

**YEAR-END REPORT
FOR THE 2008 FIELD SEASON
AT LEVIATHAN MINE**

Alpine County, California

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1. INTRODUCTION

Leviathan Mine is a former sulfur mine that the State of California acquired in the early 1980s to address water quality problems caused by historic mining. Jurisdiction over Leviathan Mine rests with the State Water Resources Control Board, which, in turn, has delegated jurisdiction over clean up work to the California Regional Water Quality Control Board, Lahontan Region (Water Board). On May 11, 2000, the United States Environmental Protection Agency (USEPA) placed Leviathan Mine on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List, thus making Leviathan Mine a federal Superfund site.

On July 19, 2000, pursuant to its authority under CERCLA, USEPA issued an Administrative Abatement Action (AAA) to the Water Board and directed the Water Board to implement certain pollution abatement and site characterization activities at Leviathan Mine. With slight modifications, USEPA subsequently reissued the AAA in 2001, 2002, 2003, 2004, and 2005. In its 2005 AAA, USEPA decided to, instead of issuing AAA every year; allow its Remedial Project Manager, for each year that the first phase of Non-Time Critical Removal Action continues, to notify Water Board of the necessity to continue the Work for an additional year. It is expected that USEPA will direct the Water Board to continue work at Leviathan Mine until a final remedy addressing all releases of hazardous substances at Leviathan Mine is implemented.

This Year-End Report for the 2008 Field Season at Leviathan Mine (Year-End Report) has been prepared by the Water Board for the USEPA. This Year-End Report was prepared to comply with Paragraph No. 50 of USEPA's July 14, 2005 Administrative Abatement Action (AAA) which states:

"Within thirty (30) days after the LRWQCB concludes that the seasonal work on the NTCRA has been fully performed, the LRWQCB shall so notify EPA and shall schedule and conduct a pre-certification inspection to be attended by the LRWQCB and EPA. The pre-certification inspection shall be followed by a written report submitted within ninety (90) days of the inspection by the LRWQCB's Project Coordinator certifying that all work to date on the NTCRA has been completed in full satisfaction of the requirements of this Administrative Action."

The pre-certification inspection occurred on October 7, 2008. In a letter dated October 14, 2008, Water Board staff requested, and the USEPA granted in their letter dated November 21, 2008, an extension of the due date for the 2008 Year-End Report until March 7, 2009.

This Year-End Report constitutes the "*written report*" as referenced in Paragraph No. 50 of the AAA, and contains year-end summaries of Water Board field activities performed in 2008. The activities required of the Water Board by the USEPA are described in Paragraph No. 37 of the AAA. These activities consist of:

1. summer treatment of Acid Mine Drainage (AMD) captured year-round in a series of ponds;
2. site maintenance of ponds, drainage and diversion channels, and gates and fences; and

3. site monitoring of water quality, water quantity, and meteorological information.

Water Board staff conducted the above-listed activities in accordance with the *2008 Work Plan for Leviathan Mine, Alpine County, California* (Work Plan) prepared by the Water Board. The Work Plan was transmitted to, and approved by, the USEPA.

This report describes the details of site activities performed in 2008, and is organized into the following sections:

- A background section that describes the site setting and history; collection and storage of AMD; and the treatment process;
- A sludge removal and pond water treatment section describing the removal and disposal of sludge and treatment of AMD in 2008;
- A site monitoring of surface water section; and
- A site maintenance section.

The report summarizes data collected by the Water Board in two appendices. Appendix A summarizes the results of Pond Water Treatment (PWT) monitoring. Appendix B summarizes the results of Surface Water Monitoring (SWM).

2. BACKGROUND

2.1 SITE SETTING AND HISTORY

Leviathan Mine is located on the eastern slope of the Sierra Nevada Mountains in Alpine County, California (Figure 1). The mine is approximately six miles east of Markleeville, California and five miles west of Topaz Lake, Nevada. The Leviathan Mine encompasses thirty-two patented mineral claims and a patented mill site. Based on the Final Title Search and Survey Report conducted by SAIC for the USEPA on January 31, 2000, the State-owned portion of the Leviathan Mine site encompasses 479.928 acres. Mining disturbance is evident on 252.71 acres and, of which, the State own 231.39 acres. The majority of mining disturbance is on state-owned property, with approximately 21 acres of the disturbance found on property owned by the United States Department of Agriculture, Forest Service, Humboldt-Toiyabe National Forest (USFS). The USFS owns the majority of surrounding land, with the exception of ten private parcels along the southern boundary of the mine site.

Leviathan and Aspen Creeks (Figure 2) flow across the mine site and join below the mine. Approximately 1.5 miles downstream of the confluence of Leviathan and Aspen Creeks, Leviathan Creek joins Mountaineer Creek. The combined flow of Leviathan and Mountaineer Creeks forms Bryant Creek. Approximately 3.5 miles downstream of the confluence of Leviathan and Mountaineer Creeks, Bryant Creek flows across the Nevada state line. Approximately 1.8 miles downstream of the Nevada state line, Doud Springs enters Bryant Creek. Just below this confluence, an irrigation ditch seasonally diverts flow from Bryant Creek to the River Ranch property. Approximately 1.5 miles downstream from the irrigation diversion, Bryant Creek joins the East Fork of the Carson River.

Historic mining activities at Leviathan Mine included underground and open pit extraction of sulfur-rich ore. These activities resulted in the exposure of naturally occurring sulfide minerals to air and water. This exposure triggered a series of chemical reactions that caused local groundwater to become acidic and metal-rich. The acidic groundwater discharges from an old mine tunnel as well as seeps at several locations within the Leviathan Mine site. When this AMD enters local surface water bodies, it adversely affects water quality, which in turn affects algae, insect, and fish growth, and damages the in-stream habitat through deposition of metal-rich precipitates.

The Water Board has implemented several projects to abate AMD from entering local surface water bodies. In 1985, the Water Board completed construction of a pollution abatement project at Leviathan Mine to address certain specific problem areas. This project included the construction of AMD storage and evaporation ponds, which are a major component of the Water Board's pond water collection and treatment activities.

2.2 AMD Collection and Storage

The 1985 pollution abatement project included construction of five lined evaporation ponds (Figure 3) to capture and evaporate AMD from remnant underground mine workings. The primary sources of AMD to the pond system are the Adit and the Pit Under-Drain (PUD).

- The Adit is the location where acidic groundwater emanated from a remnant tunnel excavated during underground mining activities in the 1930s. The exact condition of the interior of the tunnel is unknown, but it is likely that portions of the tunnel have collapsed. The approximate location of the tunnel and other site features are shown in Figure 3. As part of the 1985 pollution abatement project, the Water Board Contractor installed an underground drain to collect acidic groundwater emanating from the Adit. The underground drain consists of 12-inch-diameter perforated pipe in a bed of drain rock. The perforated pipe is connected to a non-perforated 12-inch pipe that carries the AMD to a concrete flow control structure (FCS). AMD from the Adit has a pH of less than 3.0 and typically has a discharge rate between 9 and 15 gallons per minute (gpm) with a maximum rate measured to approximately 42 gpm (flow data collected from 1999 to 2008).
- The Water Board contracted Mitty-G.E.B. Inc., and installed the PUD during construction of the 1985 pollution abatement project to dewater saturated soils in the bottom of the open pit prior to backfilling the pit to its current elevation. The PUD consists of approximately 1,500 linear feet of 12-inch-diameter perforated pipe set in a bed of drain rock beneath the pit bottom, buried in pit backfill material. The perforated pipes connect to a non-perforated 18-inch-diameter pipe that conveys the PUD discharge to the FCS. AMD from the PUD has a pH of less than 3.0 and typically has a flow rate between 0.1 and 4 gpm, with rates as high as approximately 38 gpm (flow data collected from 1999 to 2008).
- The five evaporation ponds (Ponds 1, 2 South, 2 North, 3, and 4 on Figure 3) cover a combined surface area of approximately 12.8 acres with a cumulative holding capacity of approximately 16.5 million gallons based on an October 1998

survey conducted by ARCO Environmental Remediation, LLC. AMD from the FCS can be routed directly to Leviathan Creek or to the pond system via a weir gate. When the AMD is directed to the pond system, it can be distributed to any combination of Ponds 1, 2 South, and 2 North via a series of valves, as these ponds are interconnected and are at the same elevation. These three ponds are commonly called the "upper ponds" and have a combined volume of approximately 14 million gallons. Pond 3 receives overflow from the upper ponds via PVC overflow pipes. Overflow from Pond 3 flows in PVC piping and can be directed, via valves, to either the Leviathan Creek or to the Pond 4. Pond 4 overflows directly to the Leviathan Creek via PVC piping.

- Currently, Pond 4 is utilized by Atlantic Richfield (AR) for storage and treatment of other AMD sources. Pond 3 overflow is currently controlled, via valves, in the event of any overflow; the overflow water would be directed to the Leviathan Creek.

The Water Board treats and discharges pond water during the summer months. These activities renew pond storage capacity for the subsequent winter and spring months. The Water Board assembled a treatment system during the 1999 field season on the northeast corner of Pond 1 and tested the process at full-scale during the 1999 and 2000 field seasons. The typical field season at Leviathan Mine runs from mid-June through mid-October. The Water Board has continued to operate the lime treatment system adjacent to Pond 1 during the summer months from 2001 through 2008.

2.3 Pond Water Treatment Plant Process Summary

The Water Board's treatment of AMD contained in the pond system is accomplished through lime neutralization. The neutralization of AMD by the addition of lime has long been accepted as an effective means to raise pH and remove metals in AMD. Lime (calcium hydroxide or $\text{Ca}[\text{OH}]_2$), is mixed into the AMD from the pond system; the addition of lime causes an increase in pH and the precipitation of dissolved constituents, including metals, contained in the AMD. The metals are precipitated out of solution in an earthen clarifier, and the final products are: 1) a nearly metal-free effluent with near neutral pH, and 2) waste sludge.

The PWT Plant (Plant) treats the AMD stored in the three upper ponds. The process has also been referred to as Pond 1 lime treatment because the treatment system is located on the north side of Pond 1. The treatment system draws the AMD from Pond 1 for treatment, thus lowering the water elevation of Pond 1. The lower water level in Pond 1 causes AMD from Pond 2 North and Pond 2 South to flow by gravity to Pond 1 to be treated by the treatment system. The Plant operates optimally in the warm summer months. Cold temperatures encountered in the late summer and early fall appear to cause slow reaction times, and consequently, decreases in treatment rates.

3. 2008 SLUDGE REMOVAL AND POND WATER TREATMENT

3.1 Sludge Removal and Disposal

Approximately 315 tons of sludge generated during operation of the 2007 PWT effort was removed from the Pit Clarifier by DECON Environmental Services, Inc. of Hayward, California (Decon) in July 2008. The sludge had been previously sampled, analyzed, and characterized in the fall of 2007; the results were reported in the Water Board's 2007 year-end report. The sludge was disposed of in July 2008 at a Class I hazardous waste landfill in Buttonwillow, California. Hazardous waste manifests are available for review at the Water Board's office in South Lake Tahoe, CA.

3.2 2008 Pond Water Treatment Plant Operation

The Water Board contracted with Decon for Plant operations for the 2008 field season. Decon chose to operate the Plant, with a few exceptions, during daylight hours on weekdays only. This is in contrast to past treatment seasons when the Plant was operated 24 hours per day, 7 days per week. An additional modification made by Decon for 2008 was the delivery of dry lime and make up lime slurry on site to neutralize AMD in the pond system. In past treatment seasons, a 45% lime slurry was delivered to the site and fed directly into the Plant. In 2008, dry lime was delivered to the site in pallets of 50 pound bags. Decon staff mixed a nominal 20% by weight lime slurry (using Leviathan Creek water from upstream of the mine) in a 1000-gallon polyethylene tank during daily operations. The benefits of using dry lime included a substantial reduction in overall lime costs, an approximate 50% reduction in lime deliveries to the site, and a streamlining of the scheduling, handling, and storage of lime. Approximately 10 tons of dry lime remains stored on site following the 2008 treatment season. This lime will facilitate efficient startup of the Plant next year. A summary of the treatment process used in 2008 is described in the following paragraphs; there are minor modifications to the reactor mixing and pH monitoring from the past several years.

A 5-horsepower (hp) electric pump conveyed AMD from Pond 1 to a 10,000-gallon fiberglass Phase 1 reaction tank (R-1). A pH probe installed in R-1 measured pH in R-1 and controlled the amount of the 20% lime slurry added to R-1. A 3-hp mixer mixed AMD and lime slurry in R-1. The lime slurry raised the pH of the AMD from 2.5 to an approximate range of 3.5 to 5.

The partially treated AMD flowed by gravity from R-1 through a two-chambered combination flash/flocculation mix tank (FF-1) and into a Lamella clarifier (CL-1). Two 1.5-inch air diaphragm pumps removed precipitates from the bottom of CL-1. One of the 1.5-inch air diaphragm pumps is used to pump a portion of the precipitates back into the top of R-1. The second 1.5-inch air diaphragm pump is used to pump remaining precipitates from the bottom of CL-1 back into the top of CL-1 in an effort to keep precipitates from settling out and potentially clogging the bottom of CL-1 with solids. In 2008, to increase mixing energies and keep precipitates in suspension, Decon used two mixers in the flash/flocculation tank and added an additional mixer to CL-1.

Supernatant and precipitates from CL-1 flowed by gravity to the Phase 2 reaction tank (a second 10,000-gallon fiberglass tank) referred to as R-2. A pH probe in R-2 measured pH and controlled the amount of lime slurry added to R-2. This is the second of a two-point lime addition process. A 7.5-hp mixer on R-2 mixed the partially treated AMD, precipitates, and lime slurry. In R-2, the lime slurry raised the pH of the partially treated AMD to approximately 8.4, which caused all but trace amounts of remaining metals to precipitate out of solution.

Treated AMD and precipitates then flowed through the Phase 2 flash/flocculation mix tank (FF-2) and into the Phase 2 Lamella clarifier (CL-2). Two 10-hp mud pumps transferred the water/solid mixture from the bottom of CL-2 to the Pit Clarifier. A polyacrylamide polymer solution was injected into the sludge slurry line just upstream of the two 10-hp mud pumps to promote flocculation and settling in the Pit Clarifier. In 2008, Decon installed a pH probe in FF-2. The pH probe controlled an additional lime pump capable of rapidly adding lime slurry to R-2 if the pH in FF-2 dropped below 8.2. This pH probe, controller, and pump combination provided additional reliability as well as a final confirmation pH measurement.

The Pit Clarifier is an earthen reservoir located in the bottom of the Leviathan Mine open pit. The Pit Clarifier has plan dimensions of approximately 150-feet by 150-feet, and includes a gravel/sand covered perforated pipe under-drain. The sludge slurry from CL-2 was pumped to the Pit Clarifier where solids settled out in near-quiescent conditions. The treated water collected from the Pit Clarifier under-drain piping flowed through a weir box, where stage data was recorded and water quality control samples were collected. The weir box has a 90-degree V-notch weir and stage data were recorded at 15-minute intervals by a combination data logger/pressure transducer system. Using a valve on the Pit Clarifier under-drain piping, the controlled release of treated water from the Pit Clarifier occurred only during days Decon was treating water.

Decon began treating AMD contained in the pond system on July 21, 2008. Discharge of treated water from the Pit Clarifier to Leviathan Creek began on July 25, 2008. The treatment plant was shut down on September 17, 2008 after almost all the AMD contained in the upper ponds was treated.

After the pond water was treated and the Plant was shut down on September 17, 2008, treated water continued to be discharged from the Pit Clarifier and the Water Board continued to collect samples of effluent discharging from the Pit Clarifier until October 1, 2008. Effluent flow rates from the Pit Clarifier under-drain dropped to below 5 gpm on October 2, 2008 and effluent sample collection was terminated as per approved 2008 Work Plan. By mid-October 2008, approximately 3.0 million gallons of treated pond water had been discharged from the Pit Clarifier to Leviathan Creek.

The 2008 PWT Plant operation consumed approximately 58 standard tons of dry lime; 2500 pounds of polymer; 2037 gallons of diesel fuel; and 851 gallons of gasoline. The Water Board's treatment effort in 2008 combined with natural evaporation resulted in the upper pond system being essentially dry and leaving the maximum available storage capacity of approximately 14 million gallons.

Sludge generated by the Plant in 2008 is contained in the Pit Clarifier to allow for further dewatering. The Plant operation generated an estimated 550 cubic yards (wet volume) of sludge. Dewatering of the sludge over the winter will increase solids content and reduce both the volume and mass of the sludge. Water Board staff estimates that the 550 cubic yards of wet sludge will result in approximately 300 tons of dry sludge being disposed in 2009.

3.3 Pond Water Treatment Monitoring and Sampling

Treatment process monitoring, sampling and analysis were performed in accordance with the Water Board's *Sampling and Analysis Plan for Leviathan Mine Site Pond Water Treatment (May 2008)* (PWT SAP), with a few deviations noted in Section 3.4.4. Effluent samples were collected for comparison with USEPA Discharge Criteria (Table 1). A summary of the monitoring parameters, locations, and frequencies for the 2008 PWT monitoring program is presented in Table 2. Specific details of sample collection and handling are described in the PWT SAP. Both sludge and aqueous samples were analyzed by the Water Board's contracted off-site laboratory, Basic Laboratory, Inc. of Redding, California.

To characterize discharge water quality, Water Board staff collected grab samples of the treated effluent each day the system discharged to Leviathan Creek until the discharge from the weir dropped below 5 gpm as prescribed in the approved 2008 Work Plan. In 2008, Water Board staff collected 43 treated effluent samples and 8 treated effluent duplicate samples between July 24 and October 1. Water Board staff also collected pre-treatment influent samples on a weekly basis; a total of 8 influent samples were collected in 2008. During influent and effluent sample collection activities, Water Board staff monitored and recorded pH and temperature in the field.

A portion of each grab sample was field filtered, preserved with nitric acid, and submitted to the Water Board's contracted off-site laboratory to be analyzed for dissolved: aluminum (Al), arsenic (As), copper (Cu), chromium (Cr), cadmium (Cd), nickel (Ni), iron (Fe), lead (Pb), and zinc (Zn). An unfiltered portion of the daily grab sample was preserved with nitric acid and submitted for Total Recoverable Selenium (Se). Once per week, in addition to the above analyses, Water Board staff submitted samples of influent and treated effluent for sulfate (SO₄), total dissolved solids (TDS), and dissolved: calcium (Ca), cobalt (Co), manganese (Mn), and magnesium (Mg). Sample identification tracking forms and field log notebook are available for review at the Water Board office in South Lake Tahoe, CA.

Analytical and field monitoring results of treated effluent samples and influent samples are summarized in Tables A-1 and A-2 of Appendix A (*Data Summary for 2008 Pond Water Treatment Plant Monitoring*). Table A-3 presents calculated 4-day averages for comparison with USEPA's 4-day average effluent discharge criteria.

To provide "real-time" information on effluent quality and system operation, Plant operators measured the pH and temperature at four mid-process locations (R-1, R-2, FF-2, and influent to Pit Clarifier) and at one effluent location (weir box) approximately every two hours while the system was operating. Operators used these data to moderate lime additions and maintain effluent quality. On a daily basis, Plant operators

also recorded flow rate, pH, and temperature of untreated Plant influent. The data collected by the system operators are summarized in Table A-5 of Appendix A.

Sludge generated during the 2008 treatment effort, and contained in the Pit Clarifier, was sampled in October 2008 for waste characterization and disposal purposes. The sludge was sampled directly from the Pit Clarifier following partial dewatering of sludge. Three sludge samples were collected from three different locations in the Pit Clarifier. Sludge samples were collected from a vertical profile that represented the complete thickness of sludge. Sludge samples were analyzed for comparisons with Total Threshold Limit Concentrations (TTLCs) and Soluble Threshold Limit Concentrations (STLCs) for Title 22 metals, and aluminum and iron. Analytical results for the sludge samples are summarized in Table A-5 of Appendix A.

3.4 Sampling Results from Pond Water Treatment Monitoring

3.4.1 Monitoring Objectives

The overall objective of the monitoring program for PWT was to collect data to evaluate the effectiveness of the treatment process in terms of effluent and sludge quality.

Specific monitoring objectives are as follows:

- Identify the chemical characteristics of the Plant influent.
- Identify the chemical characteristics of the treated effluent.
- Identify the chemical characteristics of solids generated in the treatment process.
- Monitor the effectiveness in meeting USEPA discharge criteria.
- Monitor field pH at critical points within the treatment system and at the discharge point as a means to monitor Plant effectiveness.

3.4.2 Data Summary

The results of PWT monitoring are summarized in Tables A-1 through A-9 of Appendix A. Appendix A also includes the PWT Level A/B and field data validation checklists. Basic Laboratory produced laboratory Data Validation Checklists, as described in the *Draft Leviathan Mine Site Site-Wide Sampling and Analysis Plan, Montgomery Watson Harza, April 2002* (Site-Wide SAP), for all of their laboratory reports. They are not included in this report, but can be reviewed at the Water Board office.

Laboratory analytical results for treated effluent are summarized in Table A-1. These data are collected for comparison with the USEPA Daily Maximum Discharge Criteria, also included in Table A-1. No laboratory confirmed exceedences of the daily maximum discharge criteria concentrations occurred in 2008. Table A-2 summarizes Plant influent sample results.

Table A-3 shows the calculated 4-day averages for the effluent concentrations. Discharge only occurred 5 days per week (rather than 7 days per week as in past

years). Therefore, rolling 4-day averages could not be calculated for all days of discharge. Two series of 4-day average concentrations were calculated for each full treatment week. Data from Monday through Thursday were used to calculate the first series, and data from Tuesday through Friday were used to calculate the second series. Twelve sets of 4-day average concentrations were calculated in 2008. All parameters analyzed in the effluent samples except selenium were well below their respective 4-day average criteria. Total recoverable selenium (Se) slightly exceeded the 4-day average criteria of 0.005 milligrams per liter (mg/L) in 9 of the 12 calculated 4-day averages. However, laboratory Matrix Spike (MS) recoveries for all of these data were outside of acceptable limits due to matrix interference and were qualified by the analytical laboratory. Additional discussion of Se Quality Assurance/Quality Control (QA/QC) findings is presented in 3.4.3.

Results of pH and temperature are included in Table A-1 for data collected by Water Board staff and in Table A-4 for data collected by Plant operators. pH measurements taken by Water Board staff and system operators confirmed that the discharge of treated effluent to Leviathan Creek was within USEPA's discharge criteria for pH of 6.0 to 9.0.

Results of the sludge characterization analyses are presented in Table A-5. The three sludge samples collected from the Pit Clarifier averaged approximately 12.5 percent solids. With the exception of the total concentrations for arsenic, the sludge did not exceed any other STLC or TTLC limits. The total concentrations for arsenic exceeded TTLC in all three samples collected from the Pit Clarifier. The arithmetic average arsenic concentration for the three samples was 614 milligrams per kilogram (mg/kg). The TTLC for arsenic is 500 mg/kg. These results are generally consistent with past sludge generated at the Pond 1 treatment system. In past years, Nickel typically exceeded the STLC, however, in 2008, this did not occur.

A summary of daily discharge flow data is included in Table A-6. Typical treated effluent discharge flow rates during the treatment season were between 50 to 60 gallons per minute. Approximately a total of 3.0 million gallons of treated effluent was discharged to Leviathan Creek in 2008. The stage data which measures the water level above the v-notch of the Pit Clarifier weir was recorded at 15 minutes intervals by a data logger. The stage data is not included in this report due to the large volume of data recorded by the data logger; but it is available for review at the Water Board's South Lake Tahoe office. The stage data collected at the v-notch was later converted into flow rate in "gallons per minute" and is included in Table A-6 of this report.

3.4.3 Data Quality Evaluation

As part of the Site QA/QC process, Water Board staff reviewed the data quality of the PWT laboratory reports. Laboratory-assigned data qualifiers are presented with the PWT data in Tables A-1, A-2, and A-5. Water Board staff's data review included evaluation of sample holding times, an assessment of precision, and an assessment of anomalous data.

In 2008, Water Board staff assigned a data qualifier of "*" for data that did not meet our field duplicate assessment, and an "A" qualifier for anomalous data. These data are

summarized in Table A-9, and Water Board staff qualifiers are also included in Tables A-1 and A-2.

Water Board staff assessed the data to confirm that holding times were met. No holding times were exceeded for the 51 treated effluent and effluent duplicate samples during the 2008 field season.

As discussed in the Data Summary Section (3.4.2), the laboratory had consistent matrix interferences when trying to quantify Se in the treated effluent samples. It is important to note that the USEPA Discharge Criteria for Se (0.005 mg/L) is close to the laboratory's reporting limit (0.0025 mg/L). All of the 51 Se analyses of the treated effluent samples were qualified by the contract laboratory as having the MS recovery outside of acceptance limits. Water Board staff reviewed the laboratory QA/QC data and noted that all of the Se MS recoveries were biased high. Or, in other words, the laboratory-spiked, treated effluent samples consistently showed significantly more Se than what could have been in the sample. At Water Board staff's request, the laboratory re-analyzed 10 treated effluent samples at twice the dilution and found comparable concentrations to the original analyses. The MS and MS Duplicate (MSD) samples associated with re-analysis both showed recoveries outside of acceptance limits and biased high. A summary of MS/MSD qualified Se data are shown in Table A-7.

Water Board staff submitted field duplicate samples of the treated effluent to the laboratory to measure the precision of the entire measurement system including sampling and analytical procedures. Water Board staff collected one duplicate sample per week of treatment; a total of 8 field duplicates of treated effluent were submitted to the laboratory in 2008. The Relative Percent Difference (RPD) was calculated for each analyte in the duplicate and corresponding primary sample, as follows:

- If both the sample and duplicate values were equal to or greater than five times the Reporting Limit (RL), then the RPD was calculated using the standard method of dividing the absolute value of the difference of the two measurements by the average of the two measurements and multiplying by 100. The RPD must be equal to or less than 25% to be in control limits.
- If either the sample or duplicate value was less than five times the RL, then the absolute difference between the sample and duplicate values had to be equal to or less than the RL to be in control limits.

Only one set of sample and duplicate results for dissolved aluminum, collected on September 17, 2008, were qualified for exceeding the control limits for RPD. RPDs that were out of control limits were qualified with a "*" in Table A-1 and are summarized in Table A-9.

Field Method Blanks (FMBs) were also collected once per week (9 total samples) and submitted to Basic Laboratories for analysis of the same parameters as PWT effluent samples. FMBs were collected and processed in the same method as that of effluent samples except using commercially available distilled water for each blank.

The five following dissolved metals were detected in the field method blank samples collected as part of the PWT monitoring program:

- Iron was detected in all nine FMB samples at concentrations ranging from 0.019 to 0.052 mg/L; the USEPA 4-day average discharge criterion for iron is 1.0 mg/L. Iron concentrations in the treated effluent samples ranged from 0.003 to 0.055 mg/L.
- Zinc was detected in five FMB samples at concentrations ranging from 0.0021 to 0.0035; the USEPA 4-day average discharge criterion for zinc is 0.21 mg/L.
- Copper was detected in two FMB samples at concentrations of 0.0006 and 0.0008 mg/L; the USEPA 4-day average discharge criterion for copper is 0.016 mg/L.
- Chromium was detected in one FMB sample at a concentration of 0.0005 mg/L; the USEPA 4-day average discharge criterion for chromium is 0.31 mg/L.
- Aluminum was detected in one FMB sample at a concentration of 0.002 mg/L; the USEPA 4-day discharge criterion for aluminum is 2.0 mg/L.

The metal concentrations detected in the field method blank samples are not considered as having an effect on the use of effluent sample data for comparison with the USEPA maximum or 4-day average discharge criteria.

Water Board staff also identified two influent samples collected on August 11 and August 18, 2008 as having anomalous TDS and sulfate data. In both cases, sulfate concentrations significantly exceeded TDS concentrations; these data are summarized in Table A-9.

3.4.4 Deviations from the PWT SAP

Three deviations from the PWT SAP occurred during the 2008 field season.

Basic Labs used their own data qualifiers rather than those identified in Table D-1 of the PWT SAP. The qualifiers used are shown in Tables A-1, A-2 and A-5, and are included in the database files to be submitted to AR for inclusion in the Site-wide database.

Table 1 of the Water Board's *2008 Work Plan for Leviathan Mine* indicated that Water Board staff would collect daily influent pH measurements. Water Board staff collected influent pH measurements weekly during influent sample collection activities. These data are presented in Table A-3. Plant operators collected influent pH measurement daily beginning on July 30, 2008. These data are summarized in Table A-4.

In a letter to the USEPA dated July 14, 2008, Water Board staff proposed modifications to the sample collection procedures used for PWT monitoring. The USEPA approved the method in an email to Water Board staff dated July 25, 2008. As part of the USEPA's approval, they requested that "...one sampling round be conducted using both the existing and proposed methods. This will allow Water Board and EPA staff to

evaluate any possible differences resulting from use of the two methods.” On August 5, 2008, Water Board staff collected primary and duplicate treated effluent samples (089PWT014 and 089PWT015, respectively) using the new methodology. Additionally, Water Board staff collected primary and duplicate treated effluent samples (089PWT017 and 089PWT018, respectively) using the previous collections method. The results were presented to USEPA and are included in Table A-8 of this report; no significant differences were observed between the two methods.

Staff implemented the new sample collection method which consisted of the use of a peristaltic pump, new disposable C-Flex[®] tubing, and new disposable filters for each sample. Because only new sampling equipments were used, no equipment rinsate blanks (ERBs) were collected in 2008. The new collection method is also consistent with collection of surface water samples for the Water Board’s Surface Water Monitoring program.

4. SURFACE WATER MONITORING AND METEOROLOGICAL INFORMATION

As required by the USEPA, the Water Board continued their efforts in 2008 field season to monitor surface water flow and quality, and to collect meteorological information in the vicinity of Leviathan Mine. The results of these ongoing monitoring activities supplement the existing data contained within the Leviathan Mine Site-wide database that is maintained by Atlantic Richfield Company (AR). All surface water data and flow data are forwarded to AR for incorporation into the Site-wide database.

4.1 Meteorological Monitoring

A weather station is located on the Water Board’s construction trailer near Pond 1. It is a Davis Integrated Sensor Suite model and has been operational since its installation in November 2002. The system measures the following conditions hourly: wind speed, wind direction, rainfall, outside temperature, outside humidity, ultraviolet radiation, and solar radiation. Water Board staff download data from this weather station periodically and transmit the data to AR for incorporation into the Leviathan Mine Site-wide database.

4.2 Flow Monitoring

Flow data are reported on the basis of water year. The 2008 water year begins October 1, 2007 and ends September 30, 2008. Under contract to the Water Board, the United States Geological Survey (USGS) monitored water flows and pond water level elevations for the 2008 water year. Flow monitoring locations and equipment are detailed in Table 3. Daily average flow data for stations with continuous recorders are included in Appendix B *Data Summary for 2008 Surface Water Monitoring*, Tables B-1 to B-13. Included in these tables are the daily and monthly average flow data for 11 stations with continuous flow recorders and daily and monthly average stage data for water levels in Pond 1 and Pond 4. Six of the stations (the Adit, PUD, CUD, Station 15,

Pond 1, and Pond 4) can be viewed in real-time through the USGS's website, <http://waterdata.usgs.gov/ca/nwis/current?type=flow>.

4.3 Surface Water Monitoring

Surface water sampling and analysis was performed in compliance with the *Sampling and Analysis Plan for Leviathan Mine Site Surface Water Monitoring (January 2004)* (SWM SAP), with two deviations noted in Section 4.4.3. The SWM SAP is not included in this report, but copies are available for review at Water Board's South Lake Tahoe office.

The Water Board conducted 10 monthly surface water quality monitoring events during the 2008 water year. Monthly sampling did not occur in January and February 2008. The Water Board's monthly and semi-annual surface water quality monitoring stations are shown in Figure 4. Measured parameters and sampling frequencies are summarized in Table 4.

Samples were collected for laboratory analysis of total and dissolved: aluminum, arsenic, calcium, cadmium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, and zinc using a peristaltic pump equipped with new disposable C-Flex[®] tubing for each sample. Samples collected for analysis of dissolved metals, TDS, and sulfate were field filtered through a new, disposable 0.45-micron filter for each sample. Water Board staff collected all samples in clean, new sample containers provided by the contract laboratory. Sample containers used for metals analyses were pre-preserved with nitric acid. A duplicate sample and a field method blank were collected for each sampling event. Detailed sample collection and handling procedures and QA/QC protocols are described in the SWM SAP.

Basic Laboratory in Redding, CA, analyzed all surface water samples collected during 2008 water year.

4.4 Sampling Results From Surface Water Monitoring

4.4.1 Monitoring Objectives

The monitoring objectives of the SWM program, as outlined in the SWM SAP, were to collect data of sufficient quality to:

- Identify the chemical characteristics of the various surface waters in the vicinity of Leviathan Mine, including AMD sources and creek waters.
- Monitor flows of AMD discharges and selected creeks.
- Track the impacts of remediation projects on downstream surface waters.

- Identify seasonal and annual variations in the chemical characteristics and field parameters of surface waters in the vicinity of Leviathan Mine.
- Calculate the loading of metals to the downstream surface waters from the various discharges at Leviathan Mine.

4.4.2 Data Quality Evaluation and Summary

Surface water data collected for this water year is summarized in the Appendix B, *Data Summary for 2008 Surface Water Monitoring*. The analytical results of the surface water monitoring sampling, along with any qualifiers, are presented in Tables B-14 to B-26. The tables also show the field data measurements collected by Water Board staff at the time of sampling, including pH, temperature, electrical conductivity, and specific conductance.

As part of the Site QA/QC process, Water Board staff reviewed the data quality of the SWM laboratory reports. Laboratory-assigned data qualifiers are presented with the SWM data in Tables B-14 through B-25. Water Board staff's data review included evaluation of sample holding times, an assessment of precision, and an assessment of anomalous data.

In 2008, Water Board staff assigned a data qualifier of "*" for data that did not meet our field duplicate assessment, and an "A" qualifier for anomalous data. Explanations of the Water Board staff-assigned data qualifiers are summarized in Table B-26, and are also included in Tables B-14 through B-25.

Water Board staff assessed the data to confirm that holding times were met. All samples analyzed for TDS for the September 2008 event were initially run within holding time. However, the laboratory observed that the Laboratory Control Sample (LCS) recovery was biased high. Therefore, they re-analyzed all of the TDS samples outside the 7-day holding time. The re-analyzed results met laboratory QA/QC requirements and were reported with an "I-04" qualifier to denote the holding time had expired. Re-analysis for one sulfate sample from September 2008 sampling event was requested by the water board and performed outside the 28-day holding time. This result was also reported using the I-04 qualifier. No other holding times were exceeded for the surface water samples collected during the 2008 field season.

An evaluation of the completeness of the required sample collection shows that 138 samples were to be collected during the water-year (eleven stations to be sampled monthly and three stations to be sampled semi-annually). Two of the 12 sampling events (January and February 2008) were canceled due to insufficient time to procure over-snow transportation. The semi-annual monitoring station at 4L Creek (just above its confluence with Leviathan Creek) was not sampled during the October 2007 event as the creek had no flow at the time of sampling. All other stations and sampling events were conducted in accordance with the SWM SAP. In total, 115 of the planned 138 samples were collected. Of the 115 samples collected, none of the data were rejected.

Basic Laboratories completed Data Validation Checklists for all sample analytical reports. They are not included in this report but are available for viewing at the Water Board's South Lake Tahoe office. Appendix B, Attachment B-1 contains the SWM Data Validation Checklists for Field QC and Level A/B Screening Checklists completed by Water Board staff for each sampling event.

Water Board staff collected one field duplicate per sampling event as required in the SWM SAP. The RPD was calculated for the duplicate and corresponding sample as described in Section 3.4.3.

Data with RPD assessment results out of control limits were flagged with "*" qualifier in Appendix B, Tables B-14 to B-26. Out of 260 paired results, nine sets of sample and duplicate results were flagged for exceeding the control limits for RPD.

FMBs were also collected once per sampling event (10 total samples this Water Year) and submitted to Basic Laboratories for analysis of the same parameters evaluated in the surface water monitoring program. FMBs were collected and processed in the same method as surface water samples using the Water Board's in-house laboratory distilled de-ionized water for each blank.

Five metals were detected at low levels above the RL in the FMB samples that were collected as part of the SWM program:

- Dissolved iron was detected in three FMB samples at concentrations ranging from 0.012 to 0.020 mg/L. The reporting limit for iron was 0.010 mg/L.
- Total nickel was detected in one FMB sample at a concentration of 0.0018 mg/L. The reporting limit for nickel was 0.0012 mg/L.
- Total copper was detected in one FMB sample at a concentration of 0.0008 mg/L. The reporting limit for copper was 0.0006 mg/L.
- Total chromium was detected in six FMB samples at concentrations ranging from 0.0007 to 0.0027. Reporting limits for chromium ranged from 0.0006 to 0.001 mg/L.
- Total aluminum was detected in three FMB samples at a concentrations ranging from 0.0044 to 0.0078 mg/L. The reporting limit for aluminum was 0.0025 mg/L.

No data qualifiers were added by the Water Board based on FMB results.

4.4.3 Deviations from the SWM SAP

There were two deviations from the SWM SAP.

Basic Labs used their own data qualifiers rather than those identified in Table D-1 of the SAP. The qualifiers used are shown in Tables B-14 through B-25, and are included in the database files to be submitted to AR for inclusion in the Site-wide database.

The methods detailed in the SWM SAP for metals analysis are USEPA 6010 and 6020. Basic Labs used USEPA Method 200.8 rather than 6020 for selected metals analyses for the surface water samples. These are essentially equivalent methods that were developed by different branches of EPA but produce similar results and are run on the same instrumentation (ICP and ICP-MS). We are considering adding Methods 200.7 and 200.8 to the table of methods in the future SAP.

5. SITE MAINTENANCE

The Water Board conducted site maintenance work during the 2008 field season in accordance with the USEPA-approved Work Plan. Routine maintenance activities include repairing perimeter fencing, removing sediment from storm water ditches, covering exposed pond liners and minor road repair.

5.1 Repairing Perimeter Fencing

A barbed-wire fence surrounds the majority of the site. In June and July 2008, Water Board staff inspected and repaired the perimeter fence.

5.2 Storm Water Conveyance Clean-out

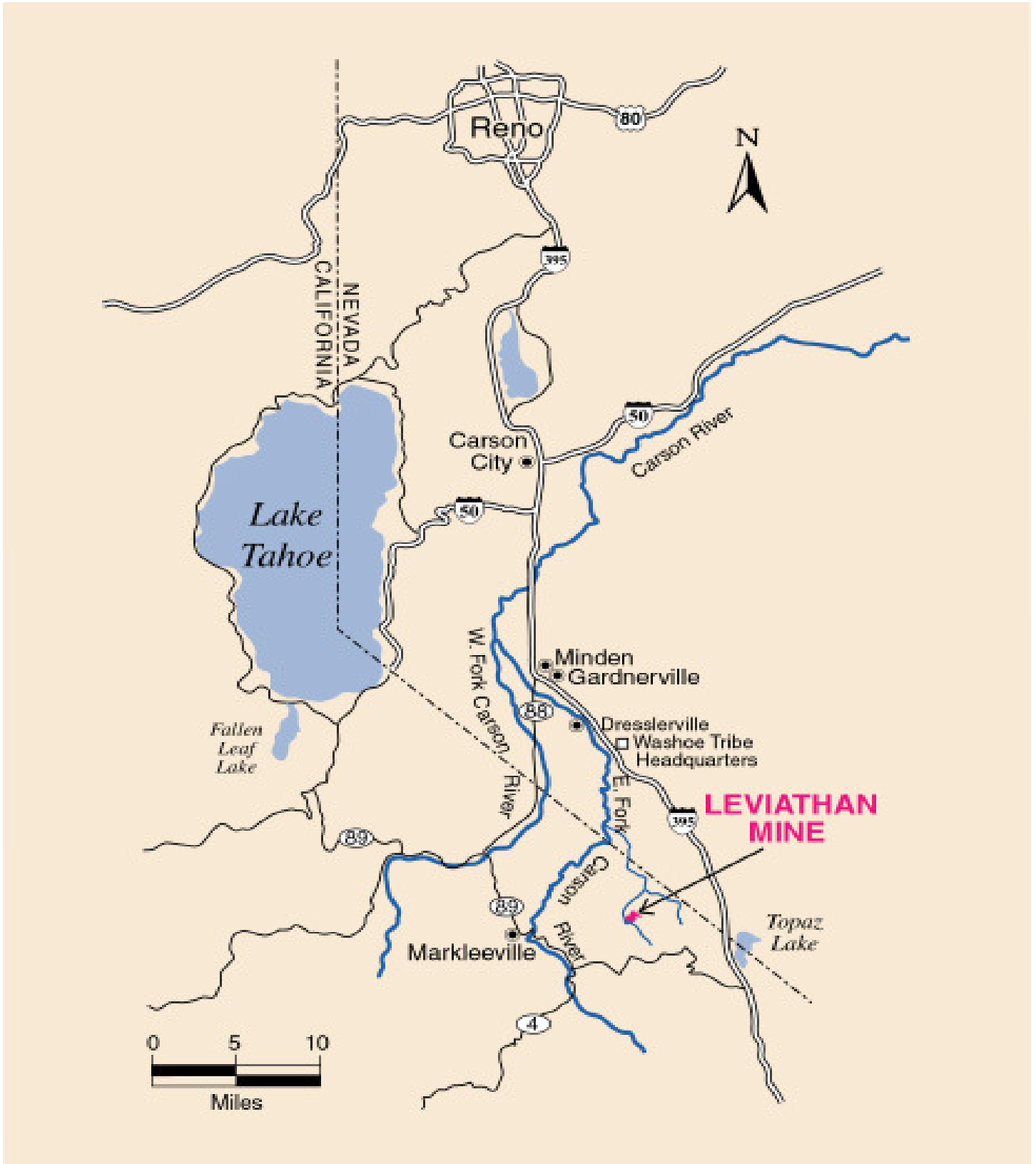
The Water Board contracted with Decon to remove accumulated sediment in the concrete-lined, storm water conveyance ditches across the site. Decon utilized a backhoe with a custom-made V-shaped bucket and a crew of hand laborers to accomplish the task. The ditches located in the Pit, around Ponds 1 and 3, and on the slopes below Ponds 2 South and 2 North were cleaned out. A total of 13,085 linear feet of ditches were cleaned. Sediment removed from the ditches was used to fill riling on the slopes adjacent to the ditches.

5.3 Covering Exposed Liner

Water Board staff visually inspected cover material around each pond and detected areas where earthen cover had eroded. Minor amounts of liner were exposed, and Water Board staff covered the exposed liner with material from storm water conveyances.

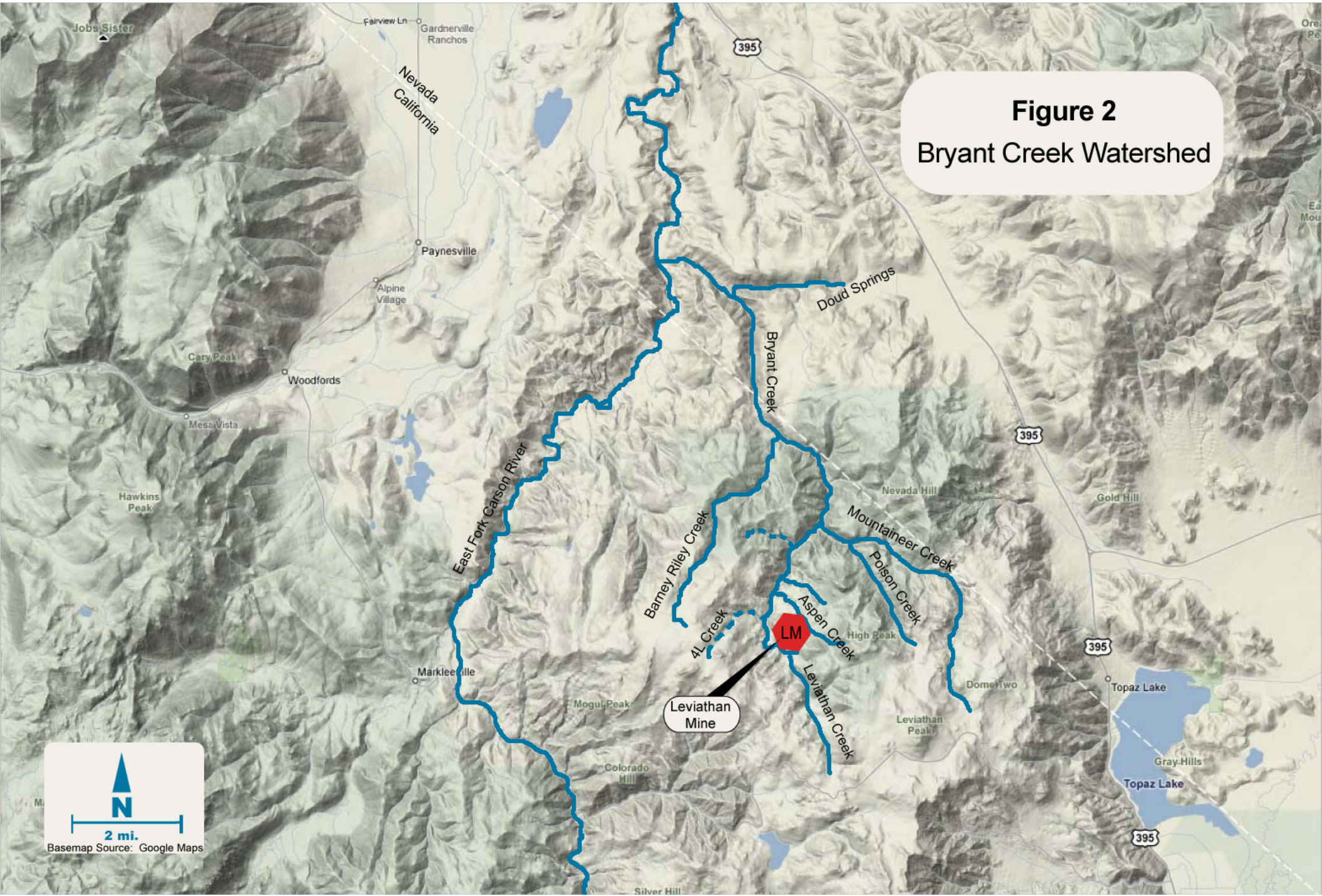
5.4 Invasive Plant Control

The El Dorado County, Department of Agriculture (EDCDA) visited Leviathan Mine and applied herbicide (Telar[®]) on invasive plants in September 2008. This year (2008), as in 2002 through 2007, the EDCDA sprayed to eradicate tall whitetop (*Lepidium latifolium*).



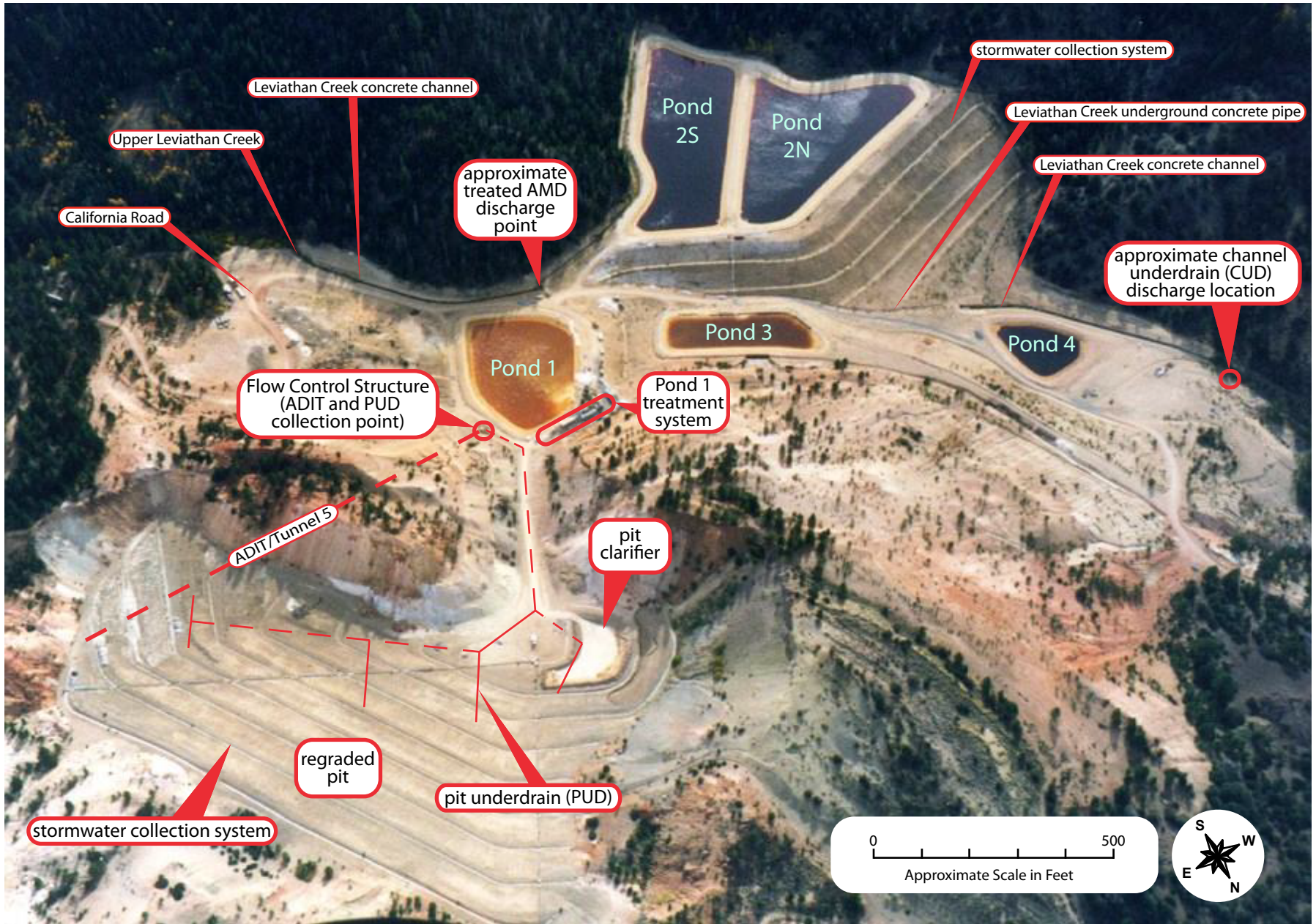
**FIGURE 1
SITE LOCATION**

Figure 2
Bryant Creek Watershed



Basemap Source: Google Maps

Figure 3
Lahontan RWQCB AMD Capture and Treatment System



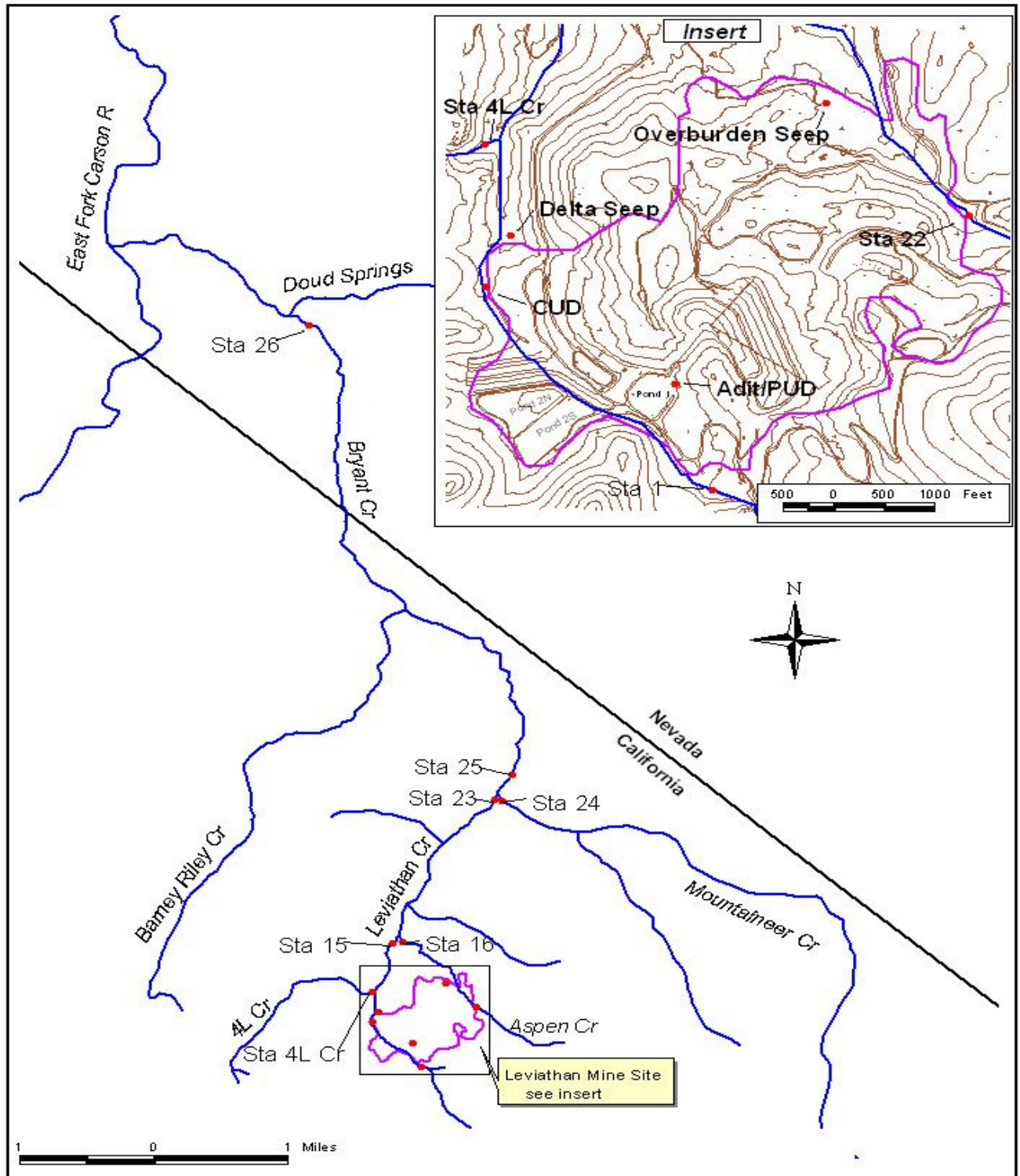


FIGURE 4
SURFACE WATER MONITORING LOCATIONS

TABLE 1
2008 DISCHARGE CRITERIA FOR POND WATER TREATMENT
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA

Water Quality Parameter	Maximum	Four Day Average
pH	--	Between 6.0 – 9.0 SU _{f2}
Arsenic	0.34 mg/L _{f1}	0.15 mg/L _{f4}
Aluminum	4.0 mg/L _{f1}	2.0 mg/L _{f4}
Cadmium	0.009 mg/L _{f1}	0.004mg/L _{f4}
Chromium	0.97 mg/L _{f1}	0.31 mg/L _{f4}
Copper	0.026 mg/L _{f1}	0.016 mg/L _{f4}
Iron	2.0 mg/L _{f1}	1.0 mg/L _{f4}
Lead	0.136 mg/L _{f1}	0.005 mg/L _{f4}
Nickel	0.84 mg/L _{f1}	0.094 mg/L _{f4}
Selenium (Total Recoverable)	Not Promulgated _{f3}	0.005 mg/L _{f4}
Zinc	0.21 mg/L _{f1}	0.21 mg/L _{f4}

Notes:

mg/L: milligrams per liter

f1: Dissolved concentration in a daily grab sample that has been field-filtered (0.45 micron) and acid fixed.

f2: pH measurement based on 24-hour average discharge.

f3: Total recoverable concentration in a daily grab sample that is acid fixed, but not filtered.

f4: The sum of the detected concentration in four daily grab samples, from four consecutive discharge days, divided by four. If the concentration detected by the laboratory is less than the detection limit, one-half of the detection limit shall be used in calculating the average concentration.

**TABLE 2
SUMMARY OF 2008 POND WATER TREATMENT MONITORING
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA**

SAMPLE LOCATION	LOCATION DESCRIPTION	ANALYSES	SCHEDULE	SAMPLER
Influent	Sampling Port just prior to Reactor 1	pH and temperature (field)	daily	contractor
		EPA-Required Discharge Criteria ¹ with Additional Analytes ² ; pH and temperature (field)	weekly	Water Board staff
Mid Process	Reactor 1	pH and temperature (field)	every 2 hours	contractor
Mid Process	Reactor 2	pH and temperature (field)	every 2 hours	contractor
Mid Process	Influent to Pit Clarifier	pH and temperature (field)	every 2 hours	contractor
Effluent	Weir Box	pH and temperature (field)	every 2 hours	contractor
		EPA-Required Discharge Criteria; pH and temperature (field)	daily (during discharge)	Water Board staff
		EPA-Required Discharge Criteria with Additional Analytes ; pH and temperature (field)	weekly (during discharge)	Water Board staff
Duplicate Samples	Effluent samples at weir box; assesses laboratory precision	EPA-Required Discharge Criteria	weekly (during discharge)	Water Board staff
Field Method Blank	tests sampling procedure and equipment	EPA-Required Discharge Criteria	weekly (during discharge)	Water Board staff
Sludge	Pit Clarifier	CAM-17 ³ metals plus Al and Fe (for comparison with STLC and TTLC) ⁴	three composite samples collected after treatment season	Water Board staff

Notes:

1. Dissolved As, Al, Cd, Cr, Cu, Fe, Pb, Ni, Zn, total recoverable Se (off-site laboratory); pH (field)
2. Ca, Co, Mg, Mn, TDS, sulfate (off-site laboratory analysis)
3. CAM-17 metals: Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, Zn (off-site laboratory analysis)
4. STLC is the Soluble Threshold Limit Concentration and TTLC is the Total Threshold Limit Concentration.

TABLE 3
SUMMARY OF SURFACE WATER STAGE AND FLOW MONITORING
LOCATIONS
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA

Station Location/Description	Equipment	USGS Startup Date
Leviathan Creek above the mine (Station 1)	Continuous stage/flow recorder and appurtenances, solar power supply.	October-98
Pit Under-Drain at the flow control structure (PUD)	Continuous stage/flow recorder and appurtenances, solar power supply, telemetry.	October-99
Audit at the flow control Structure (Adit)	Continuous stage/flow recorder and appurtenances, solar power supply, telemetry.	October-99
Pond 1 Stage	Continuous stage recorder and appurtenances, solar power supply, telemetry.	October-99
Pond 4 Stage	Continuous stage recorder and appurtenances, solar power supply, telemetry.	October-99
Channel Under-Drain (CUD)	Continuous stage/flow recorder and appurtenances, solar power supply, telemetry.	October-99
Aspen Creek above the mine (Station 22)	Continuous stage/flow recorder and appurtenances, solar power supply.	October-09
4L Creek above its confluence with Leviathan Creek (4L Creek)	Continuous stage/flow recorder and appurtenances, solar power supply.	October-09
Leviathan Creek above its confluence with Aspen Creek (Station 15)	Continuous stage/flow recorder and appurtenances, solar power supply, telemetry.	October-98
Aspen Creek above its confluence with Leviathan Creek (Station 16)	None. Monthly flow measurements to establish relationship w/STA 15.	October-98
Overburden (Aspen) Seep, above the Bioreactors (OS)	Continuous stage/flow recorder and appurtenances, solar power supply.	October-98
Bryant Creek just below the confluence of Mountaineer and Leviathan Creeks (Station 25)	Continuous stage/flow recorder and appurtenances, solar power supply.	October-98
Leviathan Creek just above the confluence of Mountaineer and Leviathan Creeks (Station 23)	Continuous stage/flow recorder and appurtenances, solar power supply	November-99
Mountaineer Creek just above the confluence of Leviathan and Mountaineer Creeks (Station 24)	None. Monthly flow measurements to establish relationship w/STA 23.	December-99
Bryant Creek just above confluence with Doud Springs (Station 26)	Continuous stage/flow recorder and appurtenances, solar power supply	August-01

TABLE 4
SURFACE WATER QUALITY MONITORING STATIONS
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA

Station Identification	Site Description	Sampling Frequency
Station 1	Leviathan Creek above Leviathan Mine.	Monthly
Adit	Drainage from Tunnel #5 (the Adit), prior to entering evaporation ponds.	Monthly
Pit Under-Drain (PUD)	Drainage from shallow ground water collection pipes in pit, prior to entering evaporation ponds.	Monthly
Channel Under-Drain (CUD)	Discharge from Channel Under-Drain below Leviathan Creek concrete channel.	Monthly
Delta Seep (DS)	Seepage from the toe of the Delta Slope, located north of Pond 4.	Semi-annual
Station 15	Leviathan Creek, above the confluence of Leviathan and Aspen creeks.	Monthly
Station 16	Aspen Creek, above the confluence of Leviathan and Aspen creeks.	Monthly
4L Creek	4L Creek, just above the confluence of Leviathan Creek.	Semi-annual
Station 22	Aspen Creek above Leviathan Mine.	Monthly
Overburden Seep (OS)	Overburden seepage (a.k.a. Aspen Seep), above the bioreactors.	Monthly
Station 23	Leviathan Creek above the confluence of Leviathan and Mountaineer creeks.	Monthly
Station 24	Mountaineer above the confluence of Leviathan and Mountaineer creeks.	Monthly
Station 25	Bryant Creek below the confluence of Leviathan and Mountaineer creeks.	Monthly
Station 26	Bryant Creek above the confluence of Doud Springs and Bryant Creek.	Semi-annual

Laboratory Analytical and Field Monitoring Parameters for all Stations:

1. Laboratory: Total and Dissolved Metals (aluminum, arsenic, calcium, cadmium, cobalt, chromium, copper, iron, magnesium, manganese, nickel, zinc)
2. Laboratory: Total Dissolved Solids (TDS)
3. Laboratory: Sulfate
4. Field: pH, temperature, electrical conductivity, and specific conductance

Appendix A

Data Summary for 2008 Pond Water Treatment

**Table A-1
2008 Pond Water Treatment Effluent Field and Analytical Results**

Sample Description	Sample Date	Sample ID	pH (SU)	Temp. (°C)	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Pb	Q	Se	Q	SO4	Q	TDS	Q	Zn	Q
USEPA Daily Max Discharge Criteria:					6-9	n/a	4.000	0.340		n/a	0.009		n/a	0.970	0.026		2.000		n/a		n/a		0.840	0.136		n/a		n/a		n/a		n/a		0.210		
Pre-Discharge	07/22/2008	089PWT001	8.3		1.69	QM-4X	0.0079	QM-07			0.00047			0.0014		0.0023		0.009	J, QR-04					0.0392	QM-07	0.0001	U	0.0041	QM-07					0.0057		
Pre-Discharge	07/23/2008	089PWT002	8.1	28.1	2.90	QM-4X	0.0087	QM-07			0.00039			0.0037		0.0018		0.014						0.0269		0.0001	U	0.0039	QM-07					0.0050		
Pre-Discharge	07/24/2008	089PWT003	7.3	29.1	0.259						0.00042			0.0107		0.0023		0.009	J					0.0293		0.0001	QM-07, U	0.0047	QM-07					0.0050		
PWT Effluent	07/25/2008	089PWT004	7.0	18.3	0.0576		0.0066				0.00020	J, QR-04		0.0053		0.0012		0.003	J, QR-04					0.0177		0.0001	U	0.0050	QM-07					0.0045		
PWT Effluent	07/28/2008	089PWT005	7.1	17.2	0.0515		0.0078		742		0.00032	QR-04	0.0020	0.0056		0.0010		0.003	QR-04, U		57		0.195		0.0174		0.0001	U	0.0050	QM-07	2170	3160		0.0057		
PWT Effluent	07/30/2008	089PWT007	7.3	16.2	0.0845		0.0089				0.00016	J, QR-04		0.0037		0.0011		0.053						0.0259		0.0001	U	0.0047	QM-07					0.0050		
PWT Effluent-Dup	07/30/2008	089PWT008	7.3	16.2	0.0852		0.0093				0.00026	QR-04		0.0041		0.0011		0.055						0.0260		0.0001	U	0.0046	QM-07					0.0063		
PWT Effluent	07/31/2008	089PWT010	7.3	16.2	0.119		0.0110	QM-07			0.00065			0.0027		0.0011		0.016						0.0233		0.0001	U	0.0050	QM-07					0.0044		
PWT Effluent	08/01/2008	089PWT011	7.4	17.3	0.222		0.0111				0.00017	J, QR-04		0.0023		0.0009		0.013						0.0191		0.0001	U	0.0048	QM-07					0.0059	QR-04	
PWT Effluent	08/04/2008	089PWT012	7.1	17.4	0.0549		0.0104		750		0.00027		0.0020	0.0027		0.0020		0.018			52		0.204		0.0198		0.0001	U	0.0057	QM-07	2170	2950		0.0067	QR-04	
PWT Effluent	08/05/2008	089PWT014	7.0	19.1	0.0565		0.0114	QM-07			0.00021	J		0.0018		0.0011		0.009	J					0.0204		0.0001	U	0.0061	QM-07					0.0043	QR-04	
PWT Effluent-Dup	08/05/2008	089PWT015	7.0	19.1	0.0568		0.0118	QM-07			0.00027			0.0020		0.0009		0.014						0.0211		0.0001	U	0.0062	QM-07					0.0058	QR-04	
PWT Effluent	08/06/2008	089PWT019	6.9	19.6	0.0564		0.0096				0.00021	J		0.0022		0.0012		0.021						0.0212		0.0001	U	0.0059	QM-07					0.0045		
PWT Effluent	08/07/2008	089PWT020	6.9	19.9	0.0471		0.0093				0.00015	J, QR-04		0.0016		0.0008		0.015	QR-04					0.0230		0.0001	U	0.0057	QM-07					0.0061		
PWT Effluent	08/08/2008	089PWT021	6.9	17.4	0.0485		0.0100				0.00034			0.0021		0.0008		0.006	J, QR-04					0.0161		0.0001	U	0.0063	QM-07					0.0083		
PWT Effluent	08/11/2008	089PWT022	6.8	18.7	0.0203		0.0085		624		0.00037		0.0020	0.0018		0.0010		0.007	J, QR-04		57		0.268		0.0151		0.0001	U	0.0065	QM-07	1760	2650		0.0073		
PWT Effluent	08/12/2008	089PWT024	6.8	18.9	0.0348		0.0098				0.00017	J		0.0020		0.0010	QR-04	0.016						0.0266		0.0001	U	0.0071	QM-07					0.0063		
PWT Effluent	08/13/2008	089PWT026	7.0	17.0	0.0380		0.0104				0.00017	J		0.0017		0.0009	QR-04	0.014						0.0266		0.0001	U	0.0074	QM-07					0.0069		
PWT Effluent-Dup	08/13/2008	089PWT027	7.0	17.0	0.0357		0.0101				0.00022	J		0.0018		0.0010	QR-04	0.013						0.0286		0.0002	U	0.0077	QM-07					0.0082		
PWT Effluent	08/14/2008	089PWT028	6.9	17.4	0.0370		0.0098				0.00025	J		0.0017		0.0010	QR-04	0.018						0.0284		0.0002	U	0.0075	QM-07					0.0082		
PWT Effluent	08/15/2008	089PWT029	6.9	18.6	0.0393		0.0099				0.00021	J		0.0019		0.0012		0.028						0.0242		0.0001	U	0.0078	QM-05					0.0057		
PWT Effluent	08/18/2008	089PWT030	6.9	17.2	0.0147		0.0094		667		0.00022	J	0.0020	0.0018		0.0013		0.026			62		0.236		0.0224		0.0001	U	0.0077	QM-05	1610	2580		0.0059		
PWT Effluent	08/19/2008	089PWT032	6.9	16.6	0.0100		0.0095				0.00022	J		0.0018		0.0013		0.024						0.0278		0.0001	U	0.0078	QM-05					0.0060		
PWT Effluent	08/20/2008	089PWT034	6.9	16.8	0.0093	J	0.0094				0.00026			0.0017		0.0012		0.026						0.0303		0.0001	U	0.0079	QM-05					0.0067		
PWT Effluent	08/21/2008	089PWT035	6.9	15.8	0.0089	J	0.0090				0.00027			0.0016		0.0012		0.028						0.0314		0.0001	U	0.0079	QM-05					0.0070		
PWT Effluent-Dup	08/21/2008	089PWT036	6.9	15.8	0.0086	J	0.0092				0.00025			0.0016		0.0011		0.028						0.0316		0.0001	U	0.0082	QM-05					0.0072		
PWT Effluent	08/22/2008	089PWT037	6.9	16.6	0.0088	J	0.0099				0.00026			0.0016		0.0012		0.036						0.0311		0.0001	U	0.0081	QM-05					0.0072		
PWT Effluent	08/25/2008	089PWT038	7.0	17.7	0.0111		0.0103		604		0.00033		0.0037	0.0012		0.0016		0.027			59		0.615		0.0308		0.0001	U	0.0069	QM-05	1420	2600		0.0070		
PWT Effluent-Dup	08/25/2008	089PWT040	7.0	17.7	0.0089	J	0.0099		606		0.00033		0.0039	0.0011		0.0016		0.030			59		0.6000		0.0303		0.0001	U	0.0070	QM-05	1450	2580		0.0071		
PWT Effluent	08/26/2008	089PWT041	6.9	15.3	0.0084	J	0.0118				0.00027			0.0015		0.0014		0.030						0.0308		0.0001	U	0.0079	QM-05					0.0073		
PWT Effluent	08/27/2008	089PWT042	6.9	16.4	0.0081		0.0104				0.00023	J		0.0011		0.0010		0.016						0.0236		0.0001	U	0.0068	QM-05					0.0049		
PWT Effluent	08/28/2008	089PWT044	6.9	17.2	0.0079		0.0117				0.00025			0.0010		0.0010		0.020						0.0241		0.0001	U	0.0070	QM-05					0.0054		
PWT Effluent	08/29/2008	089PWT045	6.9	17.3	0.0090		0.0129				0.00025			0.0010		0.0010		0.024						0.0238		0.0001	U	0.0068	QM-05					0.0056		
PWT Effluent	09/03/2008	089PWT046	7.0	15.7	0.0077		0.0128		562		0.00036		0.0029	0.0007		0.0016		0.024			65		0.889	QM-4X	0.0249		0.0001	U	0.0048	QM-05	1780	2710		0.0055		
PWT Effluent-Dup	09/03/2008	089PWT048	7.0	15.6	0.0078		0.0128		562		0.00037		0.0029	0.0007		0.0016		0.024			66		0.887	QM-4X	0.0252		0.0001	U	0.0046	QM-05	1920	2360		0.0057		
PWT Effluent	09/04/2008	089PWT050	6.9	15.1	0.0082		0.0115				0.00029			0.0009		0.0015		0.031						0.0261		0.0001	U	0.0060	QM-05					0.0056		
PWT Effluent	09/05/2008	089PWT051	6.9	15.1	0.0083		0.0108				0.00037			0.0010		0.0013		0.018						0.0263		0.0001	U	0.0058	QM-05					0.0060		
PWT Effluent	09/08/2008	089PWT052	6.9	15.2	0.0080		0.0107		550		0.00047		0.0029	0.0007		0.0015		0.018			72		0.866	QM-4X	0.0271		0.0001	U	0.0038	QM-05	1340	2440		0.0059		
PWT Effluent	09/09/2008	089PWT054	6.9	15.0	0.0083		0.0107				0.00041			0.0010		0.0013		0.020						0.0259		0.0001	U	0.0057	QM-05					0.0060		
PWT Effluent	09/10/2008	089PWT056	7.0	14.6	0.0090		0.0105				0.00037			0.0011		0.0012		0.018						0.0266		0.0001	U	0.0053	QM-05					0.0059		
PWT Effluent	09/11/2008	089PWT057	7.0	14.5	0.0095		0.0102				0.00035			0.0013		0.0012		0.021						0.0262		0.0001	U	0.0051	QM-05					0.0061		
PWT Effluent	09/12/2008	089PWT058	6.9	14.1	0.0086		0.0097				0.00030			0.0012		0.0011		0.020						0.0266		0.0001	U	0.0053	QM-05					0.0061		
PWT Effluent	09/15/2008	089PWT059	7.0	14.3	0.0095		0.0109		548		0.00039		0.0026	0.0010		0.0013		0.019			65		0.648	QM-4X	0.0265		0.0001	U	0.0040	QM-05	1680	2090		0.0061		
PWT Effluent	09/16/2008	089PWT061																																		

**Table A-2
2008 Pond Water Treatment Influent Field and Analytical Results**

Sample Description	Sample Date	Sample ID	pH	Temp	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Pb	Q	Se	Q	SO4	Q	TDS	Q	Zn	Q
PWT Influent	07/28/2008	089PWT006	2.6	20.4	494	QM-4X	4.44		487		0.0630		3.21		0.990		2.08	QM-4X	449		70		14.4		8.05		0.035	J, R-08	0.022	J, QR-04, R-08	7920		8270		1.52	
PWT Influent	08/04/2008	089PWT013	2.5	19.7	564	QM-4X	6.29		410		0.0751		3.60		1.44		2.54		622	QM-4X	78		16.1	QM-4X	8.98		0.038	J, R-08	0.015	R-08, U	7840		9070	Z-01	1.72	
PWT Influent	08/11/2008	089PWT023	2.4	20.6	654		6.91		438		0.0869		3.99		1.73		3.08	QR-04	726		91		18.2	QM-4X	10.3		0.045	J	0.003	QR-04, U	10300	A	5620	A	1.94	
PWT Influent	08/18/2008	089PWT031	2.5	20.2	666		7.51		444		0.0801		4.01		1.75		3.08	QR-04	750		92		18.3		10.4		0.046	J	0.015	U, R-08	12400	A	9100	A	1.95	
PWT Influent	08/25/2008	089PWT039	2.6	19.7	689		7.57		427		0.0727		4.08		1.69		3.11	QM-4X	748	QM-4X	90		18.4	QM-4X	10.3		0.046	J, R-08	0.015	R-08, U	12800		10700		1.94	QM-4X
PWT Influent	09/03/2008	089PWT047	2.6	11.8	681		5.31		460		0.0712		4.05		1.56		2.98	QM-4X	670	QM-4X	92		18.3	QM-4X	10.2		0.041	J, R-08	0.015	U, R-08	9880		11500		1.93	QM-4X
PWT Influent	09/08/2008	089PWT053	2.7	12.5	592		3.16		487		0.0721		3.76		1.32		2.60		523		87		17.4		9.36		0.034	J, R-08	0.015	R-08, U	9800		8650		1.83	
PWT Influent	09/15/2008	089PWT060	2.8	21.5	472		3.18		399		0.0568		3.07		0.974		1.84		492		72		14.7		7.71		0.030	J, R-08	0.015	R-08, U	6310		6690		1.51	

Notes:

All values reported in milligrams/liter (mg/L), except pH and temperature which are in Standard Units and degrees Celsius, respectively.
All parameters are dissolved, except Selenium, which is total recoverable.

Qualifiers:

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Reporting Limit

QM-4X: The spike recovery was outside acceptance limits for the MS and/or MSD due to analyte concentration being greater than 4 times the spike concentration. The batch was accepted based on acceptable LCS and/or LCSD recovery.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

R-08: Sample was diluted due to sample matrix resulting in elevated reporting limits.

Z-01: The final residue weight exceeded the method limit of 0.2000 grams (0.2720 grams was the final weight) using only 30 milliliter of sample for the TDS analysis. Reanalysis with a smaller sample volume was not performed due to 24-hour turn around time requested.

A: Anomalous value, see Table A-9 for further description.

Table A-3
2008 Pond Water Treatment Effluent 4-Day Average Concentrations

Sample Description	Sample Dates	Al	As	Cd	Cr	Cu	Fe	Ni	Pb	Se	Zn
4-Day Average Discharge Criteria		2.000	0.150	0.004	0.310	0.016	1.000	0.094	0.005	0.005	0.210
PWT Effluent	08/04-07/2008	0.05373	0.01018	0.00021	0.00208	0.00128	0.01575	0.0211	0.00005	0.00585	0.0054
PWT Effluent	08/05-08/2008	0.05213	0.01008	0.00023	0.00193	0.00098	0.01275	0.02018	0.00005	0.006	0.0058
PWT Effluent	08/11-14/2008	0.03253	0.00963	0.00024	0.0018	0.00098	0.01375	0.02418	0.00006	0.00713	0.00718
PWT Effluent	08/12-15/2008	0.03728	0.00998	0.0002	0.00183	0.00103	0.019	0.02645	0.00006	0.00745	0.00678
PWT Effluent	08/18-21/2008	0.01073	0.00933	0.00024	0.00173	0.00125	0.026	0.02798	0.00005	0.00783	0.0064
PWT Effluent	08/19-22/2008	0.00925	0.00945	0.00025	0.00168	0.00123	0.0285	0.03015	0.00005	0.00793	0.00673
PWT Effluent	08/25-28/2008	0.00888	0.01105	0.00027	0.0012	0.00125	0.02325	0.02733	0.00005	0.00715	0.00615
PWT Effluent	08/26-29/2008	0.00835	0.01170	0.00025	0.00115	0.0011	0.0225	0.02558	0.00005	0.00713	0.0058
PWT Effluent	09/08-11/2008	0.00870	0.01053	0.0004	0.00103	0.0013	0.01925	0.02645	0.00005	0.00498	0.00598
PWT Effluent	09/09-12/2008	0.00885	0.01028	0.00036	0.00115	0.0012	0.01975	0.02633	0.00005	0.00535	0.00603
PWT Effluent	09/15-18/2008	0.01085	0.00973	0.00029	0.00093	0.00115	0.01975	0.02688	0.00008	0.0043	0.00745
PWT Effluent	09/16-19/2008	0.01483	0.00963	0.00026	0.00088	0.0012	0.01925	0.0277	0.00009	0.0042	0.0086

Notes:

All values reported in milligrams/liter (mg/L).

All parameters and Discharge Criteria are dissolved, except Selenium which is total recoverable.

For results reported as non-detect, half the value of the Method Detection Limit was used to calculate the average.

Bold indicates 4-Day average concentration is above the Discharge Criteria.

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent Flow Rate	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge	
			pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
7/22/08	13:30	162	--	--	--	--	--	--	8.3	--	--	--	--	--
7/22/08	15:00	162	--	--	--	--	--	--	8.4	--	--	--	--	--
7/22/08	17:00	161	--	--	--	--	--	--	8.3	--	--	--	--	--
7/23/08	8:30	162	--	--	--	--	--	--	8.4	--	--	--	--	--
7/23/08	10:00	162	--	--	--	--	--	--	8.3	--	--	--	--	--
7/23/08	12:30	162	--	--	--	--	--	--	8.4	--	--	--	--	--
7/23/08	15:00	162	--	--	--	--	--	--	8.3	--	--	--	--	--
7/23/08	17:00	162	--	--	--	--	--	--	8.5	--	--	--	--	--
7/23/08	19:00	162	--	--	--	--	--	--	8.3	--	--	--	--	--
7/24/08	10:00	162	--	--	--	--	--	--	8.3	--	--	--	--	--
7/24/08	11:30	162	--	--	4.8	27.1	8.6	--	8.6	19.1	--	--	--	--
7/24/08	13:30	162	--	--	4.5	22.6	8.3	18.9	8.5	19.4	--	--	--	--
7/24/08	15:00	161	--	--	8.7	27.9	8.2	19.6	8.3	20.5	--	--	--	--
7/24/08	17:00	162	--	--	8.0	29.6	8.4	21.0	8.5	21.7	--	--	--	--
7/24/08	18:30	160	--	--	4.5	26.0	8.2	22.9	8.4	23.1	--	--	--	--
7/25/08	7:00	161	--	--	3.8	24.3	5.6	20.0	6.3	16.7	--	--	--	--
7/25/08	8:00	--	--	--	7.1	17.6	8.5	19.8	8.3	21.3	--	--	--	--
7/25/08	9:00	--	--	--	7.7	17.1	8.1	18.8	8.3	20.8	8.0	--	--	--
7/25/08	10:00	160	--	--	8.5	16.2	8.2	19.1	8.3	19.3	8.0	21.0	--	--
7/25/08	12:00	162	--	--	7.1	22.3	8.4	19.5	8.2	17.3	8.0	19.9	7.5	17.8
7/25/08	13:00	--	--	--	8.4	28.5	8.5	16.1	8.6	17.6	--	--	--	--
7/25/08	14:00	162	--	--	5.2	11.2	8.4	19.0	8.4	19.7	8.1	21.5	7.3	20.7
7/25/08	15:00	--	--	--	6.6	21.0	8.5	18.9	8.5	21.3	--	--	--	--
7/25/08	16:00	160	--	--	7.6	--	8.4	22.1	8.4	21.5	8.2	21.7	6.8	21.6
7/25/08	17:00	--	--	--	7.9	24.1	8.7	19.7	8.2	21.9	--	--	--	--
7/25/08	18:00	--	--	--	7.9	22.1	8.6	21.0	8.5	22.7	8.5	21.8	7.0	22.4
7/25/08	19:30	--	--	--	3.4	20.0	5.2	22.3	5.9	24.0	--	--	--	--
7/28/08	6:00	--	--	--	3.5	15.7	5.8	19.9	6.3	19.5	--	--	--	--
7/28/08	8:00	161	--	--	8.9	12.9	9.1	18.3	8.2	21.3	8.1	15.3	7.0	16.8
7/28/08	9:00	--	--	--	8.0	21.7	9.0	19.7	8.9	21.6	--	--	--	--
7/28/08	10:00	161	--	--	7.6	18.9	8.8	19.2	8.8	19.9	8.9	18.5	7.5	15.8
7/28/08	11:00	162	--	--	5.2	20.2	8.4	18.1	8.4	18.0	--	--	--	--
7/28/08	12:00	155	--	--	5.8	18.8	8.4	18.1	8.3	18.7	8.3	17.9	7.2	17.2
7/28/08	14:30	160	--	--	4.0	--	8.3	20.2	8.0	20.3	8.4	25.0	7.5	19.7
7/28/08	16:00	162	--	--	4.8	--	8.8	24.4	8.8	22.3	8.1	21.7	7.2	21.0
7/28/08	18:00	--	--	--	7.3	--	9.0	23.0	8.9	25.0	9.1	21.9	7.3	20.9
7/28/08	19:00	--	--	--	6.5	26.9	8.4	22.4	8.6	25.6	--	--	--	--
7/28/08	20:00	--	--	--	6.3	23.8	8.3	24.5	8.2	25.2	8.5	20.9	7.3	20.2
7/28/08	21:00	--	--	--	3.5	19.7	7.3	24.1	8.1	26.2	--	--	--	--
7/28/08	22:00	--	--	--	3.3	23.8	5.6	29.6	6.6	--	--	--	--	--
7/29/08	10:30	161	--	--	3.8	--	8.4	18.1	8.2	21.9	8.0	19.3	--	--
7/29/08	11:00	--	--	--	4.4	--	8.5	19.1	8.2	21.0	--	--	--	--
7/29/08	12:00	160	--	--	7.8	17.4	8.4	18.1	8.4	19.7	8.4	19.0	--	--
7/29/08	13:00	--	--	--	7.7	19.7	8.6	19.7	8.6	19.5	--	--	--	--
7/29/08	15:00	160	--	--	7.7	--	8.6	19.1	8.5	21.5	--	--	--	--
7/29/08	16:00	160	--	--	7.1	--	8.6	18.9	8.4	22.6	8.5	21.4	--	--
7/29/08	17:00	160	--	--	7.7	--	8.9	20.2	8.5	23.5	--	--	--	--
7/29/08	18:00	--	--	--	4.3	26.9	8.3	23.3	8.4	26.4	8.6	20.9	--	--
7/29/08	19:00	164	--	--	7.8	22.4	8.3	19.9	8.3	24.6	--	--	--	--
7/29/08	20:00	--	--	--	4.3	26.9	8.3	23.3	8.4	26.4	8.6	20.7	--	--
7/29/08	21:30	--	--	--	4.1	22.7	4.4	21.9	4.6	24.3	--	--	--	--
7/30/08	7:00	160	--	--	2.8	17.1	4.5	19.7	4.9	20.5	--	--	--	--
7/30/08	8:00	--	--	--	4.2	--	8.6	22.6	8.3	26.4	--	--	--	--
7/30/08	9:00	160	--	--	4.7	26.7	8.5	17.6	8.5	20.1	8.5	17.9	7.2	16.0
7/30/08	10:00	161	--	--	4.6	--	8.6	19.9	8.2	22.2	--	--	--	--
7/30/08	11:00	--	--	--	4.5	--	8.5	19.7	8.3	25.1	8.3	17.6	7.4	17.0
7/30/08	13:00	--	--	--	4.3	--	8.2	19.0	8.2	19.0	8.2	18.9	7.3	18.7
7/30/08	14:00	160	--	--	8.3	--	8.4	19.6	8.4	21.1	--	--	--	--
7/30/08	14:30	--	2.5	19.9	--	--	--	--	--	--	--	--	--	--
7/30/08	15:00	160	--	--	6.0	18.0	8.6	18.6	8.4	20.6	--	--	--	--
7/30/08	16:00	160	--	--	6.5	21.0	8.5	17.7	8.3	21.4	--	--	--	--
7/30/08	17:00	--	--	--	4.7	16.9	8.4	17.9	8.4	22.0	8.4	22.3	6.9	21.3
7/30/08	18:00	160	--	--	6.6	22.1	8.4	20.2	8.4	22.8	--	--	--	--
7/30/08	19:00	--	--	--	6.6	23.0	8.7	21.5	8.3	23.6	8.5	21.4	7.0	21.2
7/30/08	21:00	--	--	--	2.9	22.4	4.2	21.1	4.9	37.0	--	--	7.0	20.3

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent Flow Rate	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge	
			pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
7/31/08	9:00	160	--	--	3.8	--	8.3	23.7	5.0	24.2	--	--	--	--
7/31/08	10:00	--	--	--	4.3	--	8.9	20.5	8.1	--	8.5	20.2	7.5	16.6
7/31/08	10:34	--	2.5	17.6	--	--	--	--	--	--	--	--	--	--
7/31/08	11:00	160	--	--	4.1	--	8.2	23.0	8.2	25.8	--	--	--	--
7/31/08	12:00	--	--	--	4.0	--	8.5	20.1	8.4	23.4	8.4	--	7.4	17.7
7/31/08	13:00	160	--	--	3.0	--	8.1	22.5	8.3	22.3	--	--	--	--
7/31/08	14:00	--	--	--	--	--	--	--	--	--	8.5	21.9	7.0	20.6
7/31/08	15:00	--	--	--	4.8	15.0	8.8	21.6	8.6	22.7	--	--	--	--
7/31/08	16:00	164	--	--	5.3	18.9	8.9	23.6	8.9	24.3	8.9	21.1	7.1	21.2
7/31/08	17:00	162	--	--	6.0	20.5	9.2	25.9	9.0	23.8	--	--	--	--
7/31/08	18:00	160	--	--	4.5	20.8	8.1	24.7	8.3	26.5	8.6	21.9	7.0	21.7
7/31/08	19:00	--	--	--	4.1	16.7	8.2	25.9	8.1	30.1	--	--	--	--
7/31/08	20:00	162	--	--	4.2	18.0	8.2	26.4	8.4	29.2	8.5	21.2	7.0	21.0
7/31/08	21:00	--	--	--	3.6	13.5	8.3	24.2	8.3	29.6	--	--	--	--
7/31/08	22:00	--	--	--	3.1	21.3	4.3	25.7	5.2	37.5	--	--	--	--
8/1/08	8:30	161	--	--	2.6	16.3	8.9	22.1	8.3	23.0	8.7	19.0	7.2	16.0
8/1/08	9:00	--	--	--	3.1	--	8.4	20.9	8.2	22.4	--	--	--	--
8/1/08	10:00	160	--	--	3.6	--	8.4	21.8	8.5	21.0	8.6	19.7	7.5	16.8
8/1/08	11:00	--	--	--	3.7	--	8.5	21.1	8.6	20.6	--	--	--	--
8/1/08	12:00	155	--	--	3.7	--	8.8	19.5	8.4	21.6	8.5	18.7	7.5	18.3
8/1/08	13:00	--	2.5	16.3	3.8	--	8.4	22.6	8.3	--	--	--	--	--
8/1/08	14:00	162	--	--	3.9	--	8.5	20.8	8.3	20.7	8.4	20.9	6.9	20.0
8/1/08	15:00	160	--	--	3.9	--	8.3	21.7	8.3	21.3	--	--	--	--
8/1/08	16:00	160	--	--	2.6	--	8.1	22.4	8.1	26.8	8.3	20.8	7.1	21.2
8/1/08	17:00	162	--	--	2.7	--	7.4	25.2	7.3	23.5	--	--	--	--
8/1/08	18:00	--	--	--	--	--	--	--	--	--	--	--	7.1	20.9
8/1/08	20:00	--	--	--	--	--	--	--	--	--	--	--	7.4	20.1
8/1/08	21:00	160	--	--	3.6	--	8.6	22.1	8.3	--	8.4	19.9	--	--
8/1/08	22:00	--	--	--	3.6	--	8.2	23.9	8.1	--	8.5	19.7	7.4	18.9
8/1/08	23:00	--	--	--	3.6	--	8.4	25.6	8.4	--	--	--	--	--
8/2/08	12:00	--	--	--	3.8	--	8.6	24.4	8.3	31.4	8.5	18.2	7.4	18.0
8/2/08	13:00	--	--	--	3.7	--	8.6	21.3	8.4	26.9	--	--	--	--
8/2/08	14:00	--	--	--	3.8	--	8.3	22.2	8.3	35.4	8.5	15.5	--	--
8/2/08	15:00	--	--	--	3.7	--	5.0	21.5	5.9	27.6	--	--	--	--
8/4/08	--	--	2.5	20.9	--	--	--	--	--	--	--	--	--	--
8/4/08	10:00	--	--	--	--	--	8.8	19.5	8.6	21.1	--	--	--	--
8/4/08	11:00	160	--	--	8.0	8.1	8.8	21.2	8.7	24.3	--	--	--	--
8/4/08	12:00	160	--	--	6.8	17.2	8.5	21.7	8.4	33.7	8.6	21.0	7.0	18.0
8/4/08	13:00	--	--	--	4.6	11.0	8.4	20.4	8.3	--	--	--	--	--
8/4/08	14:00	161	--	--	5.2	22.2	8.5	18.8	8.2	--	8.4	19.5	7.0	18.9
8/4/08	15:00	160	--	--	4.5	--	8.5	19.9	8.2	--	--	--	--	--
8/4/08	16:00	--	--	--	4.7	--	8.6	19.9	8.4	--	8.3	20.4	7.3	20.8
8/4/08	17:00	--	--	--	3.1	--	5.6	23.2	6.1	21.3	--	--	--	--
8/5/08	8:00	165	--	--	3.6	--	9.1	21.9	6.1	--	--	--	--	--
8/5/08	9:00	162	--	--	4.1	--	8.4	21.9	8.5	--	--	--	--	--
8/5/08	10:00	--	--	--	6.3	--	8.3	24.6	8.4	24.1	8.4	19.9	7.1	17.8
8/5/08	11:00	161	--	--	7.8	--	8.4	21.0	8.3	21.8	--	--	--	--
8/5/08	11:18	--	2.5	17.9	--	--	--	--	--	--	--	--	--	--
8/5/08	12:00	--	--	--	7.7	--	8.6	20.2	8.7	23.9	8.4	19.2	7.1	18.4
8/5/08	13:00	161	--	--	6.6	--	8.1	20.1	8.1	28.1	--	--	--	--
8/5/08	14:30	--	--	--	6.6	--	8.5	22.9	8.1	27.7	8.2	21.3	7.2	19.7
8/5/08	15:00	--	--	--	6.1	21.9	8.3	22.6	8.4	28.4	--	--	--	--
8/5/08	16:00	162	--	--	7.0	--	8.9	25.6	8.5	28.8	8.4	21.7	7.2	20.7
8/5/08	17:00	--	--	--	7.7	--	8.2	22.6	8.2	28.8	--	--	--	--
8/5/08	18:00	161	--	--	7.0	--	8.2	21.6	8.3	17.9	8.3	20.8	7.3	20.9
8/6/08	--	--	2.5	22.5	--	--	--	--	--	--	--	--	--	--
8/6/08	9:30	170	--	--	6.3	--	8.8	20.9	8.3	16.2	--	--	--	--
8/6/08	10:00	--	--	--	6.2	--	8.3	24.5	8.2	16.6	7.7	19.7	7.1	17.8
8/6/08	11:00	--	--	--	4.6	--	8.5	19.1	8.4	13.7	--	--	--	--
8/6/08	12:00	160	--	--	6.1	--	8.3	21.3	8.5	13.7	8.4	19.7	7.1	18.7
8/6/08	13:00	--	--	--	5.8	18.6	8.5	22.2	8.4	13.9	--	--	--	--
8/6/08	14:00	--	--	--	--	--	--	--	8.4	15.0	8.3	20.8	7.2	20.3
8/6/08	15:00	--	--	--	3.5	--	8.3	22.8	8.4	15.0	--	--	--	--
8/6/08	16:00	--	--	--	3.6	--	8.5	22.1	8.3	15.2	8.3	22.5	7.5	21.4
8/6/08	17:00	--	--	--	3.7	--	8.1	22.6	8.3	16.4	--	--	--	--

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent Flow Rate	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge	
			pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
8/7/08	9:00	160	--	--	2.9	--	9.2	23.0	5.9	15.1	--	--	--	--
8/7/08	10:00	--	--	--	7.4	14.6	8.4	24.5	8.5	15.8	8.0	21.2	6.9	18.8
8/7/08	11:00	--	--	--	8.0	16.7	8.6	22.2	8.7	15.4	--	--	--	--
8/7/08	12:00	--	--	--	5.3	19.2	8.6	24.5	8.5	14.9	8.4	21.0	7.4	20.2
8/7/08	13:00	--	--	--	5.1	20.2	8.6	24.3	8.5	15.1	--	--	--	--
8/7/08	14:00	--	--	--	4.7	17.8	8.7	20.4	8.5	15.5	8.3	22.2	7.0	20.8
8/7/08	14:17	--	2.5	23.4	--	--	--	--	--	--	--	--	--	--
8/7/08	16:00	--	--	--	4.2	16.1	8.4	27.5	8.4	17.0	--	--	--	--
8/7/08	17:00	--	--	--	4.3	14.4	8.4	26.7	8.4	17.5	--	--	7.0	22.0
8/7/08	18:00	--	--	--	3.5	15.2	4.9	26.5	6.1	18.5	--	--	--	--
8/8/08	8:00	160	--	--	3.8	--	8.6	24.2	8.7	21.1	--	--	--	--
8/8/08	9:00	--	--	--	8.2	11.2	8.5	24.4	8.6	17.1	8.4	20.6	6.8	17.1
8/8/08	10:00	160	--	--	7.7	--	8.4	21.3	8.6	16.3	--	--	--	--
8/8/08	11:00	--	--	--	4.8	--	8.3	22.3	8.6	15.4	8.4	20.5	6.8	18.5
8/8/08	11:13	--	2.5	19.6	--	--	--	--	--	--	--	--	--	--
8/8/08	12:00	--	--	--	4.2	16.1	8.4	24.7	8.4	15.0	--	--	--	--
8/8/08	13:00	--	--	--	4.0	--	8.0	22.8	8.1	15.8	8.1	20.7	6.7	19.7
8/8/08	14:00	--	--	--	4.0	--	8.4	21.8	8.2	16.2	--	--	--	--
8/8/08	15:00	--	--	--	4.1	17.8	8.1	21.8	8.2	15.9	8.3	21.6	6.6	20.4
8/11/08	10:00	160	--	--	4.0	12.7	8.6	20.0	8.3	24.6	--	--	--	--
8/11/08	11:00	--	--	--	5.7	16.9	8.4	22.0	8.5	29.1	--	--	--	--
8/11/08	12:00	--	--	--	--	--	--	--	--	--	8.3	19.5	6.7	19.0
8/11/08	12:45	--	2.4	18.6	--	--	--	--	--	--	--	--	--	--
8/11/08	13:00	160	--	--	6.6	19.5	8.8	22.5	8.7	22.0	--	--	--	--
8/11/08	14:00	--	--	--	3.9	18.7	8.5	23.1	8.6	18.8	8.4	20.4	6.7	20.2
8/11/08	15:00	--	--	--	2.7	--	8.1	19.9	8.2	31.1	--	--	--	--
8/11/08	16:00	160	--	--	3.7	--	7.9	21.9	8.1	15.1	8.1	21.1	6.8	21.2
8/11/08	17:00	--	--	--	3.2	15.8	8.6	27.7	8.6	15.3	--	--	--	--
8/11/08	18:00	--	--	--	2.7	22.5	4.4	23.7	5.5	16.0	--	--	--	--
8/12/08	9:00	160	--	--	2.9	--	8.6	23.8	8.7	22.0	--	--	--	--
8/12/08	10:00	--	--	--	4.3	11.1	8.8	22.1	8.6	21.6	8.1	19.4	6.9	17.7
8/12/08	11:00	--	--	--	5.8	21.9	8.4	25.0	8.5	17.2	--	--	--	--
8/12/08	12:00	160	--	--	5.3	--	8.4	22.1	8.2	--	8.4	19.6	6.7	18.8
8/12/08	13:00	--	--	--	--	--	--	--	8.4	--	--	--	--	--
8/12/08	14:00	160	--	--	4.3	--	8.5	20.2	8.4	24.0	8.3	21.7	6.7	20.1
8/12/08	14:29	--	2.4	21.3	--	--	--	--	--	--	--	--	--	--
8/12/08	15:00	--	--	--	4.4	14.2	8.2	23.7	8.4	15.4	--	--	--	--
8/12/08	16:00	160	--	--	4.0	--	8.2	21.9	8.4	15.4	8.1	23.5	6.9	20.7
8/12/08	17:00	--	--	--	4.0	15.0	8.3	23.5	8.4	16.7	--	--	--	--
8/12/08	18:00	--	--	--	4.1	--	8.2	24.8	8.4	16.4	8.2	21.8	6.8	22.4
8/12/08	19:00	--	--	--	3.2	15.2	8.5	27.7	8.3	24.8	--	--	--	--
8/12/08	20:00	--	--	--	2.8	16.3	4.6	24.1	6.1	17.0	--	--	--	--
8/13/08	8:00	160	--	--	3.7	--	8.8	20.3	8.3	36.1	8.4	18.6	6.8	17.0
8/13/08	9:00	--	--	--	4.0	--	8.6	22.1	8.3	44.9	--	--	--	--
8/13/08	9:20	--	2.4	16.2	--	--	--	--	--	--	--	--	--	--
8/13/08	10:00	160	--	--	4.1	--	8.4	19.4	8.4	31.4	8.3	20.7	6.9	18.4
8/13/08	11:00	--	--	--	4.3	17.6	8.7	20.7	8.7	12.7	--	--	--	--
8/13/08	12:00	--	--	--	4.2	8.4	8.8	19.0	8.5	31.0	8.4	19.8	6.7	18.7
8/13/08	13:00	--	--	--	4.1	--	8.3	21.3	8.4	12.9	--	--	--	--
8/13/08	14:00	160	--	--	4.0	11.5	8.3	22.1	8.4	14.3	8.2	21.4	6.8	20.2
8/13/08	15:00	--	--	--	4.1	--	8.3	21.3	8.4	15.6	--	--	--	--
8/13/08	16:00	160	--	--	3.9	--	8.1	24.3	8.2	17.6	8.2	22.5	7.0	21.2
8/13/08	17:00	--	--	--	4.0	--	8.4	--	8.4	16.7	--	--	--	--
8/14/08	8:00	160	--	--	4.0	--	8.8	21.1	8.7	--	--	--	--	--
8/14/08	9:00	--	--	--	4.3	--	8.8	23.6	8.3	--	8.5	20.2	6.7	17.9
8/14/08	10:00	160	--	--	4.6	--	8.7	22.8	8.3	--	--	--	--	--
8/14/08	11:00	--	--	--	4.7	--	8.7	22.0	8.4	--	8.4	20.2	6.7	18.7
8/14/08	12:00	--	--	--	4.7	17.0	8.5	21.5	8.5	17.4	--	--	--	--
8/14/08	13:00	--	--	--	4.4	--	8.5	19.6	8.4	--	8.3	21.4	6.8	20.1
8/14/08	14:00	--	--	--	4.3	17.3	8.5	21.7	8.5	17.8	--	--	--	--
8/14/08	15:00	--	--	--	4.0	--	8.4	27.0	8.5	18.4	8.2	22.4	6.9	21.2
8/14/08	15:13	--	2.4	21.5	--	--	--	--	--	--	--	--	--	--
8/14/08	16:00	--	--	--	3.9	14.6	8.2	27.0	8.3	17.6	--	--	--	--

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent Flow Rate	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge	
			pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
8/15/08	--	--	2.5	18.3	--	--	--	--	--	--	--	--	--	--
8/15/08	8:00	--	--	--	4.0	7.3	8.2	25.4	8.4	--	--	--	--	--
8/15/08	9:00	--	--	--	5.9	--	8.4	20.8	8.4	--	8.6	20.6	6.8	19.0
8/15/08	10:00	--	--	--	6.3	20.2	8.6	20.5	8.3	--	--	--	--	--
8/15/08	11:00	--	--	--	5.5	18.0	8.3	19.7	8.4	31.1	8.4	21.0	6.7	19.7
8/15/08	12:00	--	--	--	3.2	--	5.2	--	6.2	--	--	--	--	--
8/18/08	11:00	160	--	--	4.3	--	8.4	18.9	8.5	13.7	8.3	18.7	6.5	16.2
8/18/08	12:00	--	--	--	4.7	--	8.4	21.0	8.4	14.6	--	--	--	--
8/18/08	13:00	160	--	--	4.9	--	8.4	23.0	8.2	--	8.3	19.0	6.8	17.4
8/18/08	14:00	--	--	--	5.4	15.5	8.4	19.4	8.3	--	--	--	--	--
8/18/08	14:05	--	2.4	--	--	--	--	--	--	--	--	--	--	--
8/18/08	15:00	--	--	--	5.3	22.2	8.8	21.6	8.3	--	8.3	18.4	6.7	17.8
8/18/08	16:00	--	--	--	4.9	--	8.4	21.3	8.5	13.8	--	--	--	--
8/18/08	17:00	--	--	--	4.6	--	8.3	--	8.4	--	8.3	20.0	6.8	19.5
8/18/08	18:00	--	--	--	4.2	--	8.3	--	8.3	--	--	--	--	--
8/19/08	8:00	160	--	--	3.9	--	8.9	21.7	8.5	35.3	--	--	--	--
8/19/08	9:00	--	--	--	4.0	--	8.7	--	8.3	--	--	--	--	--
8/19/08	10:00	160	--	--	4.8	--	8.5	20.3	8.6	16.8	8.5	16.0	6.9	14.9
8/19/08	10:21	--	2.4	14.7	--	--	--	--	--	--	--	--	--	--
8/19/08	11:00	--	--	--	4.3	--	8.3	19.8	8.4	12.6	--	--	--	--
8/19/08	12:00	160	--	--	4.4	--	8.5	19.5	8.3	11.7	8.4	15.9	6.5	15.2
8/19/08	13:00	--	--	--	4.3	--	8.3	19.6	8.6	11.3	--	--	--	--
8/19/08	14:00	--	--	--	4.3	--	8.6	19.7	8.5	11.5	8.2	17.8	7.0	16.6
8/19/08	15:00	--	--	--	4.2	--	8.1	20.2	8.4	12.9	--	--	--	--
8/19/08	16:00	--	--	--	4.0	--	8.3	21.0	8.3	12.6	8.3	18.7	6.8	17.8
8/19/08	17:00	--	--	--	3.5	11.2	8.2	21.2	8.2	14.6	--	--	--	--
8/19/08	18:00	--	--	--	2.8	--	4.5	21.3	5.8	--	--	--	--	--
8/20/08	10:00	160	--	--	4.3	--	8.5	18.8	8.3	10.9	8.2	17.0	7.8	15.2
8/20/08	11:00	--	--	--	4.1	--	8.6	18.2	8.5	10.5	--	--	--	--
8/20/08	12:00	160	--	--	4.4	--	8.6	19.3	8.3	10.7	8.0	17.6	6.7	16.5
8/20/08	13:00	--	--	--	4.6	--	8.1	19.7	8.4	11.2	--	--	--	--
8/20/08	14:00	--	--	--	5.2	18.9	8.5	17.9	8.2	11.8	8.3	19.3	7.2	17.5
8/20/08	15:00	--	--	--	5.3	15.8	8.1	21.5	8.4	11.5	--	--	--	--
8/20/08	16:00	--	--	--	5.2	15.5	8.4	21.8	8.5	13.4	8.3	19.7	7.1	19.0
8/20/08	17:00	160	--	--	5.4	20.2	8.3	20.7	8.4	13.1	--	--	--	--
8/20/08	17:05	--	2.5	19.4	--	--	--	--	--	--	--	--	--	--
8/21/08	9:00	--	--	--	2.6	7.6	8.2	19.2	8.5	13.2	--	--	--	--
8/21/08	10:00	--	--	--	2.4	10.1	8.0	23.3	8.4	16.0	8.3	18.6	6.7	17.0
8/21/08	11:00	--	--	--	2.4	13.8	8.0	19.4	8.2	11.8	--	--	--	--
8/21/08	12:00	--	--	--	3.5	16.6	8.2	19.5	8.1	12.1	8.2	18.7	6.7	18.2
8/21/08	13:00	--	--	--	4.0	--	8.6	22.1	8.2	13.3	--	--	--	--
8/21/08	14:00	--	--	--	4.1	--	8.8	23.0	8.4	13.8	8.4	20.7	6.7	19.2
8/21/08	15:00	--	--	--	4.0	--	8.7	22.4	8.4	14.6	--	--	--	--
8/21/08	16:00	--	--	--	4.0	7.0	8.4	22.5	8.3	18.5	8.4	21.5	6.7	20.1
8/21/08	17:00	--	2.5	23.5	4.0	7.0	8.3	26.6	8.2	24.1	--	--	--	--
8/22/08	8:00	160	--	--	3.8	--	8.7	21.6	8.6	19.0	--	--	--	--
8/22/08	9:00	165	--	--	4.0	--	8.3	20.4	8.3	16.8	8.4	19.6	6.7	17.4
8/22/08	10:00	--	--	--	4.2	13.3	8.5	22.0	8.4	--	--	--	--	--
8/22/08	10:35	--	2.5	18.4	--	--	--	--	--	--	--	--	--	--
8/22/08	11:00	--	--	--	4.2	--	8.6	19.1	8.5	13.4	8.3	19.6	6.8	17.9
8/22/08	12:00	--	--	--	4.1	--	8.4	19.1	8.3	14.2	--	--	--	--
8/25/08	11:00	--	--	--	4.1	13.3	8.3	21.7	8.5	13.2	--	--	--	--
8/25/08	12:00	160	--	--	4.0	--	8.4	20.7	8.4	13.1	8.4	18.9	6.7	18.0
8/25/08	13:00	--	--	--	4.0	--	8.4	22.5	8.5	12.9	--	--	--	--
8/25/08	14:00	--	--	--	4.0	--	8.3	25.2	8.4	13.1	8.4	20.5	6.8	18.4
8/25/08	15:00	--	--	--	4.0	11.5	8.5	20.6	8.4	13.8	--	--	--	--
8/25/08	16:00	162	--	--	4.0	12.4	8.2	23.3	8.4	23.1	8.4	20.4	6.7	19.0
8/25/08	17:00	--	--	--	3.6	11.5	5.6	20.7	6.0	--	--	--	--	--
8/26/08	10:00	--	--	--	3.8	--	8.5	24.2	8.2	--	--	--	--	--
8/26/08	11:00	--	--	--	4.0	7.1	8.2	20.0	8.4	18.1	8.4	19.3	6.7	16.2
8/26/08	12:00	--	--	--	4.0	--	8.2	21.8	8.3	--	--	--	--	--
8/26/08	13:00	--	--	--	4.1	--	8.3	20.1	8.5	12.1	8.4	19.2	6.8	16.8
8/26/08	14:00	--	--	--	4.1	7.8	8.2	20.3	8.5	12.7	--	--	--	--
8/26/08	15:00	--	--	--	--	--	--	--	--	--	8.3	20.9	6.8	19.3
8/26/08	16:00	--	--	--	4.0	13.5	8.6	20.5	8.5	19.6	--	--	--	--
8/26/08	17:00	--	--	--	--	--	--	--	--	--	8.4	20.6	6.8	19.5

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge		
		Flow Rate	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
8/27/08	11:00	--	--	--	3.8	--	8.5	19.5	8.2	13.0	--	--	--	--
8/27/08	12:00	--	--	--	4.1	--	8.4	--	8.4	--	8.3	20.5	6.8	18.4
8/27/08	12:40	--	2.5	19.3	--	--	--	--	--	--	--	--	--	--
8/27/08	13:00	--	--	--	4.1	5.6	8.4	20.8	8.4	13.4	--	--	--	--
8/27/08	14:00	--	--	--	4.0	--	8.5	21.6	8.4	14.8	8.3	20.8	6.8	18.9
8/27/08	15:00	--	--	--	4.0	--	8.3	20.0	8.5	14.6	--	--	--	--
8/27/08	16:00	--	--	--	4.2	5.3	8.2	23.6	8.5	15.9	8.4	20.8	6.8	19.8
8/28/08	8:00	--	--	--	3.7	--	8.3	19.2	8.6	10.9	--	--	--	--
8/28/08	9:00	--	--	--	3.9	--	8.1	19.1	8.4	13.4	8.3	17.8	6.7	17.5
8/28/08	10:00	160	--	--	4.0	9.0	8.4	18.2	8.4	14.8	--	--	--	--
8/28/08	11:00	--	--	--	--	--	8.5	--	--	--	8.3	18.0	6.8	18.2
8/28/08	12:00	--	--	--	4.0	7.6	8.5	18.4	8.4	10.7	--	--	--	--
8/28/08	13:00	160	2.5	24.2	4.0	--	8.3	22.6	8.4	12.3	8.3	19.4	6.9	19.4
8/28/08	15:00	--	--	--	3.1	11.5	8.1	21.0	8.3	13.0	8.1	19.5	6.6	19.0
8/28/08	16:00	--	--	--	3.0	15.5	8.1	20.0	8.2	13.2	--	--	--	--
8/29/08	--	--	2.6	19.2	--	--	--	--	--	--	--	--	--	--
8/29/08	9:00	--	--	--	3.7	--	8.4	20.1	8.5	12.5	--	--	--	--
8/29/08	10:00	--	--	--	4.0	--	8.3	20.1	8.5	12.1	8.3	18.4	6.8	18.1
8/29/08	11:00	--	--	--	4.1	--	8.5	18.0	8.4	10.6	--	--	--	--
8/29/08	12:00	--	--	--	--	--	--	--	--	--	8.3	18.7	6.8	19.0
8/29/08	13:00	--	--	--	4.0	--	8.2	20.7	8.4	11.5	--	--	--	--
9/2/08	11:00	--	--	--	4.0	5.3	8.4	16.6	8.1	8.6	--	--	--	--
9/2/08	13:00	--	--	--	4.0	--	8.8	16.8	8.4	8.6	8.2	17.2	--	--
9/2/08	14:00	--	--	--	4.0	5.6	8.3	16.7	8.3	8.9	--	--	--	--
9/2/08	15:00	--	--	--	4.1	--	8.4	20.0	8.4	9.5	8.3	17.2	--	--
9/2/08	15:50	--	2.6	17.6	--	--	--	--	--	--	--	--	--	--
9/2/08	16:00	--	--	--	4.0	--	8.2	16.9	8.4	10.1	--	--	--	--
9/3/08	--	--	2.6	19.3	--	--	--	--	--	--	--	--	--	--
9/3/08	9:00	--	--	--	3.9	5.0	8.3	16.1	8.4	8.6	8.2	14.7	6.8	15.7
9/3/08	10:00	--	--	--	4.0	--	8.3	15.8	8.4	8.4	--	--	--	--
9/3/08	11:00	--	--	--	4.0	--	8.2	15.0	8.3	7.2	8.2	14.5	6.8	16.5
9/3/08	12:00	--	--	--	4.0	--	8.2	19.1	8.4	7.4	--	--	--	--
9/3/08	13:00	--	--	--	3.3	--	8.0	17.7	8.2	8.8	8.2	16.3	6.7	17.3
9/5/08	--	--	2.6	12.1	--	--	--	--	--	--	--	--	--	--
9/5/08	12:00	--	--	--	3.7	--	8.0	17.3	8.5	11.4	8.0	18.1	7.2	16.8
9/5/08	13:00	--	--	--	4.7	--	8.6	17.6	8.7	11.9	--	--	--	--
9/5/08	14:00	--	--	--	5.4	21.1	8.5	20.8	8.5	10.6	8.0	18.2	--	--
9/5/08	16:00	--	--	--	4.1	--	8.2	17.6	8.3	10.6	--	--	--	--
9/5/08	17:00	--	--	--	5.0	--	8.3	17.9	8.4	11.7	8.3	20.8	--	--
9/5/08	18:00	--	--	--	4.0	--	8.4	18.2	8.5	10.9	--	--	--	--
9/6/08	11:00	--	--	--	4.0	--	8.2	16.5	8.2	11.0	8.4	17.7	--	--
9/6/08	12:00	--	--	--	3.4	--	8.3	17.6	8.3	10.1	8.3	17.2	--	--
9/6/08	13:00	160	--	--	4.0	--	8.4	18.2	8.3	9.8	8.3	17.1	--	--
9/6/08	14:00	--	--	--	4.0	--	8.5	19.0	8.3	9.5	8.3	17.6	--	--
9/6/08	15:00	--	--	--	4.5	--	8.3	--	8.3	--	--	--	--	--
9/8/08	--	--	2.7	--	--	--	--	--	--	--	--	--	--	--
9/8/08	11:00	160	--	--	6.7	--	8.7	18.3	8.7	10.5	8.7	18.7	7.7	17.8
9/8/08	12:00	--	--	--	8.5	--	8.7	18.6	8.6	11.2	--	--	--	--
9/8/08	13:00	160	--	--	8.3	--	8.5	17.9	8.4	10.6	8.5	18.0	7.6	17.8
9/8/08	14:00	--	--	--	4.4	--	8.4	20.1	8.7	24.8	--	--	--	--
9/8/08	15:00	--	--	--	--	--	--	--	--	--	8.1	18.2	7.0	16.8
9/8/08	16:00	--	--	--	4.2	--	8.4	21.9	8.5	12.7	--	--	--	--
9/8/08	17:00	--	--	--	4.2	--	8.4	22.0	8.4	12.6	8.3	18.7	7.3	16.3
9/8/08	18:00	--	--	--	4.2	--	8.6	22.5	8.4	12.8	8.3	18.6	7.2	16.8
9/9/08	--	--	2.7	18.8	--	--	--	--	--	--	--	--	--	--
9/9/08	11:00	160	--	--	3.6	--	8.8	23.4	8.3	13.0	--	--	--	--
9/9/08	12:00	--	--	--	4.0	--	8.4	18.9	8.8	12.5	8.0	17.7	7.4	15.7
9/9/08	13:00	160	--	--	4.1	--	8.5	19.7	8.7	12.1	--	--	--	--
9/9/08	14:00	--	--	--	4.2	--	8.4	--	8.7	--	--	--	--	--
9/9/08	15:00	160	--	--	4.6	--	8.5	21.1	8.8	14.3	--	--	--	--
9/9/08	16:00	--	--	--	4.0	--	8.3	--	8.4	14.7	8.1	18.9	6.8	15.4
9/9/08	17:00	160	--	--	4.4	--	8.6	21.1	8.6	14.1	--	--	--	--
9/9/08	18:00	--	--	--	4.2	--	8.4	20.6	8.5	12.5	--	--	--	--

**Table A-4
Summary of 2008 Pond Water Treatment Plant Operators' Log**

Date	Time	Influent Flow Rate	Influent		R-1		R-2		FF-2		Pit Clarifier		Weir Discharge	
			pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp	pH	Temp
9/10/08	10:00	--	--	--	3.8	--	8.2	20.8	8.4	11.1	--	--	--	--
9/10/08	11:00	--	--	--	4.1	--	8.5	23.2	8.6	12.4	8.5	15.5	7.0	15.3
9/10/08	13:00	160	--	--	4.1	--	8.2	--	8.5	7.2	8.4	15.5	7.3	15.9
9/10/08	14:00	--	--	--	4.0	--	8.2	15.4	8.3	7.0	--	--	--	--
9/10/08	15:00	--	--	--	--	--	--	--	--	--	8.2	16.7	7.3	16.3
9/10/08	15:15	--	2.7	17.5	--	--	--	--	--	--	--	--	--	--
9/10/08	16:00	--	--	--	3.8	--	8.5	16.7	8.3	10.2	--	--	--	--
9/10/08	17:00	--	--	--	--	--	--	--	--	--	8.1	16.9	7.1	16.2
9/11/08	--	--	2.7	9.8	--	--	--	--	--	--	--	--	--	--
9/11/08	9:30	160	--	--	4.0	--	8.3	17.6	8.3	9.7	--	--	--	--
9/11/08	10:00	--	--	--	3.4	--	8.2	17.3	8.3	8.5	--	--	--	--
9/11/08	11:00	160	--	--	4.0	--	8.3	16.0	8.3	7.6	8.1	17.8	6.7	15.3
9/11/08	13:00	--	--	--	3.7	--	8.6	18.0	8.4	9.8	8.2	13.9	7.3	15.3
9/11/08	14:00	--	--	--	3.7	--	8.6	17.4	8.5	9.0	8.4	15.7	7.0	15.6
9/11/08	15:00	--	--	--	3.9	--	8.6	18.2	8.6	9.7	--	--	--	--
9/11/08	16:00	--	--	--	--	--	--	--	--	--	8.4	15.9	7.0	15.5
9/11/08	17:00	--	--	--	3.1	--	8.4	18.6	8.5	10.0	--	--	--	--
9/12/08	--	--	2.7	19.0	--	--	--	--	--	--	--	--	--	--
9/12/08	9:30	--	--	--	3.8	--	8.9	18.4	8.4	9.8	--	--	--	--
9/12/08	11:00	160	--	--	4.1	--	8.0	18.6	8.1	9.8	--	--	--	--
9/12/08	12:00	--	--	--	3.9	--	8.4	17.9	8.5	10.2	8.2	--	--	--
9/12/08	13:00	160	--	--	3.8	--	8.4	17.2	8.4	10.9	--	15.2	7.0	15.2
9/12/08	14:00	160	--	--	4.1	--	8.4	--	8.4	--	8.2	15.7	7.3	17.2
9/12/08	15:00	--	--	--	3.8	7.8	8.3	18.9	8.5	11.4	--	--	--	--
9/12/08	16:00	--	--	--	3.0	--	8.1	18.2	8.2	12.1	--	--	--	--
9/15/08	10:00	160	--	--	3.7	--	8.5	16.9	8.4	10.3	--	--	--	--
9/15/08	11:00	--	--	--	3.8	--	8.3	15.9	8.5	9.5	8.2	17.0	6.9	15.1
9/15/08	12:00	--	--	--	--	--	8.5	19.2	8.7	9.0	--	--	--	--
9/15/08	13:00	160	--	--	3.9	--	8.8	21.6	--	--	8.6	16.7	6.9	15.4
9/15/08	13:40	--	2.7	19.1	--	--	--	--	--	--	--	--	--	--
9/15/08	14:00	--	--	--	3.8	7.0	8.9	19.3	8.9	13.2	--	--	--	--
9/15/08	15:00	--	--	--	--	--	--	--	--	--	8.7	17.9	6.9	16.5
9/15/08	16:00	--	--	--	3.8	6.7	8.6	21.0	8.4	15.9	--	--	--	--
9/16/08	--	--	2.8	16.4	--	--	--	--	--	--	--	--	--	--
9/16/08	10:00	160	--	--	3.3	12.1	8.8	19.5	8.1	12.1	--	--	--	--
9/16/08	11:00	--	--	--	3.4	5.9	8.6	16.5	8.4	9.0	8.2	17.4	6.9	16.3
9/16/08	12:00	160	--	--	4.0	--	8.2	17.9	8.7	8.4	--	--	--	--
9/16/08	13:00	--	--	--	3.8	--	8.3	18.1	8.5	8.9	8.4	15.7	7.5	16.1
9/16/08	14:00	160	--	--	3.8	--	8.6	15.4	8.5	9.4	--	--	--	--
9/16/08	15:00	--	--	--	3.2	--	8.1	16.4	8.2	10.7	8.3	17.2	6.6	16.9
9/17/08	12:00	160	--	--	4.2	--	8.0	19.1	8.4	16.7	--	--	--	--
9/17/08	13:00	--	--	--	4.2	--	8.2	18.7	8.2	17.2	--	--	--	--
9/17/08	14:00	--	--	--	--	--	--	--	--	--	8.4	17.7	7.0	15.4

Flow rates are in gallons/minute (gpm)
pH in Standard Units
Temperature in degrees Celsius

**Table A-5
2008 Pond Water Treatment Sludge Analytical Results**

Regulatory Criteria	Percent Solids	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn																			
TTL (mg/kg)	NP	NP	500	500	10000	75	100	2500	8000	2500	NP	1000	20	3500	2000	100	500	700	2400	5000																			
STLC (mg/L)	NP	NP	15	5	100	0.8	1	560	80	25	NP	5	0.2	350	20	1	5	7	24	250																			
Sample ID and Testing Procedure	Percent Solids	Al	Q	Sb	Q	As	Q	Ba	Q	Be	Q	Cd	Q	Cr	Q	Co	Q	Cu	Q	Fe	Q	Pb	Q	Hg	Q	Mo	Q	Ni	Q	Se	Q	Ag	Q	Tl	Q	V	Q	Zn	Q
089PWT075-C	10.5																																						
TTL (mg/kg dry)		81300		9.5 U		726		9.4 J		3.8 U		7.5 J		198		495		347		88200		7.0 J		0.5 U		9.5 U		1220		4.8 U		7.6 U		9.5 U		38.1 U		244	
STLC (mg/L)		308		0.02 U		1.51		0.20 U		0.02		0.03		1.18		2.91		1.80		434		0.03 J		0.007 U		0.02 U		5.90		0.05 J		0.02 U		0.02 U		0.20		1.64	
089PWT074-A	13.7																																						
TTL (mg/kg dry)		64200		7.3 U		609		7.9 J		2.9 U		5.9 J		165		382		286		69500		4.9 J		0.4 U		7.3 U		946		3.6 U		5.8 U		7.3 U		29.5 J		187	
STLC (mg/L)		343		0.02 U		1.68		0.20 U		0.02		0.04		1.36		3.14		2.08		484		0.03 J		0.007 U		0.02 U		6.20		0.04 U		0.02 U		0.02 U		0.24		1.78	
089PWT075-B	13.4																																						
TTL (mg/kg dry)		61800		7.5 U		506		70.4		3.0 U		5.6 J		142		357		270		61900		10.6 J		0.4 U		7.5 U		876		5.0 J		6.0 U		7.5 U		31.8 J		176	
STLC (mg/L)		320		0.02 U		1.64		0.20 U		0.02		0.02		1.18		2.89		1.88		438		0.02 J		0.007 U		0.02 U		5.95		0.04 U		0.02 U		0.03 J		0.20		1.67	

Qualifiers:

NP - not promulgated

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Reporting Limit.

Bold indicates concentration is above regulatory criteria.

**Table A-6
2008 Pond Water Treatment
Daily Discharge Summary**

Date	Mean Daily Flow (gal/min)	Daily Discharge (min)	Daily Discharge (gal)
7/25/2008	105	475	49,875
7/26/2008	0	0	0
7/27/2008	0	0	0
7/28/2008	97.3	930	90,489
7/29/2008	97.3	520	50,596
7/30/2008	89.9	930	83,607
7/31/2008	89.9	1440	129,456
8/1/2008	89.9	1440	129,456
8/2/2008	0	0	0
8/3/2008	0	0	0
8/4/2008	89.9	905	81,360
8/5/2008	80.9	1,440	116,496
8/6/2008	64.1	1,440	92,304
8/7/2008	64.1	1,440	92,304
8/8/2008	64.1	1,000	64,100
8/9/2008	0	0	0
8/10/2008	0	0	0
8/11/2008	64.1	755	48,396
8/12/2008	64.1	1,440	92,304
8/13/2008	64.1	1,440	92,304
8/14/2008	64.1	1,440	92,304
8/15/2008	64.1	740	47,434
8/16/2008	0	0	0
8/17/2008	0	0	0
8/18/2008	64.1	955	61,216
8/19/2008	64.1	1,440	92,304
8/20/2008	64.1	1,440	92,304
8/21/2008	64.1	1,440	92,304
8/22/2008	64.1	770	49,357
8/23/2008	0	0	0
8/24/2008	0	0	0
8/25/2008	58.4	745	43,508
8/26/2008	58.4	1440	84,096
8/27/2008	58.4	1440	84,096
8/28/2008	58.4	1440	84,096
8/29/2008	58.4	780	45,552
8/30/2008	0	0	0
8/31/2008	0	0	0
9/1/2008	0	0	0
9/2/2008	0	0	0
9/3/2008	53.1	960	50,976
9/4/2008	48.2	1440	69,408
9/5/2008	43.5	765	33,278
9/6/2008	0	0	0

**Table A-6
2008 Pond Water Treatment
Daily Discharge Summary**

Date	Mean Daily Flow (gal/min)	Daily Discharge (min)	Daily Discharge (gal)
9/7/2008	0	0	0
9/8/2008	48.2	955	46,031
9/9/2008	48.2	1440	69,408
9/10/2008	48.2	1440	69,408
9/11/2008	48.2	1440	69,408
9/12/2008	48.2	760	36,632
9/13/2008	0	0	0
9/14/2008	0	0	0
9/15/2008	62.1	765	47,492
9/16/2008	64.1	1440	92,304
9/17/2008	79.5	1440	114,438
9/18/2008	76.3	1440	109,872
9/19/2008	35	735	25,725
9/20/2008	0	0	0
9/21/2008	0	0	0
9/22/2008	0	0	0
9/23/2008	0	0	0
9/24/2008	31.2	945	29,484
9/25/2008	11.7	1440	16,848
9/26/2008	8.1	855	6,926
9/27/2008	0	0	0
9/28/2008	0	0	0
9/29/2008	0	0	0
9/30/2008	13.1	900	11,786
10/1/2008	5.4	1440	7,776
10/2/2008	4.2	1440	6,048
10/3/2008	3.3	1440	4,752
10/4/2008	3.3	1440	4,752
10/5/2008	2.5	1440	3,600
10/6/2008	2.5	1440	3,600
10/7/2008	1.8	1440	2,592
10/8/2008	1.8	1440	2,592
10/9/2008	1.2	1440	1,728
10/10/2008	1.2	1440	1,728

TOTAL 2008 TREATED DISCHARGE (gallons)	3,020,207
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Notes:

Flow represents discharge of treated water to Leviathan Creek via Pit Clarifier weir.

Mean daily flow rate determined from mean daily weir stage.

**Table A-7
2008 Pond Water Treatment,
Summary of Selenium Matrix Spike Analytical Results**

Laboratory-qualified Total Se Sample ID	Date Sampled	Laboratory-qualified Total Se Results (mg/L)	Laboratory-assigend Data Qualifier	Laboratory Batch Number	Se MS/MSD Sample ID	Se Matrix Spike Percent Recovery (75% to 125%)
089PWT004-Eff	7/25/2008	0.0050	QM-07	B8G0709	8070902-01 (PWT004-EFF)	142
089PWT005-Eff	7/28/2008	0.0050	QM-07	B8G0709	8070902-01 (PWT004-EFF)	142
089PWT007-Eff	7/30/2008	0.0047	QM-07	B8G0763	8070965-01 (PWT007-EFF)	139
089PWT010-Eff	7/31/2008	0.0050	QM-07	B8H0065	8080010-01 (PWT010-EFF)	144
089PWT011-Eff	8/1/2008	0.0048	QM-07	B8H0143	8080182-01 (PWT011-EFF)	129
089PWT012-Eff	8/4/2008	0.0057	QM-07	B8H0143	8080182-01 (PWT011-EFF)	129
089PWT014-Eff	8/5/2008	0.0061	QM-07	B8H0170	8080235-01 (PWT014-EFF)	144
089PWT019-Eff	8/6/2008	0.0059	QM-07	B8H0286	8080312-01 (PWT019-EFF)	130
089PWT020-Eff	8/7/2008	0.0057	QM-07	B8H0246	8080364-01 (PWT020-EFF)	143
089PWT021-Eff	8/8/2008	0.0063	QM-07	B8H0444	8080441-01 (PWT021-EFF)	150
089PWT022-Eff	8/11/2008	0.0065	QM-07	B8H0444	8080441-01 (PWT021-EFF)	150
089PWT024-Eff	8/12/2008	0.0071	QM-07	B8H0444	8080441-01 (PWT021-EFF)	150
089PWT026-Eff	8/13/2008	0.0074	QM-07	B8H0444	8080441-01 (PWT021-EFF)	150
089PWT028-Eff	8/14/2008	0.0075	QM-07	B8H0444	8080441-01 (PWT021-EFF)	150
089PWT029-Eff	8/15/2008	0.0078	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT030-Eff	8/18/2008	0.0077	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT032-Eff	8/19/2008	0.0078	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT034-Eff	8/20/2008	0.0079	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT035-Eff	8/21/2008	0.0079	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT037-Eff	8/22/2008	0.0081	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT038-Eff	8/25/2008	0.0069	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT041-Eff	8/26/2008	0.0079	QM-05	B8H0544	8080734-01 (PWT029-EFF)	145
089PWT042-Eff	8/27/2008	0.0068	QM-05	B8I0139	8090157-01 (PWT042-EFF)	144
089PWT044-Eff	8/28/2008	0.0070	QM-05	B8I0139	8090157-01 (PWT042-EFF)	144
089PWT045-Eff	8/29/2008	0.0068	QM-05	B8I0139	8090157-01 (PWT042-EFF)	144
089PWT046-Eff	9/3/2008	0.0048	QM-05	B8I0139	8090157-01 (PWT042-EFF)	144
089PWT050-Eff	9/4/2008	0.0060	QM-05	B8I0290	8090379-01 (PWT050-EFF)	138
089PWT051-Eff	9/5/2008	0.0058	QM-05	B8I0290	8090379-01 (PWT050-EFF)	138
089PWT052-Eff	9/8/2008	0.0038	QM-05	B8I0290	8090379-01 (PWT050-EFF)	138
089PWT054-Eff	9/9/2008	0.0057	QM-05	B8I0290	8090379-01 (PWT050-EFF)	138
089PWT056-Eff	9/10/2008	0.0053	QM-05	B8I0544	8090578-01 (PWT056-EFF)	144
089PWT057-Eff	9/11/2008	0.0051	QM-05	B8I0544	8090578-01 (PWT056-EFF)	144
089PWT058-Eff	9/12/2008	0.0053	QM-05	B8I0544	8090578-01 (PWT056-EFF)	144
089PWT059-Eff	9/15/2008	0.0040	QM-05	B8I0544	8090578-01 (PWT056-EFF)	144
089PWT061-Eff	9/16/2008	0.0049	QM-05	B8I0544	8090578-01 (PWT056-EFF)	144
089PWT063-Eff	9/17/2008	0.0042	QM-05	B8I0774	8090861-01 PWT063-EFF)	126
089PWT065-Eff	9/18/2008	0.0041	QM-05	B8I0774	8090861-01 PWT063-EFF)	126
089PWT066-Eff	9/19/2008	0.0036	QM-05	B8I0774	8090861-01 PWT063-EFF)	126

Table A-7
2008 Pond Water Treatment,
Summary of Selenium Matrix Spike Analytical Results

Laboratory-qualified Total Se Sample ID	Date Sampled	Laboratory-qualified Total Se Results (mg/L)	Laboratory-assigend Data Qualifier	Laboratory Batch Number	Se MS/MSD Sample ID	Se Matrix Spike Percent Recovery (75% to 125%)
089PWT067-Eff	9/24/2008	0.0031	QM-05	B8I0774	8090861-01 PWT063-EFF)	126
089PWT068-Eff	9/25/2008	0.0029	QM-05	B8I0774	8090861-01 PWT063-EFF)	126
089PWT071-Eff	9/26/2008	0.0024	J, QM-05	B8J0215	8100119-01 (PWT071-EFF)	129
089PWT072-Eff	9/30/2008	0.0023	J, QM-05	B8J0215	8100119-01 (PWT071-EFF)	129
089PWT073-Eff	10/1/2008	0.0019	J, QM-05	B8J0215	8100119-01 (PWT071-EFF)	129
089PWT042-Eff	8/27/2008	0.0074	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT044-Eff	8/28/2008	0.0065	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT045-Eff	8/29/2008	0.0066	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT046-Eff	9/3/2008	0.0046	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT048-Dup	9/3/2008	0.0048	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT056-Eff	9/10/2008	0.0059	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT057-Eff	9/11/2008	0.0051	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT058-Eff	9/12/2008	0.0052	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT059-Eff	9/15/2008	0.0039	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136
089PWT061-Eff	9/16/2008	0.0051	QM-05	B8J0765	8100912-01 (PWT042-Eff) 8100912-12 (PWT059-Eff)	134 136

NOTE

Laboratory Percent Recovery Control Limits

QM-07: The spike recovery was outside acceptance limits for the matrix spike (MS) and the matrix spike duplicate (MSD).

The batch was accepted based on acceptable laboratory control sample (LCS) recovery.

QM-05: The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCS duplicate were within acceptance limits showing that the laboratory is in control and the data are acceptable.

J = Analyte detected between the Method Detection Limit and the Reporting Limit.

**Table A-8
Comparison of Pond Water Treatment Sampling Methods**

Location	Sample ID	Sample Date	pH	Al	Q	As	Q	Cd	Q	Cr	Q	Cu	Q	Fe	Q	Ni	Q	Pb	Q	Se	Q	Zn	Q
PWT Effluent	089PWT014	08/05/2008	7.0	0.0565		0.0114	QM-07	0.00021	J	0.0018		0.0011		0.009	J	0.0204		0.0001	U	0.0061	QM-07	0.0043	QR-04
PWT Effluent (dup)	089PWT015	08/05/2008	7.0	0.0568		0.0118	QM-07	0.00027		0.0020		0.0009		0.014		0.0211		0.0001	U	0.0062	QM-07	0.0058	QR-04
EPA1	089PWT017	08/05/2008	7.0	0.0566		0.0120		0.00023	J	0.0022		0.0008		0.003	J,QR-04	0.0149		0.0001	U	0.0060		0.0054	
EPA2 (dup)	089PWT018	08/05/2008	7.0	0.0549		0.0119		0.00032		0.0025		0.0008		0.005	J,QR-04	0.0155		0.0001	U	0.0058		0.0085	

Notes:

PWT Effluent and PWT Effluent (dup) samples collected using 2008 collection procedures.

EPA1 and EPA2 (dup) samples collected using historic (2000-2007) PWT collection procedures.

All values reported in milligrams/liter (mg/L), except pH, which is reported in Standard Units.

All parameters are dissolved, except Selenium, which is total recoverable.

Qualifiers:

U - Analyte not detected at the given Method Detection Limit.

J - Analyte detected between the Method Detection Limit and the Reporting Limit

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

**Table A-9
2008 Pond Water Treatment Water Board Assigned Data Qualifiers**

Station Identification	Laboratory Report #	Sample Date	Sample Identification	Water Board Assigned Data Qualifier	Qualified Parameter(s)	Description of Anomalous Value(s)
PWT Influent	8080441	8/11/2008	089PWT023-INF	A	TDS / Sulfate	TDS = 5620, sulfate = 10300; sulfate significantly exceeds TDS
PWT Influent	8080734	8/18/2008	089PWT031-INF	A	TDS / Sulfate	TDS = 9100, sulfate = 12400; sulfate significantly exceeds TDS
PWT Effluent	8090861	9/17/2008	089PWT063-EFF	*	Dissolved Al	fails field duplicate RPD assessment (duplicate sample = 089PWT064-EFF)

Qualifiers

*: failed Relative Percent Difference (RPD) assessment

A: Anomalous Value

Appendix B

Data Summary for 2008 Surface Water Monitoring

**TABLE B-1
Adit Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308784 LEVIATHAN MINE ADIT DRAIN NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384215 LONGITUDE 1193928 NAD27 DRAINAGE AREA CONTRIBUTING DRAINAGE AREA DATUM 7100 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #4												
Discharge, gallons per minute												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.493	11.569	11.718	11.835	11.722	11.152	12.506	16.134	16.292	15.11	12.904	12.632
2	11.468	11.641	11.569	11.429	11.72	11.321	12.519	16.199	16.158	15.161	12.828	12.701
3	11.483	11.681	11.223	11.301	11.662	11.492	12.295	16.233	16.407	15.194	12.87	12.279
4	11.695	11.607	11.385	11.284	11.563	11.522	12.708	16.389	16.398	15.08	12.475	12.509
5	11.955	11.785	11.565	11.355	11.563	11.453	12.514	16.301	16.141	14.948	12.51	12.291
6	12.089	e11.659	11.835	11.207	11.487	11.505	12.716	16.301	16.153	14.817	12.52	12.235
7	12.065	e11.549	11.772	11.042	11.519	11.576	12.703	16.529	16.201	14.157	12.555	12.438
8	11.795	11.436	11.939	11.033	11.472	11.414	12.858	16.645	15.872	14.389	12.61	12.267
9	11.564	11.569	11.81	11.057	11.524	11.468	12.789	16.492	15.847	14.156	12.734	12.389
10	11.511	11.654	11.965	11.163	11.472	11.302	12.863	16.643	15.764	14.268	12.656	12.071
11	11.607	11.577	11.688	11.18	11.443	11.568	13.154	16.917	16.002	13.909	12.606	e12.290
12	11.63	11.79	11.813	11.024	11.643	11.76	12.934	16.783	15.779	13.919	12.556	e12.475
13	11.478	11.714	11.735	11.464	11.707	11.968	13.217	16.762	15.628	13.882	12.433	e12.618
14	11.576	11.545	11.774	11.318	11.633	12.414	13.364	16.682	15.541	13.841	12.121	e12.762
15	11.552	11.568	11.725	11.437	11.589	12.342	13.807	16.638	15.621	13.589	12.383	e12.869
16	11.671	11.41	11.855	11.576	11.35	11.991	14.017	16.416	15.456	13.358	12.242	12.964
17	11.558	11.375	11.663	11.575	11.445	11.908	14.28	16.408	15.497	13.494	12.731	12.771
18	11.406	11.386	11.634	11.498	11.465	11.753	14.619	16.498	15.511	13.26	12.534	12.735
19	11.469	11.368	11.581	11.848	11.392	11.892	14.843	16.385	15.454	13.043	12.578	13.055
20	11.504	11.589	11.949	11.738	11.384	11.962	15.123	16.53	15.365	13.199	12.381	12.888
21	11.615	11.867	11.969	11.699	11.471	12.043	15.141	16.841	15.452	12.917	12.278	12.995
22	11.557	11.926	11.638	11.644	11.375	12.185	15.163	17.208	15.399	12.642	12.371	12.834
23	11.512	12	11.637	11.837	11.615	12.203	15.308	16.996	15.3	12.501	12.255	13.04
24	11.418	11.781	11.7	11.69	11.215	12.272	15.428	16.787	15.425	12.632	12.258	12.675
25	11.443	11.479	11.795	11.419	11.358	12.417	15.393	16.868	15.375	12.243	12.519	12.792
26	11.406	11.55	12.059	11.443	11.575	12.383	15.253	16.721	15.219	12.267	12.212	12.488
27	11.484	11.418	12.019	11.748	11.431	12.532	15.203	16.768	15.124	12.34	12.161	12.637
28	11.418	11.683	11.791	11.627	11.281	12.578	15.319	16.808	15.362	12.715	12.233	12.589
29	11.643	11.624	11.576	11.85	11.501	12.477	15.69	16.723	15.325	12.835	12.216	12.612
30	11.587	11.735	11.613	11.535	---	12.48	15.91	16.534	15.098	12.711	12.318	12.531
31	11.521	---	11.678	11.617	---	12.529	---	16.209	---	12.678	12.398	---
TOTAL	359.173	348.535	363.673	355.473	333.577	369.862	419.637	514.348	470.166	421.255	386.446	378.432
MEAN	11.6	11.6	11.7	11.5	11.5	11.9	14	16.6	15.7	13.6	12.5	12.6
MAX	12.089	12	12.059	11.85	11.722	12.578	15.91	17.208	16.407	15.194	12.904	13.055
MIN	11.406	11.368	11.223	11.024	11.215	11.152	12.295	16.134	15.098	12.243	12.121	12.071
e Estimated												

**TABLE B-2
Pit Under-Drain Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308785 LEVIATHAN MINE PIT FLOW NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384215 LONGITUDE 1193928 NAD27 DRAINAGE AREA CONTRIBUTING DRAINAGE AREA DATUM 7100 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #4												
Discharge, gallons per minute												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.122	0.084	0.108	0.135	0.155	0.287	1.444	0.54	0.604	0.336	0.28	0.274
2	0.123	0.082	0.108	0.172	0.149	0.358	1.341	0.528	0.619	0.322	0.288	0.27
3	0.132	0.081	0.116	0.188	0.193	0.412	1.253	0.525	0.626	0.321	0.287	0.271
4	0.139	0.12	0.123	0.203	0.159	0.476	1.696	0.529	0.641	0.32	0.287	0.271
5	0.153	0.143	0.15	0.191	0.149	0.558	1.669	0.528	0.629	0.321	0.294	0.271
6	0.116	e0.121	0.155	0.192	0.149	0.6	1.443	0.525	0.633	0.326	0.281	0.269
7	0.124	e0.102	0.156	0.17	0.15	0.63	1.284	0.539	0.612	0.312	0.288	0.269
8	0.137	0.085	0.162	0.159	0.158	0.671	1.151	0.525	0.581	0.312	0.287	0.261
9	0.142	0.099	0.161	0.162	0.161	0.71	1.053	0.512	0.55	0.296	0.271	0.255
10	0.138	0.085	0.155	0.173	0.147	0.854	0.981	0.509	0.57	0.299	0.273	0.26
11	0.142	0.084	0.157	0.165	0.148	0.975	0.936	0.51	0.543	0.293	0.279	0.256
12	0.155	0.08	0.145	0.163	0.152	1.069	0.931	0.521	0.505	0.278	0.279	e0.252
13	0.129	0.08	0.163	0.166	0.182	1.628	0.905	0.512	0.498	0.285	0.272	e0.249
14	0.119	0.101	0.149	0.161	0.186	1.517	0.889	0.503	0.497	0.296	0.274	e0.247
15	0.136	0.118	0.143	0.166	0.174	1.114	0.865	e0.525	0.494	0.281	0.278	e0.243
16	0.134	0.121	0.161	0.17	0.177	1.012	0.765	e0.525	e0.490	0.278	0.279	e0.241
17	0.123	0.108	0.16	0.172	0.193	0.939	0.706	e0.525	e0.483	0.282	0.28	0.241
18	0.1	0.101	0.153	0.17	0.188	0.913	0.713	e0.525	e0.451	0.278	0.278	0.237
19	0.107	0.082	0.144	0.167	0.2	1.076	0.661	0.509	0.405	0.283	0.283	0.241
20	0.132	0.095	0.137	0.2	0.215	1.281	0.667	0.502	0.405	0.269	0.282	0.236
21	0.096	0.131	0.153	0.177	0.212	1.029	0.687	0.517	0.394	0.259	0.284	0.237
22	0.083	0.155	0.133	0.163	0.223	1.083	0.647	0.538	0.39	0.262	0.282	0.234
23	0.084	0.133	0.141	0.182	0.193	1.087	0.626	0.526	0.39	0.276	0.279	0.224
24	0.092	0.111	0.147	0.202	0.225	1.252	0.571	0.506	0.369	0.276	0.261	0.233
25	0.119	0.102	0.148	0.165	0.225	1.217	0.558	0.499	0.357	0.266	0.266	0.237
26	0.118	0.105	0.162	0.166	0.216	1.314	0.531	0.499	0.357	0.261	0.269	0.239
27	0.083	0.097	0.13	0.183	0.223	1.43	0.529	0.499	0.357	0.26	0.266	0.236
28	0.083	0.128	0.142	0.166	0.234	1.363	e0.529	0.493	0.34	0.277	0.27	0.236
29	0.088	0.123	0.124	0.142	0.265	1.47	0.528	0.522	0.335	0.29	0.268	0.235
30	0.087	0.125	0.146	0.161	---	1.496	0.531	0.542	0.337	0.29	0.262	0.238
31	0.08	---	0.135	0.129	---	1.352	---	0.538	---	0.29	0.271	---
TOTAL	3.616	3.182	4.467	5.281	5.401	31.173	27.09	16.096	14.462	8.995	8.598	7.463
MEAN	0.12	0.11	0.14	0.17	0.19	1.01	0.9	0.52	0.48	0.29	0.28	0.25
MAX	0.155	0.155	0.163	0.203	0.265	1.628	1.696	0.542	0.641	0.336	0.294	0.274
MIN	0.08	0.08	0.108	0.129	0.147	0.287	0.528	0.493	0.335	0.259	0.261	0.224
e Estimated												

**TABLE B-3
Overburden Seep Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087892 ASPEN C OVERBURDEN SEEP NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384245 LONGITUDE 1193911 NAD27 DRAINAGE AREA .06* CONTRIBUTING DRAINAGE AREA DATUM 7100 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #4												
Discharge, gallons per minute												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.878	5.819	5.54	5.091	5.29	5.52	5.746	6.343	7.865	7.177	6.185	4.779
2	5.769	5.763	5.514	5.21	5.269	5.012	5.736	6.391	7.781	7.197	6.144	5.135
3	5.854	5.672	5.699	5.304	e5.432	5.182	5.768	6.341	7.858	7.184	6.162	5.888
4	5.855	5.706	5.892	6.953	5.205	5.168	5.92	6.606	7.949	7.244	6.153	5.883
5	6.132	5.722	5.837	6.1	5.197	4.895	6.106	6.362	7.749	7.24	6.156	5.869
6	6.193	6.621	5.901	5.709	5.222	4.865	6.255	6.798	7.888	7.22	6.143	5.848
7	5.883	6	5.879	5.592	5.355	5.015	6.388	7.754	7.803	7.19	6.118	5.834
8	5.841	5.926	5.733	5.443	5.297	5.076	6.463	7.611	7.817	7.113	6.147	5.568
9	5.843	5.961	5.696	5.294	5.322	5.105	6.499	7.644	7.856	7.092	6.1	5.22
10	5.994	5.919	5.665	5.661	5.389	5.47	6.316	7.563	7.813	7.091	6.095	5.23
11	5.818	6.699	5.576	5.383	5.362	5.372	6.146	7.699	7.782	7.112	6.077	5.468
12	5.931	6.195	5.492	5.404	5.497	5.552	6.286	7.661	7.809	7.17	6.076	5.759
13	5.808	6.084	5.577	5.36	5.385	6.444	6.654	7.515	7.807	7.194	6.063	5.745
14	5.755	5.927	5.537	5.388	5.081	5.272	7.321	7.603	7.826	7.439	6.007	5.706
15	5.808	5.927	5.605	5.376	5.046	4.893	7.534	7.62	7.851	7.195	6.022	5.715
16	5.785	5.857	5.536	5.29	5.147	4.773	7.477	7.581	7.795	7.108	6.029	5.775
17	5.691	5.786	5.533	5.168	5.145	5.022	7.233	7.558	7.778	7.392	14.462	5.824
18	5.788	5.776	5.552	5.168	5.092	5.355	7.206	7.598	7.807	7.668	5.835	5.849
19	5.789	5.741	5.52	5.172	5.088	5.448	7.414	7.6	7.826	7.632	5.146	6.025
20	5.736	5.671	5.552	5.289	5.037	5.197	7.338	7.625	e7.724	7.835	5.058	5.867
21	5.566	5.582	5.488	5.185	5.006	5.18	7.158	7.808	e7.612	7.073	4.976	5.805
22	5.6	5.593	5.476	5.138	5.06	5.2	6.997	8.332	e7.527	6.3	4.983	5.783
23	e5.611	5.496	5.525	5.157	4.986	5.343	6.912	8.685	e7.442	6.239	4.91	5.737
24	e5.611	5.564	5.544	5.217	5.083	5.463	6.745	8.278	e7.385	6.191	4.866	5.862
25	5.713	5.748	5.335	5.128	5.204	5.734	6.688	8.812	7.316	6.162	4.857	6.06
26	5.64	5.705	5.22	5.156	5.388	5.783	6.607	8.567	7.299	6.15	4.928	5.845
27	5.61	5.776	5.086	5.342	5.583	5.634	6.565	8.684	7.249	6.156	4.815	5.69
28	7.834	5.65	5.164	5.285	5.6	5.795	6.587	8.18	7.19	6.113	4.807	5.635
29	e7.184	5.833	5.239	5.257	5.876	5.834	6.569	7.99	7.172	6.194	4.788	5.777
30	e6.497	5.787	5.298	5.218	---	5.764	6.385	7.918	7.179	6.222	4.75	5.694
31	5.898	---	5.148	5.338	---	5.715	---	7.917	---	6.224	4.864	---
TOTAL	183.915	175.506	171.359	166.776	152.644	166.081	199.019	236.644	229.755	214.517	181.722	170.875
MEAN	5.93	5.85	5.53	5.38	5.26	5.36	6.63	7.63	7.66	6.92	5.86	5.7
MAX	7.834	6.699	5.901	6.953	5.876	6.444	7.534	8.812	7.949	7.835	14.462	6.06
MIN	5.566	5.496	5.086	5.091	4.986	4.773	5.736	6.341	7.172	6.113	4.75	4.779
e Estimated												

**TABLE B-4
Channel Under-Drain Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087885 LEVIATHAN C CHANNEL UNDERDRAIN NR MARKLEEVILLE CA												
LATITUDE 384234 LONGITUDE 1193941 NAD27 DRAINAGE AREA CONTRIBUTING DRAINAGE AREA DATUM 6800 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #3												
Discharge, gallons per minute												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.929	10.859	10.929	12.97	15.345	12.239	26.051	30.58	28.442	28.094	20.009	15.999
2	10.886	10.231	10.914	12.524	15.283	13.338	25.708	31.757	27.967	27.259	19.88	15.347
3	10.929	10.217	11.114	12.369	15.142	13.48	25.615	32.22	27.901	26.733	19.944	15.621
4	10.975	10.625	11.036	13.204	15.61	13.411	25.55	32.641	27.563	26.263	19.923	15.192
5	10.914	10.983	10.975	14.683	14.311	13.458	25.411	32.782	27.292	26.234	19.688	14.553
6	10.945	10.725	11.006	15.646	13.967	14.393	26.066	33.078	27.125	26.107	19.859	14.5
7	10.914	10.871	11.703	15.628	13.95	14.607	26.423	33.327	26.135	25.805	19.923	14.236
8	10.857	10.914	12.354	15.61	14.02	14.581	26.722	32.178	25.724	24.645	19.69	13.805
9	10.786	10.96	12.369	15.628	14.285	14.58	26.528	32.038	25.2	24.195	19.63	12.942
10	10.758	10.991	12.323	15.416	14.524	14.464	26.499	31.925	25.003	24.436	19.671	12.683
11	10.474	10.914	12.354	14.956	15.504	14.676	26.731	31.841	25.249	24.112	19.722	12.524
12	10.673	10.914	12.384	14.621	15.663	15.891	26.048	31.729	25.233	24.084	19.568	13.144
13	10.701	10.914	12.339	14.029	15.684	16.129	25.937	31.476	25.585	24.071	19.537	13.298
14	10.914	10.96	12.369	13.984	15.629	17.528	26.623	31.448	25.934	23.801	19.442	13.032
15	11.017	10.914	12.308	14.258	14.011	17.879	28.344	31.588	25.849	23.749	19.179	12.75
16	11.387	10.914	12.339	14.612	13.967	19.132	28.328	31.392	26.084	24.058	19.016	12.287
17	11.683	10.975	12.34	14.214	14.02	19.051	27.616	31.422	26.038	23.841	18.906	12.017
18	12.278	10.929	12.384	14.559	14.073	18.628	28.047	31.532	26.033	23.766	18.735	11.802
19	12.262	11.099	12.45	14.921	13.967	18.944	28.068	31.649	25.951	23.542	17.94	11.678
20	11.057	10.96	12.401	15.31	13.967	18.817	28.018	31.73	25.634	23.048	17.879	11.726
21	11.308	10.914	12.475	15.646	14.877	18.749	27.812	31.195	25.491	22.626	17.779	11.631
22	11.566	10.914	12.409	15.663	14.347	19.259	27.704	30.998	25.538	22.611	17.678	11.594
23	11.778	10.914	12.384	15.663	15.089	20.386	28.224	31.335	25.579	22.385	17.678	11.61
24	11.316	10.9	12.417	15.663	15.252	20.407	27.425	30.998	25.197	21.907	17.477	11.413
25	10.739	10.914	12.483	15.663	12.953	21.963	27.266	30.942	25.284	21.715	17.518	11.355
26	11.163	10.914	12.483	15.663	12.417	24.488	26.956	31.055	26.226	21.726	17.477	e11.188
27	12.479	10.945	12.862	15.665	12.384	24.552	27.296	e30.226	28.415	21.794	17.43	e11.041
28	12.015	10.914	12.805	15.701	12.308	26.184	27.793	e29.686	28.542	21.052	17.159	e10.876
29	11.157	10.914	12.887	15.704	12.172	26.374	28.959	29.367	28.447	20.137	16.797	e10.720
30	10.665	10.929	12.904	15.663	---	26.163	28.699	29.051	28.041	20.16	16.281	e10.619
31	10.825	---	13.052	15.292	---	26.113	---	28.608	---	19.987	16.197	---
TOTAL	346.35	326.041	377.552	461.128	414.721	569.864	812.467	971.794	792.702	733.943	577.612	381.183
MEAN	11.2	10.9	12.2	14.9	14.3	18.4	27.1	31.3	26.4	23.7	18.6	12.7
MAX	12.479	11.099	13.052	15.704	15.684	26.374	28.959	33.327	28.542	28.094	20.009	15.999
MIN	10.474	10.217	10.914	12.369	12.172	12.239	25.411	28.608	25.003	19.987	16.197	10.619
e Estimated												

**TABLE B-5
Station 1 Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308783 LEVIATHAN C AB MINE NR MARKLEEVILLE CA SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384205 LONGITUDE 1193920 NAD27 DRAINAGE AREA 4.16* CONTRIBUTING DRAINAGE AREA DATUM 7200 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #2												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	0.07	e0.09	e0.07	0.08	0.23	e0.65	1.1	0.38	0.08	0.02	0.03
2	0.04	0.07	e0.09	e0.08	0.08	0.2	e0.68	1.1	0.35	0.08	0.02	0.03
3	0.04	0.08	e0.08	e0.08	0.08	0.19	0.7	1.2	0.34	0.07	0.02	0.03
4	0.04	0.07	e0.08	e0.12	0.08	0.21	0.9	1.2	0.33	0.07	0.02	0.03
5	0.05	0.07	0.08	e0.11	0.08	0.21	1.1	1.1	0.31	0.07	0.03	0.03
6	0.06	0.07	0.07	e0.10	0.08	0.18	1.1	1.2	0.29	0.07	0.03	0.03
7	0.05	0.07	0.07	0.1	0.09	0.14	1.1	1.3	0.28	0.06	0.02	0.02
8	0.05	0.07	0.07	e0.10	0.09	0.15	1.1	1.1	0.26	0.06	0.02	0.02
9	0.04	0.07	0.07	e0.10	0.08	0.17	1	0.96	0.26	0.06	0.02	0.02
10	0.05	0.07	e0.07	e0.10	0.09	0.19	0.96	0.93	0.26	0.05	0.02	0.03
11	0.05	0.12	e0.07	0.09	0.08	0.2	1.1	0.85	0.26	0.05	0.02	0.03
12	0.05	0.09	e0.07	0.09	0.09	0.21	1.3	0.78	0.25	0.05	0.02	0.03
13	0.05	0.08	e0.07	0.09	0.1	0.27	1.7	0.7	0.24	0.05	0.02	0.03
14	0.05	0.08	e0.07	0.09	e0.10	0.33	1.9	0.68	0.23	0.06	0.02	0.02
15	0.05	0.08	e0.07	0.09	0.1	0.26	1.6	0.65	0.21	0.05	0.02	0.02
16	0.05	0.08	e0.07	e0.10	0.1	0.22	1.4	0.57	0.21	0.04	0.02	0.03
17	0.05	0.07	e0.07	e0.10	e0.10	0.21	1.6	0.58	0.19	0.04	0.1	0.03
18	0.06	0.07	e0.08	e0.09	0.11	0.23	1.6	0.57	0.18	0.04	0.05	0.03
19	0.05	0.07	e0.08	0.09	e0.11	0.31	1.5	0.52	0.17	0.04	0.03	0.03
20	0.06	0.07	e0.08	0.09	e0.11	0.34	1.4	0.46	0.17	0.04	0.03	0.03
21	0.06	e0.08	e0.08	0.09	e0.11	0.36	1.2	0.48	0.15	0.05	0.03	0.03
22	0.06	e0.08	e0.07	0.09	e0.11	0.4	1.2	0.49	0.14	0.04	0.03	0.03
23	0.06	e0.09	e0.08	0.09	e0.11	0.66	1.2	0.51	0.13	0.03	0.03	0.03
24	0.06	e0.09	e0.08	0.09	e0.11	0.79	1.1	0.41	0.12	0.03	0.03	0.03
25	0.06	e0.09	e0.07	0.09	e0.11	0.91	1.2	0.55	0.11	0.03	0.02	0.03
26	0.06	e0.09	e0.07	0.09	0.11	0.97	1.1	0.77	0.1	0.03	0.02	0.03
27	0.06	e0.09	e0.08	0.08	0.13	0.97	1.3	0.78	0.09	0.03	0.02	0.03
28	0.06	e0.09	e0.07	0.08	0.16	0.81	1.5	0.68	0.09	0.03	0.02	0.03
29	0.08	e0.09	e0.07	e0.08	0.2	0.77	1.3	0.56	0.08	0.03	0.02	0.03
30	0.08	e0.09	e0.07	e0.08	---	0.76	1.2	0.46	0.08	0.03	0.02	0.03
31	0.07	---	e0.07	e0.08	---	0.63	---	0.42	---	0.03	0.02	---
TOTAL	1.69	2.4	2.31	2.82	2.98	12.48	36.69	23.66	6.26	1.49	0.81	0.85
MEAN	0.05	0.08	0.07	0.09	0.1	0.4	1.22	0.76	0.21	0.05	0.03	0.03
MAX	0.08	0.12	0.09	0.12	0.2	0.97	1.9	1.3	0.38	0.08	0.1	0.03
MIN	0.04	0.07	0.07	0.07	0.08	0.14	0.65	0.41	0.08	0.03	0.02	0.02
AC-FT	3.4	4.8	4.6	5.6	5.9	25	73	47	12	3	1.6	1.7
e Estimated												

**TABLE B-6
Station 22 Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087891 ASPEN C ABV LEVIATHAN MINE NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384231 LONGITUDE 1193855 NAD83 DRAINAGE AREA .55* CONTRIBUTING DRAINAGE AREA DATUM 7190 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #2												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.2	0.2	0.21	0.2	0.19	e0.18	e0.23	0.18	0.06	0.18	0.18	0.19
2	0.2	0.21	0.21	0.2	0.19	e0.18	0.22	0.17	0.07	0.18	0.18	0.18
3	0.2	0.21	0.21	0.2	0.2	e0.19	0.22	0.17	0.07	e0.18	0.18	0.18
4	0.2	0.2	0.21	0.3	0.19	e0.19	0.22	0.18	0.07	0.17	0.19	0.17
5	0.21	0.21	0.21	0.39	0.19	e0.19	0.22	0.18	0.07	0.17	0.19	0.17
6	0.2	0.21	0.21	0.22	0.19	e0.19	0.21	0.17	0.07	0.16	0.19	0.17
7	0.2	0.21	0.21	0.21	0.19	e0.19	0.21	0.17	0.07	0.16	0.19	0.17
8	0.2	0.21	0.2	0.22	0.2	e0.19	0.21	0.16	0.07	0.16	0.19	0.17
9	0.2	0.21	0.21	0.22	0.2	e0.20	0.2	0.16	0.08	0.17	0.19	0.17
10	0.2	0.21	0.21	0.23	0.19	e0.21	0.2	0.15	0.08	0.17	0.18	0.17
11	0.2	0.22	0.2	0.22	0.19	e0.22	0.19	0.14	0.08	0.17	0.19	0.16
12	0.21	0.21	0.2	0.22	0.19	e0.22	0.19	0.14	0.08	0.17	0.19	0.16
13	0.2	0.21	0.2	0.21	0.18	e0.25	0.2	0.14	0.08	0.17	0.19	0.16
14	0.2	0.2	0.21	0.21	0.18	e0.20	0.21	0.12	0.08	0.18	0.19	0.15
15	0.2	0.2	0.21	0.2	0.19	e0.20	0.23	0.1	0.08	0.18	0.19	0.15
16	0.19	0.2	0.21	0.2	0.19	e0.20	0.24	0.1	0.09	0.18	0.19	0.16
17	0.19	0.2	0.21	0.19	0.19	e0.22	0.25	0.1	0.1	0.18	0.2	0.15
18	0.19	0.21	0.21	0.19	0.19	e0.23	0.23	0.1	0.1	0.18	0.19	0.16
19	0.19	0.21	0.21	0.19	0.2	e0.24	0.19	0.1	0.1	0.18	0.19	0.16
20	0.19	0.21	0.22	0.2	0.19	e0.22	0.2	0.09	0.1	0.18	0.19	0.15
21	0.2	0.21	0.21	0.19	0.2	e0.22	0.23	0.09	0.1	0.18	0.19	0.15
22	0.19	0.2	0.2	0.19	0.23	e0.23	0.28	0.11	0.1	0.18	0.19	0.16
23	0.19	0.2	0.21	0.19	0.2	e0.24	0.29	0.1	0.11	0.18	0.19	0.16
24	0.19	0.21	0.2	0.19	0.19	e0.25	0.28	0.1	0.11	0.18	0.19	0.16
25	0.19	0.21	0.2	0.19	0.18	e0.26	0.29	0.11	0.12	0.18	0.19	0.16
26	0.19	0.21	0.2	0.19	0.18	e0.27	0.26	0.1	0.13	0.18	0.19	0.17
27	0.2	0.21	e0.20	0.2	e0.18	e0.23	0.24	0.1	0.15	0.18	0.19	0.17
28	0.2	0.21	0.2	e0.20	e0.18	e0.25	0.24	0.09	0.16	0.18	0.19	0.17
29	0.21	0.21	0.2	0.19	e0.18	e0.30	0.23	0.09	0.16	0.18	0.19	0.18
30	0.21	0.21	0.2	0.2	---	e0.27	0.21	0.08	0.17	0.19	0.18	0.18
31	0.21	---	0.19	0.2	---	e0.25	---	0.07	---	0.18	0.18	---
TOTAL	6.15	6.23	6.38	6.55	5.54	6.88	6.82	3.86	2.91	5.46	5.84	4.96
MEAN	0.2	0.21	0.21	0.21	0.19	0.22	0.23	0.12	0.1	0.18	0.19	0.17
MAX	0.21	0.22	0.22	0.39	0.23	0.3	0.29	0.18	0.17	0.19	0.2	0.19
MIN	0.19	0.2	0.19	0.19	0.18	0.18	0.19	0.07	0.06	0.16	0.18	0.15
AC-FT	12	12	13	13	11	14	14	7.7	5.8	11	12	9.8
e Estimated												

**TABLE B-7
4L Creek Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087889 4L C NR MARKLEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384239 LONGITUDE 1193947 NAD83 DRAINAGE AREA 1.14* CONTRIBUTING DRAINAGE AREA DATUM 6780 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #2												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	e0.01	e0.01	0.01	0.21	0.2	0.09	0.01	0	0
2	0	0	0	e0.01	e0.01	0.01	0.19	0.17	0.08	0.01	0	0
3	0	0	0	e0.01	e0.01	e0.01	0.23	0.17	0.08	0	0	0
4	0	0	0	0.04	e0.01	0.01	0.3	0.17	0.08	0	0	0
5	0	0	0	0.02	e0.01	0.01	0.3	0.18	0.08	0	0	0
6	0	0	0	e0.01	e0.01	e0.01	0.29	0.16	0.08	0	0	0
7	0	0	0	e0.01	e0.01	e0.01	0.26	0.15	0.08	0	0	0
8	0	0	0	e0.01	e0.01	0.01	0.23	0.14	0.07	0	0	0
9	0	0	0	e0.01	e0.01	0.01	0.23	0.13	0.07	0	0	0
10	0	0	0	e0.01	e0.01	0.02	0.24	0.13	0.06	0	0	0
11	0	0	0	e0.01	e0.01	0.03	0.27	0.12	0.07	0	0	0
12	0	0	0	e0.01	e0.01	0.03	0.35	0.12	0.07	0	0	0
13	0	0	0	e0.01	e0.01	0.07	0.53	0.11	0.07	0	0	0
14	0	0	0	e0.01	e0.01	0.04	0.83	0.11	0.06	0	0	0
15	0	0	0	e0.01	e0.01	0.03	0.54	0.1	0.06	0	0	0
16	0	0	e0.01	e0.01	e0.01	0.04	0.29	0.09	0.05	0	0	0
17	0	0	e0.01	e0.01	e0.01	0.03	0.39	0.09	0.05	0	0	0
18	0	0	e0.01	e0.01	e0.01	0.05	0.51	0.09	0.05	0	0	0
19	0	0	e0.01	e0.01	e0.01	0.08	0.38	0.08	0.04	0	0	0
20	0	0	e0.01	e0.01	e0.01	0.08	0.26	0.08	0.04	0	0	0
21	0	0	e0.01	e0.01	e0.01	0.09	0.22	0.09	0.04	0	0	0
22	0	0	e0.01	e0.01	e0.01	0.1	0.21	0.1	0.04	0	0	0
23	0	0	e0.01	e0.01	e0.01	0.14	0.21	0.1	0.03	0	0	0
24	0	0	e0.01	e0.01	e0.01	0.16	0.22	0.1	0.03	0	0	0
25	0	0	e0.01	e0.01	e0.02	0.17	0.21	0.09	0.02	0	0	0
26	0	0	e0.01	e0.01	e0.02	0.2	0.28	0.11	0.02	0	0	0
27	0	0	e0.01	e0.01	e0.02	0.16	0.36	0.12	0.02	0	0	0
28	0	0	e0.01	e0.01	e0.01	0.18	0.42	0.12	0.02	0	0	0
29	0	0	e0.01	e0.01	0.01	0.26	0.33	0.1	0.01	0	0	0
30	0	0	e0.01	e0.01	---	0.24	0.25	0.1	0.01	0	0	0
31	0	---	e0.01	e0.01	---	0.23	---	0.09	---	0	0	---
TOTAL	0	0	0.16	0.35	0.32	2.52	9.54	3.71	1.57	0.02	0	0
MEAN	0	0	0.01	0.01	0.01	0.08	0.32	0.12	0.05	0	0	0
MAX	0	0	0.01	0.04	0.02	0.26	0.83	0.2	0.09	0.01	0	0
MIN	0	0	0	0.01	0.01	0.01	0.19	0.08	0.01	0	0	0
AC-FT	0	0	0.3	0.7	0.6	5	19	7.4	3.1	0.04	0	0
e Estimated												

**TABLE B-8
Station 15 Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES													
STATION NUMBER 10308789 LEVIATHAN C AB ASPEN C NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003													
LATITUDE 384301 LONGITUDE 1193933 NAD27 DRAINAGE AREA 7.07* CONTRIBUTING DRAINAGE AREA DATUM 6700 NGVD29													
Date Processed: 2008-10-08 16:14 By phoneywe													
Lowest aging status in period is WORKING													
DD #2													
Discharge, cubic feet per second													
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008													
DAILY MEAN VALUES													
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	0.03	0.11	0.09	e0.15	0.16	0.55	1.2	1.4	0.53	0.06	0.18	0.01	
2	0.04	0.11	e0.13	e0.15	0.16	0.4	1.1	1.3	0.48	0.19	0.05	0.02	
3	0.04	0.11	e0.13	e0.15	0.17	0.38	1.3	1.3	0.45	0.17	0.03	0.12	
4	0.04	0.1	0.09	1.1	0.16	0.41	1.6	1.4	0.43	0.06	0.05	0.15	
5	0.05	0.11	0.1	0.69	0.15	0.38	1.7	1.4	0.4	0.06	0.08	0.09	
6	0.08	0.11	0.1	0.15	0.17	0.35	1.8	1.3	0.68	0.06	0.19	0.03	
7	0.08	0.11	0.12	0.13	0.18	0.35	1.6	1.3	0.47	0.05	0.26	0.03	
8	0.07	0.11	0.12	0.13	0.19	0.41	1.5	1.2	0.34	0.04	0.14	0.01	
9	0.06	0.12	0.11	0.13	0.18	0.44	1.4	1.1	0.31	0.04	0.05	0.06	
10	0.07	0.11	e0.17	0.15	0.2	0.58	1.4	1	0.28	0.09	0.04	0.1	
11	0.15	0.19	0.11	0.15	0.21	0.73	1.7	0.97	0.27	0.22	0.03	0.06	
12	0.17	0.12	0.12	0.15	0.22	0.83	2.1	0.92	0.26	0.1	0.06	0.06	
13	0.15	0.12	0.12	0.15	0.22	1.9	2.9	0.82	0.47	0.05	0.07	0.03	
14	0.15	0.12	e0.19	0.15	0.2	1.5	3.5	0.76	0.39	0.05	0.07	0.03	
15	0.15	0.11	0.12	0.15	0.19	1.1	2.3	0.72	0.3	0.05	0.07	0.03	
16	0.15	0.1	e0.18	0.14	0.2	0.64	1.8	0.68	0.18	0.04	0.04	0.14	
17	0.15	e0.11	0.11	0.16	0.21	1.4	2.1	0.62	0.17	0.03	0.35	0.16	
18	0.16	e0.11	0.11	0.15	0.23	0.64	2.5	0.58	0.34	0.06	0.1	0.11	
19	0.16	e0.11	0.1	0.15	0.24	1.1	2.2	0.53	0.22	0.22	0.1	0.07	
20	0.16	e0.11	e0.17	0.15	0.24	1	1.6	0.51	0.14	0.14	0.16	0.04	
21	0.12	e0.11	e0.17	0.14	0.23	0.99	1.4	0.5	0.13	0.14	0.29	0.04	
22	0.12	e0.11	e0.17	0.14	0.26	1.1	1.4	0.6	0.12	0.11	0.17	0.04	
23	0.16	e0.11	e0.18	0.14	0.23	1.4	1.4	0.69	0.12	0.04	0.03	0.05	
24	0.14	e0.11	e0.17	0.14	0.27	1.9	1.3	0.63	0.21	0.03	0.03	0.1	
25	0.1	e0.11	e0.17	0.14	0.23	2.2	1.4	0.78	0.36	0.03	0.01	0.05	
26	0.1	e0.10	e0.17	0.14	0.24	2.2	1.7	1.1	0.35	0.03	0.08	0.05	
27	0.11	e0.10	e0.16	0.15	e0.35	1.7	2	1.1	0.29	0	0.15	0.03	
28	0.11	e0.11	e0.16	0.15	0.43	1.6	2.1	0.93	0.09	0.03	0.16	0.03	
29	0.13	0.09	e0.16	0.15	0.59	1.6	1.9	0.7	0.08	0.07	0.08	0.06	
30	0.13	0.1	e0.16	0.16	---	1.5	1.6	0.64	0.06	0.08	0.03	0.13	
31	0.12	---	e0.15	0.16	---	1.3	---	0.57	---	0.22	0	---	
TOTAL	3.45	3.35	4.31	6.04	6.71	32.58	53.5	28.05	8.92	2.56	3.15	1.93	
MEAN	0.11	0.11	0.14	0.19	0.23	1.05	1.78	0.9	0.3	0.08	0.1	0.06	
MAX	0.17	0.19	0.19	1.1	0.59	2.2	3.5	1.4	0.68	0.22	0.35	0.16	
MIN	0.03	0.09	0.09	0.13	0.15	0.35	1.1	0.5	0.06	0	0	0.01	
AC-FT	6.8	6.6	8.5	12	13	65	106	56	18	5.1	6.2	3.8	
e Estimated													

**TABLE B-9
Station 23 Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308792 LEVIATHAN C AB MOUNTAINEER C NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384412 LONGITUDE 1193839 NAD27 DRAINAGE AREA 10.8* CONTRIBUTING DRAINAGE AREA DATUM 6220 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #1												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.3	e0.28	e0.38	0.76	1.5	2.4	2.4	0.79	0.14	0.46	0.07
2	0.22	0.29	e0.28	0.6	0.71	0.85	2.2	2.2	0.76	0.27	0.13	0.08
3	0.17	0.3	0.28	0.53	0.67	0.96	2.5	2.1	0.77	0.33	0.07	0.21
4	0.12	0.29	e0.28	3.1	0.74	0.78	3.1	2.1	0.74	0.13	0.06	0.33
5	0.26	0.26	0.28	e2.6	0.69	0.8	3.2	2.3	0.71	0.12	0.19	0.23
6	0.37	0.27	0.28	1.5	0.77	1.9	3.2	2	0.93	0.13	0.35	0.06
7	0.3	0.26	e0.31	0.49	0.8	0.67	2.9	1.9	0.81	0.11	0.56	0.05
8	0.3	0.26	0.33	0.55	0.83	0.77	2.6	1.8	0.62	0.1	0.37	0.05
9	0.23	0.27	e0.34	0.6	0.8	0.89	2.4	1.6	0.57	0.07	0.09	0.04
10	0.21	0.27	e0.34	0.67	0.85	1.3	2.6	1.5	0.51	0.11	0.06	0.2
11	0.4	0.57	e0.32	0.62	0.87	1.9	2.9	1.5	0.54	0.4	0.05	0.11
12	0.48	0.36	e0.32	0.57	0.92	2.5	3.5	1.4	0.55	0.22	0.08	0.11
13	0.49	0.33	e0.33	0.54	0.98	6.2	4.5	1.3	0.75	0.1	0.11	0.05
14	0.46	0.31	0.36	0.51	0.82	3.3	5.5	1.2	0.64	0.14	0.1	0.04
15	0.48	0.29	e0.37	0.54	0.77	2.4	3.9	1.1	0.56	0.16	0.08	0.04
16	0.52	0.28	e0.37	0.51	0.81	1.8	3.2	1	0.38	0.09	0.04	0.26
17	0.52	0.25	e0.37	0.42	0.84	3	3.4	0.93	0.35	0.07	0.57	0.33
18	0.54	0.26	e0.37	0.51	0.78	2.2	3.9	0.85	0.52	0.08	0.28	0.23
19	0.56	0.25	e0.36	0.51	0.74	3.2	3.5	0.79	0.43	0.43	0.23	0.12
20	0.58	0.27	e0.35	0.55	0.72	3.1	3	0.72	0.32	0.33	0.25	0.08
21	0.51	0.25	0.34	0.55	0.68	3	3.3	0.73	0.32	0.36	0.44	0.07
22	0.49	e0.26	0.36	0.56	0.69	3.1	2.5	0.96	0.29	0.33	0.33	0.08
23	0.66	e0.27	e0.36	0.6	0.64	3.8	2.5	1.2	0.27	0.11	0.07	0.08
24	0.6	e0.30	e0.35	0.63	0.75	4.5	2.4	1	0.34	0.09	0.05	0.23
25	0.43	e0.30	e0.34	0.67	0.71	5.3	2.4	1.2	0.58	0.07	0.05	0.1
26	0.44	e0.30	0.34	0.73	0.74	4.4	2.7	1.7	0.52	0.08	0.11	0.09
27	0.41	e0.31	e0.34	0.88	0.65	3.4	3	1.7	0.47	0.08	0.27	0.07
28	0.41	e0.30	0.36	0.84	0.78	3.3	3.3	1.4	0.18	0.08	0.25	0.07
29	0.49	0.28	e0.37	0.87	1.2	3.3	3.1	1.1	0.17	0.18	0.12	0.11
30	0.46	0.28	0.37	0.85	---	3	2.7	0.98	0.16	0.1	0.05	0.33
31	0.35	---	e0.38	0.84	---	2.6	---	0.89	---	0.49	0.04	---
TOTAL	12.61	8.79	10.43	24.32	22.71	79.72	92.3	43.55	15.55	5.5	5.91	3.92
MEAN	0.41	0.29	0.34	0.78	0.78	2.57	3.08	1.4	0.52	0.18	0.19	0.13
MAX	0.66	0.57	0.38	3.1	1.2	6.2	5.5	2.4	0.93	0.49	0.57	0.33
MIN	0.12	0.25	0.28	0.38	0.64	0.67	2.2	0.72	0.16	0.07	0.04	0.04
AC-FT	25	17	21	48	45	158	183	86	31	11	12	7.8
e Estimated												

**TABLE B-10
Station 25 Flows**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308794 BRYANT C BL MOUNTAINEER C NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384412 LONGITUDE 1193839 NAD27 DRAINAGE AREA 12.4* CONTRIBUTING DRAINAGE AREA DATUM 6300 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #1												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.4	1.6	1.9	1.7	4	4	3.7	2	1	1.2	0.88
2	1.2	1.5	1.8	2	1.7	2.7	3.8	3.4	2.1	1.1	0.94	0.89
3	1.1	1.5	1.8	1.9	1.7	2.6	4.3	3.3	1.9	1.2	0.89	0.96
4	1.2	1.4	1.9	4.4	1.7	2.7	5.4	3.3	1.9	1.1	0.89	1
5	1.4	1.4	1.8	4.1	1.6	2.5	5.7	3.5	1.9	1	1	0.94
6	1.6	1.4	1.8	3.1	1.7	4.5	5.8	3.2	2	1	1.1	0.8
7	1.5	1.5	e1.8	2.2	1.7	2.3	5.2	3.1	1.9	0.99	1.2	0.74
8	1.5	1.4	e1.8	2.1	1.7	2.5	4.7	2.9	1.7	0.97	1.1	0.73
9	1.5	1.4	1.9	2	1.7	2.6	4.3	2.7	1.8	0.94	0.86	0.73
10	1.5	1.5	e1.9	2.2	1.9	3.3	4.4	2.7	1.7	1	0.83	0.9
11	1.6	2	e1.9	2	2.1	3.9	5	2.6	1.7	1.3	0.83	0.84
12	1.6	1.6	e1.9	1.9	2.2	4.2	6.2	2.5	1.6	1.2	0.88	0.82
13	1.7	1.6	e1.9	1.8	2.1	8.8	7.9	2.4	1.7	1	0.9	0.77
14	1.6	1.5	1.8	1.8	1.7	5.1	9.2	2.3	1.6	1.2	0.88	0.75
15	1.7	1.5	e1.8	1.8	1.7	3.7	6.6	2.2	1.5	1.1	0.87	0.75
16	1.7	1.5	e1.9	1.6	1.8	2.6	5.2	2.2	1.4	0.98	0.83	0.95
17	1.8	1.6	e1.9	1.6	1.9	8.7	5.7	2.1	1.4	0.94	1.4	0.99
18	1.8	1.6	e1.9	1.8	1.9	3.2	6.4	2	1.5	0.94	1.2	0.94
19	1.7	1.5	1.9	1.7	1.9	4.7	5.9	1.9	1.4	1.2	1.1	0.89
20	1.7	1.6	2	1.7	1.9	4.3	4.9	1.9	1.3	1.2	1.1	0.86
21	1.7	e1.6	1.9	1.7	1.8	4	4.9	1.9	1.2	1.2	1.3	0.87
22	1.7	1.7	e1.9	1.7	1.8	4.1	4	2.2	1.2	1.2	1.1	0.92
23	1.8	1.6	e1.9	1.7	e1.7	5.1	4	2.4	1.2	1	0.82	0.87
24	1.8	1.6	1.9	1.7	e1.7	6.4	3.7	2.2	1.3	0.96	0.77	0.9
25	1.6	e1.7	1.7	1.7	1.7	8.1	3.8	2.4	1.5	0.93	0.75	0.79
26	1.7	e1.7	1.7	1.7	1.7	8.1	4.2	2.9	1.4	0.92	0.86	0.79
27	1.7	1.7	e1.7	1.8	2.1	6.2	4.6	2.8	1.4	0.92	1	0.79
28	1.7	1.6	e1.7	1.7	3.1	5.9	4.9	2.5	1.1	0.91	1	0.8
29	1.8	1.7	1.8	1.7	4.3	5.9	4.6	2.3	1	0.99	0.86	0.87
30	1.6	1.6	e1.8	1.7	---	5.2	4.1	2.3	1	0.93	0.75	1
31	1.5	---	e1.9	1.7	---	4.3	---	2.1	---	1.2	0.76	---
TOTAL	49.2	46.9	56.9	62.4	56.2	142.2	153.4	79.9	46.3	32.52	29.97	25.73
MEAN	1.59	1.56	1.84	2.01	1.94	4.59	5.11	2.58	1.54	1.05	0.97	0.86
MAX	1.8	2	2	4.4	4.3	8.8	9.2	3.7	2.1	1.3	1.4	1
MIN	1.1	1.4	1.6	1.6	1.6	2.3	3.7	1.9	1	0.91	0.75	0.73
AC-FT	98	93	113	124	111	282	304	158	92	65	59	51
e Estimated												

TABLE B-11
Station 26 Flows

U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 10308800 BRYANT C NR GARDNERVILLE, NV SOURCE AGENCY USGS STATE 32 COUNTY 005												
LATITUDE: 384738 LONGITUDE: 1194018 NAD27 DRAINAGE AREA:31.5° CONTRIBUTING DRAINAGE AREA: DATUM:5445.91 NGVD29												
Date Processed: 2008-11-16 07:14 By snberris												
Lowest aging status in period is IN REVIEW												
DD #2												
Discharge, cubic feet per second												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2	3.4	2.3	2.5	3.6	6	6.3	6.6	3.3	2e2.1		1.7
2	2	3.2	2.1	3.3	3.6	5.1	6.1	6.3	3.4	1.9e2.1		1.8
3	2	3.1	2.6	2.8	3.6	4.8	6.1	6	3.3	1.7e2.0		1.7
4	2.1	3.2	2.5	3.8	3.6	4.8	6.4	5.8	3.6	1.5e1.8		1.9
5	2.3	3.3	2.5	3.6	3.6	4.6	6.5	5.9	4	1.5e1.8		2
6	2.4	3.2	2.5	3.2	3.6	4.3	6.5	5.7	4.2	1.4e1.9		2
7	2.4	3	2.7	3	3.7	4.3	6.3	5.3	4.3	1.5e1.9		1.8
8	2.7	2.9	2.7	2.9	4	4.4	6.1	5.2	4	1.5	2	1.6
9	2.5	2.8	2.6	2.9	4	4.3	5.9	5	3.8	1.4e1.9		1.8
10	2.8	3	2.3	2.9	4.1	4.4	5.8	4.9	3.7	1.6e1.7		1.8
11	3.5	3.2	2.5	2.8	4.1	4.9	5.9	4.8	3.9	1.6e1.6		1.7
12	3.5	3.1	2.6	2.7	4.2	4.9	6.2	4.6	3.8	1.6e1.6		1.4
13	3.3	2.9	2.7	2.7	4.3	6.9	6.7	4.6	3.8	1.6e1.6		1.2
14	3.2	2.9	2.7	3.4	4.1	6.7	7.1	4	3.5	1.7e1.6		1.6
15	3.1	2.8	2.8	3.6	3.9	5.6	7	4.3	3.2	1.8	1.5	2
16	3	2.7	2.8	3.5	4.2	5.1	6.2	3.7	2.8	1.6e1.6		2
17	3.4	2.7	2.8	3.5	4.2	4.7	6.2	3.5	2.6	1.6e1.6		2.1
18	3.6	2.6	2.7	3.8	4.2	5	6.6	3.7	2.5	1.9e2.3		2
19	3.8	2.6	2.7	3.7	4.2	5.6	6.6	3.9	3	2e1.8		1.8
20	4.1	2.6	2.7	3.7	4.1	5.9	6.5	3.4	2.5e2.0	e1.6		1.9
21	4.1	2.5	2.2	3.6	4	5.8	6.5	3.5	2.4	2.1e1.6		2
22	4	2.3	2.5	3.6	3.9	5.9	6.6	3.7	2e2.1		1.9	2.1
23	3.8	2.2	2.8	3.5	3.6	6.3	6.8	3.7	1.9	2.1	2.4	2.1
24	3.6	2.3	2.7	3.5	3.9	6.8	7	3.3	2e2.0		2.1	2.4
25	3.6	2.7	2.4	3.5	4	7.4	6.5	3.2	2e1.9		1.9	2.3
26	3.6	2.7	2.6	3.5	4	7.8	6.5	3.3	2.3e1.9		1.6	2.2
27	3.8	2.6	2.3	3.8	4.2	7.4	6.7	3.6	2e1.8		1.7	2.3
28	3.8	2.4	2.7	3.7	4.7	6.9	6.8	3.7	1.7e1.8		2.1	2.1
29	3.8	2.6	2.8	3.6	5.4	6.9	7	3.6	1.6e1.8		1.8	2.1
30	3.7	2.5	2.8	3.6	---	6.7	6.9	3.5	1.7e1.8		1.5	2.1
31	3.5	---	2.7	3.7	---	6.4	---	3.5	---	e1.9	1.5	---
TOTAL	99	84	80.3	103.9	116.6	176.6	194.3	135.8	88.8	54.6	56.1	57.5
MEAN	3.19	2.8	2.59	3.35	4.02	5.7	6.48	4.38	2.96	1.76	1.81	1.92
MAX	4.1	3.4	2.8	3.8	5.4	7.8	7.1	6.6	4.3	2.1	2.4	2.4
MIN	2	2.2	2.1	2.5	3.6	4.3	5.8	3.2	1.6	1.4	1.5	1.2
AC-FT	196	167	159	206	231	350	385	269	176	108	111	114
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2008, BY WATER YEAR (WY)												
MEAN	3.13	3.38	4.46	7.83	6.8	13	17.8	19.7	7.86	3.64	2.87	2.94
MAX	4.43	4.62	20	59.1	21.2	52	71.8	71.5	33.9	9.16	5.59	5.05
(WY)	1999	1999	2006	1997	1996	1995	1969	1969	1995	1969	1969	1969
MIN	1.9	2.15	2.25	2.23	2.91	4.03	3.16	2.53	2.09	1.7	1.73	1.41
(WY)	2004	1962	1962	2004	2004	2007	2007	2007	2001	2007	1994	2003
SUMMARY STATISTICS												
				FOR 2007 CALENDAR YEAR				FOR 2008 WATER YEAR			WATER YEARS 1961 - 2008	
ANNUAL TOTAL				995.9			1247.5					
ANNUAL MEAN				2.73			3.41			7.9		
HIGHEST ANNUAL MEAN										20		
LOWEST ANNUAL MEAN										2.93		
HIGHEST DAILY MEAN				5.1			14-Mar			7.8		
LOWEST DAILY MEAN				1.4			8-Jul			1.2		
ANNUAL SEVEN-DAY MINIMUM				1.5			3-Jul			1.5		
MAXIMUM PEAK FLOW										9.8		
MAXIMUM PEAK STAGE										6.3		
ANNUAL RUNOFF (AC-FT)				1980			2470			5720		
10 PERCENT EXCEEDS				3.8			6.2			16		
50 PERCENT EXCEEDS				2.7			3.2			3.9		
90 PERCENT EXCEEDS				1.7			1.7			2.3		
e Estimated												

**TABLE B-12
Pond 1 Stage**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087853 LEVIATHAN MINE POND 1 NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384215 LONGITUDE 1193929 NAD27 DRAINAGE AREA CONTRIBUTING DRAINAGE AREA DATUM 7050 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #1												
Gage height, feet												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.52	4.52	4.55	4.53	4.68	5.23	5.81	5.72	5.69	5.32	5.01	4.97
2	4.55	4.51	e4.55	4.52	4.72	5.24	5.82	5.72	5.69	5.31	5.01	4.89
3	4.55	4.51	e4.55	4.53	4.75	e5.25	e5.83	5.71	5.68	5.29	5.01	4.76
4	e4.52	4.52	e4.55	4.53	4.75	e5.27	e5.83	5.72	5.66	5.27	5.03	4.78
5	4.52	4.52	e4.55	4.54	4.77	e5.29	5.84	5.72	5.64	5.26	5.19	4.67
6	4.51	e4.52	e4.55	e4.55	e4.76	e5.31	5.84	5.72	5.64	5.25	5.27	4.64
7	4.52	e4.52	e4.55	4.56	4.8	e5.34	5.85	5.71	5.63	5.23	5.38	4.64
8	4.52	4.52	e4.55	4.56	4.81	5.36	5.84	5.7	5.62	5.22	5.45	4.64
9	4.53	4.51	e4.54	4.58	4.83	5.38	5.84	5.69	5.61	5.21	5.45	4.65
10	4.52	4.52	e4.54	4.58	4.84	5.43	e5.85	5.69	5.59	5.19	5.45	4.65
11	4.52	4.5	e4.54	4.58	4.85	e5.47	5.86	5.68	5.58	5.18	5.57	e4.65
12	4.52	4.51	e4.54	4.59	4.86	e5.50	5.85	5.67	5.57	5.17	5.57	e4.65
13	4.53	4.51	e4.53	4.57	4.88	5.54	5.85	5.66	5.56	5.16	5.6	e4.65
14	4.53	4.51	e4.53	4.56	4.89	5.55	5.83	5.66	5.54	5.17	5.62	e4.65
15	4.54	4.51	e4.53	4.56	4.89	5.58	5.84	5.66	5.53	5.16	5.55	e4.65
16	4.51	4.51	e4.52	4.55	4.89	5.6	5.83	5.64	5.53	5.15	5.57	4.65
17	4.53	4.52	4.51	4.56	4.9	5.61	5.83	5.64	5.49	5.13	5.73	4.65
18	4.52	4.52	4.52	4.56	4.92	5.64	5.83	5.62	5.48	5.11	5.78	4.65
19	4.54	4.51	4.52	4.56	4.95	e5.65	5.81	5.61	5.47	5.11	5.64	4.66
20	4.54	4.52	4.51	4.57	e4.92	e5.67	5.8	5.59	5.46	5.1	5.48	4.65
21	4.52	4.52	4.51	4.57	e4.93	5.68	5.79	5.57	5.45	5.09	5.47	4.66
22	4.52	4.51	4.52	4.57	4.99	5.7	5.79	5.58	5.44	5.05	5.45	4.66
23	4.52	4.52	4.52	4.58	5.04	5.72	5.78	5.6	5.42	4.93	5.46	4.66
24	4.52	4.54	4.52	4.58	5.09	5.73	5.78	5.61	5.41	4.86	5.47	4.65
25	4.52	4.55	4.52	4.59	5.1	5.75	5.78	5.66	5.4	4.77	5.37	4.65
26	4.52	4.56	4.52	4.59	5.12	5.76	5.78	5.68	5.39	4.82	5.28	4.66
27	4.53	4.56	4.52	4.62	5.14	5.77	5.77	5.7	5.38	4.8	5.19	4.66
28	4.52	4.56	4.53	4.64	5.17	5.78	5.76	5.7	5.36	4.72	5.02	4.66
29	4.52	4.56	4.53	4.64	5.22	5.79	5.73	5.7	5.35	4.88	4.95	4.66
30	4.52	4.57	4.53	e4.63	---	5.79	5.73	5.71	5.33	4.89	4.95	4.66
31	4.52	---	4.53	e4.64	---	5.82	---	5.7	---	4.99	4.95	---
MEAN	4.52	4.52	4.53	4.57	4.91	5.55	5.81	5.67	5.52	5.09	5.35	4.68
MAX	4.55	4.57	4.55	4.64	5.22	5.82	5.86	5.72	5.69	5.32	5.78	4.97
MIN	4.51	4.5	4.51	4.52	4.68	5.23	5.73	5.57	5.33	4.72	4.95	4.64
e Estimated												

**TABLE B-13
Pond 4 Stage**

1 U.S. DEPARTMENT OF THE INTERIOR - U.S. GEOLOGICAL SURVEY - WATER RESOURCES												
STATION NUMBER 103087887 LEVIATHAN MINE POND 4 NR MARKLEEVILLE CA STREAM SOURCE AGENCY USGS STATE 06 COUNTY 003												
LATITUDE 384234 LONGITUDE 1193941 NAD27 DRAINAGE AREA CONTRIBUTING DRAINAGE AREA DATUM 6800 NGVD29												
Date Processed: 2008-10-08 16:14 By phoneywe												
Lowest aging status in period is WORKING												
DD #1												
Gage height, feet												
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008												
DAILY OBSERVATION AT 2400 HOURS												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	3.4	e3.49	e3.51	4.09	4.84	5.51	5.56	6.44	6.02	5.17	5.96
2	5.72	3.45	e3.50	e3.51	4.19	4.92	5.56	5.51	6.63	5.66	5.34	5.89
3	5.78	3.46	e3.50	3.45	4.19	4.86	5.55	5.51	6.99	5.29	5.55	5.54
4	5.86	3.48	e3.50	3.73	4.19	4.89	5.56	5.53	7.15	5.55	5.69	5.11
5	5.99	3.47	e3.50	3.87	4.13	4.94	5.56	5.51	7.44	5.76	5.89	5.17
6	6.14	3.44	e3.50	3.92	4.12	4.9	5.57	5.53	6.72	5.95	5.37	5.36
7	6.24	3.45	e3.50	4.01	4.17	4.93	5.64	5.46	6.67	6.2	4.64	5.41
8	6.36	3.43	e3.50	4.07	4.18	4.96	5.63	e5.44	6.9	6.35	4.53	5.55
9	6.43	3.41	e3.50	4.04	4.23	4.92	5.65	5.4	7.11	6.41	4.82	5.57
10	6.51	3.4	e3.50	4.01	4.23	5.04	5.63	5.42	7.33	6.34	4.97	5.49
11	6.32	3.51	e3.50	4.08	4.3	5.12	5.59	5.43	7.43	5.71	5.16	5.63
12	6.11	3.49	e3.50	4.14	4.35	5.12	5.61	5.4	7.6	5.64	5.41	5.69
13	5.91	3.5	e3.50	4.04	4.36	5.21	5.65	e5.41	7.16	5.77	5.59	5.83
14	5.72	3.45	e3.50	4.04	4.38	5.2	5.59	5.39	6.73	5.9	5.69	6.03
15	5.5	3.48	e3.50	4.06	4.34	5.2	5.55	5.42	6.63	6.28	5.86	5.94
16	5.29	e3.47	e3.50	4.17	4.38	5.25	5.6	5.39	6.89	6.4	5.94	5.68
17	5.06	3.42	e3.50	4.17	4.34	5.3	5.65	5.32	7.04	6.7	6.25	5.56
18	4.82	3.48	e3.51	4.09	4.43	5.23	5.66	5.34	6.72	6.48	6.47	5.56
19	4.57	3.43	e3.50	4.05	4.46	5.23	5.59	e5.38	6.66	5.58	6.6	5.59
20	4.32	3.47	e3.50	4.17	4.51	5.28	5.62	5.41	6.77	5.06	6.42	5.79
21	4.27	3.46	e3.51	4.15	4.54	5.37	5.56	5.41	7.1	4.69	5.75	5.82
22	4.08	3.43	e3.51	4.19	4.59	5.43	5.61	5.36	7.13	4.47	5.52	6.08
23	3.65	3.45	e3.50	4.14	4.57	5.41	5.6	5.37	7.33	4.75	5.71	5.98
24	3.34	3.44	e3.50	4.1	4.62	5.48	5.58	5.38	7.15	4.95	5.76	5.85
25	3.35	3.42	e3.51	4.08	4.64	5.52	5.55	5.4	6.43	5.09	5.95	5.93
26	3.33	3.4	e3.50	4.19	4.67	5.53	5.51	5.44	5.67	5.3	5.95	5.93
27	3.33	e3.49	e3.52	4.14	4.69	5.54	5.56	5.51	5.04	5.47	5.7	6.14
28	3.33	e3.50	e3.52	4.14	4.73	5.56	5.56	5.53	5.35	5.72	5.56	6.28
29	3.44	e3.50	e3.51	4.14	4.89	5.46	5.57	5.79	5.51	5.81	5.53	6.04
30	3.49	e3.50	e3.50	4.11	---	5.53	5.59	6.06	5.77	5.76	5.71	5.66
31	3.46	---	e3.50	4.14	---	5.51	---	6.2	---	5.32	5.84	---
MEAN	4.95	3.46	3.5	4.02	4.4	5.22	5.59	5.49	6.72	5.69	5.62	5.74
MAX	6.51	3.51	3.52	4.19	4.89	5.56	5.66	6.2	7.6	6.7	6.6	6.28
MIN	3.33	3.4	3.49	3.45	4.09	4.84	5.51	5.32	5.04	4.47	4.53	5.11
e Estimated												

Table B-14: Adit Laboratory and Field Results

Adit Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM057	10/16/2007	09:25:00	266		10.7	QR-04	107		0.0486		1.70		0.915	QR-04	0.726		672	QR-04	32		6.21		4.50		0.844	QR-04	4640		3820	
078LM073	11/28/2007	10:20:00 AM	267		11.1	QR-04	21 A		0.0445		1.67		0.896		0.751		657		6 A		6.20		4.62	QR-04	0.861		4330		3710	
078LM085	12/17/2007	11:05:00 AM	260		10.8	QR-04	99		0.0349		1.66		0.878		0.718		652		29		6.09		4.53	QR-04	0.836		4560		3570	
078LM098	03/25/2008	12:30:00 PM	232		9.17		97		0.0313		1.41		0.748		1.21		560		29		5.79		3.93		0.789	QR-04	3910		2720	
078LM111	04/14/2008	11:20:00 AM	238		9.59	QR-04	95		0.0382		1.53		0.784		0.792		601		29		5.75		4.17		0.809		4570		3860	
078LM124	05/13/2008	9:15:00 AM	327		11.3		93		0.0536		1.94		1.08		1.30		806		30		6.76	QM-4X	5.25		0.996		5600		5960	
078LM140	06/17/2008	9:55:00 AM	261		10.1		104		0.0504		1.68		0.931		0.937		651		32		6.76		4.57		0.894		4820		4980	
089LM001	07/23/2008	9:40:00 AM	277		10.1		108		0.0350		1.70		0.904		0.851		679		33		7.15	QM-4X	4.35		0.792		5130		4890	
089LM014	08/18/2008	9:40:00 AM	278 *		10.4		118		0.0287		1.68		0.903		0.776		678		36		7.21		4.42		0.792		4690		5370	
089LM026	08/18/2008	9:50:00 AM	202 *		10.3		111		0.0318		1.57		0.817		0.62		637		33		6.81		3.47		0.724		4620		5770	
089LM027	09/24/2008	10:40:00 AM	284		10.1		107		0.0256	R-08	1.64		0.865		0.708		694		33		7.08		4.32		0.798		5010	I-04, Z-01	5920	

Adit Total Metals - mg/L																												
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q		
078LM057	10/16/2007	09:25:00	269		11.3		105		0.0578		1.80		0.975		0.811		685		31		6.63		4.72		0.882	QR-04		
078LM073	11/28/2007	10:20:00 AM	249		10.2		103		0.0373		1.60		0.842	QR-04	0.757		620		31		5.84		4.29		0.820			
078LM085	12/17/2007	11:05:00 AM	251		10.5	QR-04	99		0.0458		1.65		0.854		0.765	QR-04	642		30		6.05		4.40		0.845	QR-04		
078LM098	03/25/2008	12:30:00 PM	230		9.57		97		0.0348		1.45		0.754		1.25	QR-04	547		29		5.88		4.03		0.795			
078LM111	04/14/2008	11:20:00 AM	248		9.99	QR-04	96		0.0415		1.59		0.804		0.860		621		29		5.91		4.29	QR-04	0.835			
078LM124	05/13/2008	9:15:00 AM	325		11.3		97		0.0509		1.90		1.08	QR-04	1.37		787		30		6.70		5.23		0.979			
078LM140	06/17/2008	9:55:00 AM	274		10.4		98		0.0556		1.73		0.948	QR-04	1.03		667		30		6.90		4.62	QR-04	0.916			
089LM001	07/23/2008	9:40:00 AM	270		9.73		105		0.0366		1.67		0.872		0.879		657	QM-4X	33		6.92	QM-4X	4.18		0.772			
089LM014	08/18/2008	9:40:00 AM	254		9.52		110		0.0200	J, R-08	1.50		0.800		0.747		605		33		6.43		3.97		0.706			
089LM026	08/18/2008	9:50:00 AM	279	QM-07	9.38		108		0.0341	J	1.65		0.923		0.757		650		33		6.96		4.13		0.891			
089LM027	09/24/2008	10:40:00 AM	285		10.4		107		0.0299		1.68		0.889		0.789		687		33		7.22		4.44		0.798			

Adit Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (gpm) ¹	Monthly Mean Flow (gpm) ¹
10/16/2007	9:25:00 AM	2.5	11.7	2991	4012	11.5	11.6
11/28/2007	10:20:00 AM	2.6	11.4	2917	3941	11.6	11.6
12/17/2007	11:15:00 AM	2.7	11.9	2892	3860	11.7	11.7
3/25/2008	12:30:00 PM	2.3	11.7	2833	3798	12.4	11.9
4/14/2008	11:20:00 AM	2.7	11.8	2875	3844	13.4	14.0
5/13/2008	9:15:00 AM	2.3	11.7	3470	4640	16.8	16.6
6/17/2008	9:55:00 AM	2.3	12.0	3237	4307	15.5	15.7
7/23/2008	9:40:00 AM	2.5	12.4	3200	4223	12.5	13.6
8/18/2008	9:40:00 AM	2.6	12.0	3168	4215	12.5	12.5
9/24/2008	10:40:00 AM	2.5	12.5	2829	3724	12.7	12.6

Field Data:

EC: Electrical Conductivity

SpC: Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; gpm - gallons per minute

1: Provisional data provided by the United States Geological Survey

Q - Qualifiers:

J: Analyte detected between the MDL and the Practical Quantitation Limit.

* : Failed Relative Percent Difference assessment.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

I-04: Sample was re-analyzed past the EPA recommended holding time.

R-08: The sample was diluted due to sample matrix resulting in elevated reporting limits.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-15: Pit Under-Drain Laboratory and Field Results

PUD Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM058	10/16/2007	9:35:00 AM	332		0.229	QR-04	432		0.0668		1.99		0.194	QR-04	0.528		1300	QR-04	168		73.3		4.50		3.86	QR-04	8880		6810	
078LM074	11/28/2007	10:30:00 AM	341		0.170	QR-04	427		0.0650		2.16		0.140		0.566		1550		165		92.9		5.56	QR-04	4.43		9000		9040	
078LM086	12/17/2007	11:15:00 AM	323		0.177	QR-04	424		0.0383		2.06		0.156		0.527		1320		160		76.6		4.71	QR-04	4.13		9390		7730	
078LM099	03/25/2008	12:40:00 PM	585		7.63		320		0.0379		0.989		0.887		4.75		1220		93		5.98		2.65		2.19	QR-04	13400		10600	
078LM112	04/14/2008	11:10:00 AM	373		3.44	QR-04	310		0.0427		1.17		0.511		3.68		922		94		36.1		2.72		2.36		8840		8930	
078LM125	05/13/2008	9:20:00 AM	336		1.92		366		0.0375		1.35		0.358		1.12		931		122		47.4	QM-4X	3.21		2.63		7890		7590	
078LM141	06/17/2008	9:50:00 AM	299		1.29		335		0.0483		1.29		0.337		0.511		942		120		45.6		3.18		2.55		7200		7350	
089LM002	07/23/2008	9:50:00 AM	339		0.736		358		0.0281		1.55		0.288		0.549		1200		136		54.9	QM-4X	3.30		2.90		8870		7970	
089LM015	08/18/2008	10:00:00 AM	340		0.430		383		0.0149	J	1.57		0.269		0.531		1190		147		57.5		3.48		3.05		7780	A	11000	A
089LM028	09/24/2008	10:50:00 AM	362		0.394		354		0.0158	J, R-08	1.75		0.253		0.538		1310		138		66.6		3.79		3.48		9420	I-04, Z-01	9860	
089LM039	09/24/2008	11:00:00 AM	331		0.364		358		0.0258		1.88		0.268		0.527		1310		141		67.5		3.90		3.22		9520	I-04, Z-01	9660	

PUD Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM058	10/16/2007	9:35:00 AM	329		0.248		441		0.0733		2.09		0.200		0.540		1310		169		77.2		4.67		4.02	QR-04
078LM074	11/28/2007	10:30:00 AM	312		0.135		446		0.0491		2.27		0.137	QR-04	0.532		1450		173		86.9		5.12		4.57	
078LM086	12/17/2007	11:15:00 AM	314		0.284	QR-04	432		0.0629		2.04		0.154		0.510	QR-04	1400		166		84.1		4.59		4.15	QR-04
078LM099	03/25/2008	12:40:00 PM	583		7.93		327		0.0505		1.02		0.894		4.96	QR-04	1170		96		28.6		2.69		2.21	
078LM112	04/14/2008	11:10:00 AM	356		3.24	QR-04	315		0.0438		1.14		0.488		3.54		884		95		34.5		2.61	QR-04	2.25	
078LM125	05/13/2008	9:20:00 AM	337		1.94		374		0.0389		1.36		0.361	QR-04	1.14		919		126		47.4		3.21		2.62	
078LM141	06/17/2008	9:50:00 AM	295		1.28		342		0.0522		1.31		0.340	QR-04	0.512		951		123		46.0		3.18	QR-04	2.58	
089LM002	07/23/2008	9:50:00 AM	347		0.753		355		0.0344		1.62		0.295		0.568		1190	QM-4X	137		56.4	QM-4X	3.39		2.99	
089LM015	08/18/2008	10:00:00 AM	347		0.423		341		0.0065	J, R-08	1.58		0.303		0.537		1210		137		57.1		3.54		3.03	
089LM028	09/24/2008	10:50:00 AM	368		0.380		359		0.0270		1.78		0.253		0.568		1320		141		69.0		3.81		3.41	
089LM039	09/24/2008	11:00:00 AM	330		0.363		365		0.0365	J	1.84		0.284		0.541		1270		144		63.8		3.79		3.44	

PUD Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (gpm) ¹	Monthly Mean Flow (gpm) ¹
10/16/2007	9:35:00 AM	2.5	9.9	4580	6440	0.13	0.12
11/28/2007	10:30:00 AM	2.6	7.7	4460	6660	0.13	0.11
12/17/2007	11:45:00 AM	2.6	4.5	3990	6550	0.16	0.14
3/25/2008	12:40:00 PM	1.2	6.2	12840	19980	1.22	1.01
4/14/2008	11:10:00 AM	2.0	7.0	6780	10340	0.89	0.90
5/13/2008	9:20:00 AM	2.1	7.3	4293	6490	0.51	0.52
6/17/2008	9:50:00 AM	2.3	9.3	3750	5350	e0.48	0.48
7/23/2008	9:50:00 AM	2.5	11.7	4620	6190	0.28	0.29
8/18/2008	10:00:00 AM	2.8	11.7	4730	6320	0.28	0.28
9/24/2008	10:50:00 AM	2.6	12.0	4339	5650	0.23	0.25

Field Data:

EC - Electrical Conductivity
 SpC - Specific Conductance
 Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; gpm - gallons per minute
 e - estimated
 1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

J: Analyte detected between the MDL and the Practical Quantitation Limit.
 A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.
 I-04: Sample was re-analyzed past the EPA recommended holding time.
 R-08: The sample was diluted due to sample matrix resulting in elevated reporting limits.
 QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.
 QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.
 Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-16: Overburden Seep Laboratory and Field Results

OS Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM061	10/16/2007	11:35:00 AM	44.7		0.010	QR-04, U	351		0.0051	J	0.343		0.012	J, QR-04	0.974		104	QR-04	87	19.7		0.545		0.756	QR-04	2370			2020	
078LM062	10/16/2007	11:45:00 AM	41.9		0.010	QR-04, U	346		0.0051	J	0.323		0.011	J, QR-04	0.919		98.0	QR-04	86	18.6		0.508		0.706	QR-04	2320			1900	
078LM077	11/28/2007	12:55:00 PM	44.3		0.014	J, QR-04	339		0.0057	J	0.337		0.008	J	1.02		125		82	19.6		0.561	QR-04	0.787		2430			1800	
078LM095	12/17/2007	10:20:00 AM	39.6		0.010	U, QR-04	328		0.0050	U	0.307		0.021	J	0.896		110		79	17.9		0.546	QR-04	0.713		2360			1910	
078LM108	03/25/2008	11:45:00 AM	40.9		0.015	U, R-08	315		0.0050	U, R-08	0.311		0.006	J, R-08	0.813		112		78	18.5		0.516		0.726	QR-04	2410			1420	
078LM121	04/14/2008	10:25:00 AM	38.9		0.004	J, QR-04	309		0.0046	J	0.287		0.006		0.822		102		76	16.2		0.463		0.664		2320			2040	
078LM134	05/13/2008	11:20:00 AM	41.5		0.002	U	306		0.0041	J	0.293		0.005		0.892		110		77	16.7	QM-4X	0.489		0.672		2470			2430	
078LM150	06/17/2008	11:20:00 AM	38.1		0.003	U	305		0.0054		0.289		0.005		0.888		106		74	16.4		0.482		0.661		2300			1790	
089LM011	07/23/2008	11:20:00 AM	39.7		0.015	R-08, U	314		0.0050	R-08, U	0.314		0.005	R-08, U	0.850 *		118		77	18.4	QM-4X	0.478		0.692		2420			1790	
089LM013	07/23/2008	11:30:00 AM	36		0.0008	J	317		0.00186		0.263		0.0049	A	0.648 *		109		78	17.9		0.441		0.702		2410			1980	
089LM024	08/18/2008	12:00:00 PM	44.2		0.003	U	349		0.0023	J	0.306		0.004	J	0.867		98.4		88	17.5		0.474		0.712		2400			2770	
089LM037	09/24/2008	12:30:00 PM	39.6		0.003	U	291		0.0014	J	0.279		0.002	J	0.774		113		71	16.1		0.430		0.641		2330	I-04, Z-01		1640	

OS Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM061	10/16/2007	11:35:00 AM	44.4		0.015	U	357		0.005	J	0.353		0.016	J	1.02		105		87	20.6		0.568		0.771	QR-04	
078LM062	10/16/2007	11:45:00 AM	43.2		0.015	U	350		0.0054	J	0.343		0.013	J	1.00		102		85	20.3		0.550		0.759	QR-04	
078LM077	11/28/2007	12:55:00 PM	40.6		0.015	U	335		0.0050	U	0.320		0.009	J, QR-04	0.960		118		82	18.5		0.530		0.741		
078LM095	12/17/2007	10:20:00 AM	41.7		0.015	U, QR-04, R-08	332		0.0052	J	0.324		0.005	U	0.935	QR-04	116		82	18.8		0.520		0.759	QR-04	
078LM108	03/25/2008	11:45:00 AM	38.8		0.015	U, R-08	324		0.0050	R-08, U	0.311		0.007	J, R-08	0.797	QR-04	106		80	18.1		0.512		0.706		
078LM121	04/14/2008	10:25:00 AM	40.5		0.003	U, QR-04	298		0.0053		0.297		0.006		0.854		104		74	16.5		0.475	QR-04	0.685		
078LM134	05/13/2008	11:20:00 AM	42.0		0.003	U	319		0.0048	J	0.296		0.006	QR-04	0.921		108		81	16.6		0.486		0.674		
078LM150	06/17/2008	11:20:00 AM	39.6		0.003	U	300		0.0062		0.299		0.005	QR-04	0.913		109		72	16.7		0.488	QR-04	0.679		
089LM011	07/23/2008	11:20:00 AM	39.0		0.015	R-08, U	313		0.0050	R-08, U	0.317		0.005	R-08, U	0.849		117	QM-4X	78	18.2	QM-4X	0.472		0.691		
089LM013	07/23/2008	11:30:00 AM	39.4		0.0001	U	314		0.00175		0.315		0.0034	A	0.805	QR-04	106		77	19.6		0.516		0.783	QR-04	
089LM024	08/18/2008	12:00:00 PM	45.7		0.003	U	315		0.0015	J	0.305		0.003	J	0.897		97.8		79	17.3		0.473		0.711		
089LM037	09/24/2008	12:30:00 PM	42.1		0.003	U	300		0.0026	J	0.293		0.001	U	0.859		114		75	16.4		0.451		0.654		

OS Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (gpm) ¹	Monthly Mean Flow (gpm) ¹
10/16/2007	11:35:00 AM	2.7	7.2	1777	2693	5.8	5.9
11/28/2007	12:55:00 PM	2.8	4.4	1598	2635	5.7	5.9
12/17/2007	10:20:00 AM	3.0	3.7	1554	2621	5.5	5.5
3/25/2008	11:45:00 AM	2.6	5.5	1631	2599	5.7	5.4
4/14/2008	10:25:00 AM	3.0	7.2	1711	2594	7.3	6.6
5/13/2008	11:20:00 AM	2.8	7.9	1768	2627	7.5	7.6
6/17/2008	11:20:00 AM	2.8	10.3	1871	2601	7.8	7.7
7/23/2008	11:20:00 AM	2.7	12.0	1965	2605	6.2	6.9
8/18/2008	12:00:00 PM	2.9	11.8	2027	2710	5.8	5.9
9/24/2008	12:30:00 PM	2.9	10.0	1528	2152	5.9	5.7

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; gpm - gallons per minute

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

* : Failed Relative Percent Difference assessment.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

I-04: Sample was re-analyzed past the EPA recommended holding time.

R-08: The sample was diluted due to sample matrix resulting in elevated reporting limits.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCS recoveries within the acceptance limits.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-17: Channel Under-Drain Laboratory and Field Results

CUD Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM059	10/16/2007	10:50:00 AM	34.3		0.418	QR-04	369		0.0126	J	0.727		0.028	QR-04	0.005	U	387	QR-04	83		18.5		1.64		0.381	QR-04	3180		2230	
078LM075	11/28/2007	10:50:00 AM	39.6		0.414	QR-04	372		0.0102	J	0.796		0.024	J	0.005	U	417		83		19.9		1.87	QR-04	0.435		3460		3030	
078LM087	12/17/2007	11:45:00 AM	37.2		0.483	QR-04	363		0.0054	J	0.775		0.026		0.005	U	401		79		19.6		1.79	QR-04	0.409		3430		2570	
078LM100	03/25/2008	1:40:00 PM	41.6		0.399		328		0.0089	J, R-08	0.629		0.034		0.005	R-08, U	297		76		16.6		1.46		0.387	QR-04	2780		1860	
078LM113	04/14/2008	11:50:00 AM	41.4		0.438	QR-04	306		0.0090	J	0.709		0.026		0.007	J	324		72		16.0		1.60		0.414		3070		2630	
078LM126	05/13/2008	9:40:00 AM	45.2		0.639		284		0.0065	J, R-08	0.805		0.025		0.005	R-08, U	388		69		16.9	QM-4X	1.87		0.447		3060		2800	
078LM142	06/17/2008	10:25:00 AM	37.2		0.666		292		0.0084	J	0.752		0.023	J	0.005	U	352		68		16.8		1.74		0.413		2860		2700	
089LM003	07/23/2008	10:15:00 AM	35.6		0.553		318		0.0050	R-08, U	0.702		0.016	J, R-08	0.005	R-08, U	352		74		17.1	QM-4X	1.49		0.320		3040		2530	
089LM016	08/18/2008	10:40:00 AM	30.8		0.542		340		0.0050	U	0.615		0.016	J	0.005	U	321		79		16.2		1.38		0.283		2810		2640	
089LM029	09/24/2008	11:40:00 AM	32.3		0.465		315		0.0050	R-08, U	0.638		0.014	J, R-08	0.005	R-08, U	360		72		17.2		1.40		0.291		2880	I-04, Z-01	3140	

CUD Total Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q				
078LM059	10/16/2007	10:50:00 AM	35.5		0.456		378		0.0149	J	0.766		0.030		0.005	U	396		84		19.9		1.74		0.406	QR-04				
078LM075	11/28/2007	10:50:00 AM	36.2		0.323		379		0.0074	J	0.763		0.023	J, QR-04	0.005	J	391		86		18.7		1.72		0.406					
078LM087	12/17/2007	11:45:00 AM	37.8		0.495	QR-04	367		0.0119	J	0.801		0.023	J	0.005	QR-04, R-08, U	411		82		19.4		1.81		0.433	QR-04				
078LM100	03/25/2008	1:40:00 PM	40.4		0.385		332		0.0109	J, R-08	0.640		0.036		0.051	QR-04	285		78		16.5		1.47		0.384					
078LM113	04/14/2008	11:50:00 AM	42.7		0.417	QR-04	306		0.0100	J	0.732		0.029		0.095		331		72		16.3		1.63	QR-04	0.426					
078LM126	05/13/2008	9:40:00 AM	44.6		0.634		294		0.0079	J	0.803		0.096	QR-04	0.025		378		73		16.7		1.95		0.444					
078LM142	06/17/2008	10:25:00 AM	38.5		0.631		271		0.0123	J	0.762		0.025	QR-04	0.005	U	357		63		17.0		1.74	QR-04	0.419					
089LM003	07/23/2008	10:15:00 AM	35.8		0.539		309		0.0050	R-08, U	0.714		0.016	J, R-08	0.005	R-08, U	355	QM-4X	73		17.2	QM-4X	1.50		0.322					
089LM016	08/18/2008	10:40:00 AM	27.2		0.462		304		0.0050	R-08, U	0.541		0.012	J, R-08	0.005	R-08, U	282		69		14.1		1.19		0.246					
089LM029	09/24/2008	11:40:00 AM	33.2		0.444		323		0.0050	U	0.665		0.014	J	0.005	U	362		76		17.8		1.47		0.298					

CUD Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (gpm) ¹	Monthly Mean Flow (gpm) ¹
10/16/2007	10:50:00 AM	4.5	8.8	2013	2992	11.4	11.2
11/28/2007	10:50:00 AM	4.5	8.7	2037	2958	10.9	10.9
12/17/2007	12:05:00 PM	4.4	8.6	2042	2965	12.3	12.2
3/25/2008	1:40:00 PM	4.3	8.5	1706	2601	22.0	18.4
4/14/2008	11:50:00 AM	4.5	8.5	1859	2714	26.6	27.1
5/13/2008	9:40:00 AM	4.3	8.4	1870	2738	31.5	31.3
6/17/2008	10:25:00 AM	4.4	8.6	1860	2706	26.0	26.4
7/23/2008	10:15:00 AM	4.4	8.6	1866	2719	22.4	23.7
8/18/2008	10:40:00 AM	4.6	8.8	1840	2664	18.7	18.6
9/24/2008	11:40:00 AM	4.5	9.4	1888	2705	11.4	12.7

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; gpm - gallons per minute

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

I-04: Sample was re-analyzed past the EPA recommended holding time.

R-08: The sample was diluted due to sample matrix resulting in elevated reporting limits.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-18: Station 1 Laboratory and Field Results

Sta 1 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM056	10/16/2007	09:05:00	0.0444	QR-04	0.0025	J	14		0.00025	U	0.0005	U	0.0005	U	0.0005	U	0.101	5	0.0055	0.0010	U	0.0033	J, QR-04	118		7.77				
078LM072	11/28/2007	10:00:00 AM	0.0510		0.0024	J	15		0.00025	U	0.0042	A	0.0011	J	0.0007	J, QR-04	0.082	5	0.0101	A	0.0010	U	0.0027	J, QR-04	141		10.2			
078LM088	12/17/2007	10:50:00 AM	0.0585	QR-04	0.0025	J	13		0.00025	U	0.0007	J	0.0006	J	0.0003	J	0.073	4	J	0.0041	0.0010	U	0.0020	U	133		8.71			
078LM101	03/25/2008	1:10:00 PM	0.296		0.0018	J	9		0.00005	U	0.0003	J	0.0015		0.0008		0.237	3		0.0055	0.0007	J	0.0014	J, QR-04	118		11.5			
078LM114	04/14/2008	10:55:00 AM	2.46	QM-4X	0.0023		9		0.00025	QR-04	0.002	CONF, QR-04,A	0.0022		0.0018		0.948	3		0.0103	0.0016	QR-04	0.0050		114		9.79			
078LM127	05/13/2008	8:55:00 AM	0.934		0.0016	J	10		0.00005	U	0.0005		0.0015		0.0008		0.471	3		0.0049	0.0006	J	0.0011	J	127		8.87			
078LM136	05/13/2008	9:00:00 AM	0.965		0.0013	J	10		0.00025	U	0.0005	J	0.0020	J	0.0009		0.476	3		0.0050	0.0010	U	0.0020	U	118		9.26			
078LM143	06/17/2008	9:25:00 AM	0.128		0.0021	J	13		0.00025	U	0.0005	U	0.0005	U	0.0008	J	0.165	4		0.0037	0.0010	J	0.0047	J	124		8.74			
089LM004	07/23/2008	9:10:00 AM	0.0696		0.0042	J	15		0.00025	U	0.0005	U	0.0019	J	0.0007	J	0.055	5		0.0065	0.0010	U	0.0025	J	130		8.74			
089LM017	08/18/2008	11:05:00 AM	0.246		0.0041	J	15		0.00025	U	0.0022	J	0.0023	J	0.0022	J	0.377	5		0.0157	0.0016	J	0.0038	J	130		8.05			
089LM030	09/24/2008	10:15:00 AM	0.0826		0.0028	CONF	14		0.00005	U	0.0002	J	0.0008		0.0004	J	0.111	5		0.0036	0.0005	J	0.0006	J	115	I-04, Z-01	8.15			

Sta 1 Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM056	10/16/2007	09:05:00	0.0796		0.0027		14		0.00025	U	0.0005	U	0.0005	U	0.0005	U	0.155	5		0.0073	0.0010	U	0.0020	U		
078LM072	11/28/2007	10:00:00 AM	0.115		0.0013	J	15		0.00025	U	0.0005	U, A	0.0006	J	0.0005	U	0.127	5		0.0057	A	0.0010	U	0.0020	U	
078LM088	12/17/2007	10:50:00 AM	0.139	QM-07	0.0014	J	13		0.00025	U	0.0005	U	0.0008	J	0.0005	QR-04, U	0.145	4	J	0.0038	0.0010	U	0.0020	U		
078LM101	03/25/2008	1:10:00 PM	1.46		0.0017		10		0.00006	U	0.0003	J	0.0019		0.0019		1.22	3		0.0141	0.0012		0.0066			
078LM114	04/14/2008	10:55:00 AM	4.11		0.0018		10		0.00006	U	0.0004	CONF, J,A	0.0020		0.0022		1.31	3		0.0175	0.0014		0.0072	QR-04		
078LM127	05/13/2008	8:55:00 AM	0.970	QM-4X	0.0010	J	11		0.00025	U	0.0005	U	0.0017	J	0.0011	J	0.670	3		0.0081	0.0010	U	0.0030	J		
078LM136	05/13/2008	9:00:00 AM	0.875	QM-4X	0.0005	U	10		0.00025	U	0.0005	U	0.0018	J	0.0011	J	0.628	3		0.0079	0.0010	U	0.0023	J		
078LM143	06/17/2008	9:25:00 AM	0.223	QM-4X	0.0014		14		0.00006	U	0.0001	J	0.0012		0.0009		0.285	4		0.0087	0.0007	J	0.0054			
089LM004	07/23/2008	9:10:00 AM	0.147		0.0031		18		0.00025	U	0.0005	J	0.0005	U	0.0010	J, QR-04	0.248	5		0.0133	0.0011	J	0.0032	J, QR-04		
089LM017	08/18/2008	11:05:00 AM	0.580	QM-07	0.0028		38	A	0.00025	U	0.0005	U	0.0008	J	0.0024	J	0.662	5		0.0217	0.0015	J	0.0054	J		
089LM030	09/24/2008	10:15:00 AM	0.130		0.0027		13		0.00006	U	0.0001	J	0.0014		0.0011		0.209	5		0.0063	0.0006	J	0.0023	J		

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

e - estimated

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Sta 1 Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
10/16/2007	9:05:00 AM	6.9	3.7	89	150	0.05	0.05
11/28/2007	10:00:00 AM	7.3	0.0	87	Lerr	e0.09	0.08
12/17/2007	10:50:00 AM	6.6	0.0	90	Lerr	e0.07	0.07
3/25/2008	1:10:00 PM	7.0	2.0	62	110	0.91	0.40
4/14/2008	10:55:00 AM	6.7	3.6	61	103	1.90	1.22
5/13/2008	8:55:00 AM	6.9	1.6	36	Lerr	0.70	0.76
6/17/2008	9:25:00 AM	6.9	7.1	93	142	0.19	0.21
7/23/2008	9:10:00 AM	6.9	9.5	111	157	0.03	0.05
8/18/2008	11:05:00 AM	6.4	9.9	112	158	0.05	0.03
9/24/2008	10:15:00 AM	7.3	4.7	92	151	0.03	0.03

Table B-19: Station 15 Laboratory and Field Results

Sta 15 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM063	10/16/2007	12:30:00 PM	2.86	QR-04	0.0028	J	334		0.00053	J	0.0965		0.0005	U	0.0163		5.23		48	4.39		0.237		0.0581	QR-04	1510		1040		
078LM078	11/28/2007	11:30:00 AM	4.32		0.0008	J	219		0.00048	J	0.118		0.0005	U	0.0193	QR-04	0.789		45	4.94		0.267		0.0591	QR-04	1110		802		
078LM089	12/17/2007	12:15:00 PM	3.83	QR-04, R-08	0.0024	J	178		0.00025	U	0.116		0.0005	U	0.0141		2.24		38	4.69		0.265		0.0518		967		734		
078LM102	03/25/2008	2:20:00 PM	4.59		0.0029	J	86		0.00101	J	0.0544		0.0008	J	0.137		6.97		20	2.01		0.135		0.0663	QR-04	545		312		
078LM115	04/14/2008	12:55:00 PM	5.13	A*, CONF, QM-4X	0.0132	*	44		0.00025	QR-04, U	0.0313	QR-04	0.0024	J	0.0299	*, CONF	9.13	*	11	1.34		0.0751	*, QR-04	0.0365		290		176		
078LM123	04/14/2008	1:05:00 PM	0.0506	*, CONF, QM-4X	0.0023	*, CONF, J	45		0.00025	QR-04, U	0.0325	QR-04	0.0005	U	0.0045	*, CONF	3.70	*, CONF	12	1.36	CONF	0.0723	*, QR-04	0.0245	CONF	277		168		
078LM128	05/13/2008	11:50:00 AM	0.0297		0.0137		57		0.00032	J	0.0646		0.0007	J	0.0006	J	16.9		15	2.01		0.144		0.0273		419		311		
078LM144	06/17/2008	11:55:00 AM	0.154		0.0015	J	70		0.00025	U	0.0217		0.0012	J	0.0022	J	0.195		17	1.45	CONF	0.0553		0.0101		411		232		
089LM005	07/23/2008	12:15:00 PM	5.20	CONF	0.0016	J	318		0.00065	J	0.0695		0.0010	J	0.0226		2.29		46	4.28		0.183		0.0483		1600		1170		
089LM018	08/18/2008	1:05:00 PM	0.127		0.0031	J	245		0.00038	J	0.0411		0.0007	J	0.0068		1.31		37	2.41		0.100		0.0188		1150		986		
089LM031	09/24/2008	1:15:00 PM	0.0774		0.0018	J	439		0.00012	J	0.0231		0.0003	J	0.0011		0.464		41	1.76		0.0642		0.0081		1960	I-04, Z-01	1610		

Sta 15 Total Metals - mg/L																													
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q		Q	
078LM063	10/16/2007	12:30:00 PM	3.13		0.0030		337		0.00037	J	0.108		0.0005	U	0.0162		5.81		47	4.74		0.244		0.0508					
078LM078	11/28/2007	11:30:00 AM	4.85		0.0005	U	214		0.00028	J	0.113		0.0007	J	0.0176		0.833		44	4.90		0.248		0.0581					
078LM089	12/17/2007	12:15:00 PM	4.02	QM-07	0.0018	J	180		0.00049	J	0.113		0.0009	J	0.0153	QR-04	2.47		39	4.56		0.264		0.0444					
078LM102	03/25/2008	2:20:00 PM	8.26		0.0315		89		0.00117	J	0.0501		0.0104		0.142		16.5		20	2.16		0.123		0.0724					
078LM115	04/14/2008	12:55:00 PM	3.79	A	0.0127		46		0.00025	U	0.0311		0.0035		0.0303		9.10		12	1.33		0.0759		0.0370	QR-04				
078LM123	04/14/2008	1:05:00 PM	3.73		0.0124		46		0.00025	U	0.0306		0.0033		0.0302		9.01		12	1.29	CONF	0.0747		0.0353	QR-04				
078LM128	05/13/2008	11:50:00 AM	3.77	QM-4X	0.0262		57		0.00025	U	0.064		0.0028		0.01		18.8		15	1.93		0.142		0.0360					
078LM144	06/17/2008	11:55:00 AM	0.732	QM-4X	0.0018	J	70		0.00025	U	0.0203		0.0017	J	0.0067		1.35		16	1.38	CONF	0.0546		0.0150					
089LM005	07/23/2008	12:15:00 PM	4.81	CONF	0.0009	J	321		0.00025	U	0.0714		0.0005	U	0.0204	QR-04	2.59		47	4.32		0.187		0.0497	QR-04				
089LM018	08/18/2008	1:05:00 PM	2.30	QM-07	0.0042		225		0.00035	J	0.0356		0.0023	J	0.0116		2.77		34	2.27		0.0937		0.0235					
089LM031	09/24/2008	1:15:00 PM	1.58		0.0027		446		0.00016	J	0.0249		0.0018		0.0053		2.10		42	1.87		0.0682		0.0130					

Sta 15 Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
10/16/2007	12:30:00 PM	4.4	7.4	1135	1709	0.15	0.11
11/28/2007	11:30:00 AM	3.9	0.4	711	Lerr	e0.11	0.11
12/17/2007	12:15:00 PM	3.9	0.5	645	Lerr	0.11	0.14
3/25/2008	2:20:00 PM	4.5	7.0	453	692	2.20	1.05
4/14/2008	12:55:00 PM	6.2	9.4	277	395	3.50	1.78
5/13/2008	11:50:00 AM	5.7	8.6	366	534	0.82	0.90
6/17/2008	11:55:00 AM	7.1	14.2	434	550	0.17	0.30
7/23/2008	12:15:00 PM	4.3	20.5	1606	1756	0.04	0.08
8/18/2008	1:05:00 PM	5.9	17.5	1146	1338	0.10	0.10
9/24/2008	1:15:00 PM	6.8	11.8	1244	1664	0.10	0.06

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

e - estimated

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

* : Failed Relative Percent Difference assessment.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

R-08: The sample was diluted due to sample matrix resulting in elevated reporting limits.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCS recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-20: Station 16 Laboratory and Field Results

Sta 16 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM064	10/16/2007	12:20:00 PM	0.0729	QR-04	0.0103		58		0.00025	U	0.0051		0.00025	U	0.0022	J	0.031		14		0.478		0.0130		0.0020	QR-04,U	295		137	
078LM079	11/28/2007	11:10:00 AM	0.0113		0.0075	J	71		0.00025	U	0.0144		0.0010	J	0.0018	J, QR-04	0.068		18		0.997		0.0228		0.0058	J,QR-04	406		203	
078LM084	11/28/2007	11:15:00 AM	0.0097		0.0077	J	61		0.00025	U	0.0121		0.0009	J	0.0018	J, QR-04	0.059		16		0.863		0.0213		0.0038	J,QR-04	403		201	
078LM090	12/17/2007	12:05:00 PM	0.0004	J, QR-04	0.0095	J	52		0.00025	U	0.0007	J	0.0009	J	0.0012		0.019		12		0.0725		0.0021	J	0.0020	U	292		123	
078LM103	03/25/2008	2:30:00 PM	0.0897		0.0136		56		0.00005	U	0.0006		0.0021		0.0021		0.092		14		0.199		0.0037		0.0008	J,QR-04	304		126	
078LM116	04/14/2008	1:10:00 PM	0.0454	QM-4X	0.0189		63		0.00005	QR-04, U	0.0031	A,QR-04	0.0020		0.0020	CONF	0.042		15		0.395		0.0058	QR-04	0.0014	J	350		175	
078LM129	05/13/2008	11:55:00 AM	0.0005	U	0.0134		52		0.00025	U	0.0020	J	0.0023	J	0.0011	J	0.011		13		0.158		0.0037	J	0.0020	U	311		154	
078LM145	06/17/2008	11:45:00 AM	0.0064	J	0.0155		44		0.00025	U	0.0010	J	0.0016	J	0.0023	J	0.103		10		0.114		0.0045	J	0.0046	J	259		127	
089LM006	07/23/2008	12:05:00 PM	0.0358		0.0173		48		0.00025	U	0.0027		0.0022	J	0.0028		0.252		12		0.370		0.0085		0.0023	J	275		137	
089LM019	08/18/2008	12:50:00 PM	0.0119		0.0179		68		0.00025	U	0.0057		0.0021	J	0.0035		0.084		17		0.546		0.0126		0.0022	J	409		210	
089LM032	09/24/2008	1:00:00 PM	0.0382		0.0146		44		0.00005	U	0.0038		0.0009		0.0019		0.029		11		0.355		0.0100		0.0014	J	263	I-04, Z-01	116	

Sta 16 Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM064	10/16/2007	12:20:00 PM	0.190		0.0140		59		0.00025	U	0.0063		0.0005	U	0.0052		0.298		14		0.688		0.0149		0.0026	J
078LM079	11/28/2007	11:10:00 AM	0.200		0.0090		68		0.00025	U	0.0103		0.0005	U	0.0034		0.230		17		1.00		0.0207		0.0030	J
078LM084	11/28/2007	11:15:00 AM	0.176		0.0094		67		0.00025	U	0.0095		0.0005	J	0.0032		0.211		17		0.935		0.0196		0.0034	J
078LM090	12/17/2007	12:05:00 PM	0.0766	QM-07	0.0095		52		0.00025	U	0.0005	J	0.0005	J	0.0021	J,QR-04	0.110		13		0.102		0.0031	J	0.0020	U
078LM103	03/25/2008	2:30:00 PM	1.64		0.0211		57		0.00008	J	0.0022		0.0025		0.0091		1.94		14		0.510		0.0066		0.0097	
078LM116	04/14/2008	1:10:00 PM	0.423		0.0214		62		0.00006	U	0.0017	A,CONF	0.0014		0.0048		0.472		15		0.492		0.0075		0.0046	QR-04
078LM129	05/13/2008	11:55:00 AM	0.392	QM-4X	0.0191		53		0.00025	U	0.0019	J	0.0018	J	0.0059		0.640		14		0.431		0.0055		0.0032	J
078LM145	06/17/2008	11:45:00 AM	0.579	QM-4X	0.0294		43		0.00025	U	0.0033		0.0018	J	0.0122		1.21		10		0.752		0.0091		0.0126	
089LM006	07/23/2008	12:05:00 PM	0.416		0.0268		48		0.00025	U	0.0055		0.0006	J	0.0120	QR-04	0.771		12		0.829		0.0134		0.0219	QR-04
089LM019	08/18/2008	12:50:00 PM	0.561	QM-07	0.0244		63		0.00025	U	0.0053		0.0016	J	0.0108		0.926		16		0.725		0.0137		0.0064	J
089LM032	09/24/2008	1:00:00 PM	0.466		0.0312		44		0.00011	J	0.0060		0.0017		0.0140		1.07		11		0.793		0.0148		0.0095	

Sta 16 Field Data					
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)
10/16/2007	12:20:00 PM	7.4	7.3	289	437
11/28/2007	11:10:00 AM	6.9	0.0	295	Lerr
12/17/2007	12:15:00 PM	6.5	0.4	320	Lerr
3/25/2008	2:30:00 PM	7.1	6.5	298	460
4/14/2008	1:10:00 PM	7.7	12.5	437	574
5/13/2008	11:55:00 AM	7.6	12.2	390	516
6/17/2008	11:45:00 AM	7.4	16.4	317	380
7/23/2008	12:05:00 PM	7.5	17.8	356	412
8/18/2008	12:50:00 PM	7.7	17.8	498	577
9/24/2008	1:00:00 PM	7.5	12.5	221	290

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter;

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

Q - Qualifiers:

U: Analyte not detected at the given Method Detection Limit (MDL).

J: Analyte detected between the MDL and the Practical Quantitation Limit.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-21: Station 22 Laboratory and Field Results

Sta 22 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM060	10/16/2007	11:15:00 AM	0.0007	J, QR-04	0.0004	J	25		0.00005	U	0.0001	U	0.0011		0.0002	J	0.003	U	5		0.0005	0.0002	J	0.0004	QR-04, U	116		4.30		
078LM076	11/28/2007	1:10:00 PM	0.0029		0.0005	J	25		0.00005	U	0.0001	J	0.0013		0.0003	J, QR-04	0.031		5		0.0007	0.0004	J	0.0006	J, QR-04	122		1.37		
078LM091	12/17/2007	10:10:00 AM	0.0008	J, QR-04	0.0005	J	25		0.00005	U	0.0002	J	0.0011		0.0002	J	0.012		5		0.0006	0.0002	J	0.0004	U	133		1.32		
078LM104	03/25/2008	11:25:00 AM	0.0309		0.0008	J	23		0.00005	U	0.0003	J	0.0019		0.0004	J	0.036		5		0.0012	0.0005	J	0.0004	QR-04, U	122		3.80		
078LM117	04/14/2008	10:05:00 AM	0.0131	QM-4X	0.0007	J	24		0.00005	QR-04, U	0.0010	QR-04	0.0025	A	0.0003	J	0.008	J	6		0.0023	0.0006	J, QR-04	0.0004	J	121		1.81		
078LM130	05/13/2008	11:05:00 AM	0.0008	J	0.0005	J	23		0.00005	U	0.0006		0.0018		0.0001	U	0.007	J	5		0.0015	0.0002	J	0.0004	U	129		1.39		
078LM146	06/17/2008	10:55:00 AM	0.0026		0.0006	J	24		0.00005	U	0.0003	J	0.0010	*	0.0002	J	0.016		5		0.0010	0.0006	J	0.0007	J	124		1.15		
078LM152	06/17/2008	11:00:00 AM	0.0028		0.0006	J	24		0.00005	U	0.0003	J	0.0018	*	0.0003	J	0.016		5		0.0011	0.0010		0.0012	J	130		1.12		
089LM007	07/23/2008	10:55:00 AM	0.0016	J	0.0005	J	24		0.00005	U	0.0002	J	0.0021	A	0.0002	J	0.014		5		0.0008	0.0003	J	0.0004	U	121		1.15		
089LM020	08/18/2008	11:40:00 AM	0.0001	U	0.0006	J	24		0.00005	U	0.0010	A	0.0020		0.0002	J	0.029		5		0.0026	0.0006	J	0.0006	J	117		1.08		
089LM033	09/24/2008	12:10:00 PM	0.0021		0.0005	J	23		0.00005	U	0.0002	J	0.0008		0.0002	J	0.02		5		0.0009	0.0004	J	0.0004	U	105	I-04, Z-01	1.18		

Sta 22 Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM060	10/16/2007	11:15:00 AM	0.0272		0.0005	U	26		0.00005	U	0.0001	U	0.0010		0.0001	U	0.054		6		0.0024	0.0003	J	0.0004	U	
078LM076	11/28/2007	1:10:00 PM	0.186		0.0001	U	25		0.00006	U	0.0001	J	0.0011		0.0004	J	0.187		5		0.0061	0.0005	J	0.0051		
078LM091	12/17/2007	10:10:00 AM	0.148	QM-07	0.0001	U	26		0.00006	U	0.0001	U	0.0007		0.0006	QR-04	0.140		6		0.0043	0.0005	J	0.0005	U	
078LM104	03/25/2008	11:25:00 AM	0.298		0.0001	J	24		0.00006	U	0.0002	J	0.0017		0.0008		0.280		6		0.0066	0.0006	J	0.0034		
078LM117	04/14/2008	10:05:00 AM	0.207		0.0001	J	24		0.00006	U	0.0001	J	0.0013	A	0.0006		0.150		5		0.0059	0.0006	J	0.0028	QR-04	
078LM130	05/13/2008	11:05:00 AM	0.141	QM-4X	0.0001	U	24		0.00006	U	0.0001	J	0.0013		0.0004	J	0.134		5		0.0046	0.0004	J	0.0013	J	
078LM146	06/17/2008	10:55:00 AM	0.117	QM-07	0.0001	U	24		0.00006	U	0.0001	U	0.0014		0.0004	J	0.077		5		0.0037	0.0007	J	0.0018	J	
078LM152	06/17/2008	11:00:00 AM	0.122	QM-07	0.0001	U	24		0.00006	U	0.0001	U	0.0012		0.0004	J	0.089		5		0.0036	0.0008	J	0.0015	J	
089LM007	07/23/2008	10:55:00 AM	0.0676		0.0001	U	23		0.00006	U	0.0001	U	0.0005	A, CONF, J	0.0006	QR-04	0.080		5		0.0043	0.0005	J	0.0028	QR-04	
089LM020	08/18/2008	11:40:00 AM	0.0697	QM-07	0.0001	U	23		0.00006	U	0.0001	J, A	0.0010		0.0005	J	0.090		5		0.0043	0.0006	J	0.0015	J	
089LM033	09/24/2008	12:10:00 PM	0.174		0.0001	U	24		0.00006	U	0.0001	J	0.0016		0.0004	J	0.231		5		0.0087	0.0005	J	0.0025		

Sta 22 Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
10/16/2007	10:50:00 AM	7.2	7.9	127	187	0.19	0.20
11/28/2007	13:10:00 PM	8.1	6.7	122	188	0.21	0.21
12/17/2007	10:10:00 AM	7.3	3.5	112	190	0.21	0.21
3/25/2008	11:25:00 AM	7.6	8.8	130	189	e0.26	0.22
4/14/2008	10:05:00 AM	7.3	8.8	136	197	0.21	0.23
5/13/2008	11:05:00 AM	7.5	11.9	125	174	0.14	0.12
6/17/2008	10:55:00 AM	7.6	14.1	154	195	0.10	0.10
7/23/2008	10:55:00 AM	7.4	14.2	150	189	0.18	0.18
8/18/2008	11:40:00 AM	7.4	14.6	153	190	0.19	0.19
9/24/2008	12:10:00 PM	7.3	12.5	135	178	0.16	0.17

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

e - estimated

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

* : Failed Relative Percent Difference assessment

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-22: Station 23 Laboratory and Field Results

Sta 23 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM065	10/16/2007	1:30:00 PM	0.0183	QR-04	0.0012	J	141		0.00025	U	0.0079		0.0005	U	0.0011	J	0.023		26		0.645		0.0396		0.0033	J, QR-04	670		383	
078LM081	11/28/2007	11:50:00 AM	0.0229		0.0014	J	120		0.00025	U	0.0121		0.0005	J	0.0016	J, QR-04	0.029		26		0.645		0.0417		0.0082	J, QR-04	623		443	
078LM092	12/17/2007	12:50:00 PM	0.0163	QM-07	0.0016	J	103		0.00025	U	0.0158		0.0008	J	0.0010		0.013		22		0.885		0.0542		0.0107		557		329	
078LM097	12/17/2007	1:00:00 PM	0.0185	QM-07	0.0015	J	100		0.00025	U	0.0161		0.0005	U	0.0011		0.018		23		0.894		0.0516		0.0055	J	554		329	
078LM105	03/25/2008	3:10:00 PM	0.0336		0.0012	J	62		0.00027		0.0193		0.0007		0.0049		0.134		15		0.938		0.0500		0.0103	QR-04	354		180	
078LM118	04/14/2008	1:25:00 PM	0.0912	QM-4X	0.0013	J	43		0.00025	QR-04, U	0.0169	QR-04	0.0005	J	0.0030		0.196		11		0.784		0.0409	QR-04	0.0065	J	269		148	
078LM131	05/13/2008	12:10:00 PM	0.0029	J	0.0016	J	57		0.00025	U	0.0347		0.0009	J	0.0005	U	2.12		15		1.21		0.0806		0.0077	J	355		232	
078LM147	06/17/2008	1:00:00 PM	0.0822		0.0036	J	71		0.00025	U	0.0040		0.0015	J	0.0020	J	0.028		16		0.401	CONF	0.0205		0.0093	J	413		232	
089LM008	07/23/2008	1:20:00 PM	0.0230		0.0037	J	131		0.00025	U	0.0009	J	0.0018	J	0.0020	J	0.239		24		0.058		0.0104		0.0031	J	669		428	
089LM021	08/18/2008	1:40:00 PM	0.0275		0.0032	J	117		0.00025	U	0.0021	J	0.0014	J	0.0039		0.059		20		0.343		0.0115		0.0026	J	561		290	
089LM034	09/24/2008	2:10:00 PM	0.0123		0.0027	CONF	125		0.00005	U	0.0007		0.0007		0.0010		0.026		20		0.0336		0.0090		0.0012	J	626	I-04, Z-01	386	

Sta 23 Total Metals - mg/L																										
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
078LM065	10/16/2007	1:30:00 PM	0.0519		0.0017	J	144		0.00025	U	0.0087		0.00025	U	0.0008	J	0.141		26		0.755		0.0419		0.0024	J
078LM081	11/28/2007	11:50:00 AM	0.276		0.0022	J	117		0.00025	U	0.0120		0.0006	J	0.0022	J	0.197		25		0.686		0.0412		0.0072	J
078LM092	12/17/2007	12:50:00 PM	0.282	QM-07	0.0018	J	106		0.00025	U	0.0158		0.0005	J	0.0018	J, QR-04	0.233		24		0.825		0.0515		0.0022	J
078LM097	12/17/2007	1:00:00 PM	0.240	QM-07	0.0016	J	101		0.00025	U	0.0154		0.0007	J	0.0018	J, QR-04	0.240		23		0.829		0.0511		0.0020	U
078LM105	03/25/2008	3:10:00 PM	4.71		0.0184		64		0.00045	J	0.0231		0.0053		0.0565		7.54		16		1.11		0.0579		0.0343	
078LM118	04/14/2008	1:25:00 PM	2.44		0.0094		43		0.00025	U	0.0171		0.0025		0.0172		5.01		11		0.840		0.0444		0.0196	QR-04
078LM131	05/13/2008	12:10:00 PM	1.92	QM-4X	0.0111		56		0.00025	U	0.0347		0.0024	J	0.0062		6.80		15		1.14		0.0820		0.0206	
078LM147	06/17/2008	1:00:00 PM	0.328	QM-4X	0.0053		71		0.00025	U	0.0041		0.0014	J	0.0035		1.31		16		0.393	CONF	0.0201		0.0095	J
089LM008	07/23/2008	1:20:00 PM	0.157		0.0043		129		0.00025	U	0.0014	J	0.0005	U	0.0027	QR-04	0.549		24		0.0942		0.0134		0.0038	J, QR-04
089LM021	08/18/2008	1:40:00 PM	4.08	QM-07	0.0161		105		0.00025	U	0.0043		0.0056		0.0156		4.70		19		0.375		0.0169		0.0130	
089LM034	09/24/2008	2:10:00 PM	0.0285		0.0025		124		0.00007	J	0.0005	J	0.0017		0.0012		0.059		20		0.0341		0.0085		0.0031	

Sta 23 Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
10/16/2007	13:30:00 PM	7.5	6.5	578	894	0.52	0.41
11/28/2007	11:50:00 AM	7.5	0.0	428	Lerr	e0.30	0.29
12/17/2007	12:50:00 PM	6.5	0.0	393	Lerr	e0.37	0.34
3/25/2008	3:10:00 PM	6.6	7.6	328	491	5.3	2.57
4/14/2008	1:25:00 PM	6.8	9.3	263	376	5.5	3.08
5/13/2008	12:10:00 PM	6.6	8.4	336	491	1.3	1.4
6/17/2008	1:00:00 PM	7.7	17.4	463	542	0.35	0.52
7/23/2008	1:20:00 PM	7.7	20.9	817	887	0.11	0.18
8/18/2008	1:40:00 PM	7.8	19.0	667	754	0.28	0.19
9/24/2008	2:10:00 PM	7.7	11.9	607	810	0.23	0.13

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

e - estimated

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-23: Station 24 Laboratory and Field Results

Sta 24 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM066	10/16/2007	1:20:00 PM	0.0034	QR-04	0.0012	J	18		0.00005	U	0.0003	J	0.0008		0.0002	J	0.003	U	6		0.0024		0.0002	J	0.0004	QR-04, U	104		1.86	
078LM080	11/28/2007	11:45:00 AM	0.0034		0.0010	J	19		0.00005	U	0.0007		0.0012		0.0002	J, QR-04	0.030		6		0.0026		0.0004	J	0.0004	J, QR-04	127		1.73	
078LM093	12/17/2007	1:05:00 PM	0.0024	QM-07	0.0010	J	17		0.00005	U	0.0001	U	0.0008		0.0002	J	0.018		6		0.0016		0.0002	J	0.0004	U	122		1.55	
078LM106	03/25/2008	3:15:00 PM	0.365		0.0015	J	15		0.00005	U	0.0005		0.0024		0.0008		0.354		6		0.0032		0.0007	J	0.0007	J, QR-04	126		3.85	
078LM110	03/25/2008	3:20:00 PM	0.331		0.0014	J	15		0.00005	U	0.0002	J	0.0022		0.0008		0.320		6		0.0029		0.0007	J	0.0007	J, QR-04	121		4.23	
078LM119	04/14/2008	1:30:00 PM	0.292	QM-4X	0.0016	J	16		0.00005	QR-04, U	0.0003	J, QR-04	0.0018		0.0006		0.160		6		0.0030		0.0006	J, QR-04	0.0009	J	112		2.62	
078LM132	05/13/2008	12:15:00 PM	0.0071		0.0012	J	17		0.00005	U	0.0003	J	0.0021	A	0.0001	J	0.013		6		0.0024		0.0002	J	0.0004	U	121		1.79	
078LM148	06/17/2008	12:45:00 PM	0.0243		0.0014	CONF, J	17		0.00005	U	0.0003	J	0.0017		0.0003	J	0.020		6		0.0025		0.0006	J	0.0016	J	119		1.15	
089LM009	07/23/2008	1:10:00 PM	0.0053		0.0014	J	17		0.00005	U	0.0003	J	0.0008		0.0003	J	0.057		6		0.0030		0.0003	J	0.0005	J	114		0.90	
089LM022	08/18/2008	1:30:00 PM	0.0019	J	0.0014	CONF, J	18		0.00005	U	0.0008		0.0016		0.0002	J	0.028		5		0.0046		0.0005	J	0.0004	U	112		1.01	
089LM035	09/24/2008	2:00:00 PM	0.0085		0.0011	CONF, J	16		0.00005	U	0.0001	J	0.0007		0.0002	J	0.025		5		0.0021		0.0004	J	0.0004	U	105	I-04, Z-01	1.05	

Sta 24 Total Metals - mg/L																												
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q		
078LM066	10/16/2007	1:20:00 PM	0.0188		0.0011		18		0.00005	U	0.0001	U	0.0008		0.0002	J	0.047		6		0.0062		0.0003	J	0.0004	U		
078LM080	11/28/2007	11:45:00 AM	0.0455		0.0001	U	19		0.00006	U	0.0001	U	0.0010		0.0003	J	0.059		6		0.0068		0.0003	J	0.0006	J		
078LM093	12/17/2007	1:05:00 PM	0.0337	QM-07	0.0006		18		0.00006	U	0.0001	U	0.0006		0.0003	J, QR-04	0.046		6		0.0052		0.0004	J	0.0005	U		
078LM106	03/25/2008	3:15:00 PM	0.862		0.0010		16		0.00006	U	0.0005	J	0.0020		0.0015	J, QR-04	1.04		5		0.0345		0.0011	J	0.0046			
078LM110	03/25/2008	3:20:00 PM	0.827		0.0009		16		0.00006	U	0.0005	J	0.0020		0.0038	J, QR-04	1.01		6		0.0372		0.0011	J	0.0052			
078LM119	04/14/2008	1:30:00 PM	0.588		0.0010		16		0.00006	U	0.0003	J	0.0017		0.0011		0.519		6		0.0199		0.0008	J	0.0033	QR-04		
078LM132	05/13/2008	12:15:00 PM	0.172	QM-4X	0.0002	J	18		0.00006	U	0.0002	J	0.0014	A	0.0006		0.210		6		0.0171		0.0004	J	0.0012	J		
078LM148	06/17/2008	12:45:00 PM	0.115	QM-4X	0.0002	CONF, J	17		0.00006	U	0.0002	J	0.0012		0.0005	J	0.153		6		0.0135		0.0007	J	0.0016	J		
089LM009	07/23/2008	1:10:00 PM	0.0687		0.0009		17		0.00006	U	0.0001	J	0.0008		0.0006	QR-04	0.094		6		0.0144		0.0005	J	0.0016	J, QR-04		
089LM022	08/18/2008	1:30:00 PM	0.102	QM-07	0.0001	CONF, U	16		0.00006	U	0.0002	J	0.0014		0.0006		0.140		5		0.0149		0.0006	J	0.0018	J		
089LM035	09/24/2008	2:00:00 PM	0.0404		0.0001	U, CONF	16		0.00006	U	0.0001	U	0.0020		0.0006		0.066		5		0.0075		0.0004	J	0.0018	J		

Sta 24 Field Data					
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)
10/16/2007	13:20:00 PM	7.5	6.5	104	161
11/28/2007	11:45:00 AM	7.6	0.0	85	Lerr
12/17/2007	13:05:00 PM	7.8	0.0	90	Lerr
3/25/2008	3:15:00 PM	7.7	7.6	100	150
4/14/2008	1:30:00 PM	7.6	9.3	106	151
5/13/2008	12:15:00 PM	7.6	8.4	115	167
6/17/2008	12:45:00 PM	7.8	17.4	87	103
7/23/2008	1:10:00 PM	7.4	20.9	94	113
8/18/2008	1:30:00 PM	7.5	19.0	133	161
9/24/2008	2:00:00 PM	7.6	11.9	86	119

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter;

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

* : Failed Relative Percent Difference assessment.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-24: Station 25 Laboratory and Field Results

Sta 25 Dissolved Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
078LM067	10/16/2007	1:45:00 PM	0.0089	J, QR-04	0.0016	J	49		0.00025	U	0.0021	J	0.0005	U	0.0005	J	0.021		11		0.109		0.0073		0.0020	QR-04, U	242		98.2	
078LM082	11/28/2007	12:00:00 PM	0.0148		0.0012	J	39		0.00025	U	0.0016	J	0.0008	J	0.0008	J, QR-04	0.029		10		0.0888		0.0071		0.0048	J, QR-04	219		71.6	
078LM094	12/17/2007	1:15:00 PM	0.0073	QR-04	0.0014	J	39		0.00025	U	0.0036		0.0005	J	0.0005		0.012		10		0.189		0.0112		0.0020	U	232		82.8	
078LM107	03/25/2008	3:30:00 PM	0.103		0.0011	J	43		0.00012	J	0.0095		0.0013		0.0040		0.101		11		0.503		0.0263		0.0029		266		104	
078LM120	04/14/2008	1:40:00 PM	0.135	QM-4X	0.0014	J	31		0.00005	QR-04, U	0.0084	QR-04	0.0010		0.0020		0.080		9		0.400		0.0192	QR-04	0.0022		204		87.3	
078LM133	05/13/2008	12:25:00 PM	0.0142		0.0011	J	35		0.00025	U	0.0149		0.0019	J	0.0005	U	0.285		10		0.514		0.0337		0.0020	U	231		104	
078LM149	06/17/2008	1:10:00 PM	0.0154		0.0021	J	33		0.00025	U	0.0010	J	0.0019	J	0.0010	J	0.025		9		0.0752		0.0049	J	0.0043	J	209		67.1	
089LM010	07/23/2008	1:35:00 PM	0.0086	J	0.0023	J	35		0.00025	U	0.0005	U	0.0019	J	0.0009	J	0.015	U	9		0.0084		0.0018	J	0.0020	U	200		65.9	
089LM023	08/18/2008	2:00:00 PM	0.0333		0.0021	J	39		0.00025	U	0.0021	J	0.0020	J	0.0017	J	0.114		9		0.0514		0.0030	J	0.0074	J	213		70.2	
089LM036	09/24/2008	2:30:00 PM	0.0051		0.0016	CONF, J	38		0.00005	U	0.0003	J	0.0006		0.0004	J	0.025		8		0.0041		0.0017		0.0005	J	220	I-04, Z-01	79.6	

Sta 25 Total Metals - mg/L																														
Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q				
078LM067	10/16/2007	1:45:00 PM	0.0247		0.0013	J	49		0.00025	U	0.0014	J	0.0005	U	0.0014	J	0.046		11		0.119		0.0074		0.0020	U				
078LM082	11/28/2007	12:00:00 PM	0.0907		0.0005	U	38		0.00025	U	0.0018	J	0.0005	U	0.0005	J	0.112		10		0.114		0.0068		0.0020	U				
078LM094	12/17/2007	1:15:00 PM	0.819	QM-07	0.0032		41		0.00025	U	0.0174		0.0010	J	0.0025	QR-04	1.45		11		0.827		0.0247		0.0020	U				
078LM107	03/25/2008	3:30:00 PM	3.17		0.0114		44		0.00025	U	0.0138		0.0038		0.0332		5.16		12		0.648		0.0343		0.0210					
078LM120	04/14/2008	1:40:00 PM	1.60		0.0062		32		0.00006	U	0.0091		0.0023		0.0098		3.19		9		0.448		0.0233		0.0137	QR-04				
078LM133	05/13/2008	12:25:00 PM	0.956	QM-4X	0.0053		36		0.00025	U	0.0146		0.0018	J	0.0030		3.05		10		0.495		0.0354		0.0091	J				
078LM149	06/17/2008	1:10:00 PM	0.161	QM-4X	0.0018	J	34		0.00025	U	0.0011	J	0.0014	J	0.0015	J	0.505		9		0.0940		0.0057		0.0073	J				
089LM010	07/23/2008	1:35:00 PM	0.143		0.0013	J	35		0.00025	U	0.0005	U	0.0005	U	0.0010	J, QR-04	0.084		9		0.0284		0.0024	J	0.0026	J, QR-04				
089LM023	08/18/2008	2:00:00 PM	1.35	QM-07	0.0049		36		0.00025	U	0.0014	J	0.0034		0.0051		1.68		9		0.0923		0.0045	J	0.0058	J				
089LM036	09/24/2008	2:30:00 PM	0.0278		0.0015		39		0.00008	J	0.0001	J	0.0022		0.0006		0.059		9		0.0079		0.0017		0.0020	J				

Sta 25 Field and Flow Data							
Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
10/16/2007	13:45:00 PM	8.0	7.1	236	358	1.7	1.59
11/28/2007	12:00:00 PM	7.9	0.3	166	Lerr	1.6	1.56
12/17/2007	13:15:00 PM	7.8	0.4	180	Lerr	e1.9	1.84
3/25/2008	3:30:00 PM	7.6	7.7	237	354	8.1	4.59
4/14/2008	1:40:00 PM	7.4	9.8	201	283	9.2	5.11
5/13/2008	12:25:00 PM	7.4	9.1	225	324	2.4	2.58
6/17/2008	1:10:00 PM	7.9	16.1	245	295	1.4	1.54
7/23/2008	1:35:00 PM	7.7	18.6	261	297	1.0	1.05
8/18/2008	2:00:00 PM	7.7	18.0	264	305	1.2	0.97
9/24/2008	2:30:00 PM	7.9	11.9	240	320	0.9	0.86

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

Lerr - Instrument reading when instrument cannot compute SpC due to low water temperature.

e - estimated

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

CONF: Sample was re-analyzed and confirmed.

I-04: Sample was re-analyzed past the EPA recommended holding time.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X: The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Z-01: The sample was originally analyzed within holding time. However, the LCS recovery was >120%, so the sample batch was re-analyzed outside of holding time. A high bias of approximately 20% was confirmed, so the data from the re-analysis batch is reported.

Table B-25: Semi Annual Stations Laboratory and Field Results

Dissolved Metals - mg/L																															
Station	Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q	TDS	Q	Sulfate	Q
DS	078LM069	10/16/2007	10:25:00 AM	2.43		0.045	J, QR-04	296		0.0050	U	0.198		0.012	QR-04, J	0.007	J	17.3	QR-04	80		12.8		0.376		0.098	QR-04	1530		915	
DS	078LM137	05/13/2008	9:55:00 AM	19.8		0.030		296		0.0034	J	0.276		0.007		0.224		11.3		86		15.2	QM-4X	0.569		0.319		1900		1530	
STA 26	078LM071	10/16/2007	2:30:00 PM	0.0027	QR-04	0.0054		34		0.00005	U	0.0004	J	0.0009		0.0005		0.003	U	12		0.0132		0.0017		0.0004	QR-04, U	1530	A	46.9	
STA 26	078LM139	05/13/2008	1:10:00 PM	0.0204		0.0035		32		0.00005	U	0.0006		0.0018		0.0007		0.033		10		0.0234		0.0045		0.0004	U	222		71.2	
4L		10/16/2007	Station was dry, no sample collected.																												
4L	078LM138	05/13/2008	10:15:00 AM	0.0332		0.0014	J	34		0.00025	U	0.0007	J	0.0013	J	0.0005	U	0.008	J	9		0.0345		0.0017	J	0.002	U	239		120	

Total Metals - mg/L																											
Station	Sample ID	Date	Time	Al	Q	As	Q	Ca	Q	Cd	Q	Co	Q	Cr	Q	Cu	Q	Fe	Q	Mg	Q	Mn	Q	Ni	Q	Zn	Q
DS	078LM069	10/16/2007	10:25:00 AM	2.75		0.045	J	299		0.0050	U	0.211		0.008	J	0.011	J	18.4		80		14.2		0.407		0.092	QR-04
DS	078LM137	05/13/2008	9:55:00 AM	20.5		0.035		303		0.0040	J	0.289		0.013	QR-04	0.235		17.9		89		16.0		0.601		0.335	
STA 26	078LM071	10/16/2007	2:30:00 PM	0.0168		0.0054		33		0.00005	U	0.0002	J	0.0009		0.0004	J	0.074		11		0.0201		0.0018		0.0004	U
STA 26	078LM139	05/13/2008	1:10:00 PM	0.305	QM-4X	0.0038		32		0.00006	U	0.0012		0.0021		0.003		2.00	QM-07	11		0.0608		0.0072		0.0027	
4L		10/16/2007	Station was dry, no sample collected.																								
4L	078LM138	05/13/2008	10:15:00 AM	0.501	QM-4X	0.0008	J	35		0.00025	U	0.0005	U	0.0014	J	0.0005	J	0.045		9		0.0341		0.0022	J	0.0047	J

Field and Flow Data								
Station	Date	Time	pH (SU)	Temp (°C)	EC (uS/cm)	SpC (uS/cm)	Daily Mean Flow (cfs) ¹	Monthly Mean Flow (cfs) ¹
Station 26	10/16/2007	14:30:00 PM	7.9	12.5	225	296	3.0	3.19
Station 26	5/13/2008	1:10:00 PM	7.7	14.2	218	274	4.6	4.38
Delta Seep	10/16/2007	10:25:00 AM	5.2	8.2	1196	1760	NA	NA
Delta Seep	5/13/2008	9:55:00 AM	3.9	7.2	1338	2035	NA	NA
4L Creek	10/16/2007	DRY	DRY	DRY	DRY	DRY	0	0
4L Creek	5/13/2008	10:15:00 AM	6.2	5.5	202	322	0.11	0.12

Field Data:

EC - Electrical Conductivity

SpC - Specific Conductance

Units: SU - Standard Units; °C - degrees celsius; uS/cm - micro siemen per centimeter; cfs - cubic feet per second

NA - Not Available

1: Provisional data provided by the United States Geological Survey.

Q - Qualifiers:

U - Analyte not detected at the given Method Detection Limit (MDL).

J - Analyte detected between the MDL and the Practical Quantitation Limit.

A: Anomalous value, see Table B-26, Water Board 2008 Year-End Report.

QR-04: Duplicate results are within one reporting limit and pass all necessary QC criteria.

QM-4X : The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to the analyte concentration being greater than 4 times the spike concentration. The QC batch was accepted based on LCSD recoveries within the acceptance limits.

QM-07: The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Table B-26
2008 Surface Water Monitoring
Water Board Assigned Data Qualifiers

Station Identification	Laboratory Report #	Sample Date	Sample Identification	LRWQCB-assigned Data Qualifier	Qualified Parameter(s)	Description of Anomalous Value(s)
Sta 26	7100644	10/16/2007	078LM071-Sta 26	A	TDS	TDS = 1530 mg/L; result appears about an order of magnitude high compared to historical results for this station
ADIT	7110951	11/28/2007	078LM073-Adit	A	Dissolved Ca	Ca = 21 mg/L; result appears about an order of magnitude low compared to historical results for this station
ADIT	7110951	11/28/2007	078LM073-Adit	A	Dissolved Mg	Mg = 6 mg/L; result appears about an order of magnitude low compared to historical results for this station
Sta 1	7110951	11/28/2007	078LM072-Sta 1	A	Dissolved Co, Total Co	diss = 0.0042 mg/L; total = <0.0005 mg/L; dissolved concentration significantly exceeds total concentration
Sta 1	7110951	11/28/2007	078LM072-Sta 1	A	Dissolved Mn, Total Mn	diss = 0.0101 mg/L; total = 0.0057 mg/L; dissolved concentration significantly exceeds total concentration
Sta 24	8030887	3/25/2008	078LM106-Sta 24	*	Total Cu	fails field duplicate RPD assessment (duplicate sample = 089LM110-Sta 24D)
Sta 1	8040510	4/14/2008	078LM114-Sta 1	A	Dissolved Co, Total Co	diss = 0.0020 mg/L; total = 0.0004 J mg/L; dissolved concentration significantly exceeds total concentration
Sta 15	8040510	4/14/2008	078LM115-Sta 15	*	Dissolved Al	fails field duplicate RPD assessment (duplicate sample = 078LM123-Sta 15D)
Sta 15	8040510	4/14/2008	078LM115-Sta 15	*	Dissolved As	fails field duplicate RPD assessment (duplicate sample = 078LM123-Sta 15D)
Sta 15	8040510	4/14/2008	078LM115-Sta 15	*	Dissolved Cu	fails field duplicate RPD assessment (duplicate sample = 078LM123-Sta 15D)
Sta 15	8040510	4/14/2008	078LM115-Sta 15	*	Dissolved Fe	fails field duplicate RPD assessment (duplicate sample = 078LM123-Sta 15D)
Sta 15	8040510	4/14/2008	078LM115-Sta 15	*	Dissolved Zn	fails field duplicate RPD assessment (duplicate sample = 078LM123-Sta 15D)
Sta 15	8040510	4/14/2008	078LM115-Sta 15	A	Dissolved Al, Total Al	diss = 5.13 mg/L; total = 3.79 mg/L; dissolved concentration significantly exceeds total concentration
Sta 16	8040510	4/14/2008	078LM116-Sta 16	A	Dissolved Co, Total Co	diss = 0.0031 mg/L; total = 0.0017 mg/L; dissolved concentration significantly exceeds total concentration
Sta 22	8040510	4/14/2008	078LM117-Sta 22	A	Dissolved Cr, Total Cr	diss = 0.0025 mg/L; total = 0.0013 mg/L; dissolved concentration significantly exceeds total concentration
Sta 24	8050550	5/13/2008	078LM1132-Sta 24	A	Dissolved Cr, Total Cr	diss = 0.0021 mg/L; total = 0.0014 mg/L; dissolved concentration significantly exceeds total concentration
Sta 22	8060700	6/17/2008	078LM146-Sta 22	*	Dissolved Cr	fails field duplicate RPD assessment (duplicate sample = 078LM152-Sta D)
OS	8070853	7/23/2008	089LM011-OS	*	Dissolved Cu	fails field duplicate RPD assessment (duplicate sample = 089LM013-Sta D)
OS	8070853	7/23/2008	089LM013-Sta D	A	Dissolved Cr, Total Cr	diss = 0.0049 mg/L; total = 0.0034 mg/L; dissolved concentration significantly exceeds total concentration
Sta 22	8070853	7/23/2008	089LM007-Sta 22	A	Dissolved Cr, Total Cr	diss = 0.0021 mg/L; total = 0.0005 (J) mg/L; dissolved concentration significantly exceeds total concentration
ADIT	8080738	8/18/2008	089LM014-Adit	*	Diss Al	fails field duplicate RPD assessment (duplicate sample = 089LM026-Sta D)
PUD	8080738	8/18/2008	089LM015-PUD	A	Sulfate / TDS	Sulfate = 11,000 mg/L ; TDS = 7,780 mg/L; sulfate concentration significantly exceeds TDS concentration
Sta 1	8080738	8/18/2008	089LM017-Sta 1	A	Total Ca	Ca = 38 mg/L; (1) relatively high compared to historic data, and (2) typically Ca(dissolved) is equivalent to Ca(total); in this sample Ca(dissolved) = 15 mg/L.
Sta 22	8080738	8/18/2008	089LM020-Sta 22	A	Dissolved Co, Total Co	diss = 0.0010 mg/L; total = 0.0001 mg/L; dissolved concentration significantly exceeds total concentration

Qualifiers

* : Results failed the Relative Percent Difference (RPD) assessment
A: Anomalous value