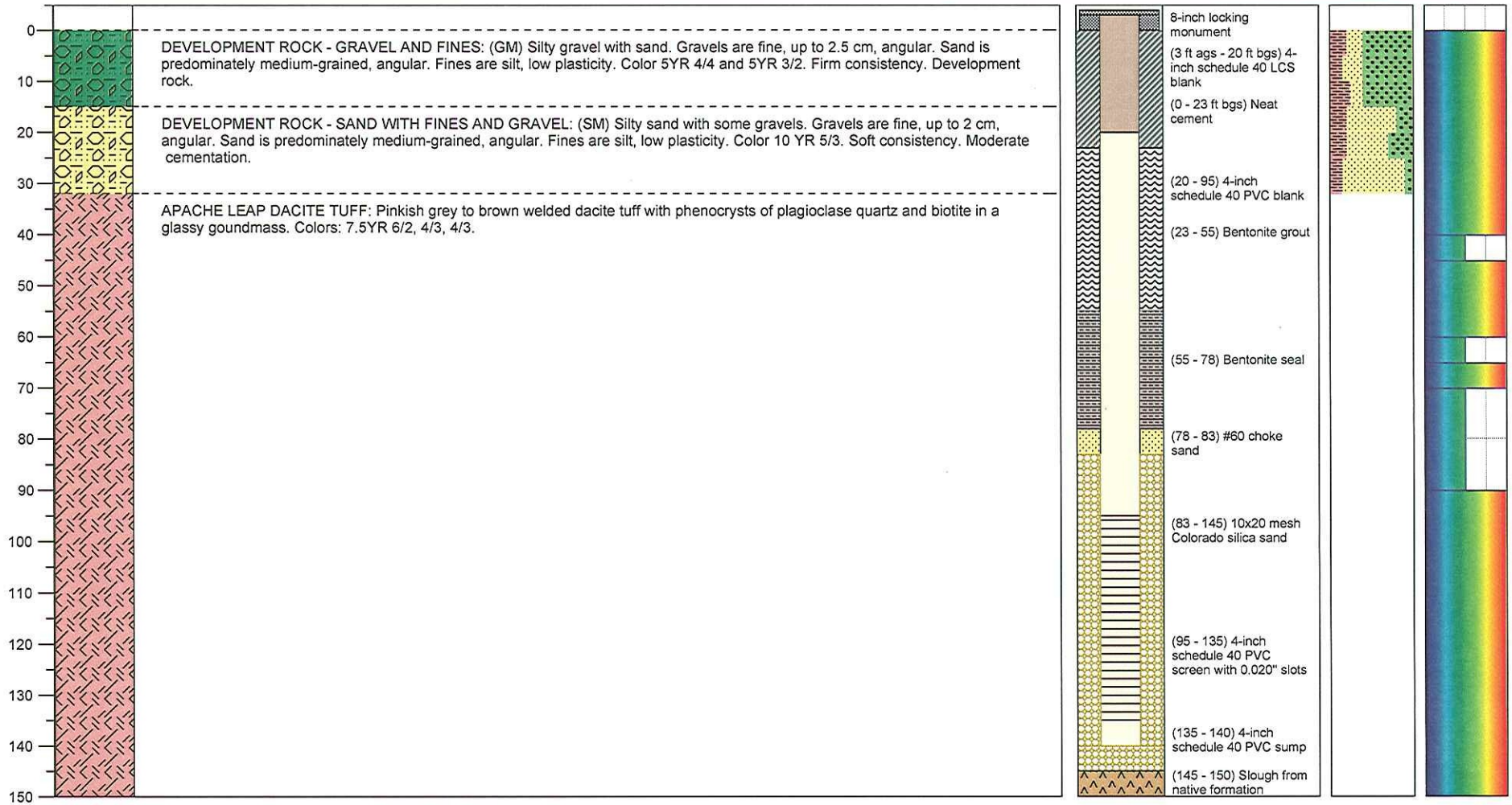
EASTING: 950758

LITHOLOGY

AS-BUILT

CUTTINGS SIZE — FINES, MEDIUM, COARSE

REACTION TO HCl — NONE, WEAK, MOD, STRONG



BOREHOLE No.	500 YARD POC WELL	TOTAL DEPTH DRILLED	150 ft bgs	SCALE	AS SHOWN
ADWR REG No.	55-907035	BIT DIAMETER	8.75"	DATE	06/07/07
LOCATION	SUPERIOR, AZ	DRILLING FLUID	AIR	DESIGN	JCR
CLIENT	RESOLUTION COPPER MINE	LOGGED BY	KKH	CHECK	JJM
DRILLING CO	YELLOW JACKET DRILLING	DATE STARTED	06/01/07	REVIEW	KJ
DRILLING EQUIPMENT	SPEEDSTAR 50K-CH	DATE FINISHED	06/04/07	REV 1	FILE 500 YARD POC WELL.LDF
DRILLING METHOD	AIR ROTARY CASING HAMMER	COMMENTS	USCS SCALE, MUNSELL COLOR CHART	PROJECT No.	073-92522

TITLE

BOREHOLE LOG AND AS-BUILT DRAWING

Golder Associates

FIGURE 2-1

Arizona Department of Water Resources
Information Management Unit
P.O. Box 458 • Phoenix, Arizona 85001-0458
(602) 771-8627 • (800) 352-8488
www.water.az.gov

Well Driller Report and Well Log

COPY

THIS REPORT MUST BE FILED WITHIN **30 DAYS** OF COMPLETING THE WELL.

PLEASE PRINT CLEARLY USING BLACK OR BLUE INK

FILE NUMBER: D(1-12)35 DAB
WELL REGISTRATION NUMBER: 55 - 907035
PERMIT NUMBER (IF ISSUED):

SECTION 1: DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME	DWR LICENSE NUMBER
YELLOW JACKET DRILLING SERVICES L L C	78
ADDRESS	**TELEPHONE NUMBER**
P.O. BOX 801	602-453-3252
CITY / STATE / ZIP	**FAX**
GILBERT, AZ, 85299-0801	602-453-3258

SECTION 2: REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL
Resolution Copper Company

MAILING ADDRESS
102 Magma Heights

CITY / STATE / ZIP
Superior, AZ, 85273

CONTACT PERSON NAME AND TITLE
Casey McKeon

TELEPHONE NUMBER: 520 689-9374
FAX: 520-689-9304

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.)
500 yd. Well

Location of Well

WELL LOCATION ADDRESS (IF ANY)
102 MAGMA HEIGHTS RD. Superior

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
1S	12E	35	SE 1/4	NE 1/4	NW 1/4

LATITUDE			LONGITUDE		
33 °	17 '	.969 "N	111 °	05 '	.760 "W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE)
☐ USGS Quad Map ☐ Conventional Survey ■ *GPS: Hand-Held ☐ *GPS: Survey-Grade

LAND SURFACE ELEVATION AT WELL: 2992 Feet Above Sea Level

METHOD OF ELEVATION (CHECK ONE)
☐ USGS Quad Map ☐ Conventional Survey ■ *GPS: Hand-Held ☐ *GPS: Survey-Grade

*IF GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (CHECK ONE)
■ NAD-83 ☐ Other (please specify)

COUNTY: PINAL

ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)
BOOK — MAP — PARCEL —

SECTION 3: WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
■ Air Rotary
☐ Bored or Augered
☐ Cable Tool
☐ Dual Rotary
☐ Mud Rotary
☐ Reverse Circulation
☐ Driven
☐ Jetted
☐ Air Percussion / Odex Tubing
☐ Other (please specify)

Method of Well Development

CHECK ONE
☐ Airlift
☐ Bail
☐ Surge Block
☐ Surge Pump
☐ Other (please specify)
■ None

Method of Sealing at Reduction Points

CHECK ONE
■ None
☐ Packed
☐ Swedged
☐ Welded
☐ Other (please specify)

Condition of Well

CHECK ONE
■ Capped
☐ Pump Installed

Construction Dates

DATE WELL CONSTRUCTION STARTED: 6/1/07
DATE WELL CONSTRUCTION COMPLETED: 6/4/07

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: R. L. Dale
DATE: 7.1.07

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 907035

SECTION 4: WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
150 Feet Below Land Surface	140 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
Not Encountered Feet Below Land Surface	—	—	☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	150	10

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER (inches)	MATERIAL TYPE (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0	95	4.5		x			x						
95	135	4.5		x							x		.040
135	140	4.5		x			x						

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK: SAND	GRAVEL	SIZE
0	20			x								
20	70				x							
70	80						x					
80	140									x		10-20

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 907035

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	Description Describe material, grain size, color, etc.	Check (T) every interval where water was encountered (if known)
0	32	Brown Sand + Gravel	
32	140	Bedrock - Gila Conglomerate	
		TD - 140	
		? - Dry - NOT ENCOUNTERED	

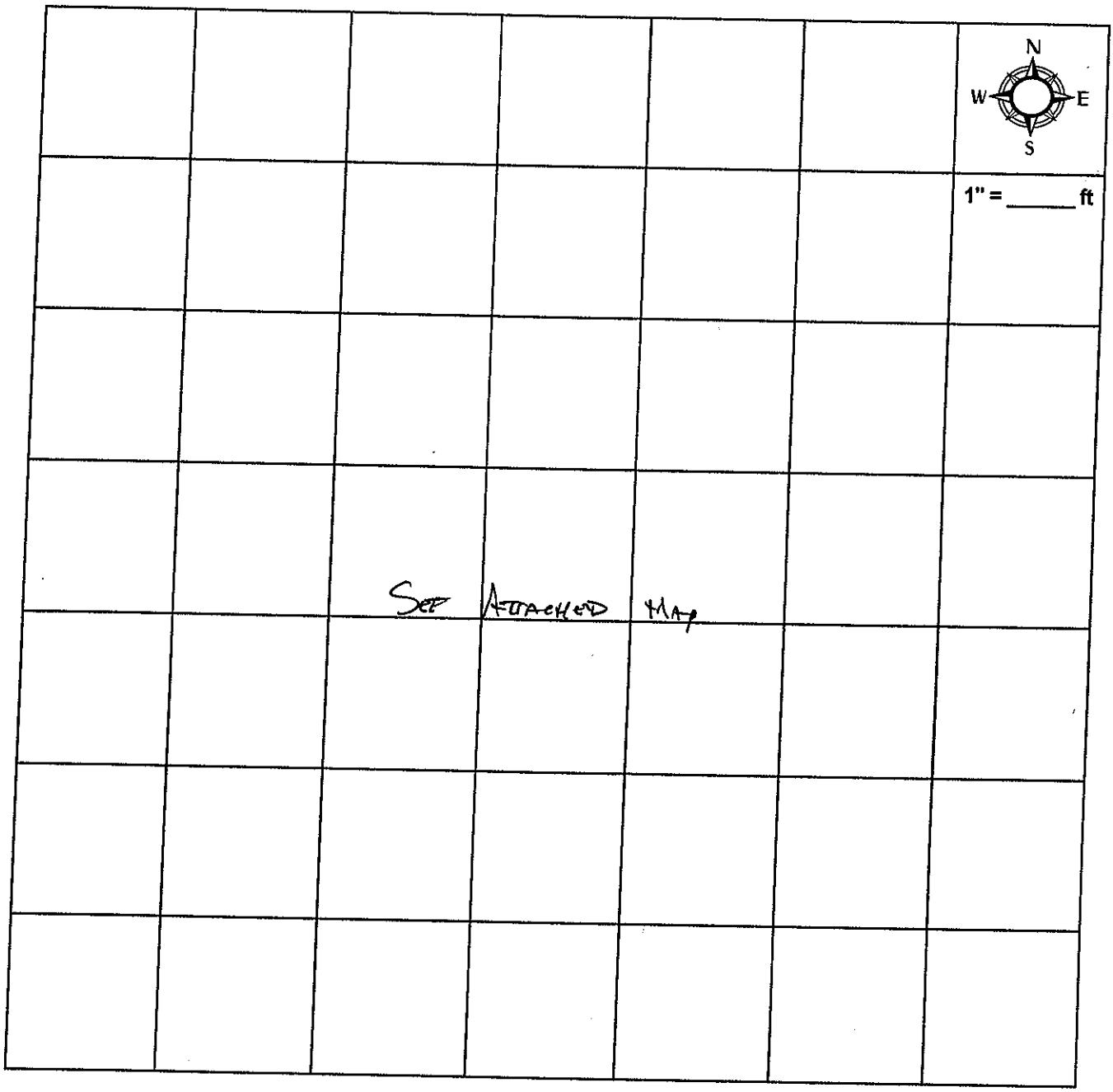
Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 907035

SECTION 6: WELL SITE PLAN

NAME OF WELL OWNER	COUNTY ASSESSOR'S PARCEL ID NUMBER (MOST RECENT)		
	BOOK	MAP	PARCEL
Resolution Copper Company	—	—	—

- Please draw the following: (1) the boundaries of property on which the well was located; (2) the well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- Please indicate the distance between the well location and any septic tank system or sewer system.



Arizona Department of Water Resources
Water Management Support Section
P.O. Box 458 • Phoenix, Arizona 85001-0458
(602) 771-8500 • (800) 352-8488
www.azwater.gov

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

FEE

- ❖ Review instructions prior to completing form in black or blue ink.
- ❖ You must include with your Notice:
- • $150 check or money order for the filing fee.
- • Well construction diagram, labeling all specifications listed in Section 6.
- ❖ Authority for fee: A.R.S. § 45-596.

AMA / INA		B	SB
RECEIVED	DATE	WS	
ISSUED	DATE	WQAR	CERCLA

FILE NUMBER

WELL REGISTRATION NUMBER
55 -

** PLEASE PRINT CLEARLY **

SECTION 1. REGISTRY INFORMATION

Well Type

CHECK ONE
- [x] Monitor
- [ ] Piezometer
- [ ] Vadose Zone
- [ ] Air Sparging
- [ ] Soil Vapor Extraction
- [ ] Other (*please specify*):

Proposed Action

CHECK ONE
- [x] Drill New Well
- [ ] Deepen
- [ ] Modify

If Deepening or Modifying:
WELL REGISTRATION NUMBER
55 -

Location of Well

WELL LOCATION ADDRESS (IF ANY)
102 MAGMA HEIGHTS, SUPERIOR, AZ

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
1S	12E	35	SE ¼	NE ¼	NW ¼

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL

COUNTY WHERE WELL IS LOCATED
PINAL

SECTION 2. OWNER INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL
RESOLUTION COPPER COMPANY

MAILING ADDRESS
102 MAGMA HEIGHTS

CITY / STATE / ZIP CODE
SUPERIOR AZ 85273

CONTACT PERSON NAME AND TITLE
CASEY McKEON

TELEPHONE NUMBER	FAX
520-689-9374	520.689-9304

Landowner (if different from Well Owner)

FULL NAME OF COMPANY, GOVERNMENT AGENCY, OR INDIVIDUAL

MAILING ADDRESS

CITY / STATE / ZIP CODE

CONTACT PERSON NAME AND TITLE

TELEPHONE NUMBER	FAX

SECTION 3. DRILLING AUTHORIZATION

Drilling Firm

NAME

DWR LICENSE NUMBER	ROC LICENSE CATEGORY

TELEPHONE NUMBER	FAX

E-MAIL ADDRESS

Consultant (if applicable)

CONSULTING FIRM
GOLDER ASSOCIATES

CONTACT PERSON NAME
JOHN J. MALUSA

TELEPHONE NUMBER	FAX
520-888-8818	520-888-8817

E-MAIL ADDRESS
jmalusa@golder.com

SECTION 4.

Questions	Yes	No	Explanation:
1. Are all annular spaces between the casing(s) and the borehole for the placement of grout at least 2 inches?	✓		2-inch annular spaces are special standards required for wells located in and near groundwater contamination sites (such as CERCLA, WQARF, DOD, LUST).
2. Is the screened or perforated interval of casing greater than 100 feet in length?		✓	100-foot maximum screen intervals are a special standard for wells located in and near groundwater contamination sites (such as CERCLA, WQARF, DOD, LUST).
3. Are you requesting a variance to use thermoplastic casing in lieu of steel casing in the surface seal?		✓	The wells must be constructed in a vault as defined in A.A.C. R12-15-801(27).
4. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ2, 06-04, etc.)		✓	IF YES, PLEASE STATE
5. Have construction plans been coordinated with the Arizona Department of Environmental Quality?	✓		IF YES, PLEASE STATE AGENCY CONTACT & PHONE NUMBER KRISTIE KILGORE - WQ DIVISION 602-771-4632
6. For monitor wells, is dedicated pump equipment to be installed?	✓		IF YES, PLEASE STATE DESIGN PUMP CAPACITY 15 Gallons per Minute
7. Is this well a new well located in an Active Management Area **AND** intended to pump water for the purpose of remediating groundwater?		✓	IF YES, UNLESS THE WELL IS A REPLACEMENT WELL AND THE TOTAL NUMBER OF OPERABLE WELLS ON THE SITE IS NOT INCREASING, YOU MUST ALSO FILE A SUPPLEMENTAL FORM A.R.S. § 45-454(C) & (F). *(See Instructions)*
8. Will the well registration number be stamped on the vault cover or on the upper part of the casing?		✓	IF NO, WHERE WILL THE REGISTRATION NUMBER BE PLACED? ETCHED INTO CEMENT PAD PRIOR TO DRYING

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 -

SECTION 5. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☑ Air Percussion / Odex Tubing
- ☐ Other (*please specify*):

MAY 18, 2007
DATE CONSTRUCTION TO BEGIN

Method of Well Development
CHECK ONE
- ☐ Airlift
- ☑ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points
CHECK ONE
- ☑ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Grout Emplacement Method
CHECK ONE
- ☐ Gravity
- ☐ Pressure Grout
- ☑ Tremie
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE
- ☐ Flush Mount in a vault
- ☑ Extend 1' above grade

SECTION 6. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	150	8

Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (T) STEEL	MATERIAL TYPE (T) PVC	MATERIAL TYPE (T) ABS	MATERIAL TYPE (T) IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T) BLANK OR NONE	PERFORATION TYPE (T) WIRE WRAP	PERFORATION TYPE (T) SHUTTER SCREEN	PERFORATION TYPE (T) MILLS KNIFE	PERFORATION TYPE (T) SLOTTED	PERFORATION TYPE (T) IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	20	4	✓										
20	100	4		✓			✓						
100	140	4		✓							✓		0.020

Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (T) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	FILTER PACK SIZE
0	22				✓							
22	85						✓					
85	90								#60 CHOKE SAND			
90	150									✓		10-20

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER
Unknown
Feet Below Ground Surface

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

TYPE OR PRINT NAME AND TITLE
Casey McKeon, Environmental Supervisor

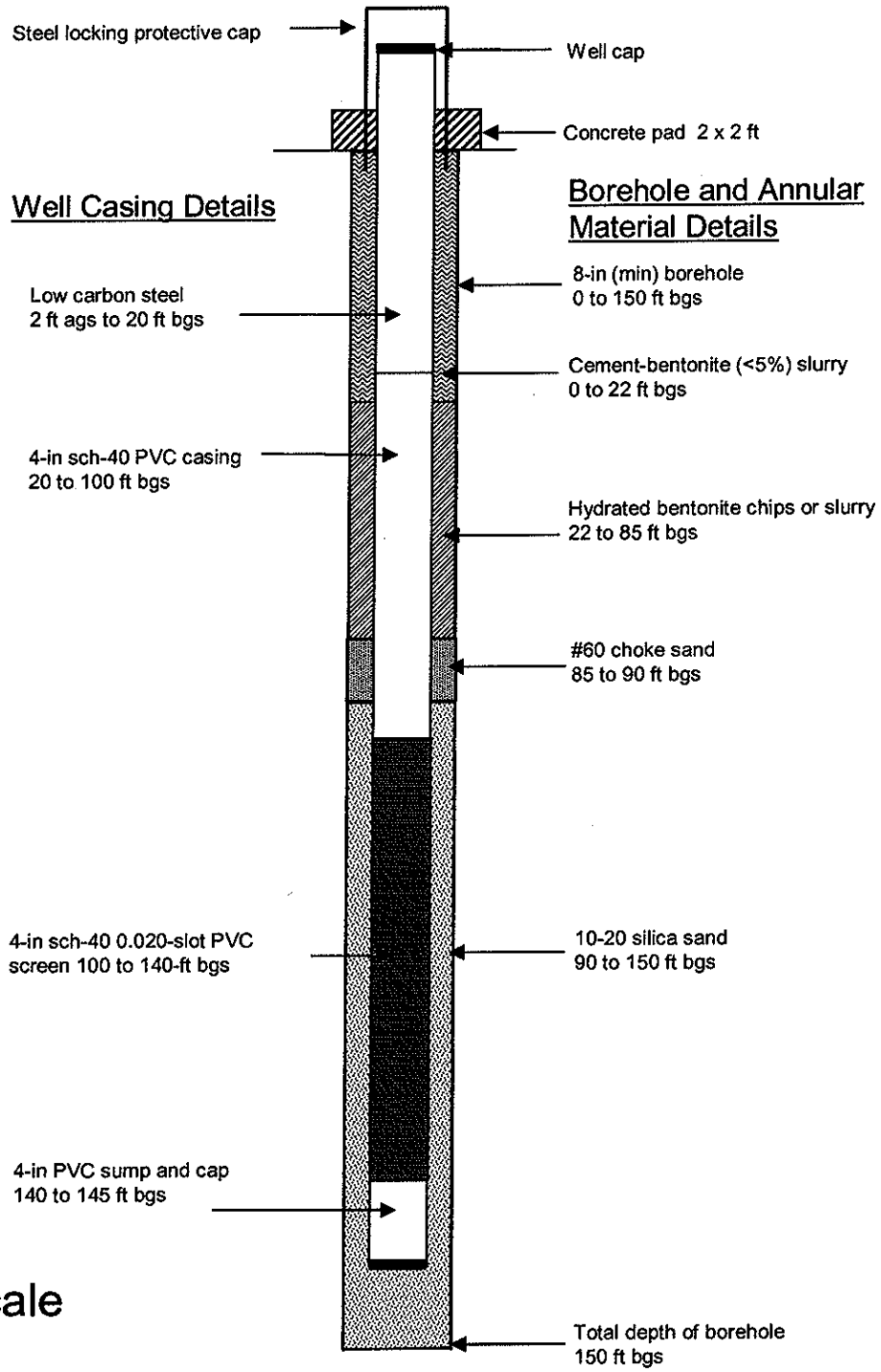
SIGNATURE OF WELL OWNER
Casey McKeon
DATE
5-11-07

TYPE OR PRINT NAME AND TITLE

SIGNATURE OF LANDOWNER, IF APPLICABLE (SEE INSTRUCTIONS)
DATE

Well Construction Schematic

Proposed **500 Yard** Point of Compliance Well



Not to Scale

Notes:
ft ags = feet above ground surface
ft bgs = feet below ground surface

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Project number: 053-2519-100.000

RECORD OF MONITORING WELL INSTALLATION

GAI-02-01

PROJECT NUMBER: 023-2552
SHEET: 1 OF 7
BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM
PROJECT: SUPERIOR MONITOR WELLS
COORDINATES N: E: EL: 3007
BORING DATE: 04/23/02

STRATIGRAPHY					PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
0	Well-graded sand with gravel, light brown/tan with variably colored clast; sand and gravel, poorly-graded, angular to sub-rounded, clast composed of schist granite, metavolcanics and limestone: dry. (40/60/TR)		SW	S	7.95	124	8" LOCKING MONUMENT 2' STICK UP 4" SCH. 40 LOW CARBON STEEL (2' AGS–19.2' BGS) CEMENT (0'–20')		DRILLING TECHNIQUE USES HAMMER BIT WITH APPROXIMATLY 1" INTERCHANGE WHICH RESULTS IN CRUSHING COURSE GRAVEL UP TO BOULDER SIZE MATERIAL INTO FINE ANGULAR GRAVEL.	0
10	Well-graded sand with gravel, light brown/tan with variably colored clast; sand and gravel, poorly-graded, angular to sub-rounded, clast composed of schist granite, metavolcanics and limestone: dry. (40/60/TR)		SW	S	8.27	120	SCH. 40–80 STEEL ADAPTOR (19.2'–20')			10
20	Well-graded sand with gravel, light gray/brown; no plasticity, well-graded in all size fractions; sand, dry. (30/65/5)		SW	S	9.33	98				20
30	Well-graded sand with gravel, light grey/brown; no plasticity, well-graded in all size fractions; sand, well-graded; dry. (30/65/5)		SW	S	9.26	181	BENTONITE SLURRY (20'–145')	GILA CONGLOMERATE		30
40	Silty sand with gravel; light brown, no plasticity; well-graded sand and gravel fraction; predominantly angular to sub-angular; dry. (30/55/15)		SM	S	9.44	195	8" BORHOLE (0'–440')			40
50	Silty sand with gravel; light gray/brown, predominantly fine sand and silt; dry. (15/65/20)		SM	S	9.32	195				50
60	Silty sand with gravel; light gray/brown, predominantly fine sand and silt; dry. (15/65/20)		SM	S	9.58	130	4" SCH. 80 PVC CASING (20'–165.8')			60
70										70

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION
LOGGED: JJM
DRILLING CONTRACTOR: LAYNE CHRISTENSEN
CHECKED:
DRILLER: MARK HALAGER
DATE:

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION — **GAI-02-01**

PROJECT NUMBER: 023-2552 — **SHEET:** 2 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM — **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: EL: 3007 — **BORING DATE:** 04/23/02

STRATIGRAPHY				PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
70	Silty sand with gravel; light gray; no plasticity; sand poorly-graded; predominantly fine; gravel angular, mainly dark aphanitic volcanics: dry. (30/45/25)		SM	S	9.51	125				70
80	Silty sand with gravel; light gray; no plasticity; sand poorly-graded; predominantly fine; gravel angular, mainly dark aphanitic volcanics: dry. (30/45/25)		SM	S	9.31	126	BENTONITE SLURRY (20'–145')			80
90	Silty sand with gravel; light gray; no plasticity; sand, poorly-graded, predominantly fine; gravel fine, angular: dry. (40/40/20)		SM	S	9.28	141				90
100	Silty sand with gravel; light gray; no plasticity; sand, poorly-graded, predominantly fine; gravel, fine, angular, dry. (40/50/10)		SM	S	9.20	140	8" BORHOLE (0'–440')	GILA CONGLOMERATE		100
110	Silty sand with gravel; light gray; no plasticity; sand, poorly-graded, predominantly fine; gravel, fine, angular, dry. (40/50/10)		SM	S	9.25	125				110
120	Silty sand; light gray/brown with varied colored clast; sand, well-graded; gravel, fine, angular no plasticity; dry. (30/55/15)		SM	S	9.31	155	4" SCH. 80 PVC CASING (20'–165.8')		Temporarily shut down, no contract signed.	120
130	Silty sand; light gray/brown with varied colored clast; sand, well-graded; gravel, fine, angular no plasticity; dry. (30/55/15)		SM	S	9.32	140				130
140										140

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION — **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN — **CHECKED:**

DRILLER: MARK HALAGER — **DATE:**

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION — **GAI-02-01**

PROJECT NUMBER: 023-2552 — **SHEET:** 3 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM — **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: **EL:** 3007 — **BORING DATE:** 04/23/02

STRATIGRAPHY				PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
140	Silty sand; light gray/brown with varied colored clast; sand, well-graded; gravel, fine, angular no plasticity; dry. (30/55/15)		SM	S	9.24	82.4	BENTONITE SLURRY (20'–145'); HYDRATED BENTONITE CHIPS (145'–147')		● 145' Slight dampness and dust reduction. ● 147' Fracture or void in formation.	140
150	Silty sand; light gray/brown with varied colored clast; sand, well-graded; gravel, fine, angular no plasticity; dry. (30/55/15)		SM	S	9.31	85	HYDRATED BENTONITE PELLETS (147'–150'); #50–70 SILICA CHOKE SAND (150'–152')			150
160	Silty sand; light gray/brown with varied colored clast; sand, well-graded; gravel, fine, angular no plasticity; dry. (30/55/15)		SM	S	9.27	103	4" SCH. 80 PVC CASING (20'–165.8')		● approx. 165' Slight moisture occuring in cuttings blowing out of surface casing.	160
170	Well-graded sand with gravel and silt; light brown/gray, non-plastic; sand, angular to sub-rounded; gravel, fine, angular, dry. (30/60/10)		SW–SM	S	9.58	58	4" SCH. 80 PVC 0.020 SLOT (165.8'–195.2'); #10–20 SILICA SAND (152'–206')	GILA CONGLOMERATE	☑ Static water level approx. 176' BGS (measured 05/07/02) Slightly decrease in fines, possibly due to fines adhering to inside of drill pipe.	170
180	Slightly increase in gravel. Well-graded sand with gravel and silt; light brown/gray, non-plastic; sand, angular to sub-rounded; gravel, fine, angular, dry. (40/60/10)		SW–SM	S	9.50	71	8" BORHOLE (0'–440')			180
190	Well-graded sand with gravel; light gray/brown; sand well-graded; gravel fine, angular; fine fraction reduced; dry. (40/55/5)		SW	S	9.52	60	4" SCH. 80 PVC SUMP (195.2'–200.3'); 4" SCH. 80 PVC END CAP (200.3'–200.5')			190
200	Well-graded sand with gravel and silt; light brown/gray; non-plastic; gravel fine, angular; dry. (30/50/10)		SW–SM	S	9.50	65	HYDRATED BENTONITE CHIPS (206'–208'); HYDRATED BENTONITE PELLETS (208'–211')			200
210										210

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION — **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN — **CHECKED:**

DRILLER: MARK HALAGER — **DATE:**

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RECORD OF MONITORING WELL INSTALLATION GAI-02-01

PROJECT NUMBER: 023-2552 **SHEET:** 4 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: EL: 3007 **BORING DATE:** 04/23/02

STRATIGRAPHY					PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
210	Well-graded sand with gravel and silt; light brown/gray; non-plastic; gravel fine, angular; dry, cuttings from cyclone are slightly moist. (40/45/10)		SW-SM	S	9.48	90.3	HYDRATED BENTONITE PELLETS (208'-211')		◘ 213' First moisture in cuttings at both cyclone and surface casing. Circulation momentarily, clogged, driller ups pressure to flush lines.	210
220	Silty sand with gravel; sand, poorly graded, predominantly fine; gravel, fine, angular; moist. (35/50/15)		SM	S	9.22	111				220
230	Silty sand with gravel; sand, poorly graded, predominantly fine; gravel, fine, angular; moist. (35/50/15)		SM	S	8.82	119	BENTONITE SLURRY (211'-440')			230
240	Poorly graded sand with silt; sand, predominantly fine to very fine; gravel, fine, angular; moist. (10/80/10)		SP-SM	S	9.31	152		GILA CONGLOMERATE	◘ 240'-250' extra moist; water producing zone.	240
250	Poorly graded sand with silt; sand, predominantly fine to very fine; gravel, fine, angular; moist. (10/80/10)		SP-SM	S	9.22	135	8" BORHOLE (0'-440')			250
260	Silty sand; light brown/gray, sand, poorly graded, fine; gravel, fine, angular; fine fraction is silt; moist. (10/60/30)		SM	S	9.51	95.4				260
270	Silty sand; light brown/gray, sand, poorly graded, fine; gravel, fine, angular; fine fraction is silt; slight decrease in silt; moist. (10/70/20)		SM	S	9.45	140				270
280										280

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN **CHECKED:**

DRILLER: MARK HALAGER **DATE:**

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION GAI-02-01

PROJECT NUMBER: 023-2552 **SHEET:** 5 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: EL: 3007 **BORING DATE:** 04/23/02

STRATIGRAPHY					PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
280	Well-graded sand with gravel and silt; light brown/gray; sand, well-graded, sub-angular, sub-rounded; gravel, fine, angular; moist. (30/65/5)		SW	S	9.63	189			THERE HAS BEEN NO WATER PRODUCTION, HOWEVER, MORE TIME IS NEEDED TO BLOW OUT STICKY MOIST MATERIAL WITH EVERY DRILL PIPE CONNECTION.	280
290	Silty sand; light brown; sand poorly-graded, predominantly fine; gravel, fine, angular; fines composed of silt, non-plastic; moist. (5/75/20)		SM	S	9.35	170				290
300	Silty sand; light brown; sand poorly graded, predominantly fine; gravel, fine, angular; fines composed of silt, non-plastic; moist. (5/75/20)		SM	S	9.45	160	BENTONITE SLURRY (211'-440')			300
310	Silty sand; light brown; sand poorly graded, predominantly fine; gravel, fine, angular; fines composed of silt, non-plastic; moist. (5/75/20)		SM	S	9.51	180		GILA CONGLOMERATE		310
320	Silty sand; light brown; sand poorly graded, predominantly fine; gravel, fine, angular; fines composed of silt, non-plastic; moist. (5/75/20)		SM	S	9.62	196	8" BORHOLE (0'-440')		Trace of low plasticity clay.	320
330	Poorly graded sand; light brown; sand, fine to very fine; trace gravel, angular; fines composed of silt, non-plastic; moist. (TR/95/5)		SP	S	9.55	225				330
340	Silty sand; light brown; sand, well-graded; fines predominantly silt, non-plastic; moist. (TR/80/20)		SM	S	9.53	224				340
350										350

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN **CHECKED:**

DRILLER: MARK HALAGER **DATE:**

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION — **GAI-02-01**

PROJECT NUMBER: 023-2552 — **SHEET:** 6 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM — **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: **EL:** 3007 — **BORING DATE:** 04/23/02

STRATIGRAPHY					PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
350	Silty sand; brown; sand, poorly-graded, predominantly fine; fine fraction, predominantly silt with trace of low plasticity clay; moist. (0/75/25)		SM	S	9.50	84.6		GILA CONGLOMERATE	THERE HAS BEEN NO WATER PRODUCTION, HOWEVER, MORE TIME IS NEEDED TO BLOW OUT STICKY MOIST MATERIAL WITH EVERY DRILL PIPE CONNECTION.	350
360	Silty sand; brown; sand, poorly graded, predominantly fine; fine fraction, predominantly silt with trace of low plasticity clay; moist. (TR/60/40)		SM	S	9.55	187				360
370	Sandy silt; strong brown; sand, well-graded; fine fraction predominantly silt with approx. 30% low plasticity clay; moist. (TR/40/60)		ML	S	9.53	320	BENTONITE SLURRY (211'-440')			370
380	Sandy silt; strong brown; sand, well-graded; fine fraction predominantly silt with approx. 30% low plasticity clay; moist. (TR/40/60)		ML	S	9.52	341		GILA CONGLOMERATE (INTERBEDDED SILTSTONE/MUDSTONE)		380
390	Sandy silt; strong brown; sand, well-graded; fine fraction predominantly silt with approx. 30% low plasticity clay; moist. (TR/40/60)		ML	S	9.51	325	8" BORHOLE (0'-440')		First seen, trace of low plasticity clay.	390
400	Silt with sand; brown; sand, well-graded; fine fraction predominantly silt with approx. 40% low plasticity clay; moist. (0/15/85)		ML	S	9.46	311				400
410	Silt with sand; brown; sand, well-graded; fine fraction predominantly silt with approx. 40% low plasticity clay; moist. (0/15/85)		ML	S	9.52	260				410
420										420

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION — **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN — **CHECKED:**

DRILLER: MARK HALAGER — **DATE:**

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RECORD OF MONITORING WELL INSTALLATION GAI-02-01

PROJECT NUMBER: 023-2552 **SHEET:** 7 OF 7

BOREHOLE LOCATION: APPROX. 200' SE OF TAILINGS POND 6 DAM **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES N: E: EL: 3007 **BORING DATE:** 04/23/02

STRATIGRAPHY				PASTE		MONITORING WELL COMPLETION				
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH		DRILLING NOTES	DEPTH (feet)
420	Silt with sand; brown; sand, well-graded; fine fraction predominantly silt with approx. 40% low plasticity clay; moist. (0/10/90)		ML	S			BENTONITE SLURRY (211'–440')		GILA CONGL. (INTERBEDDED SILTSTONE/MUDSTONE)	Not enough sample for paste pH and cond.	420
430	Silt with sand; brown; sand, well-graded; fine fraction predominantly silt with approx. 40% low plasticity clay; moist. (0/10/90)		ML	S			8" BORHOLE (0'–440')			Not enough sample for paste pH and cond.	430
440										TD @ 440' BLS	440
380											380
390											390
400											400
410											410
420											420

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN **CHECKED:**

DRILLER: MARK HALAGER **DATE:**

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION

GAI-02-02

PROJECT NUMBER: 023-2552
SHEET: 1 OF 2
BOREHOLE LOCATION: S. OF SMELTER SITE & ≈ 100' N. OF DIESEL AST.
PROJECT: SUPERIOR MONITOR WELLS
COORDINATES N: E: EL: 2775
BORING DATE: 05/01/02

DEPTH (feet)	STRATIGRAPHY DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	PASTE pH	PASTE COND. (µS/cm)	MONITORING WELL COMPLETION DESCRIPTION / WELL SKETCH	DRILLING NOTES	DEPTH (feet)
0							8" LOCKING MONUMENT; 2' STICK UP; 4" SCH. 40 LOW CARBON STEEL (2' AGS–19.2' BGS); CEMENT (0'–20')		0
	Fill/diversion berm to keep surface flow from adjacent diesel AST. Lean clay; yellow,orange,brown; gravel, some variable lithology seen in gila conglomerate plus slag; clay, lean, low–medium plasticity with approx. 30 % silt; moist. (10/TR/90)		CL	S	5.43	781	FILL	DRILLING TECHNIQUE USES HAMMER BIT WITH 1" INTERCHANGE WHICH RESULTS IN CRUSHING COURSE GRAVEL UP TO BOULDER SIZE MATERIAL INTO FINE ANGULAR GRAVEL.	
10	Silty sand with gravel; pinkish brown with some dark discoloration from diesel; gravel, fine, sub–angular, highly variable lithology; sand, well–graded; fines, predominantly silt with trace of clay; slightly moist. (20/60/20)		SM	S	6.92	312	SCH. 40–80 STEEL ADAPTOR (19.2'–20'); 4" SCH. 80 PVC CASING (20'–23.9')	10'–12' Black zone/diesel, organic rich zone, probably premining surface. Diesel odor. Gila conglomerate bedrock starts @ 12' BGS.	10
20	Silty sand with gravel; brown; no plasticity; gravel, well–graded, sub–angular to sub–rounded; sand, poorly graded, predominantly fine; moist. (20/65/15)		SM	S	9.57	352	HYDRATED BENTONITE PELLETS (20'–21'); #50–70 SILICA CHOKE SAND (21'–22')	▽ Static water level approx. 27' BGS (measured 05/07/02)	20
30	Silty sand; slight reddish brown (same color as apache leap tuff); fines, predominantly silt with trace of clay, no plasticity; sand, poorly–graded, predominantly fine; moist. (5/80/15)		SM	S	8.91	207	#10–20 SILICA SAND (22'–58')		30
40	Silty sand; slight reddish brown (same color as apache leap tuff); fines, predominantly silt with trace of clay, no plasticity; sand, poorly graded, predominantly fine; moist. (5/80/15)		SM	S	9.25	140	8" BORHOLE (0'–100')	Trace wet clay–anticipated water level while drilling.	40
50	Silty sand; slight reddish brown (same color as apache leap tuff); fines, predominantly silt with trace of clay, no plasticity; sand, poorly graded, predominantly fine; moist. (5/80/15)		SM	S	9.15	184	4" SCH. 80 PVC 0.020 SLOT (23.9'–53.3'); 4" SCH. 80 PVC END CAP (53.3'–53.5')		50
60	Silty sand with gravel; brown; gravel, poorly–graded, predominantly fine; sand, poorly–graded, predominantly fine; fines, approx. 50% silt, 50% clay, little to no plasticity; moist. (20/50/30)		SM	S	9.13	208	HYDRATED BENTONITE CHIPS (58'–90')	Producing occasional droplets of water while drilling.	60
70							GILA CONGLOMERATE		70

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION
LOGGED: JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN
CHECKED:

DRILLER: MARK HALAGER
DATE:

Golder Associates

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RECORD OF MONITORING WELL INSTALLATION **GAI-02-02**

PROJECT NUMBER: 023-2552 **SHEET:** 2 OF 2

BOREHOLE LOCATION: S. OF SMELTER SITE & ≈ 100' N. OF DIESEL AST. **PROJECT:** SUPERIOR MONITOR WELLS

COORDINATES **N:** **E:** **EL:** 2775 **BORING DATE:** 05/01/02

STRATIGRAPHY				PASTE		MONITORING WELL COMPLETION			
DEPTH (feet)	DESCRIPTION (Gravel/Sand/Fine)	GRAPHIC LOG	ASTM CLASS.	HCl REACTIVITY	pH	COND. (µS/cm)	DESCRIPTION	WELL SKETCH	DRILLING NOTES	DEPTH (feet)
70	Sandy silt; brown; gravel, poorly-graded, fine; sand, poorly-graded, predominantly fine; fines, predominantly silt with approx. 40% clay, low plasticity; moist. (10/30/60)		ML	S	9.54	152	8" BORHOLE (0'-100') HYDRATED BENTONITE CHIPS (58'-90')	GILA CONGLOMERATE (INTERBEDDED SILTSTONE/MUDSTONE)		70
80	Sandy lean clay; brown; sand, poorly-graded, fine; fine fraction, predominantly low plasticity clay with approx. 30% silt; moist (0/30/70)		CL	S	9.31	160			First clayey "chips" @ 85' BGS- gradational mudstone contact.	80
90	Lean clay with sand; reddish brown; sand, poorly-graded, fine; fine fraction, predominantly low to medium plasticity clay, silt fraction approx. 30%; moist. (0/15/85)		CL	S	9.48	205	SLOUGH (90'-100')			90
100									TD @ 100' BLS.	100
110										110
120										120
130										130
140										140

DRILL RIG: SCHRAMM/ DUAL WALL REVERSE CIRCULATION **LOGGED:** JJM

DRILLING CONTRACTOR: LAYNE CHRISTENSEN **CHECKED:**

DRILLER: MARK HALAGER **DATE:**

Golder Associates

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INDIAN PONDS POC WELL

AZ STATE PLANE CENTRAL NAD 83

NORTHING: 832934 ELEVATION (TOC):2674.25

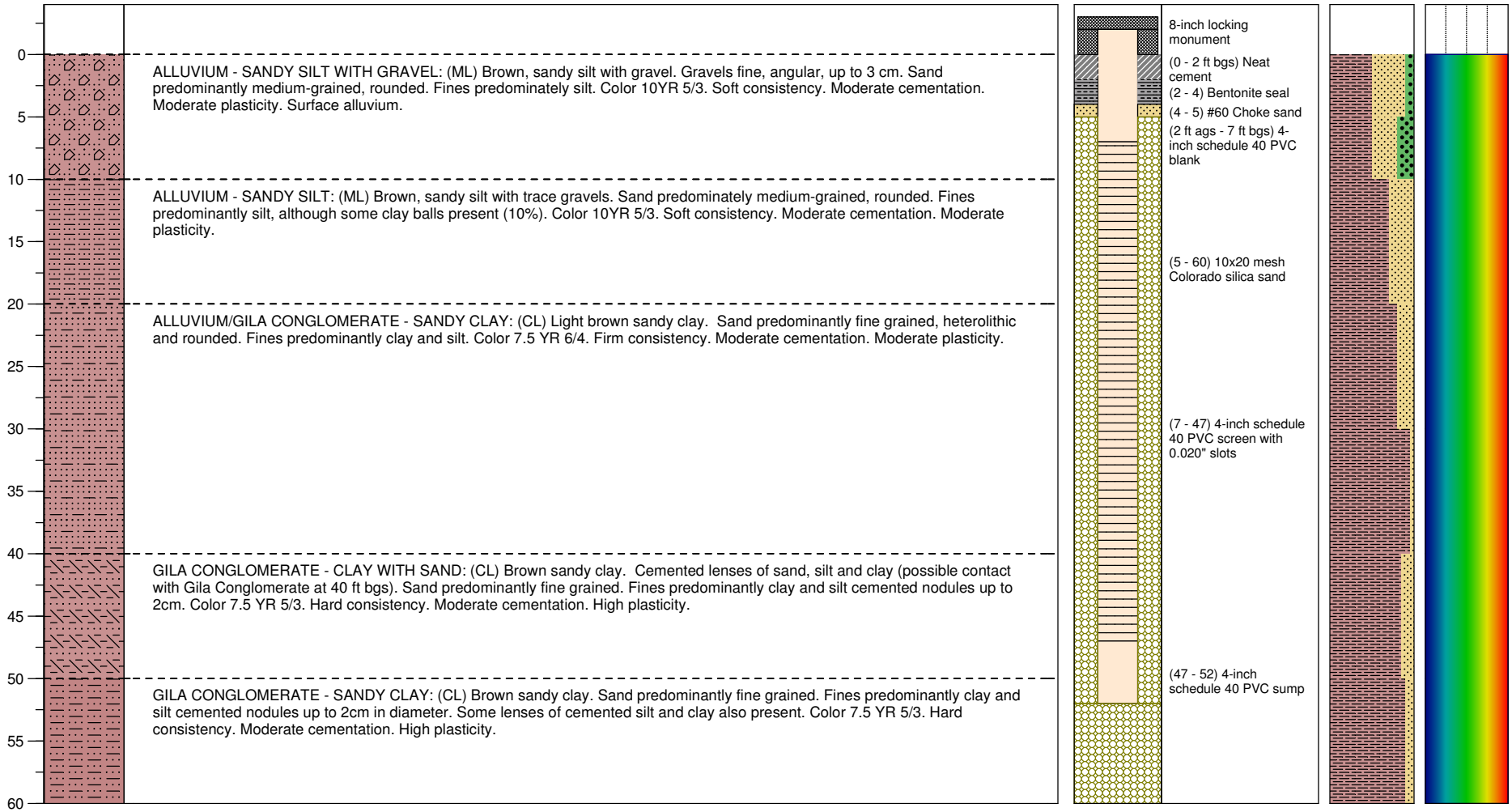
EASTING: 945033

LITHOLOGY

AS-BUILT

CUTTINGS SIZE — FINES, MEDIUM, COARSE

REACTION TO HCl — NONE, WEAK, MOD, STRONG



BOREHOLE No.	INDIAN PONDS POC WELL	TOTAL DEPTH DRILLED	60 ft bgs	SCALE	AS SHOWN
ADWR REG No.	55-907037	BIT DIAMETER	8.75"	DATE	06/07/07
LOCATION	SUPERIOR, AZ	DRILLING FLUID	AIR	DESIGN	JCR
CLIENT	RESOLUTION COPPER MINE	LOGGED BY	KKH	CHECK	JJM
DRILLING CO	YELLOW JACKET DRILLING	DATE STARTED	05/31/07	REVIEW	KJ
DRILLING EQUIPMENT	SPEEDSTAR 50K-CH	DATE FINISHED	05/31/07	REV 1	FILE INDIAN PONDS POC WELL.LDF
DRILLING METHOD	AIR ROTARY CASING HAMMER	COMMENTS	USCS SCALE, MUNSELL COLOR CHART	PROJECT No.	073-92522

TITLE

BOREHOLE LOG AND AS-BUILT DRAWING

Golder Associates

FIGURE 2-2

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-1** Sheet **1** of **4**

Boring Location: **331809.82N(Lat) 1110653.44W(Long)**	Elevation and Datum: **2964.0 msl**
Drilling Contractor: **Boyles Brothers** Driller:	Date Started: **3/23/95** Date Finished: **3/27/95**
Drilling Equipment: **Schramm** Borehole Diameter: **7.5"**	Completed Depth: (feet) **483.0** Water Depth: (feet) **153.2**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐	WELL CONSTRUCTION
Drilling Method: **Air Rotary** Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4-inch Low Carbon Steel**
Backfill Material: **Type 5 Cement Grout**	Slot Size: **0.02"** Filter Material: **10-20 CSSI**
Logged By: **Jim Clarke** Checked By:	Development Method: **Pump and Surge**

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
20		FILL MATERIAL Composed of cobbles, boulders and gravels.							
40		GILA CONGLOMERATE Strongly cemented, dense, dry, with clasts composed of schist, granite, metavolcanics and limestone.							
60									
80		Local increase in sand at 65 feet bls.							
100									4-inch low carbon steel casing from 0 to 443 feet bls

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-1** Sheet 2 of 4

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
120									
		First water encountered during drilling at 135 feet bls.							
140		GILA CONGLOMERATE Gray-brown, damp, very dense, gravelly sand. Rock composed of 70% sand and 30% gravel.							
		GILA CONGLOMERATE Gray-brown, slightly damp, well cemented, very dense, sandy gravel. Rock composed of 70% gravel and 30% sand.							
		Measured Groundwater Level (July, 1998) = 154.15'.							
160									
		GILA CONGLOMERATE as above with an increase in sand (60% sand, 40% gravel). Cuttings are still slightly damp with no indication of water.							
180		Increase in gravel content (90% gravel, 10% sand).							
		Rock contains 40-50% sand with little to no moisture.							
		Rock contains 60-70% sand with no indication of water.							
200									
		Rock contains 50% sand.							
220									
									4-inch low carbon steel casing from 0 to 443 feet bls
240									
260		Rock appears dry and is dominated by very fine sand and silt reaching 80%, angular rock fragments reaching							

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-1** Sheet 3 of 4

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
		20%.							
		Rock contains significant small, well rounded pebbles grading to no pebbles at 300 feet with 80% fine sand and silt with 20% angular rock fragments.							
280									
300									
		Interbedded sandy interval at 310 feet bls.							
320									
		Interbedded sandy interval at 330 feet bls.							
340									
		Rock contains very fractured/angular clasts with 35-45% sand.							
		GILA CONGLOMERATE as above with a decrease in sand fraction.							
360		Unit is very sandy (~90%) and dry.							
		Significant increase in rock fragments (approximately 60%) with a dry, sandy matrix.							
		Same as above except small rock fragments.							
		Increase in rock fragments (80%). Appears dry with a steady decrease in the sand fraction.							
380		Increase in sand content with no increase in moisture.							
		Increase in sand fraction (fine to medium grained, ~80%), slight moisture content.							
		Slight moisture, sand content ~25%, rounded pebbles with fractured rocks observed.							
		Rock fragments greatly reduced to ~5%, very fine sand and silt observed with slight moisture content.							
400		Rock fragments and rounded pebbles comprise ~60% of the rock, sand and silt, slight moisture detected.							
		Increase in sand fraction to ~70% with slight moisture.							
		Rounded small pebbles with some rock fragments, slightly darker color, sand and silt content ~60%, slight							

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-1** Sheet 4 of 4

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
420		moisture.							Bentonite seal from 400 to 450 feet bls
		GILA CONGLOMERATE as above with an increase in water content.							
		GILA CONGLOMERATE as above with a decrease in water content and slightly more sand.							
440		GILA CONGLOMERATE as above with slightly less sand.							
		GILA CONGLOMERATE as above with well rounded to sub rounded pebbles.							4-inch PVC casing from 443 to 453 feet bls
		GILA CONGLOMERATE as above with an increase in moisture content, clay/silt coatings on chips, and comprised of 80% chips and sub-rounded pebbles. Moist with an increase in sand to ~70%.							Specified 10-20 Mesh sand filter pack from 450 to 483 feet bls
460		Increase in pebble content, silt and fine sands reach 50-60%, rock coated with fines.							4-inch diameter slotted PVC screen (0.02" slot size) from 453 to 483 feet bls
		Unit is saturated, contains very clean, subangular to subrounded gravel and rock fragments with little to none sand or silt.							
480		GILA CONGLOMERATE as above with increased silt but no sand.							Total cased depth = 483 feet bls
		Unit comprised of 80% silt and clay with rock fragments and small sub-angular pebbles. Decrease in water content.							
		GILA CONGLOMERATE as above with an increase in pebble and rock fragment fraction.							
		Unit is moist and comprised predominantly of silt and clay (80%), pebbles and rock fragments (15%), and sand (1-5%).							Total depth hole at 500 feet bls

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-2** Sheet **1** of **2**

Boring Location: **331741.85N(Lat) 1110640.75W(Long)**		Elevation and Datum: **2851.3 msl**	
Drilling Contractor: **Boyles Brothers**	Driller:	Date Started: **3/31/95**	Date Finished: **4/1/95**
Drilling Equipment: **Schramm**	Borehole Diameter: **7.5"**	Completed Depth: (feet) **225.0**	Water Depth: (feet) **59.0**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4" LCS(0-123), 4" PVC(123-133)**	
Backfill Material: **Type 5 Cement Grout**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Jim Clarke**	Checked By:	Development Method: **Pump and Surge**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
		PEDIMENT/ALLUVIUM Silty and gravelly sand, brown-gray, damp, comprised of coarse sand (70%), gravel (15%), silt (15%).							Type 5 cement grout seal from 0 to 100 feet
		GILA CONGLOMERATE Unit comprised of gravelly sand (70% fine to coarse sand, 30% gravel), tan, dry, poorly to moderately sorted, angular to subangular grains, strongly cemented. Clasts composed primarily of limestone, quartzite, and metavolcanics.							
20		Unit is strongly cemented, comprised of sand (80%), low plasticity clay (5%), and gravel (15%).							
		Unit is strongly to moderately cemented, poorly sorted, dry, with an increase in gravel content (40%) and little to none silt or clay.							
		Unit is poorly to moderately sorted, moderately to strongly cemented, dry, and comprised of gravel (70%) and sand (30%).							
40		Unit is moderately sorted, dry to slightly damp, and comprised of sand (65%) and gravel (35%).							
		Unit contains gravel (70%), sand (30%), and is dry to slightly damp with an increase in soil moisture at 55 feet.							4" low carbon steel casing from 0 to 123 feet
60									
		Unit is brown, moist, dense, and comprised of very fine to fine grained sand (70%), silt and clay (25%), with lesser gravel (5%).							
80		MUDSTONE LENSE Unit is brown, moist, very hard, cemented, and comprised of low plasticity silty clay (80%), and sand (20%).							
		Unit is brown, moist, very hard, low plasticity, and comprised of silty and clay (60%), fine to medium grained sand (35%), and lesser gravel (5%).							
100		GILA CONGLOMERATE Unit is brown, moist, very dense, poorly graded, and comprised of fine to medium grained sand (60%), low plasticity clay (40%), and ~10% gravel at 95 feet. First water encountered during drilling at 100 feet.							Bentonite seal from 100 to 128 feet
120									

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-2** Sheet 2 of 2

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
140									4" PVC casing from 123 to 133 feet
160		Unit is brown, moist, very hard, and comprised of low plasticity clay (65%), very fine to medium grained sand (35%), and cemented nodules.							4" slotted PVC screen (0.02" slot size) from 133 to 183 feet
		Unit is brown, moist, very hard, and comprised of very fine to medium grained sand (60%), and silt and clay (40%).							
180									Total cased depth = 183 feet
		MUDSTONE Unit is red-brown, moist, low to moderate plasticity, and composed of silty clay.							
200									10-20 Mesh Colorado Silica sand pack from 128 to 220 feet
		Cemented clay nodules at 200 feet.							
220									Stopped drilling at 225 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-3A** Sheet 1 of 1

Boring Location: **331740.23N(Lat) 1110619.18W(Long)**		Elevation and Datum: **2798.2 msl**	
Drilling Contractor: **Boyles Brothers**	Driller:	Date Started: **3/20/95**	Date Finished: **3/21/95**
Drilling Equipment: **Schramm**	Borehole Diameter: **7.5"**	Completed Depth: (feet) **93.0**	Water Depth: (feet) **10.4**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4" LCS(0-25), 4" PVC(25-35)**	
Backfill Material: **Type 5 Cement Grout**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Jim Clarke**	Checked By:	Development Method: **Pump and Surge**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
		FILL/TAILINGS Silty and clayey sand, gray-brown, wet, 60% sand, 40% fines, non cemented.							Type 5 cement grout seal from 0 to 28 feet
10		Measured Groundwater Level (July, 1998) = 26.84 feet bls.							
		ALLUVIUM							4" low carbon steel casing from 0 to 25 feet
20									
		First water encountered during drilling at 28 feet bls.							
30		GILA CONGLOMERATE Unit is competent and contains rounded clasts of limestone in a sandy, silty, clay matrix.							Bentonite seal from 28 to 32 feet 4" PVC casing from 25 to 35 feet
40									
50		MUDSTONE/CLAY							4" Schedule 80 PVC screen (0.02" slot size) from 35 to 85 feet
60		GILA CONGLOMERATE Unit is competent and contains rounded clasts of limestone in a sandy, silty, clay matrix.							10-20 Mesh Colorado Silica sand pack from 32 to 91 feet
70									
		MUDSTONE/CLAY							
80									
		GILA CONGLOMERATE Unit is competent and contains rounded clasts of limestone in a sandy, silty, clay matrix.							Total cased depth = 85 feet
90									Stopped drilling at 91 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-3C** Sheet 1 of 3

Boring Location: **331740.15N(Lat) 1110619.29W(Long)**		Elevation and Datum: **2798.4 msl**	
Drilling Contractor: **Stewart Brothers**	Driller:	Date Started: **8/12/97**	Date Finished: **8/16/97**
Drilling Equipment: **Gardner-Denver 15W**	Borehole Diameter: **9 7/8"**	Completed Depth: (feet) **590.0**	Water Depth: (feet) **50.9**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air/Water**	Type and Diameter of Well Casing: **5 9/16" Schedule 80 PVC (0-499)**	
Backfill Material: **Type 5 Cement Grout with 4% bentonite**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Mike Bostic**	Checked By:	Development Method: **Pump and Surge**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
20		TAILINGS AND FILL DEBRIS							Type 5 cement grout seal with 4% bentonite from 0 to 20 feet
40		ALLUVIUM Brown silt and clay with some coarse sand to medium angular gravel composed primarily of limestone and quartzite.							
60		GILA CONGLOMERATE Unit is grey to red, mottled, well cemented and dominated by granule to cobble sized tuffaceous clasts. Clasts are rounded to subangular, partially welded, iron stained, and composed predominantly of dacite, volcanics, and quartzite.							
80		First water encounterred during drilling at 47 feet bls.							
100		Measured Groundwater Level (July, 1998) = 46.81 feet bls.							5 9/16" Schedule 80 PVC casing from 0 to 499 feet
120									
140									
160									Bentonite grout seal from 20 to 437 feet
180		MUDSTONE Mudstone is reddish brown, silty with fine to coarse grained sand clasts (<5%), well cemented and calcareous.							

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-3C** Sheet 2 of 3

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
220		MUDSTONE as previously described.							
240									
260									5 9/16" Schedule 80 PVC casing from 0 to 499 feet
280									
300									Bentonite grout seal from 20 to 437 feet
320									
340									
360									
380									
400		MUDSTONE as above with an increased abundance of clasts composed of volcanic tuff, basalt, and limestone.							
420									
440		GILA CONGLOMERATE Unit is grey to red, mottled, well cemented and dominated by granule to cobble sized clasts in a tuffaceous matrix. Clasts are rounded to subangular, partially welded, iron stained, and composed							Type 5 cement grout seal with 4% bentonite
460									

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-3C** Sheet 3 of 3

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
480		predominantly of dacite, basalt, quartzite, and limestone.							gel from 437 to 487 feet
500		GILA CONGLOMERATE as previously described.							20-40 Mesh sand pack from 487 to 492 feet 10-20 Mesh Colorado Silica sand pack from 492 to 590 feet 5 9/16" Schedule 80 PVC screen (0.02" slot size) from 499 to 579 feet
520									
540									
560									
580									Total cased depth = 579 feet Stopped drilling at 590 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-4** Sheet 1 of 1

Boring Location: **331713.99N(Lat) 1110700.67W(Long)**		Elevation and Datum: **2674.0 msl**	
Drilling Contractor: **Boyles Brothers**	Driller:	Date Started: **3/21/95**	Date Finished: **3/23/95**
Drilling Equipment: **Schramm**	Borehole Diameter: **7.5"**	Completed Depth: (feet) **255.0**	Water Depth: (feet) **63.5**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4" Low Carbon Steel**	
Backfill Material: **Type 5 Cement Grout**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Jim Clarke**	Checked By:	Development Method: **Pump and Surge**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
		SILTY CLAY Tan, damp, firm, moderate plasticity, non-cemented.							Type 5 cement grout seal from 0 to 192 feet
		SANDY SILT Gray-brown, damp and dense.							
		MUDSTONE Brown, very moist, firm, moderate plasticity, weakly cemented, with clay nodules at a depth of 22 feet.							
50		MUDSTONE Tan-brown, moist, very hard, moderate plasticity, with clay nodules weakly to moderately cemented.							
		Measured Groundwater Level (July, 1998) = 63.15 feet bls.							4" low carbon steel casing from 0 to 200 feet
100		First water encountered during drilling at 100 feet bls.							
		MUDSTONE Tan-brown, moist, very hard, moderate plasticity, with clay nodules weakly to moderately cemented.							
150									
									Bentonite seal from 192 to 197 feet
200		GILA CONGLOMERATE Unit contains moist, gravel sized limestone clasts in a brown clay matrix.							10-20 Mesh Colorado Silica sand pack from 197 to 255 feet
		GILA CONGLOMERATE Unit contains 60% fine grained sand, 35% moderately plastic clay, 5% fine gravel. Unit is brown, very dense, and very moist.							4" Schedule 80 PVC screen (0.02" slot size) from 200 to 250 feet
250		GILA CONGLOMERATE Unit contains 65% sand, 25% silt and clay, and 10% fine gravel.							Total cased depth = 250 feet Stopped drilling at 255 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-6A** Sheet 1 of 1

Boring Location: **331756.47N(Lat) 1110703.15W(Long)**		Elevation and Datum: **2811.1 msl**	
Drilling Contractor: **Water Development**	Driller:	Date Started: **7/17/96**	Date Finished: **7/24/96**
Drilling Equipment: **Dresser T70W**	Borehole Diameter: **10 5/8"**	Completed Depth: (feet) **223.0**	Water Depth: (feet) **23.6**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4.77" ID Schedule 80 PVC**	
Backfill Material: **Type 5 Cement Grout**		Slot Size: **0.02".**	Filter Material: **10-20 CSSI**
Logged By: **John Eliades**	Checked By:	Development Method: **Bail/Swab and pump**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
		GILA CONGLOMERATE Unit is brown (10yr 4/3), moderately sorted, with medium grained clasts composed predominantly of dark quartzites, igneous mafics, basalt, limestone, and traces of schist and dusky red dacite. The unit reacts strongly with HCl, suggesting calcareous cementation. Measured Groundwater Level (July, 1998) = 23.90 feet bls.							Type 5 cement grout seal from 0 to 151 feet
		First water encountered during drilling at 42 feet bls.							
50									
									4.77" ID Schedule 80 PVC casing from 0 to 60 feet
100									
150									20-40 Mesh sand pack from 151 to 155 feet
									10-20 Mesh Colorado Silica sand pack from 155 to 220 feet
200									4.77" ID Schedule 80 PVC screen (0.02" slot size) from 160 to 220 feet
									Total cased depth = 220 feet Stopped drilling at 222 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-6B** Sheet **1** of **3**

Boring Location: **331756.32N(Lat) 1110703.39W(Long)**		Elevation and Datum: **2811.9 msl**	
Drilling Contractor: **Water Development**	Driller:	Date Started: **7/12/96**	Date Finished: **7/17/96**
Drilling Equipment: **Dresser T70W**	Borehole Diameter: **10 5/8"**	Completed Depth: (feet) **605.0**	Water Depth: (feet) **18.0**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4.77" ID Schedule 80 PVC**	
Backfill Material: **Type 5 Cement Grout**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **John Eliades**	Checked By:	Development Method: **Bail/Swab and pump**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
20		GILA CONGLOMERATE Unit is brown (10yr 4/3), moderately sorted, with clasts composed predominantly of dark quartzites and igneous mafics. The unit reacts strongly with HCl, suggesting calcareous cementation. Measured Groundwater Level (July, 1998) = 18.01 feet bls.							Type 5 cement grout seal from 0 to 487 feet
40		First water encountered during drilling at 42 feet bls.							
60									
80									
100									4.77" ID Schedule 80 PVC casing from 0 to 500 feet
120									
140									
160									
180									

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-6B** Sheet 2 of 3

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
220		GILA CONGLOMERATE Unit is brown (10yr 4/3), moderately sorted, with clasts composed predominantly of dark quartzites and igneous mafics. The unit reacts strongly with HCl, suggesting calcareous cementation.							4.77" ID Schedule 80 PVC casing from 0 to 500 feet
240									
260									
280									
300									
320									
340									
360									
380									
400									
420									
440									
460									

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: BHP Superior Project Number: 3800.05

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: MCC-6B Sheet 3 of 3

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
480		GILA CONGLOMERATE Unit is brown (10yr 4/3), moderately sorted, with clasts composed predominantly of dark quartzites and igneous mafics. The unit reacts strongly with HCl, suggesting calcareous cementation.							20-40 Mesh sand pack from 487 to 493 feet
500									10-20 Mesh Colorado Silica sand pack from 493 to 586 feet
520									
540									4.77" ID Schedule 80 PVC screen (0.02" slot size) from 500 to 580 feet
560									
580									Total cased depth =580 feet
600									Stopped drilling at 605 feet

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-6C** Sheet 1 of 1

Boring Location: **331756.30N(Lat) 1110703.20W(Long)**		Elevation and Datum: **2811.4 msl**	
Drilling Contractor: **Stewart Brothers**	Driller:	Date Started: **8/19/97**	Date Finished: **8/20/97**
Drilling Equipment: **Gardner-Denver 15W**	Borehole Diameter: **9 7/8"**	Completed Depth: (feet) **122.0**	Water Depth: (feet) **38.3**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4.5" Schedule 40 PVC**	
Backfill Material: **Type 5 Cement Grout with 4% bentonite**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Mike Bostic**	Checked By:	Development Method: **Bail/Swab and pump**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
20		GILA CONGLOMERATE Unit is red to brown and weakly consolidated in a calcareous, fine to coarse sand matrix. Clasts are poorly sorted, subangular to subrounded, and composed of dacite, basalt, limestone, sandstone, quartzite and schist.							Type 5 cement with 4% bentonite grout seal from 0 to 66 feet
40		Measured Groundwater Level (July, 1998) = 45.89 feet bls.							4.5" ID Schedule 40 PVC casing from 0 to 76 feet
		First water encountered during drilling at 44 feet bls.							
60		SANDSTONE LENSE (50 to 60 feet) Lense consists of fine to very coarse grained sand and is very weakly consolidated.							20-40 Mesh sand pack from 66 to 72 feet
80									10-20 Mesh Colorado Silica sand pack from 72 to 122 feet
100		SANDSTONE LENSE (90 to 120 feet) Lense consists of fine to very coarse grained sand and is very weakly consolidated.							4.5" Schedule 40 PVC screen (0.02" slot size) from 76 to 116 feet
120									Total cased depth = 116 feet Stopped drilling at 122 feet

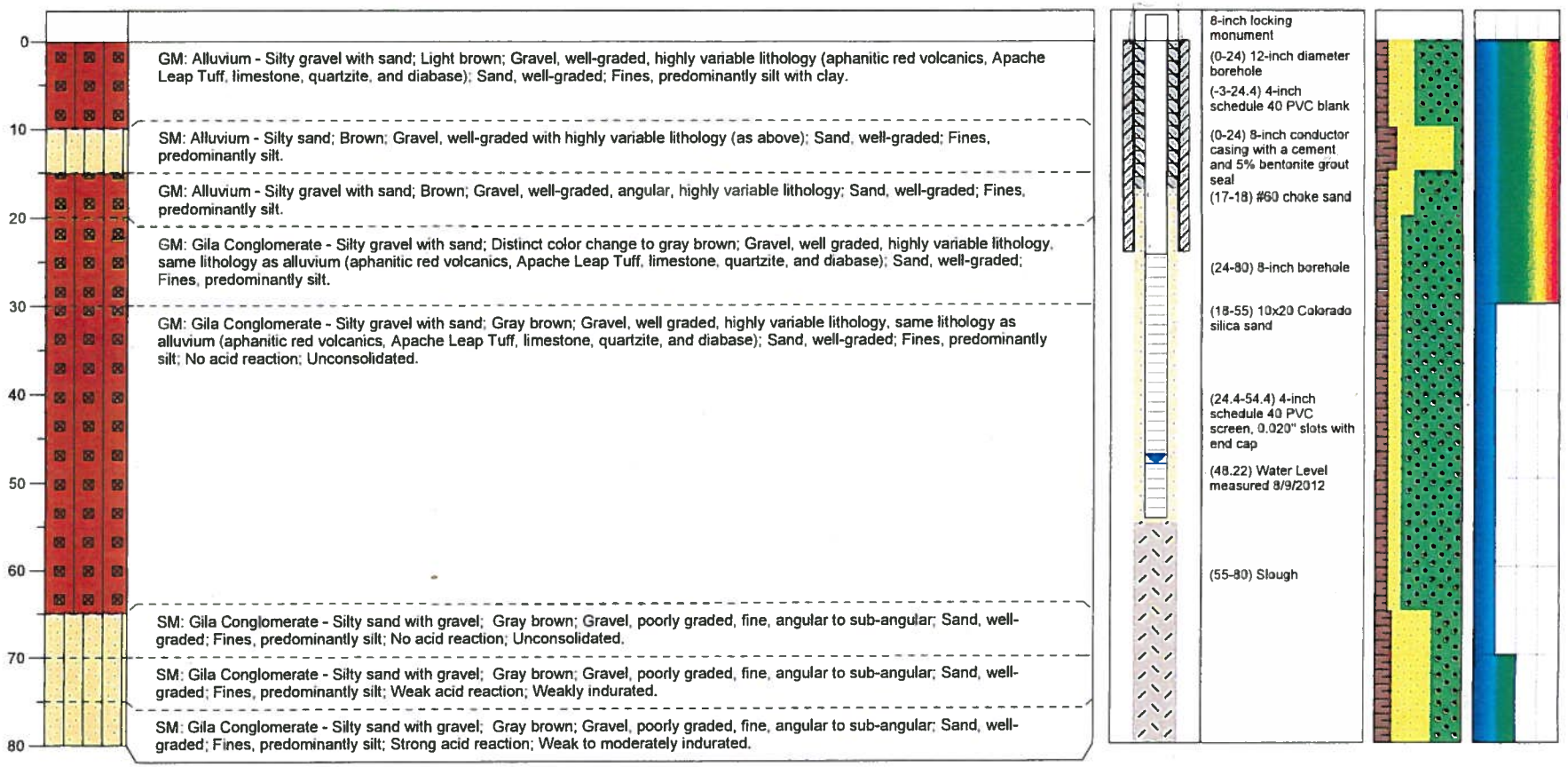
MCC-6D

Horizontal Datum, NAD 83; Vertical Datum NGVD29

LATITUDE: N33°17'57.63803" ELEVATION (TOC FT AMSL): 2817.72

LONGITUDE: W111°07'02.03028"

LITHOLOGY | **AS-BUILT** | **CUTTINGS SIZE** (FINES, MEDIUM, COARSE) | **REACTION TO HCl** (NONE, WEAK, MOD, STRONG)



BOREHOLE No. MCC-6D	TOTAL DEPTH DRILLED 80 FEET	SCALE AS SHOWN	TITLE
ADWR REG No. 55-914374	BIT DIAMETER 11.75" DOWN TO 24'; 8" FROM 24 TO 80	DATE 7/25/2012	**BOREHOLE LOG AND AS BUILT DRAWING**
LOCATION SUPERIOR, AZ	DRILLING FLUID AIR	DESIGN CAP	
CLIENT RESOLUTION COPPER MINE	LOGGED BY JJM	CHECK JJM	
DRILLING CO YELLOW JACKET DRILLING	DATE STARTED 6/8/2012	REVIEW KJ	
DRILLING EQUIPMENT SPEEDSTAR 50K-CH	DATE FINISHED 8/3/2012	REV 0 FILE MCC-6D.DAT	Golder Associates
DRILLING METHOD AIR ROTARY	COMMENTS AGS = ABOVE GROUND SURFACE, BGS = BELOW GROUND SURFACE	PROJECT No. 123-92513	FIGURE 2

BROWN AND CALDWELL
Phoenix, Arizona

BORING LOG

Project Name: **BHP Superior** Project Number: **3800.05**

Soil Boring ☐ Monitoring Well ☒ Boring/Well Number: **MCC-9** Sheet **1** of **1**

Boring Location: **331732.98N(Lat) 1110626.19W(Long)**		Elevation and Datum: **2769.2 msl**	
Drilling Contractor: **Stewart Brothers**	Driller:	Date Started: **8/18/97**	Date Finished: **8/19/97**
Drilling Equipment: **Gardner-Denver 15W**	Borehole Diameter: **9 7/8"**	Completed Depth: (feet) **60.0**	Water Depth: (feet) **10.0**
Sampling Method: California Method ☐ Shelby Tube ☐ Split Spoon ☐		WELL CONSTRUCTION	
Drilling Method: **Air Rotary**	Drilling Fluid: **Air**	Type and Diameter of Well Casing: **4.5" Schedule 40 PVC**	
Backfill Material: **Type 5 Cement Grout with 4% bentonite**		Slot Size: **0.02"**	Filter Material: **10-20 CSSI**
Logged By: **Mike Bostic**	Checked By:	Development Method: **Bail/Swab and pump**	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Lithology	Graphic Log: Well	Readings PPM	Remarks
0		ALLUVIUM AND FILL							Type 5 cement with 4% bentonite gel grout seal from 0 to 20 feet
10		First water encountered during drilling at 10 feet bls. Measured Groundwater Level (July, 1998) = 13.32 feet bls. GILA CONGLOMERATE Fine to coarse grained clasts in a tuffaceous, sandy matrix. Clasts composed of limestone, quartzite, and volcanics.							4.5" Schedule 40 PVC casing from 0 to 28 feet
20									20-40 Mesh sand pack from 20 to 23 feet
30									
40									4.5" Schedule 40 PVC screen (0.02" slot size) from 28 to 48 feet
									10-20 Mesh Colorado Silica sand pack from 28 to 60 feet
50									Total cased depth = 48 feet
60									Stopped drilling at 60 feet

SETTLING PONDS 1 & 2 ALERT WELL

AZ STATE PLANE CENTRAL NAD 83

NORTHING: 837767 ELEVATION (TOC):2976.2

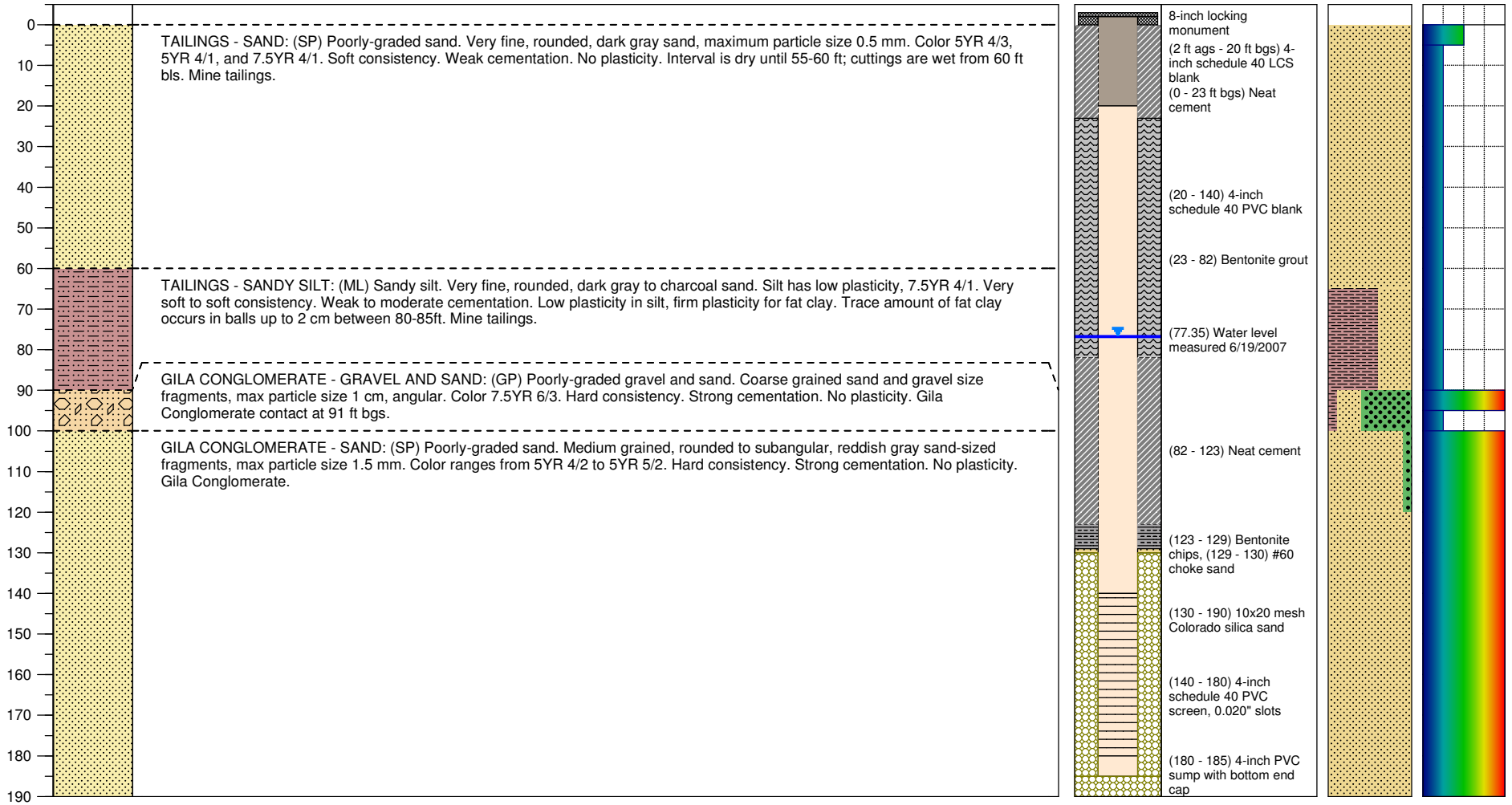
EASTING: 948296

LITHOLOGY

AS-BUILT

CUTTINGS SIZE — FINES, MEDIUM, COARSE

REACTION TO HCl — NONE, WEAK, MOD, STRONG



BOREHOLE No.	SETTLING PONDS 1 & 2 ALERT WELL	TOTAL DEPTH DRILLED	190	SCALE	AS SHOWN
ADWR REG No.	55-907034	BIT DIAMETER	8.75"	DATE	06/07/2007
LOCATION	SUPERIOR, AZ	DRILLING FLUID	AIR	DESIGN	JCR
CLIENT	RESOLUTION COPPER MINE	LOGGED BY	KKH	CHECK	JJM
DRILLING CO	YELLOW JACKET DRILLING	DATE STARTED	05/22/07	REVIEW	KJ
DRILLING EQUIPMENT	SPEEDSTAR 50K-CH	DATE FINISHED	05/23/07	REV 1	FILE ALERT WELL.LDF
DRILLING METHOD	AIR ROTARY CASING HAMMER	COMMENTS	USCS SCALE, MUNSELL COLOR CHART	PROJECT No.	073-92522

TITLE

BOREHOLE LOG AND AS-BUILT DRAWING

Golder Associates

FIGURE 2-3

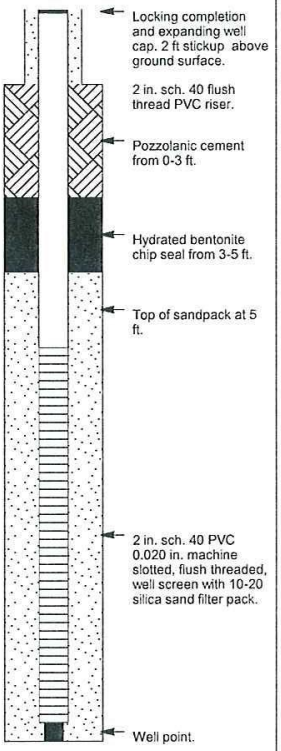
FIGURE 2-4

SMELTER POND POC WELL

CLIENT:	Resolution Copper Company	AZ STATE PLANE N: 834587	SHEET: 1 OF 1
PROJECT:	Lower Smelter Pond	CENTRAL NAD 83 E: 947379.3	DRILL RIG/METHOD: BK-81/4.25" HSA
LOCATION:	Superior, Arizona	ELEVATION: 2743.149 FT AMSL	LOGGED: JAC DATE: 2/13/07
PROJECT NO.:	063-2596	INCLINATION: -90	CHECKED: JAC DATE: 4/25/07

DEPTH	ELEVATION	WATER	SAMPLE NUMBER	RECOVERY / ATTEMP (FT/FT)	SAMPLE TYPE	GRAPHIC LOG	USCS	Sample Description (consistency or density, color, MAJOR COMPONENT, minor components, moisture, other notes.)	PASTE pH (SU)	ELECTRICAL CONDUCTIVITY (mS)	ADDITIONAL LABORATORY TESTING
0							ML	soft, moderate brown, SANDY SILT, cohesive, some organics, low plasticity, strong reaction with HCl, little to some tails, moist, (fill).	8.04	4.41	
	2741.1										
	2.0		1	2 / 4			SP	dense, moderate brown, fine to coarse SAND, trace fine to medium gravel, trace to little fines, completely weathered clasts, variable reaction with HCl, wet, (alluvium). -sample barrel refusal at 4 ft.			
5		▽									
10			2	0.5 / 0.5					7.97	1.61	
	2730.6										
	12.5		3	0.5 / 0.5			GILA	hard, weakly cemented, pale brown, fine to coarse SAND, little fine to coarse gravel, little fines, dry, (weathered Gila Conglomerate).	7.28	1	
15			4	0.2 / 0.3					7.56	0.7	
	2725.6										
	17.5		5	0.2 / 0.3				End of Boring at 17.5 Feet Below Ground Surface.			

Monitor Well Details
Top of Casing Elevation: 2746.28 ft. AMSL



Report of borehole must be read in conjunction with accompanying notes and abbreviations

SETTLING PONDS 1 & 2 REPLACEMENT ALERT WELL -"SP 1 & 2-Alert-B"

Horizontal Datum, NAD 83; Vertical Datum NGVD29

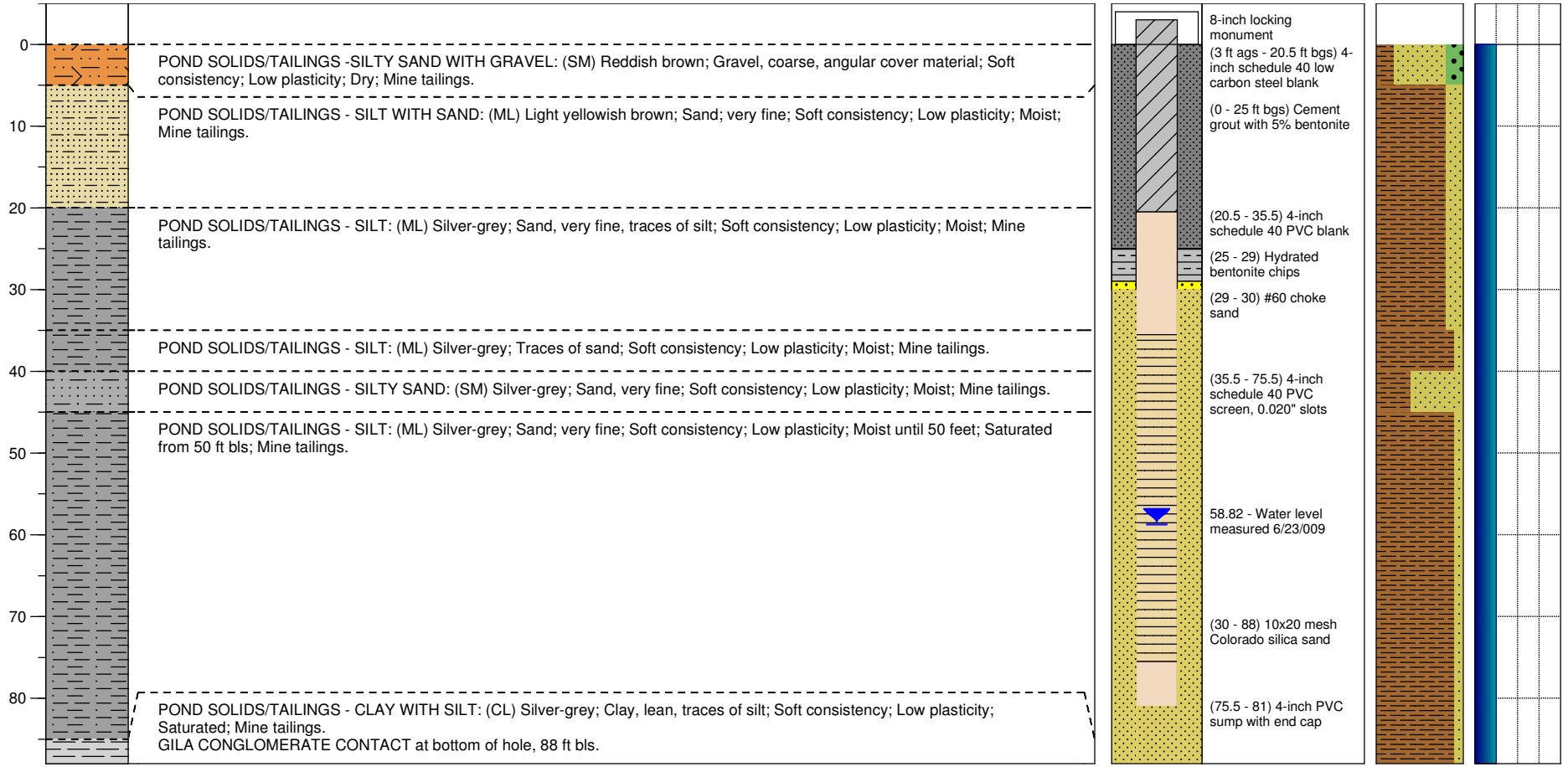
LATITUDE:33° 18' 1.380" ELEVATION (TOC):2977.45 feet

LONGITUDE:111° 6' 14.415"

LITHOLOGY **AS-BUILT**

CUTTINGS SIZE FINES MEDIUM COARSE

REACTION TO HCl NONE WEAK MOD STRONG



BOREHOLE No.	SP 1 & 2- Alert- B	TOTAL DEPTH DRILLED	88	SCALE	AS SHOWN
ADWR REG No.	55-910699	BIT DIAMETER	8.75"	DATE	06/08/2009
LOCATION	SUPERIOR, AZ	DRILLING FLUID	AIR	DESIGN	CAP
CLIENT	RESOLUTION COPPER MINE	LOGGED BY	JJM	CHECK	JJM
DRILLING CO	YELLOW JACKET DRILLING	DATE STARTED	05/6/09	REVIEW	KJ
DRILLING EQUIPMENT	SPEEDSTAR 50K-CH	DATE FINISHED	05/6/09	REV 1	FILE REPLACEMENT ALERT WELL.LDFX
DRILLING METHOD	AIR ROTARY CASING HAMMER	COMMENTS	ags= above ground surface; bgs= below ground surface	PROJECT No.	073-92522-10

TITLE

BOREHOLE LOG AND AS-BUILT DRAWING

Golder Associates

FIGURE 2

TAILINGS POND 5 POC WELL

AZ STATE PLANE CENTRAL NAD 83

NORTHING: 837338 ELEVATION (TOC):2965.32

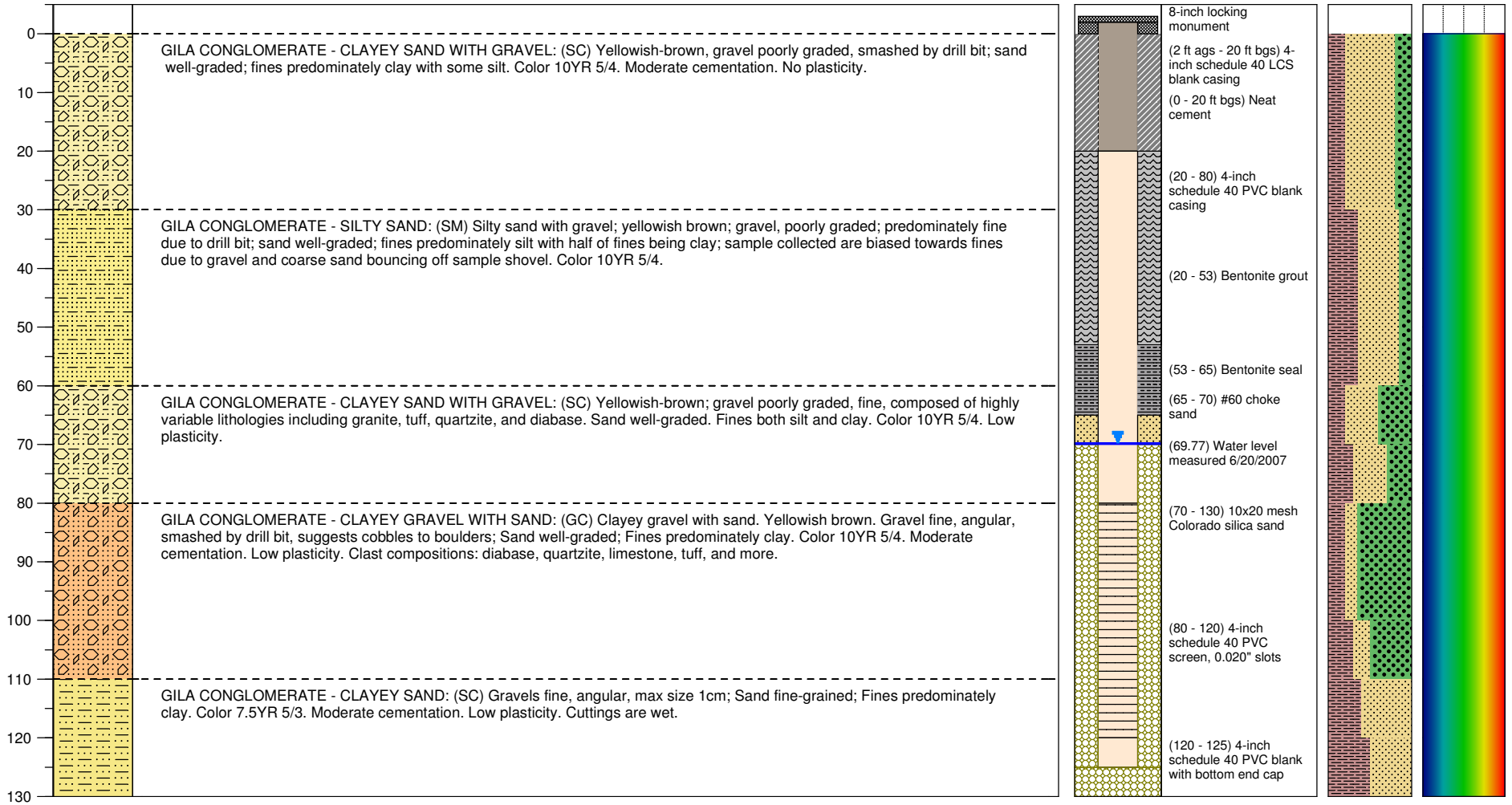
EASTING: 947439

LITHOLOGY

AS-BUILT

CUTTINGS SIZE — FINES, MEDIUM, COARSE

REACTION TO HCl — NONE, WEAK, MOD, STRONG



BOREHOLE No.	TAILINGS POND 5 POC WELL	TOTAL DEPTH DRILLED	130 ft bgs	SCALE	AS SHOWN	TITLE	
ADWR REG No.	55-907036	BIT DIAMETER	8.75"	DATE	06/07/07	**BOREHOLE LOG AND AS-BUILT DRAWING**	
LOCATION	SUPERIOR, AZ	DRILLING FLUID	AIR	DESIGN	JCR		
CLIENT	RESOLUTION COPPER MINE	LOGGED BY	JJM AND KKH	CHECK	JJM		
DRILLING CO	YELLOW JACKET DRILLING	DATE STARTED	5/24/07	REVIEW	KJ		
DRILLING EQUIPMENT	SPEEDSTAR 50K-CH	DATE FINISHED	05/29/07	REV 1	FILE TP5 POC Well.ldf	Golder Associates	FIGURE 2-5
DRILLING METHOD	HAMMER, AIR ROTARY	COMMENTS	USCS SCALE, MUNSELL COLOR CHART	PROJECT No.	073-92522		

TAILING POND 5 REPLACEMENT POC WELL-"TP5-POC-B"

Horizontal Datum, NAD 83; Vertical Datum NGVD29

LATITUDE: 33° 18' 0.389" ELEVATION (TOC):3024.58 feet

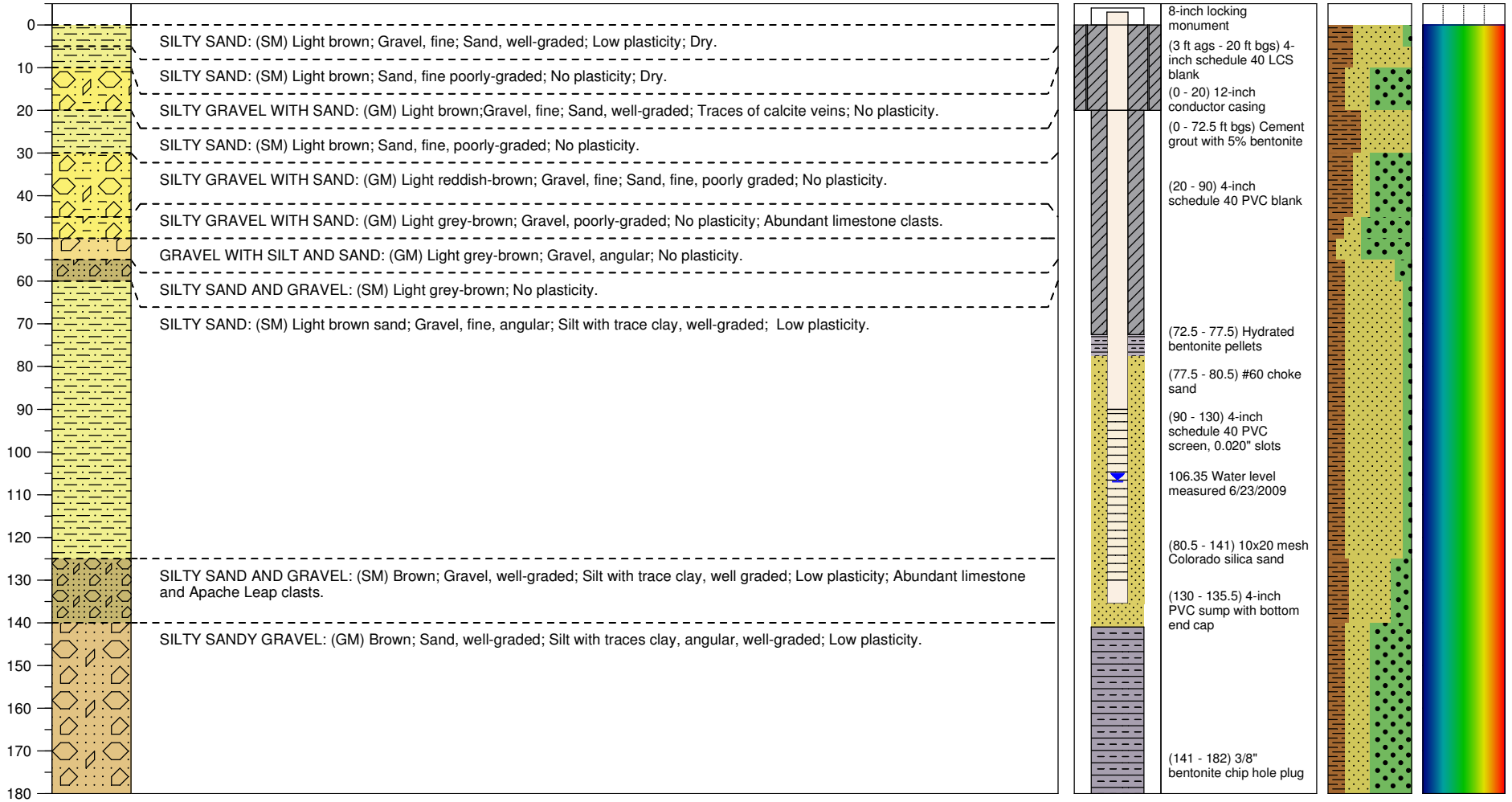
LONGITUDE: 111° 6' 25.805"

LITHOLOGY

AS-BUILT

CUTTINGS SIZE — FINES, MEDIUM, COARSE

REACTION TO HCl — NONE, WEAK, MOD, STRONG



BOREHOLE No. TP5-POC-B	TOTAL DEPTH DRILLED 180	SCALE AS SHOWN	TITLE
ADWR REG No. 55-910698	BIT DIAMETER 16.5 down to 20'; 8.75 from 20-182'	DATE 06/22/2009	**BOREHOLE LOG AND AS-BUILT DRAWING**
LOCATION SUPERIOR, AZ	DRILLING FLUID AIR	DESIGN CAP	
CLIENT RESOLUTION COPPER MINE	LOGGED BY JJM	CHECK JJM	
DRILLING CO YELLOW JACKET DRILLING	DATE STARTED 05/7/09	REVIEW KJ	
DRILLING EQUIPMENT SPEEDSTAR 50K-CH	DATE FINISHED 06/16/09	REV 1 FILE REPLACEMENT TP5 WELL.LDFX	Golder Associates
DRILLING METHOD AIR ROTARY	COMMENTS ags: above ground surface; bgs: below ground surface	PROJECT No. 073-92522-10	FIGURE 3