

YEAR-END REPORT FOR THE 2017 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 historical mining. Jurisdiction over Leviathan Mine rests with the State Water Resources Control Board, which, in turn, has delegated jurisdiction over cleanup 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 monitoring activities at Leviathan Mine. With slight modifications, USEPA reissued the AAA in 2001, 2002, 2003, 2004, and 2005. In its 2005 AAA, instead of issuing the AAA every year, USEPA decided to allow its Remedial Project Manager to notify Water Board of the necessity to continue the work for an additional year, for each year that the first phase of Non-Time Critical Removal Action (NTCRA) continues.

This Year-End Report for the 2017 Field Season at Leviathan Mine (Year-End Report) has been prepared by the Water Board for the USEPA to comply with Paragraph No. 50 of USEPA's July 14, 2005 AAA, which states:

"Within thirty (30) days after the LRWQCB [Water Board] 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."

USEPA and Water Board personnel conducted the pre-certification inspection for the Leviathan Mine Site on November 9, 2017.

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 2017. 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 *2017 Work Plan for Leviathan Mine, Alpine County, California* (Work Plan) prepared by the Water Board.

This Year-End Report describes the site activities performed by the Water Board in 2017, and is organized into the following sections:

- Background – provides a description of the site setting and history; collection and storage of AMD; and the treatment process;
- Pond Water Treatment and Sludge Removal – provides a description of AMD treatment and the removal and disposal of sludge in 2017;
- Surface Water Monitoring – provides a description of ongoing surface water flow monitoring in 2017; and
- Site Maintenance – provides a description of 2017 site maintenance activities.

Pond water treatment data are summarized in eight tables in Appendix A (A-1 through A-8). Laboratory reports and electronic data deliverables for pond water samples, United States Geological Survey (USGS) flow and stage data, and Pond Water Treatment Operator Logs are included as electronic files on the enclosed disc and are organized into Appendices B through D.

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. Based on the Final Title Search and Survey Report conducted by Science Applications International Corporation (SAIC) for the USEPA on January 31, 2000, the Leviathan Mine encompasses thirty-two patented mineral claims and a patented mill site. The majority of land disturbed by mining activities is on state-owned property, with the remainder of the disturbance located on property owned by the United States Department of Agriculture, Forest Service, Humboldt-Toiyabe National Forest (USFS). The USFS owns the majority of land surrounding the mine according to the above-mentioned SAIC report, 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 3.3 miles downstream of the Nevada state line, Bryant Creek joins the East Fork Carson River.

Historical 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 the tunnel is collapsed at its portal. 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's contractor installed an underground drain to collect acidic groundwater emanating from the Adit. The underground drain consists of a 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. 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 rates as high as approximately 67 gpm (based on flow data collected by USGS at 15 minute intervals from 1999 to present).

The Water Board's contractor installed the PUD during construction of the 1985 pollution abatement project to dewater saturated soils in the bottom of the open pit (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 backfill material. The perforated pipes connect to a non-perforated 18-inch-diameter pipe that conveys the PUD discharge to the flow control structure. 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 67 gpm (based on flow data collected by USGS at 15 minute intervals from 1999 to present).

The five evaporation ponds (Ponds 1, 2 South, 2 North, 3, and 4; see Figure 3) cover a combined surface area of approximately 11.8 acres with a cumulative holding capacity of approximately 15.4 million gallons (based on a 2012 survey conducted by Atlantic Richfield Company [ARC]). AMD from the flow control structure is routed to the pond system via underground PVC piping. AMD is directed to the pond system by gravity 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 referred to as the "upper ponds" and have a combined storage volume of approximately 14 million gallons. Pond 3 can receive overflow from the upper ponds by gravity via PVC overflow pipes. Overflow from Pond 3 flows in PVC piping and can be

directed by gravity, via valves, to either the Leviathan Creek or to Pond 4. Overflow from Pond 4 flows directly to Leviathan Creek via PVC piping. ARC is using Pond 4 for storage and treatment of other AMD sources. Since the spring of 2006, Pond 4 has been isolated from Pond 3 by a closed valve, and there has been no discharge from Pond 3 to Pond 4. Any discharges from Pond 3 are routed to Leviathan Creek.

The heavy precipitation during the 2016-2017 winter (approximately 202 percent of average based on measurements collected by the California Department of Water Resources on May 1, 2017) recharged groundwater, which increased the flow from the PUD and Adit to the upper ponds. The PUD and Adit flow rates in late April 2017 were the highest ever measured. The increased flow from the Adit and PUD, coupled with the direct precipitation on the ponds, caused the upper ponds to fill to within a half-foot of overflow before the Water Board commenced spring treatment activities to reduce the volume of water in the upper ponds.

In 2017, Pond 3 received overflow from all three of the upper ponds; however, the Water Board's spring treatment system was operational in Pond 3 and all overflow from the upper ponds was conveyed directly to the spring treatment system for neutralization. In addition to overflow from the upper ponds to Pond 3, the Water Board siphoned AMD from the upper ponds to Pond 3 as part of the spring treatment operations. As a result of the spring treatment efforts, all AMD discharged from Pond 3 to Leviathan Creek in 2017 was treated.

2.3 Pond Water Treatment Processes

The Water Board treats AMD from the upper ponds and discharges the treated AMD, during the summer (and spring, if needed) to renew pond storage capacity for the subsequent winter and spring months. The Water Board's treatment of AMD contained in the ponds 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 ponds; the addition of lime causes an increase in pH and the precipitation of dissolved constituents, including metals, contained in the AMD. The precipitated solids are settled out of solution, and the final products are: (1) a practically metal-free effluent with near neutral pH, and (2) a metal-rich waste sludge.

3. 2017 POND WATER TREATMENT AND SLUDGE REMOVAL

The 2017 AMD treatment and associated activities included spring treatment of AMD at Pond 3 from March through June, sludge stockpile from the Pit Clarifier in May and June, AMD treatment at the pond water treatment plant adjacent to Pond 1 (Plant) in June, August, September, and October, sludge removal from the Pit Clarifier in August, and sludge removal from Pond 3 in October.

3.1 2017 Spring Treatment

Following the unusually wet winter of 2016-2017, the Water Board implemented spring treatment of AMD to prevent untreated discharges to Leviathan Creek from the pond system.

Following consultation with the U.S. Forest Service (USFS), the Water Board's spring treatment contractor, TKT Consulting (TKT), cleared snow from Leviathan Mine Road using a rubber-tired loader on February 25 and 26, 2017. In accordance with USFS direction and as a means to prevent disturbance of the road surface, a depth of approximately two inches of snow was left on the road surface in all areas where snow removal occurred and frequent cuts through the snow berms were made to allow snowmelt to flow off the road. Snow removal activities near Pond 3 are shown in Photos 1 and 2. Mobilization of spring treatment equipment and supplies to Pond 3 began on February 27, 2017, and treatment commenced on March 2, 2017. When treatment started, Ponds 1, 2 North, 2 South, and 3 were entirely covered by ice and snow.

For spring treatment, TKT assembled and operated a portable Rotating Cylinder Treatment System (RCTS) adjacent to Pond 3. A similar treatment system was used at Leviathan Mine during the spring seasons of 2005, 2006, and 2011. Unlike the Plant used for the Water Board's summer pond water treatment effort (see Section 3.3 for more information), the RCTS can be installed and operated without the use of heavy equipment. The RCTS included two rotating cylinder mixers, a 2,000-gallon lime dosing tank, two to three 500-gallon lime slurry tanks, a lime delivery pump, siphon lines, and pumps to circulate water within Pond 3. The RCTS and spring treatment activities are shown in Photos 3 and 4.

TKT pumped AMD from the upper ponds to the RCTS. Using the RCTS, TKT mixed lime solution with the AMD from the upper ponds and discharged the lime/AMD mixture to Pond 3. Circulation pumps around Pond 3 facilitated further mixing of the lime with the AMD. The addition of lime to the AMD caused an increase in pH resulting in the precipitation of dissolved metals in the AMD. Once the mixture of lime and AMD in Pond 3 was stabilized at a pH of approximately 7.5 to 8.5, the circulation pumps were adjusted in a manner that would allow the precipitated metals to settle as sludge in Pond 3. TKT then pumped the liquid portion of the neutralized AMD through the Pond 3 overflow structure and associated piping to Leviathan Creek, leaving the precipitated metals (sludge) in Pond 3. During the discharge of neutralized AMD from Pond 3 to Leviathan Creek, the RCTS continued to neutralize AMD from the upper ponds in Pond 3. TKT personnel closely monitored field parameters during discharge events to ensure that only neutralized AMD was discharged to Leviathan Creek. Once the discharge of neutralized AMD was complete, discharge pumps were shut off and the RCTS continued treatment of the next batch. These operations continued until the volume of sludge contained in Pond 3 precluded the treatment of additional AMD in Pond 3. TKT maintained near continuous operation of the RCTS during the treatment period to prevent freezing in the RCTS and associated hoses.

The initial volume of AMD contained in Pond 3 when treatment started did not contain high levels of metals and other constituents. Most of the initial volume of water in Pond 3 was from precipitation and snowmelt that was acidified by the acid generating potential of the pond-liner-cover materials. The first batch of treated water discharged from Pond 3 occurred on March 3, 2017. As described above, subsequent batches of AMD were transferred from the upper ponds, which receive AMD from the Adit and PUD, to Pond 3 for treatment. A total of 41 batches of AMD were treated in Pond 3 and discharged to Leviathan Creek. Spring treatment operations ended on June 1, 2017. A final discharge of treated water from Pond 3 occurred intermittently from June 13 through June 27, 2017, by a siphon of less than five gallons per minute. Table A-1 of

Appendix A presents the days and volumes of treated discharge from Pond 3. By June 27, 2017, a total of approximately 14.9 million gallons of AMD had been treated and discharged to Leviathan Creek by spring treatment activities. Treated discharge volumes were determined for each batch based on the starting and ending depths of water in Pond 3 during discharge, and the known relationship between pond depth and pond volume. The 2017 spring treatment operation consumed approximately 42.5 tons of high calcium bagged lime (approximately 90 percent calcium hydroxide by weight), approximately 17.8 tons of type S bagged lime (approximately 50 percent calcium hydroxide and 35 percent magnesium hydroxide by weight), 5,183 gallons of diesel fuel, and 432 gallons of gasoline.

Field measurements of pH and electro-conductivity in Pond 3 were made as needed during spring treatment operations to ensure treatment efficacy. The frequency of field pH and electro-conductivity measurements ranged from approximately two to three times per day during treatment activities when adequate Pond 3 freeboard remained, to numerous times per hour as TKT personnel prepared for discharge events. Discharge of treated AMD occurred when pH measurements at numerous locations in Pond 3 were consistently between approximately 7.5 and 8.5 standard units, which indicated treatment was complete. Treated AMD from Pond 3 was sampled once daily during each of the 41 discharge events. During discharge events, TKT personnel measured pH, at a minimum, every hour to ensure that only treated water was discharged to Leviathan Creek. Field parameters and laboratory sample results for untreated pond water and treated effluent samples are presented in Tables A-2 and A-3 of Appendix A. All discharges met USEPA Discharge Criteria except for two instances; March 4, 2017 when dissolved copper exceeded USEPA's Maximum Daily Discharge Criteria, and April 19, 2017 when dissolved iron exceeded USEPA's Maximum Daily Discharge Criteria.

Copies of the laboratory's electronic data deliverable (EDD) files for untreated pond water and effluent samples collected as part of the 2017 spring treatment activities are provided in Appendix B on compact disc. Appendix B also includes Portable Document Format (PDF) versions of the hard copy laboratory reports.

3.2 Pit Clarifier Sludge Removal and Disposal

Sludge from the Water Board's summer treatment campaign is contained in the Pit Clarifier (see Section 3.3 for additional information). Normally, sludge in the Pit Clarifier is stockpiled and then hauled offsite for disposal prior to the startup of the Water Board's summer treatment campaign. In this manner, sludge from the previous year's summer treatment effort is removed to make room for sludge to be generated by the current year's summer treatment effort. During the 2017 treatment season, site conditions made it necessary to start up the Plant and begin treating pond water before the 2016 sludge could be hauled offsite for disposal. In 2017, instead of hauling the 2016 sludge offsite before Plant startup, the Water Board's contractor, AECOM Technical Services (AECOM), stockpiled the 2016 sludge in the Pit Clarifier in late May and early June 2017, thereby creating capacity in the Pit Clarifier for 2017 sludge. Later, in August 2017, AECOM removed and hauled the stockpiled 2016 sludge (approximately 475 tons) to a Class 1 hazardous waste landfill in Beatty, Nevada for disposal. The stockpiled sludge had been sampled, analyzed, and characterized in the fall of 2016; the results from the fall 2016 sampling were reported in the Water Board's

2016 Year-End Report. Hazardous waste manifests are available for review at the Water Board's office in South Lake Tahoe. Following the stockpiling effort, the sand drainage layer in the bottom of the Pit Clarifier was evaluated and additional sand was added to replenish the sand drainage layer. Sludge stockpile and sand drainage layer replenishment activities are shown in Photo 5.

3.3 2017 Summer Pond Water Treatment Plant Operation

The Water Board assembled the Plant 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 Water Board has continued to operate the Plant during the summer months from 2001 through 2017. The typical Water Board field season at Leviathan Mine runs from mid-June through mid-October.

The Plant has also been referred to as the Pond 1 lime treatment plant, because it is located adjacent to Pond 1 and treats AMD stored in Ponds 1, 2 North, and 2 South. The Plant draws AMD from Pond 1 for treatment, thereby lowering the surface elevation of AMD stored in Pond 1. The lower level in Pond 1 causes AMD from Pond 2 North and Pond 2 South to flow by gravity to Pond 1. As the level of AMD drops near the end of the treatment season, portable transfer pumps are used to move water from Pond 2 North and Pond 2 South to Pond 1. The Plant conveys the treated AMD and suspended precipitated solids to the Pit Clarifier located in the bottom of the Pit. The Pit Clarifier has plan dimensions of approximately 150 feet by 150 feet, and includes a gravel/sand-covered perforated pipe underdrain and a 10-inch diameter PVC decanting device, known as the piccolo decant structure.

The Water Board contracted with AECOM for Plant operations for the 2017 field season. AMD treatment at the Plant occurred during two time periods during the 2017 field season. The first time period commenced on June 7, 2017 and ran through June 28, 2017, and the second time period commenced on August 9, 2017 and ran through mid-October. AECOM did not treat upper pond water at the Plant from June 29 through August 8, 2017 in order to provide up to approximately 2.5 million gallons of AMD from the upper ponds for Atlantic Richfield Company's Interim Combined Treatment full scale demonstration activities at its High Density Sludge treatment plant, as requested by ARC.

During the June treatment period, treated AMD began entering the Pit Clarifier on June 7, 2017. Photo 6 shows the Pit Clarifier with a new sand drainage layer as treated AMD began entering the Pit Clarifier. Discharge of treated AMD from the Pit Clarifier to Leviathan Creek began on June 9, 2017 and ceased on June 28, 2017. AECOM operated the Plant 24 hours per day, seven days per week, during most of this treatment period.

During the early August through mid-October treatment period, treated AMD began entering the Pit Clarifier on August 9, 2017. Discharge of treated AMD from the Pit Clarifier to Leviathan Creek was resumed on August 11, 2017. AECOM operated the Plant 24 hours per day, seven days per week, as much as possible during this treatment period. Increasing sludge levels in the Pit Clarifier necessitated numerous shutdown/startup cycles during this treatment period to allow the sludge in the Pit Clarifier to dewater and compress, thereby providing room for additional sludge and

AMD treatment. These shutdown periods also allowed operators to install two extensions on the piccolo decant structure for purposes of increasing the Pit Clarifier's capacity and allowing AMD treatment to continue. Increasing sludge levels in the Pit Clarifier and extensions installed on the piccolo decant structure can be seen in Photos 7 and 8.

In 2017, AECOM used both pre-mixed lime slurry delivered to the site in tanker trucks, as well as dry lime delivered to the site in 50-pound bags. When dry lime was used, AECOM staff mixed dry lime with Leviathan Creek water from upstream of the mine in two 500-gallon polyethylene tanks to create lime slurry.

Figure 4 shows the Plant system layout and Figure 5 shows a simplified piping and instrumentation diagram of the Plant. AECOM pumped AMD from Pond 1 to a 10,000-gallon fiberglass tank (R-1). A pH probe installed in R-1 measured the pH in R-1 and controlled the amount of lime slurry added to R-1. The lime slurry raised the pH of the AMD from approximately 2.5 to an approximate range of 3.0 to 4.5, as measured in R-1. A mixer and compressed air were used in R-1 at all times to agitate, oxidize and promote mixing. The AMD flowed by gravity from R-1 through a two-chambered combination flash/flocculation mix tank (FF-1). The fluid mixture flowed by gravity from FF-1 into a 10,000-gallon fiberglass reaction tank referred to as R-2. A mixer and compressed air were used in R-2 to further agitate, oxidize, and promote mixing. A pH probe in R-2 measured pH and metered the addition of lime slurry. The lime slurry raised the pH of the partially-treated AMD to an approximate range of 8.2 to 8.5, as measured in R-2. The fluid mixture then flowed by gravity through a second flash/flocculation mix tank (FF-2) in which compressed air was used to promote mixing.

The fluid mixture flowed by gravity from FF-2 into a clarifier tank (CL-2). A polyacrylamide polymer solution was injected into the fluid mixture at the bottom of CL-2 to promote flocculation and solids settling in the Pit Clarifier. Two 10-hp slurry pumps transferred the fluid mixture from the bottom of CL-2 to the Pit Clarifier, where solids settled out in near-quiet conditions. In 2017, AECOM used a pH probe in FF-2 to control the slurry pumps and to prevent the transfer of treated AMD having a pH below 8.1 or above 8.7 to the Pit Clarifier. By means of this control system, treated AMD having a pH outside the range of 8.1-8.7 is automatically diverted back to Pond 1 for re-treatment. The pH probe, controller, and pump combination provided additional reliability as well as a final confirmation pH measurement.

A small portion of utility water is used to dilute the polyacrylamide polymer that is added into the fluid mixture at the bottom of CL-2. Typically, this utility water is collected from Leviathan Creek upstream of the disturbed portion of the site and is stored in two 15,000-gallon utility water tanks adjacent to the Plant. During drier years it has been necessary to use treated AMD discharged from the Pit Clarifier as a source of utility water at times. In 2017, the flow in Leviathan Creek was sufficient to supply an adequate volume of utility water for the entire treatment season.

In 2017, treated AMD was discharged from the Pit Clarifier using both the underdrain and piccolo decant structure. All treated AMD from the Pit Clarifier is routed through the Water Board's effluent weir box prior to discharging to Leviathan Creek. Treated AMD stage data and water quality control samples were collected at the 90-degree V-notch weir in the Water Board's effluent weir box. Stage data were recorded at 15-minute

intervals using a data logger/pressure transducer system. The Water Board's stage data were used to calculate treated effluent discharge volumes. The V-notch weir was flow tested by USGS and Water Board staff at both high flows (approximately 240 gpm) and low flows (less than 50 gpm). The USGS developed a rating curve based on these data. The rating curve was used to convert the 15-minute stage readings into flow rates.

Discharge of treated AMD from the Pit Clarifier to Leviathan Creek occurred during the two 2017 treatment time periods (June 7, 2017 through June 28, 2017 and August 9, 2017 through mid-October). During the first treatment period, discharge to Leviathan Creek began on June 9, 2017. Discharge to Leviathan Creek occurred continuously until all treated AMD was discharged from the Pit Clarifier, with the exception of a short period from June 11 through June 13, when it was necessary to close the Pit Clarifier underdrain due to a short term Plant shutdown. The Plant was shut down on June 28, 2017 and treated AMD continued to be discharged from the Pit Clarifier as the accumulated sludge drained. By July 18, 2017, approximately 3.6 million gallons of treated AMD had been discharged to Leviathan Creek, and flows from the Pit Clarifier underdrain were below 5 gpm. During the second treatment period, discharge to Leviathan Creek began on August 11, 2017. Discharge to Leviathan Creek occurred continuously during the second treatment period until all treated AMD was discharged from the Pit Clarifier. The Plant was shut down on October 12, 2017 and treated AMD continued to be discharged from the Pit Clarifier as the accumulated sludge drained. By October 29, 2017, approximately 11 million gallons of treated AMD had been discharged to Leviathan Creek, and flows from the Pit Clarifier underdrain were below 5 gpm. A summary of daily flow volumes discharged to Leviathan Creek is presented in Table A-4 of Appendix A.

The 2017 Plant operation consumed approximately 92,930 gallons of lime slurry (approximately 233.77 dry standard tons), approximately 100,000 pounds of high-calcium hydrated lime (approximately 45 dry standard tons), 356 gallons of liquid flocculent, 10,007 gallons of diesel fuel, and 283 gallons of gasoline. The Water Board's treatment effort in 2017, combined with natural evaporation, resulted in the upper pond system having nearly the maximum available storage capacity of approximately 14 million gallons at the end of the treatment effort. Typically Plant operations continue until the upper pond system is essentially empty. However, in 2017, Water Board staff estimate that approximately 800,000 gallons of AMD remained in the upper pond system at the end of the treatment effort in mid-October. The volume of AMD remaining in the upper pond system at Plant shutdown was due to a number of causes including: higher than average Adit and PUD flows, higher than average lime utilization which lead to increased sludge generation, Plant shutdown in July for Atlantic Richfield's Interim Combined Treatment full scale demonstration, onset of freezing nighttime temperatures in October which negatively impacted treatment efficacy, and most importantly, the Pit Clarifier reaching maximum sludge holding capacity.

Sludge generated by the Plant in 2017 is contained in the Pit Clarifier to allow for further dewatering. 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 approximately 935 – 1,100 tons of sludge, generated during 2017 summer operations, will be disposed of in 2018. The Pit Clarifier and sludge generated by the Plant in 2017 are shown in Photo 9 on the last day of treatment activities during the 2017 season.

3.4 Pond 3 Sludge Removal and Disposal

In early to mid-October 2017, AECOM hauled a portion of the sludge generated during 2017 spring treatment operations in Pond 3 to a Class 1 hazardous waste landfill in Beatty, Nevada for disposal. Prior to hauling the sludge, AECOM began excavating sludge from Pond 3 in late-August 2017 and stockpiling it within Pond 3's lined berms to expedite the dewatering process. As more sludge became dry enough to excavate, AECOM stockpiled it for hauling. By mid-October 2017, AECOM had removed approximately 277 tons of sludge from Pond 3. AECOM stockpiled as much of the remaining sludge, which was too wet to haul, above the high water line, but within Pond 3's lined berms. The sludge that remains in Pond 3 will be hauled offsite for disposal during the 2018 treatment season after it has dried sufficiently. Photo 10 shows Pond 3 near the end of 2017 sludge removal activities.

3.5 Summer Pond Water Treatment Monitoring

Treatment process monitoring, sampling, and analysis were performed in accordance with the Water Board's April 2017 *Sampling and Analysis Plan for Leviathan Mine Site Pond Water Treatment* (PWT SAP). A summary of the monitoring parameters, locations, and frequencies for the 2017 PWT monitoring program is presented in Table 1. Specific details of sample collection and handling are described in the PWT SAP. Effluent samples were collected and analyzed for comparison with USEPA Discharge Criteria; the USEPA Discharge Criteria are set forth in the September 25, 2008 Non-Time Critical Removal Action for the Leviathan Mine Site and are summarized in Table 2. In 2017, there were 8 minor deviations from the PWT SAP, as explained in Section 3.6.3. Samples collected by AECOM staff were transferred under Chain of Custody for laboratory analysis by offsite laboratories, Microbac, of Marietta, Ohio, and Enthalpy Analytical (formerly Curtis and Tompkins, Ltd, Analytical Laboratories), of Berkeley, California.

To confirm the quality of treated AMD discharged to Leviathan Creek, AECOM, collected grab samples of the treated AMD (effluent) twice weekly during the 2017 treatment season. AECOM collected effluent samples from the Water Board's effluent weir box located near the Pit Clarifier. As specified in the 2017 Work Plan, effluent sample collection stopped when the discharge of effluent dropped below 5 gpm, which occurred on October 24, 2017. The first effluent sample was collected on June 14, 2017, and the last effluent sample was collected on October 19, 2017. To confirm the USEPA Discharge Criteria would be met, three pre-discharge samples were taken prior to discharging effluent to Leviathan Creek. These samples were collected by AECOM on June 8, June 9, and August 10, 2017 from the Pit Clarifier. Additionally, AECOM collected Plant influent samples from the line conveying pond water to the treatment plant twice weekly during the 2017 treatment season.

In summary, the Water Board's contractor collected the following samples for analytical laboratory analysis as part of the 2017 PWT monitoring program:

- 28 effluent samples (2 per week)
- 5 effluent duplicate samples
- 3 pre-discharge samples

- 22 pre-treatment influent samples (2 per week)
- 5 field method blank samples

A portion of each grab sample was field filtered using a 0.45 micron filter, preserved with nitric acid, and submitted to the laboratory to be analyzed for the following dissolved metals/metalloids: aluminum (Al), arsenic (As), copper (Cu), chromium (Cr), cadmium (Cd), nickel (Ni), iron (Fe), lead (Pb), and zinc (Zn). An unfiltered portion of each grab sample was preserved with nitric acid and submitted to the laboratory for total recoverable selenium (Se) analysis. At least once per week, in addition to the above analyses, AECOM submitted to the laboratory samples of Plant influent and effluent for total dissolved solids (TDS), dissolved sulfate (SO₄), calcium (Ca), cobalt (Co), magnesium (Mg), and manganese (Mn). During influent and effluent sample collection activities, AECOM monitored and recorded pH and temperature in the field on sampling record forms. Sample identification tracking forms and sampling record forms are available for review at the Water Board's office in South Lake Tahoe. Analytical and field monitoring results of Plant effluent and influent samples are summarized in Tables A-5 and A-6 of Appendix A, respectively. These tables include non-detect results for effluent and influent samples, in which case the lab qualifier of a U is included in the Data Qualifier column and the method detection limit value is included in the table.

To provide real-time information on effluent quality and system operation, treatment plant operators measured the pH and temperature approximately every hour while the system was operating at four mid-process locations (R-1, R-2, FF-2, and influent to Pit Clarifier) and at one effluent location (effluent weir box). Operators used these data to check against in-system pH probes to modify lime additions, if necessary, and maintain effluent quality. Temperature and pH data collected by AECOM from R-1, R-2, FF-2, the Pit Clarifier, and the weir box are summarized in Table A-7 of Appendix A. Copies of AECOM's operator logs are available for review in the Water Board's office in South Lake Tahoe.

Sludge generated during the 2017 treatment effort, and contained in the Pit Clarifier, was sampled on October 27, 2017, for waste characterization and disposal purposes. AECOM collected three sludge samples from three different locations in the Pit Clarifier. At the time of sampling, the depth of accumulated sludge in the Pit Clarifier ranged from 48 to 52 inches.

Sludge samples were analyzed for comparisons with Total Threshold Limit Concentrations (TTLC) and Soluble Threshold Limit Concentrations (STLC) for California Code of Regulations Title 22 metals, aluminum, and iron; and percent solids. Additionally, sludge samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) for disposal purposes. Analytical results for the sludge samples are summarized in Table A-8 of Appendix A. Table A-8 includes non-detect results for sludge samples, in which case the lab qualifier ND is included in the Data Qualifier column and the method detection limit value is included in the table.

3.6 Sampling Results from Summer Pond Water Treatment Monitoring

3.6.1 Monitoring Objectives

Specific objectives of the PWT monitoring program are:

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

3.6.2 Data Summary

Laboratory analytical results for effluent are summarized in Table A-5. These data are collected for comparison with the USEPA Daily Maximum Discharge Criteria, which are also included in Table A-5. One sample, 1718PWT057-EFF exceeded the USEPA Daily Maximum Discharge Criteria for iron of 2 milligrams per liter (mg/L) with a result of 5.71 mg/L.

Table A-6 summarizes laboratory analytical results for Plant influent samples. Results are fairly consistent with previous treatment seasons. Plant influent sample pH ranged from 2.05 to 3.87 and TDS ranged from 7,570 to 10,800 mg/L with an average of 9,092 mg/L (not including four anomalous results). Results of pH and temperature for data collected by Plant operators are included in Table A-7. Measurements of pH taken by Plant operators show that the discharge of effluent to Leviathan Creek met USEPA Discharge Criteria, and that desired pH levels were achieved in the Plant throughout the treatment season.

A summary of daily discharge from the Pit Clarifier is included in Table A-4. A total of approximately 11 million gallons of effluent was discharged from the Pit Clarifier to Leviathan Creek in 2017. The 15-minute discharge stage data recorded by the data logger (which are the basis of discharge flow calculations) are available for review at the Water Board's office in South Lake Tahoe.

Results of the Pit Clarifier sludge characterization analyses are presented in Table A-8 for sludge generated during the 2017 treatment season. On October 27, 2017, AECOM collected three sludge samples from the Pit Clarifier to characterize sludge generated during the 2017 treatment season. These three sludge samples averaged 15 percent solids at the time of collection. With the exception of the TTLC analysis for arsenic, the sludge did not exceed any other TTLC or STLC limits. The total concentrations for arsenic exceeded the TTLC in the three sludge samples. The arithmetic average arsenic concentration for these three samples was 1,400 milligrams per kilogram (mg/kg) on a dry-weight basis. The regulatory standard TTLC for arsenic is 500 mg/kg as measured on a wet-weight basis. Sludge sample results are reported on a dry-weight basis for this sampling effort because the percent solids at the time of disposal is not known, and therefore the dry-weight basis results constitute the most conservative

evaluation of sludge quality. At the time of disposal in the late spring or early summer, the concentration of solids in the sludge has typically varied from about 25 to 55 percent. The average concentration of arsenic measured in the sludge would not exceed the TTLC on a wet-weight basis unless the sludge was approximately 35 percent or greater solids by weight; therefore, it is possible the sludge could exceed the TTLC when it is disposed of in the late spring or early summer of 2018.

Copies of the laboratory's electronic data deliverable (EDD) files for Plant influent, effluent, and sludge samples are provided in Appendix B on compact disc. Appendix B also includes Portable Document Format (PDF) versions of the hard copy laboratory reports.

3.6.3 Data Quality Evaluation

AECOM and Water Board staff reviewed the quality of the PWT monitoring results. Sample collection, handling, preservation, and analysis were conducted as specified in the PWT SAP. Field quality control samples, including five field duplicate samples and five field method blank (FMB) samples, were collected. A Chain of Custody form was completed for each group of samples submitted to the analytical laboratory. Upon receipt of the laboratory report, Water Board staff reviewed the Chain of Custody to ensure that details such as the project name, sample ID numbers, sample dates, sample times, and requested parameters were properly reported. Water Board staff's data review also included an evaluation of sample holding times, an assessment of precision, an assessment of anomalous data, and a review of field duplicate sample and FMB results.

Data qualifiers from the laboratory, AECOM, and Water Board review are presented with the data in Tables A-5, A-6, and A-8. In 2017, Water Board staff assigned a data qualifier of "*" for data that did not meet Water Board field duplicate assessment (relative percent difference), a data qualifier of "***" for data that did not meet Water Board FMB analysis, and a data qualifier of "^" for anomalous results for influent data in Table A-6. AECOM data qualifiers are summarized in Appendix D – AECOM 2017 Data Summary Report, Attachment 4.

AECOM submitted five field duplicate samples to the laboratory to measure the precision of the entire measurement system including sampling and analytical procedures in 2017. The relative percent difference (RPD) was calculated for each analyte in the primary and corresponding duplicate samples, 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 by 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 percent to be within control limits.
- If either the sample or duplicate value was less than five times the RL, then the absolute value of the difference between the sample and duplicate values had to be equal to or less than the RL to be in control limits.

In 2017, the field duplicate samples were within the control limits for RPD with eight exceptions. For the sample/duplicate pair (sample 1718PWT004-EFF and duplicate 1718PWT006-EFF), the RPD for dissolved arsenic was 103 percent, the RPD for dissolved chromium was 25 percent, and the RPD for dissolved cobalt was 61 percent. For the sample/duplicate pair (sample 1718PWT016-EFF and duplicate 1718PWT018-EFF), the RPD for dissolved aluminum was 29 percent. For the sample/duplicate pair (sample 1718PWT032-EFF and duplicate 1718PWT034-EFF), the RPD for dissolved iron was 70 percent. For the sample/duplicate pair (sample 1718PWT041-EFF and duplicate 1718PWT043-EFF), the RPD for dissolved arsenic was 29 percent, the RPD for dissolved chromium was 62 percent, and the RPD for dissolved iron was 68 percent. Per the PWT SAP, the control limit of 25 percent is based on the analytical precision goals for the laboratory matrix spike duplicate samples.

Five FMB samples were collected and submitted for laboratory analysis of the same parameters as PWT effluent samples. The FMB sample is collected and processed in the same method as that of effluent samples, except using laboratory-supplied purified deionized water for the FMB. There were eight positive detections in three of the five FMB samples. For sample 1718PWT005-FMB, there were three positive detections, which are discussed, below, and concentrations are compared with sample 1718PWT004-EFF, which was taken on the same day as the FMB sample. The first parameter detected in the FMB sample is dissolved calcium, which does not have discharge criteria established by the USEPA at Leviathan Mine. The dissolved calcium sample concentration was detected in the FMB sample at 2.20 mg/L, whereas the concentration of dissolved calcium in the effluent sample in the same batch was 604 mg/L. The second parameter detected in the FMB is dissolved magnesium, which does not have discharge criteria established by USEPA at Leviathan Mine. The dissolved magnesium concentration was detected in the FMB sample at 0.879 mg/L, whereas the dissolved magnesium concentration in the effluent sample analyzed in the same batch was 31.1 mg/L. The third parameter detected in the FMB sample is dissolved zinc, which has a USEPA Discharge Criteria of 0.21 mg/L for both the Daily Maximum and Four-Day Average. The dissolved zinc concentration was detected in the FMB sample at 0.0370 mg/L, whereas the dissolved zinc concentration in the effluent sample analyzed in the same batch was a non-detect at 0.0100 mg/L minimum detection limit.

For sample 1718PWT017-FMB, there were three positive detections, which are discussed, below, and concentrations are compared with sample 1718PWT016-EFF, which was taken on the same day as the FMB sample. The first parameter detected in the FMB sample is dissolved calcium, which does not have discharge criteria established by the USEPA at Leviathan Mine. The dissolved calcium sample concentration was detected in the FMB sample at 2.48 mg/L, whereas the concentration of dissolved calcium in the effluent sample in the same batch was 523 mg/L. The second parameter detected in the FMB is dissolved magnesium, which does not have discharge criteria established by USEPA at Leviathan Mine. The dissolved magnesium concentration was detected in the FMB sample at 0.812 mg/L, whereas the dissolved magnesium concentration in the effluent sample analyzed in the same batch was 45.6 mg/L. The third parameter detected in the FMB sample is total dissolved solids, which does not have discharge criteria established by USEPA at Leviathan Mine. The total dissolved solids concentration was detected in the FMB sample at 56.0 mg/L, whereas the total dissolved solids concentration in the effluent sample analyzed in the same

batch was 2,500 mg/L. The fourth parameter detected in the FMB was dissolved zinc, which has a USEPA Discharge Criteria of 0.21 mg/L for both the Daily Maximum and Four-Day Average. The dissolved zinc concentration was detected in the FMB sample at 0.0311 mg/L, whereas the dissolved zinc concentration in the effluent sample analyzed in the same batch was a non-detect at 0.0100 mg/L minimum detection limit.

For sample 1718PWT033-FMB, there was one positive detection which is discussed, below, and the concentration is compared with sample 1718PWT032-EFF, which was taken on the same day as the FMB sample. The parameter detected in the FMB sample is total dissolved solids, which does not have discharge criteria established by USEPA at Leviathan Mine. The total dissolved solids concentration was detected in the FMB sample at 30.0 mg/L, whereas the total dissolved solids concentration in the effluent sample analyzed in the same batch was 2,500 mg/L.

There were eight minor deviations from the PWT SAP that occurred in 2017. The first five deviations were for pre-discharge, influent, and effluent samples. For the pre-discharge sample 1718PWT001-PC, the reporting limit for dissolved chromium was not met by the laboratory. The PWT SAP specifies the maximum reporting limit at 0.005 mg/L for chromium; however, this sample was a non-detect at a reporting limit of 0.0200 mg/L. Two plant influent samples, samples 1718PWT007-INF and 1718PWT009-INF were reanalyzed past the holding time for total dissolved solids analysis. For these samples, sulfate and total dissolved solids were initially analyzed within hold time; however, it appeared that the initial sample results were not accurate as the sulfate results exceeded the total dissolved solids results. The holding time for sulfate is 28 days. The holding time for total dissolved solids is 7 days. Water Board staff requested that sulfate and total dissolved solids samples be reanalyzed, at which time the holding time for the total dissolved solids sample had elapsed. For total dissolved solids, sample 1718PWT007-INF was reanalyzed 6 days past the holding time and sample 1718PWT009-INF was reanalyzed 7 days past the holding time. The sulfate and total dissolved solids results from the reanalysis are included in Table A-6. Two plant effluent samples 1718PWT062-EFF and 1718PWT063-EFF were analyzed past the holding time for total dissolved solids analysis. Sample 1718PWT062-EFF was analyzed 6 days past the holding time and sample 1718PWT063-EFF was analyzed 4 days past the holding time for total dissolved solids.

The last three minor deviations from the PWT SAP are for the sludge TTLC samples. For the three sludge samples, the PWT SAP maximum reporting limits for molybdenum at 1.0 mg/kg was not met, as is discussed further, below. For sample 1718PWT064-PC-A, the molybdenum result was 1.4 mg/kg with a J flag, with the reporting limit of 1.9 mg/kg. For sample 1718PWT064-PC-B, the molybdenum result was 1.1 mg/kg with a J flag, with the reporting limit of 1.4 mg/kg. For sample 1718PWT064-PC-C, the molybdenum result was 1.3 mg/kg with a J flag, with the reporting limit of 1.8 mg/kg.

Eight results in the influent samples are flagged as anomalous results with the flag “^” in Table A-6. These results are flagged because the total dissolved solids concentrations are lower than the sulfate concentrations, which is not accurate, since sulfate is a component of total dissolved solids. The lab was contacted and the samples were checked and reanalyzed and the results were similar. The original results are reported in Table A-6. The samples that have the sulfate and total dissolved solids flags are 1718PWT021-INF, 1718PWT023-INF 1718PWT025-INF, and 1718PWT031-INF.

3.6.4 Database Format Discrepancies

Water Board staff did not format the laboratory-supplied EDDs in accordance with the template provided by ARC in their September 2006 Database Tech memo report (section B.6.3.1 of the 2010 PWT QAPP). ARC indicated in early January 2011 that they are trying to improve consistency across the Site-Wide Database, and therefore, the EDD templates are being refined. The laboratory used by the Water Board's contractor provides laboratory data in an EDD that will require minimal changes by ARC prior to upload to the database. This information was submitted to ARC in a letter dated January 13, 2011, and the USEPA was also copied on this communication.

Water Board staff will continue to coordinate with subcontractors and laboratories during the 2018 Pond Water Treatment activities to ensure that samples required by the Water Board's Work Plan are collected and analyzed in accordance with the PWT SAP.

4. SURFACE WATER MONITORING

The Water Board continued its efforts through the 2017 water year to monitor surface water flow in the vicinity of Leviathan Mine. The Water Board also monitored the water surface elevation of Pond 1. Surface water flow data generated by Water Board monitoring activities are presented in the following section.

4.1 Flow and Stage Monitoring

Flow data are reported on the basis of water year. The 2017 water year began October 1, 2016 and ended September 30, 2017. Under contract to the Water Board, the USGS monitored water flows and pond water level stage at 14 locations during the 2017 water year. Flow monitoring locations, USGS station numbers, and equipment are detailed in Table 3 and are shown on Figure 6. As shown in Table 3, 12 of the 14 stations have continuous stage records. One of the 14 stations (Station 16, Aspen Creek above the confluence of Aspen and Leviathan Creeks) is monitored manually only during USGS field visits, which occur approximately every six weeks, and one station (Station 24, Mountaineer Creek) is a calculated relationship derived by subtracting Station 23 (Leviathan Creek above the confluence of Mountaineer and Leviathan Creeks) from Station 25 (Bryant Creek below the confluence of Mountaineer and Leviathan Creeks). Tables C-1 through C-12 (Appendix C) provide the final provisional data for the 2017 water year. The USGS typically publishes the data by the spring following the completion of the water year. Some flow and stage data may have been impacted by snow and/or ice and modified accordingly by the USGS.

Real-time provisional flow and stage recordings can be viewed on the web for the following six stations: Adit, PUD, Station 1, Station 15, Station 25, and Pond 1. The real-time data can be accessed through the USGS's website at:

<http://waterdata.usgs.gov/ca/nwis/current?type=flow>.

Published data reports can be searched by USGS station number at the USGS website:

<http://ca.water.usgs.gov/waterdata/>.

5. SITE MAINTENANCE

The Water Board conducted routine and non-routine site maintenance work during the 2017 field season in accordance with the 2017 Work Plan.

5.1 Routine Maintenance

Routine maintenance activities performed in 2017 included repairing the perimeter fence, removing sediment from storm water conveyances, installation and maintenance of Best Management Practices (BMP's) for erosion control, minor grading, removal of an unauthorized excavation/wooden box, and coordinating invasive weed control.

The perimeter fencing is barbed-wire and surrounds the majority of the site. In early-June 2017, Water Board staff inspected the perimeter fence and noted that extensive repairs to the fence were required in numerous locations around the site. AECOM's subcontractor repaired the perimeter fence in October 2017.

Water Board staff visually inspected storm water conveyances in the Pit and around the ponds for the presence of accumulated sediment. Water Board staff directed AECOM to remove accumulated sediment from storm water conveyance ditches in the Pond 1 area, along the Pit access road, in the Pit, and on the Pond 2 North/South slopes; and to remove and replace BMPs in the Pond 1 area and along the Pit access road. AECOM removed sediment from the storm water conveyance ditches in September and early-October 2017, and provided needed BMP maintenance in early-September 2017.

Water Board staff inspected the perimeters of Ponds 1, 2 North, 2 South, and 3 and identified areas where the pond liners had become exposed due to erosion or displacement of the earthen liner cover. Water Board staff filled in minor rills in the Pond 2 North and Pond 2 South liner cover material in early-October 2017.

In October 2016, an excavation containing a partially buried wooden box was discovered on state-owned property within the perimeter fence. The excavation/box was deemed to be unauthorized by the Water Board and safe to remove from the site by the Alpine County Sheriff's Office in the fall of 2016. Water Board staff directed AECOM to remove and dispose of the wooden box, as well as to fill in and compact the excavation in which the wooden box had been placed. In late-August 2017, AECOM used a backhoe to remove the box from the hole and to backfill the excavation with dirt. Water Board staff provided oversight of the removal and inspected the bottom of the excavation once the box had been removed. The soil observed in the bottom of the excavation was similar to the surrounding soil.

The El Dorado County, Department of Agriculture (EDCDA) visited Leviathan Mine on June 22 and September 6, 2017, and spot applied an herbicide (Telar[®]) on invasive plants. This year, as in 2002 through 2016, the EDCDA sprayed to eradicate tall whitetop (*Lepidium latifolium*) and dyers woad (*Isatis tinctoria* L.).

5.2 Non-Routine Maintenance

During 2017, soil slumps were observed at two locations on the Leviathan Creek side of the mine, as shown in Figure 7. One of the slumps occurred in an area east of Pond 4,

between the main access road and the Pond 3 service road. This slump is referred to as the Pond 4 Soil Slump and was first observed by Water Board staff on April 27, 2017. The other slump occurred in an area east of the ore crusher plant and Pond 3 and is referred to as the East of Crusher Soil Slump. This slump was first observed by Water Board staff on February 24, 2017 during snow removal operations. At both locations, AECOM conducted limited geologic investigations, developed construction drawings and specifications for recommended slope stabilization measures, and carried out the construction of those slope stabilization measures during the 2017 field season.

5.2.1 Pond 4 Soil Slump

The Water Board's geological consultant (AECOM) identified the Pond 4 Soil Slump as a shallow translational slump in unconsolidated, loosely placed mine waste. The top of the slump (headscarp) was approximately 40 feet above the main access road and about 30 feet below the Pond 3 service road. The Pond 4 Soil Slump was approximately 110 feet wide and impinged upon the inboard drainage ditch on the east side of the main access road causing the road to bulge upwards. See Photos 11-13.

Groundwater measurements were taken during AECOM's field visit on May 1, 2017 at an observation well located in the Pond 3 service road above the slide. The groundwater depth was approximately 25 feet below ground surface, which approximately coincided with the elevation of the slump headscarp. As such, groundwater appeared to be the force driving the Pond 4 Soil Slump. Water seeped from the toe and saturated the main access road until late July. Tension cracks were noted above the Pond 4 Soil Slump extending from a rock pile south of the slide northward diagonally up the slope, eventually intersecting with and paralleling the edge of the Pond 3 service road, to a point roughly in line with the northern edge of Pond 4 (Figure 7). The total length of the tension crack was estimated to be approximately 300 feet. According to AECOM, the tension cracking appeared to be caused by a reduction of the passive pressure previously provided by the slide mass. Numerous trees with bent trunks were observed on this slope indicating that soil movement is not uncommon on this slope.

Mitigation of the Pond 4 Soil Slump consisted of: 1) dressing the slump and slope to fill in depressions and cracks to prevent further infiltration of water into the slump and tension cracks, 2) installation of a robust subsurface drainage collection and conveyance system at the toe the slump area, 3) lining the ditch on the east side of the Pond 3 service road upgradient of the slump area with an impermeable liner to minimize water infiltration, 4) grading the main access road to remove the bulge and slump materials, 5) reconstruction of the main access road including placement of geogrid, geotextile, and aggregate base, 6) placement of rock rip rap across the slump face extending to the headscarp, 7) grading and placement of aggregate base on the Pond 3 service road, and 8) installation of a culvert to carry surface water flow away from the toe repair area. AECOM completed construction of the above-listed slope stabilization measures by October 13, 2017. See Photo 14.

5.2.2 East of Crusher Soil Slump

The slump east of the crusher is located in one of the steeper sections of unconsolidated mine waste. AECOM identified this slump as a debris slump with large

rotational blocks. This slump lies immediately above the crusher haul road, which is above the ore crusher plant at the base of the slope. The toe of the slump impinged upon the crusher haul road and diverted surface water drainage from a ditch. The East of Crusher Soil Slump was approximately 50 feet wide and extended approximately 200 feet upslope. See Photos 15 and 16.

Mitigation of the East of Crusher Soil Slump consisted of: 1) grading a bowl area that formed at the base of the headscarp, by movement of the slump, to reduce infiltration of water into the slope, 2) removing slump toe material from the crusher haul road, 3) installing a subsurface drainage collection and conveyance system at the toe of the slump area, 4) placing slump material in a manner to create a buttress at the toe of the slope, and 5) reconstruction and lining of a surface ditch along the east side of the crusher haul road to convey surface water around the toe of the stabilized area. AECOM completed construction of the above-listed slope stabilization measures by October 13, 2017.

FIGURES

Figure 1: Site Location Map

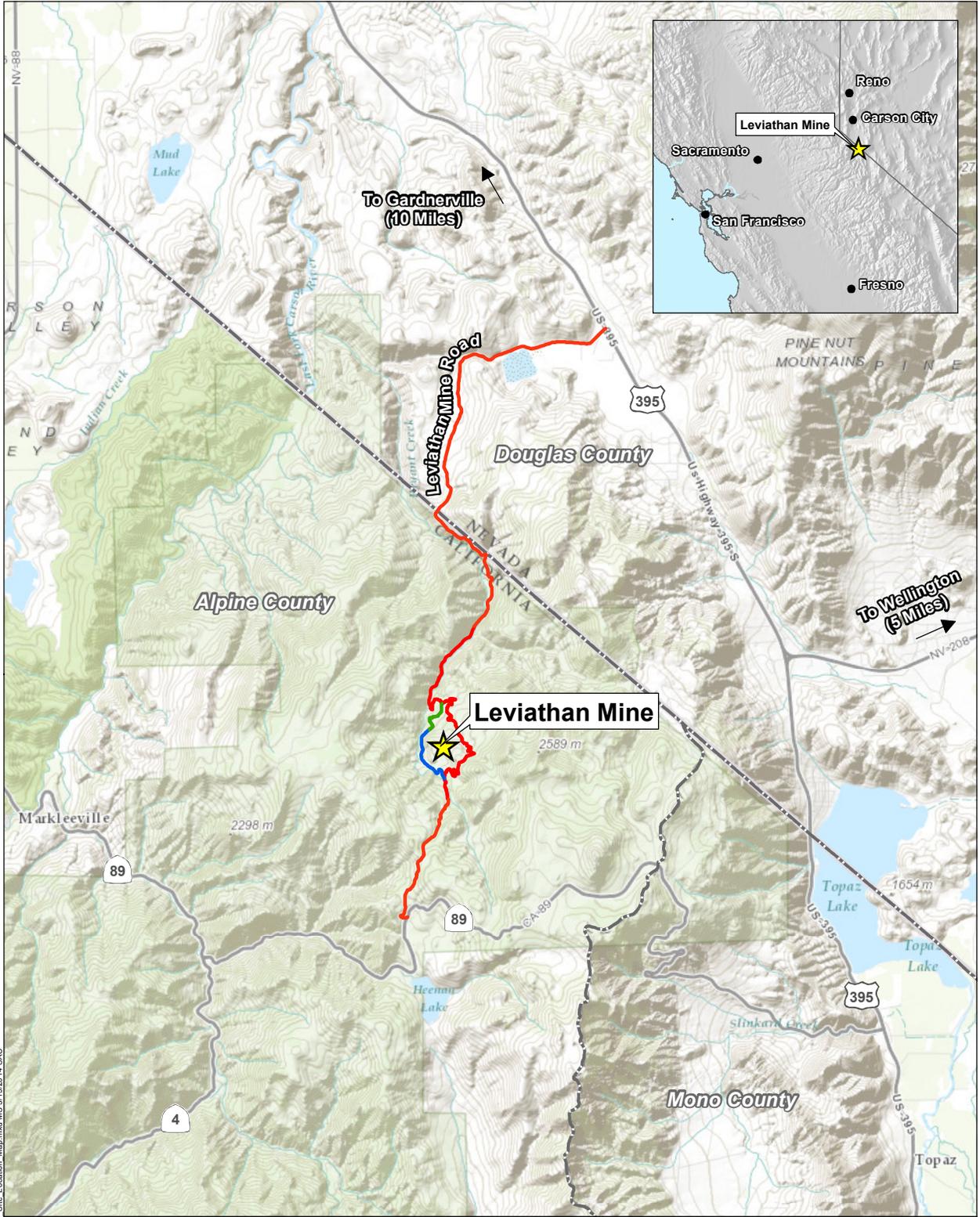
Figure 2: Bryant Creek Watershed

Figure 3: Lahontan Water Board AMD Capture and Treatment System

Figure 4: Leviathan Mine Pond Water Treatment System – System Layout

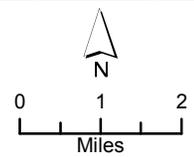
Figure 5: Leviathan Mine Pond Water Treatment System – Simplified Piping & Instrumentation Diagram

Figure 6: Flow and Stage Monitoring Locations



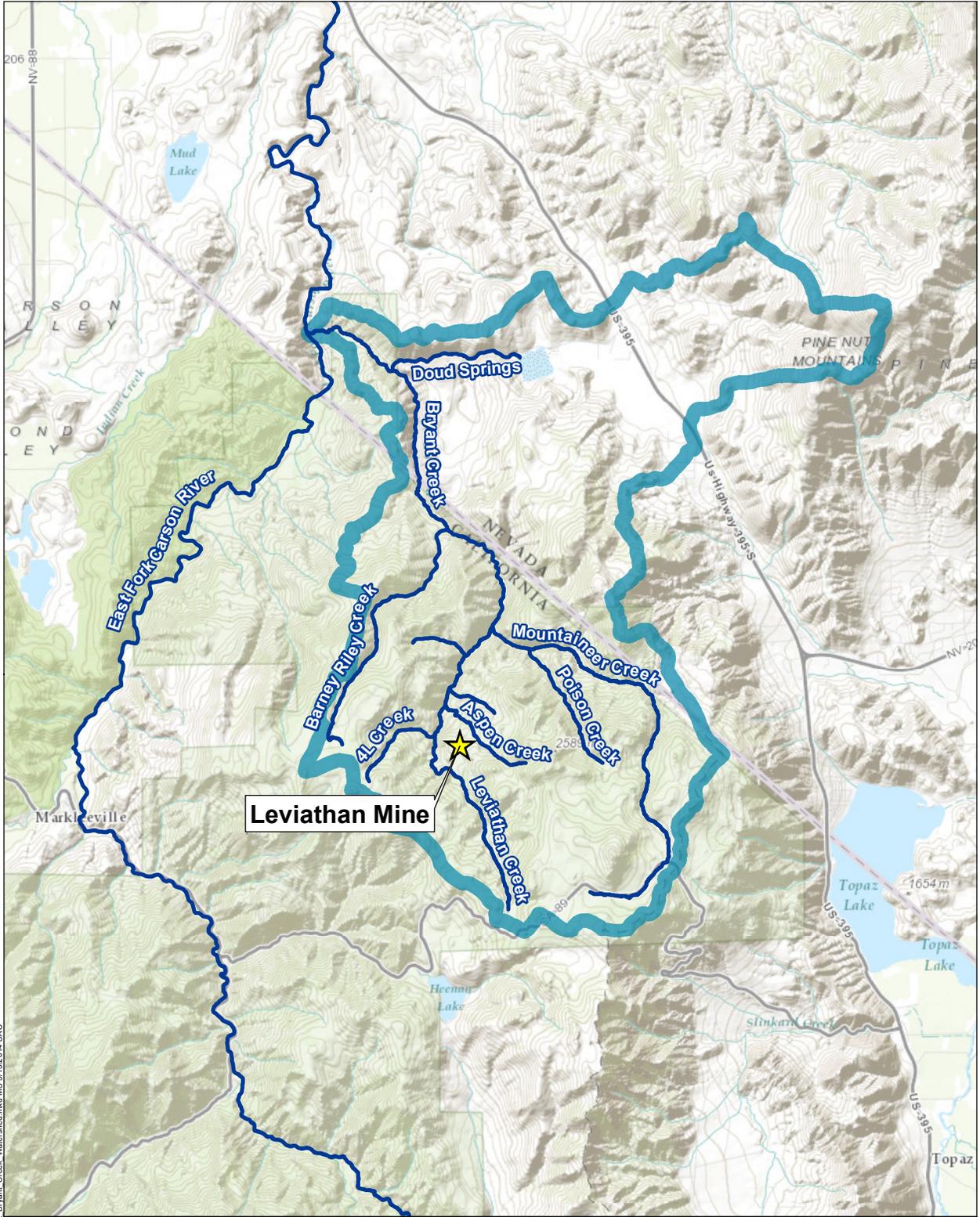
L:\Projects\Leviathan\ArcMap\Fig1_Site_Location_Map.mxd MS 3/13/2014 SAC

- Forest Service Road 31348
- Leviathan Mine Access Road
- Leviathan Mine Road (Forest Service Road 31052)
- National Forest



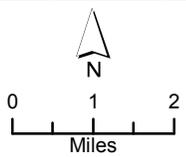
**Leviathan Mine
Site Location Map**

**Figure
1**



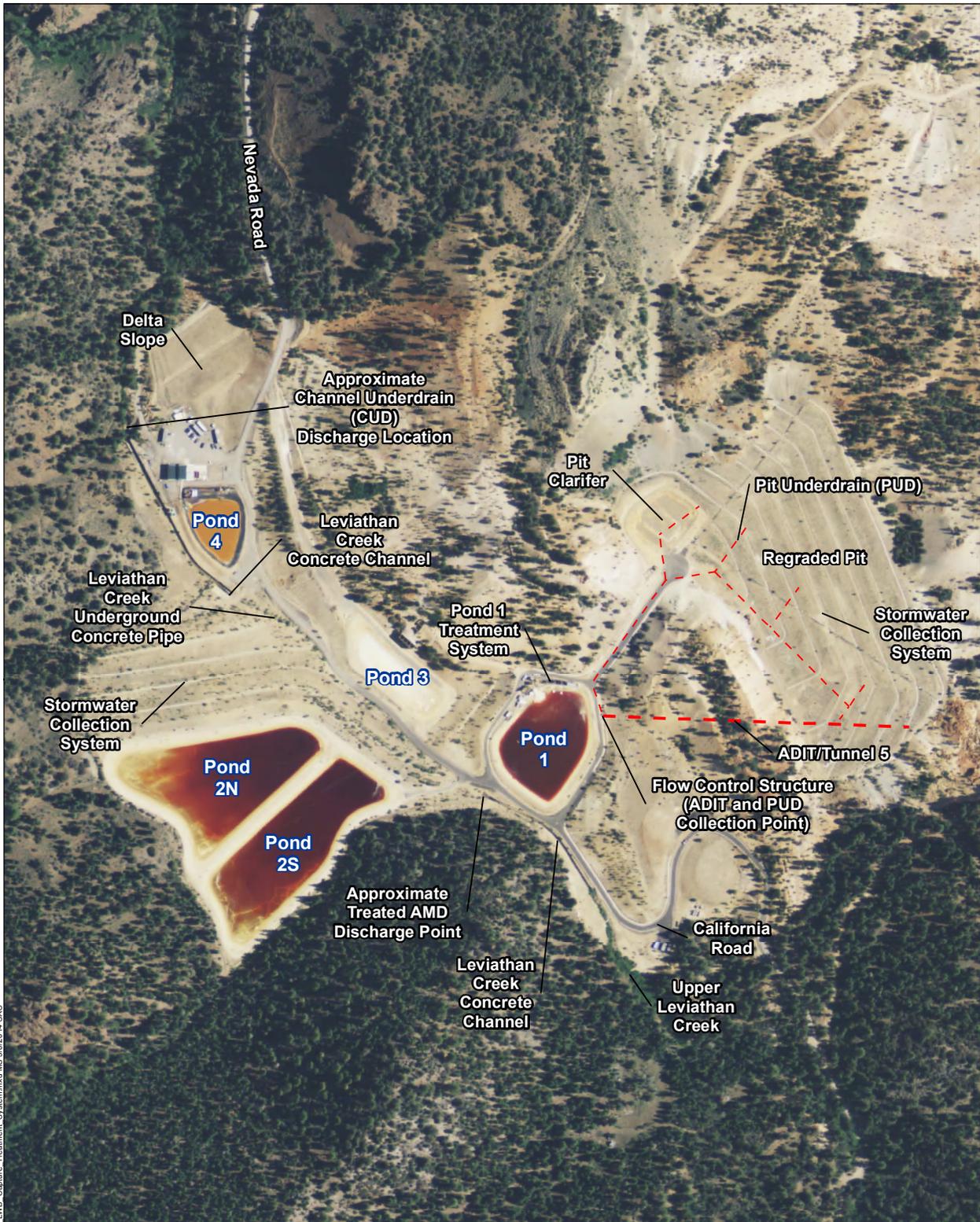
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- Bryant Creek Watershed
- River/Creek
- National Forest

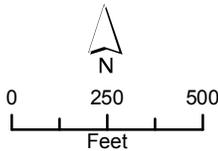


Bryant Creek Watershed

Figure 2



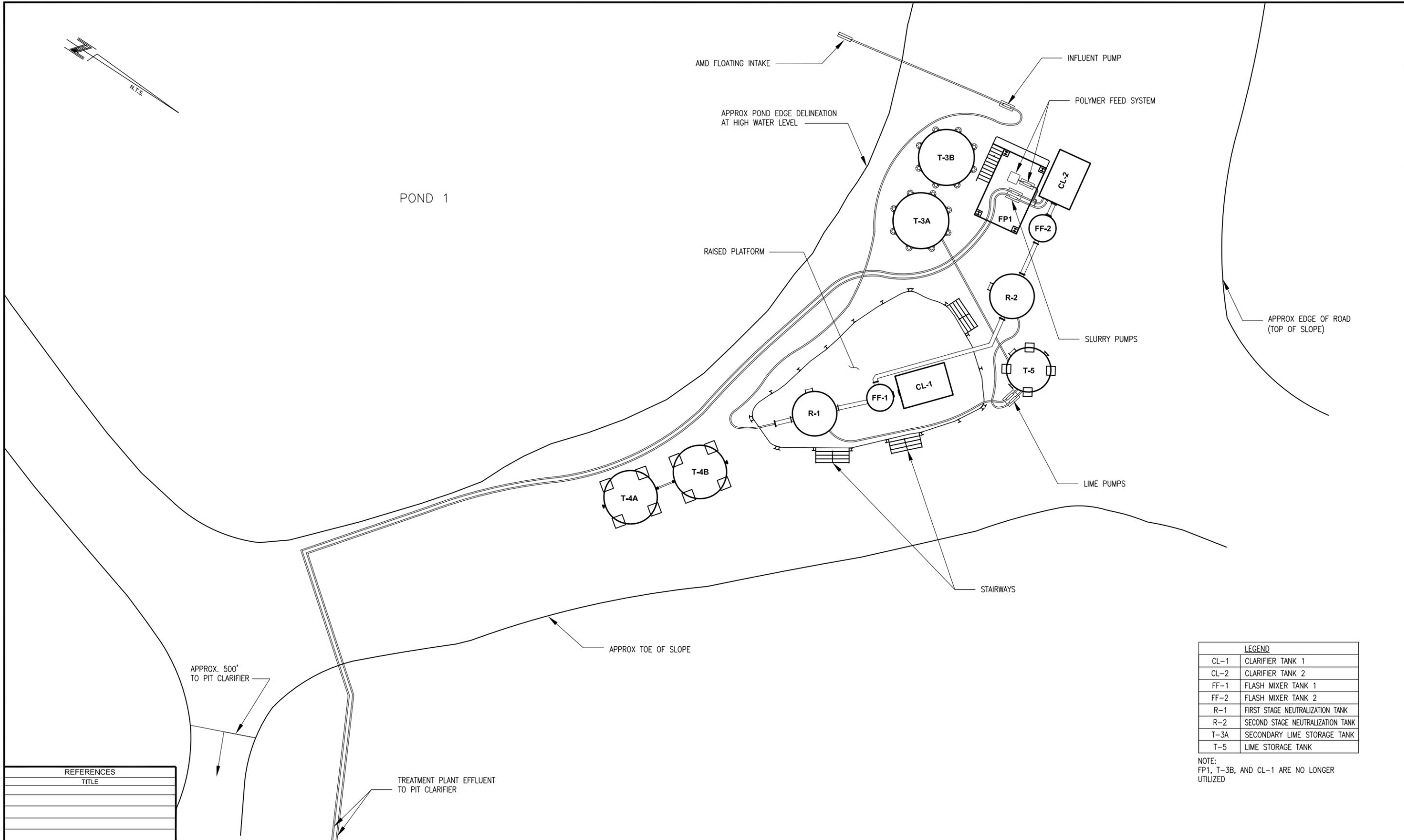
- - - ADIT/Tunnel 5
- - - Pit Underdrain (PUD)



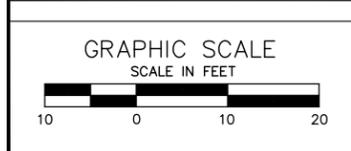
**Lahontan Water Board
AMD Capture
and Treatment System**

**Figure
3**

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REFERENCES
TITLE



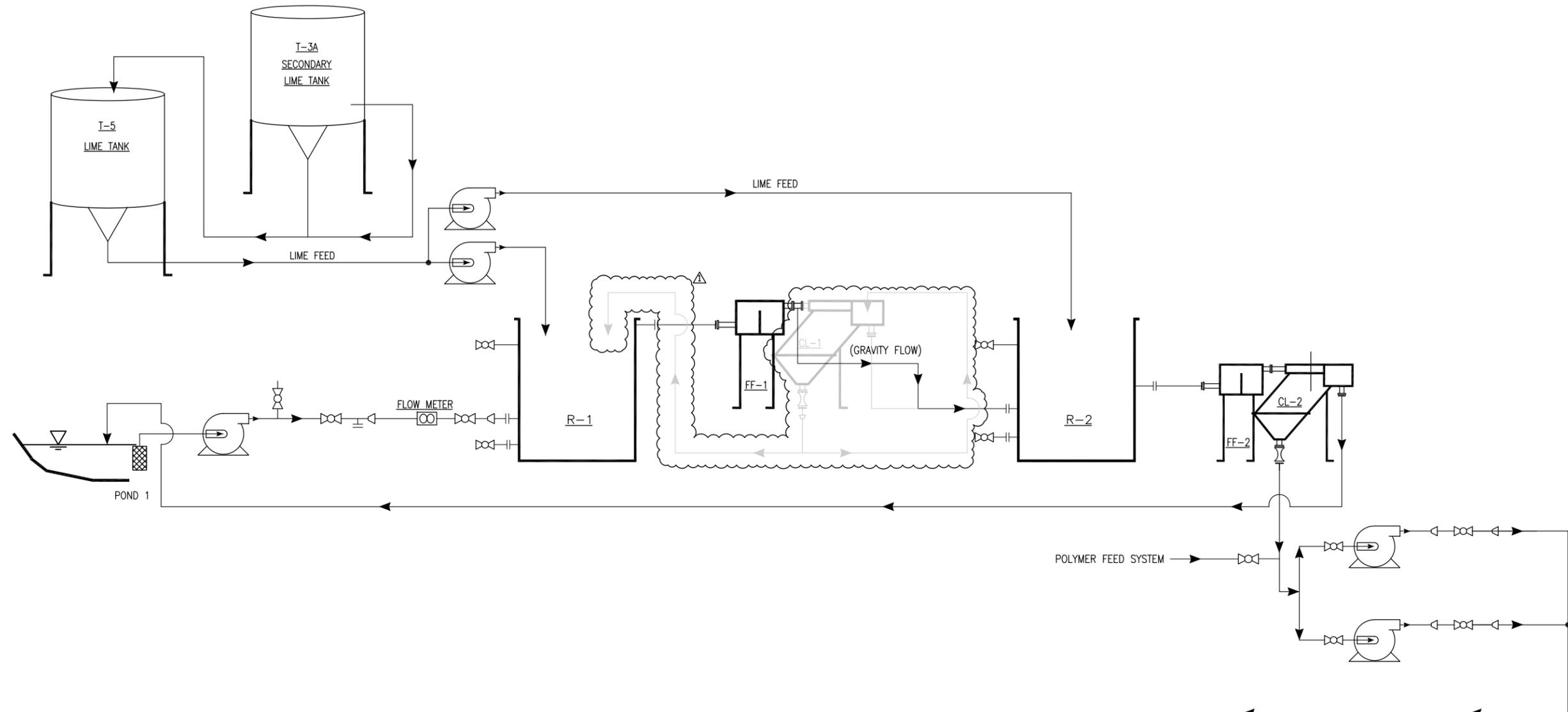
NO.	BY.	DATE	REVISIONS DESCRIPTION

NO.	BY.	DATE	REVISIONS DESCRIPTION

DRAWING SCALE	AS NOTED	DATE
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DRAWN BY:		
CHECKED BY:		
APPROVED BY:		

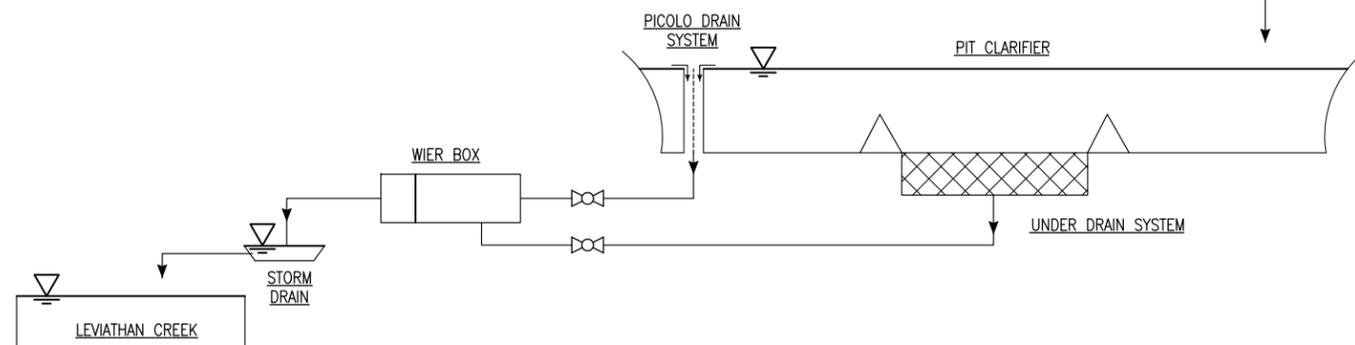


LEVIATHAN MINE POND WATER TREATMENT SYSTEM SYSTEM LAYOUT	JOB NO.
	PROJECT
	SHEET NO.
Figure 4	



LEGEND	
CL-1	CLARIFIER TANK 1
CL-2	CLARIFIER TANK 2
FF-1	FLASH MIXER TANK 1
FF-2	FLASH MIXER TANK 2
R-1	FIRST STAGE NEUTRALIZATION TANK
R-2	SECOND STAGE NEUTRALIZATION TANK
T-3A	SECONDARY LIME STORAGE TANK
T-5	LIME STORAGE TANK

NOTE:
CL-1 IS NO LONGER UTILIZED



REFERENCES	TITLE

DRAWING SCALE	AS NOTED

NO.	BY.	DATE	REVISIONS DESCRIPTION
△			
△			
△			
△			
△	DRL	03/2013	2011/2012 SYSTEM UPGRADES

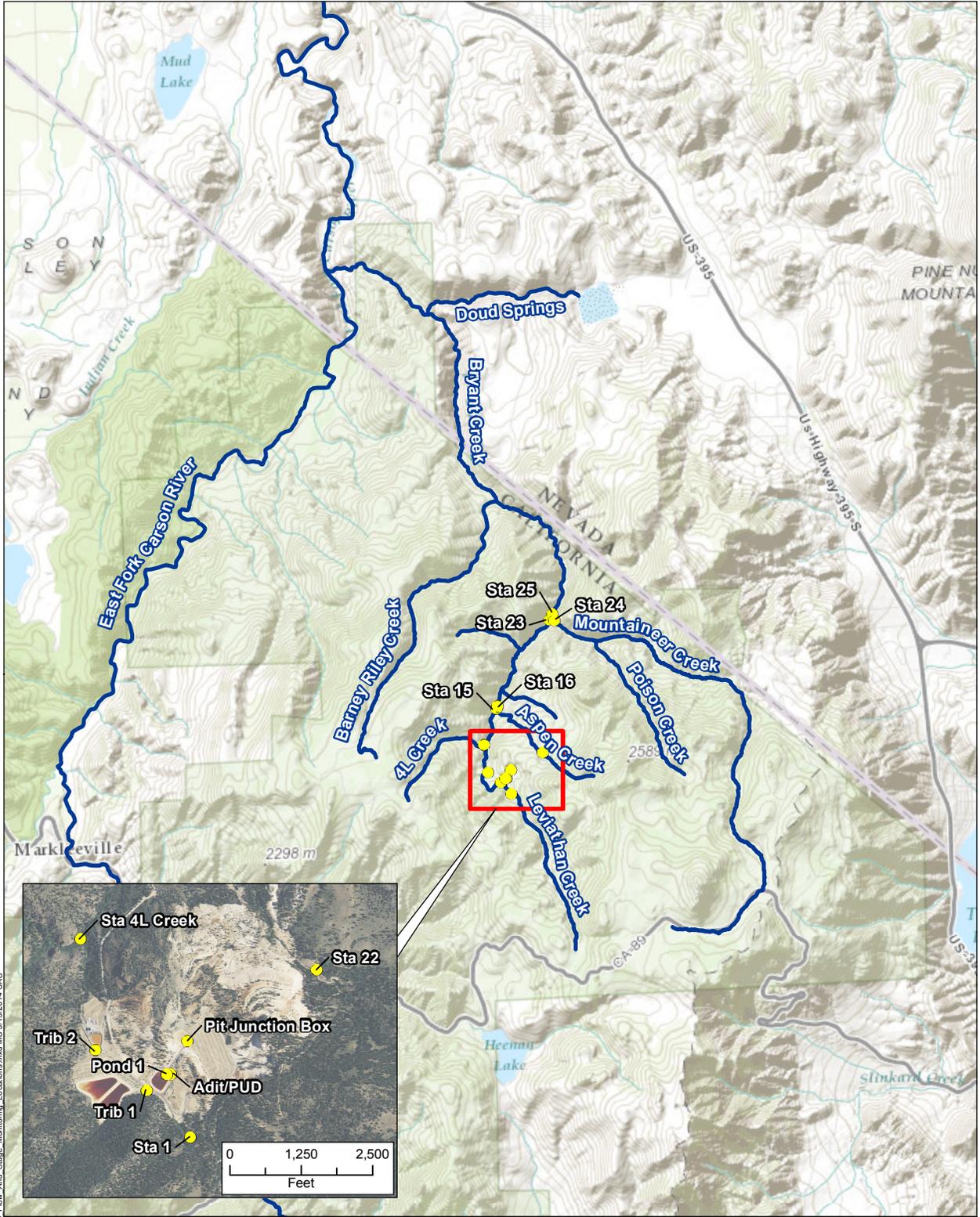
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DRAWING SCALE	AS NOTED	DATE
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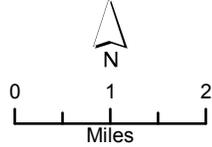
LEVIATHAN MINE POND WATER TREATMENT SYSTEM
SIMPLIFIED PIPING & INSTRUMENTATION DIAGRAM

JOB NO.
PROJECT
SHEET NO.
Figure 5



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- Flow and Stage Monitoring Location
- River/Creek
- National Forest



**Flow and Stage
Monitoring Locations**

**Figure
6**

TABLES

Table 1: 2017 Summer Pond Water Treatment Monitoring Program

Table 2: USEPA Discharge Criteria

Table 3: 2017 Flow and Stage Monitoring Locations

TABLE 1
2017 SUMMER POND WATER TREATMENT MONITORING PROGRAM
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA

SAMPLE LOCATION	LOCATION DESCRIPTION	ANALYSES	SCHEDULE	SAMPLER
Influent	Sampling port prior to lime addition	EPA-Required Discharge Criteria ¹ with Additional Analytes ²	weekly	Contractor
Mid Process	Various	pH, Temperature (field)	several times per day, as needed	Contractor
Effluent	Weir Box	pH, Temperature (field)	several times per day, as needed	Contractor
		EPA-Required Discharge Criteria	twice per week ⁵	Contractor
		EPA-Required Discharge Criteria with Additional Analytes	weekly	Contractor
Duplicate Samples	Effluent samples at weir box	EPA-Required Discharge Criteria	minimum of 10%	Contractor
Field Method Blank	Collected at Weir Box using laboratory-supplied inorganic blank water	EPA-Required Discharge Criteria	minimum of 10%	Contractor
Sludge	Pit Clarifier	CAM-17 ³ metals plus Al and Fe (for comparison with STLC and TTLC) ⁴	three composite samples collected once per year after treatment	Contractor

Notes:

1. Dissolved As, Al, Cd, Cr, Cu, Fe, Pb, Ni, Zn (off-site laboratory); total recoverable Se (off-site laboratory); pH (field); temperature (field)
2. Dissolved Ca, Co, Mg, Mn, sulfate, TDS (off-site laboratory analysis)
3. Refers to 22 CCR 66261.24(a)(2)(A); CAM-17 metals: Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, Zn (off-site lab analysis)
4. STLC is the Soluble Threshold Limit Concentration and TTLC is the Total Threshold Limit Concentration.
5. Effluent samples were collected twice per week until discharge from the Pit Clarifier dropped below 5 gallons per minute.

**TABLE 2
USEPA DISCHARGE CRITERIA
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA**

WATER QUALITY PARAMETER	MAXIMUM ²	AVERAGE ⁴
pH	Between 6.0 – 9.0 SU ¹	
Arsenic (dissolved)	0.34 mg/l	0.15 mg/l ³
Aluminum (dissolved)	4.0 mg/l	2.0 mg/l ³
Cadmium (dissolved)	0.009 mg/l	0.004 mg/l ³
Chromium (dissolved)	0.97 mg/l	0.31 mg/l ³
Copper (dissolved)	0.026 mg/l	0.016 mg/l ³
Iron (dissolved)	2.0 mg/l	1.0 mg/l ³
Lead (dissolved)	0.136 mg/l	0.005 mg/l ³
Nickel (dissolved)	0.84 mg/l	0.094 mg/l ³
Selenium (Total Recoverable)	Not Promulgated	0.005 mg/l ³
Zinc (dissolved)	0.21 mg/l	0.21 mg/l ³

Notes:
1: pH measurement based on 24-hour (single day) average discharge.
2: Concentrations based on a daily grab samples, each grab sample field-filtered and acid fixed promptly after collection.
3: Concentrations based on four daily grab samples, each grab sample field-filtered and acid fixed promptly after collection.
4: If the concentration detected by the contract laboratory is less than the detection limit, 1/2 the detection limit shall be used in calculating the Average concentration.

**TABLE 3
2017 FLOW AND STAGE MONITORING LOCATIONS
LEVIATHAN MINE, ALPINE COUNTY, CALIFORNIA**

Station ID (USGS Number)	Station Description	Equipment	Installation of Gaging Station
Continuous Stage Measurement and Calculated Flow			
Station 1 (10308783)	Leviathan Creek above the mine	Continuous flow recorder and appurtenances, solar power supply.	October 1998
Pit Under Drain (PUD) (10308785)	Drainage from shallow ground water collection pipes in pit, diverted into evaporation ponds	Continuous flow recorder and appurtenances, solar power supply, telemetry (real time provisional data available).	October 1999
Adit (10308784)	Drainage from tunnel #5 diverted into evaporation ponds	Continuous flow recorder and appurtenances, solar power supply, telemetry (real time provisional data available).	October 1999
4L Creek (103087889)	4L Creek just above confluence with Leviathan Creek	Continuous flow recorder and appurtenances, solar power supply.	October 2003
Station 15 (10308789)	Leviathan Creek, above the confluence of Leviathan and Aspen creeks	Continuous flow recorder and appurtenances, solar power supply, telemetry (real time provisional data available).	October 1998
Station 22 (103087891)	Aspen Creek above mine	Continuous flow recorder and appurtenances, solar power supply.	October 2003
Station 23 (10308792)	Leviathan Creek above the confluence of Leviathan and Mountaineer creeks	Continuous flow recorder and appurtenances, solar power supply	November 1999
Station 25 (10308794)	Bryant Creek below the confluence of Leviathan and Mountaineer creeks	Continuous flow recorder and appurtenances, solar power supply, telemetry (real time provisional data available).	October 1998
Pit Junction Box (103087855)	Storm water collection vault in open pit	Continuous flow recorder and appurtenances, solar power supply.	October 2009
Unnamed Trib 2 (103087865)	Ephemeral tributary north of Pond 2 North (Commonly referred to as the Lower Tributary)	Continuous flow recorder and appurtenances, solar power supply.	November 2009
Unnamed Trib 1 (103087835)	Ephemeral tributary south of Pond 2 South (Commonly referred to as the Upper Tributary)	Continuous flow recorder and appurtenances, solar power supply.	November 2009
Continuous Stage Measurement			
Pond 1 Stage (103087853)	Water level in Pond 1	Continuous stage recorder and appurtenances, solar power supply, telemetry (real time provisional data available).	October 1999
Other Flow Data			
Station 16 (103087898)	Aspen Creek, above the confluence of Leviathan and Aspen creeks	Hand-held flow meters. Monthly flow measurements to establish relationship with STA 15.	not applicable
Station 24	Mountaineer Creek above the confluence of Leviathan and Mountaineer creeks	None. Flow calculated by difference on a monthly basis: (STA 25 – STA 23 = STA 24).	not applicable

PHOTOS

Photo 1: February 26, 2017 Snow Removal Activities

Photo 2: February 26, 2017 Snow Removal Activities

Photo 3: April 7, 2017 Spring Treatment Activities

Photo 4: April 9, 2017 Spring Treatment Activities

Photo 5: June 2, 2017 Pit Clarifier Sludge Haul

Photo 6: June 7, 2017 Pit Clarifier Beginning of Water Treatment

Photo 7: September 6, 2017 Pit Clarifier Sludge

Photo 8: September 25, 2017 Pit Clarifier Sludge

Photo 9: October 12, 2017 Pit Clarifier

Photo 10: October 17, 2017 Pond 3 Sludge Haul

Photo 11: April 27, 2017 Pond 4 Soil Slump

Photo 12: April 27, 2017 Soil Cracking Along Pond 3 Access Road

Photo 13: June 30, 2017 Pond 4 Soil Slump

Photo 14: September 25, 2017 Pond 4 Soil Slump

Photo 15: February 26, 2017 Southeast of Crusher Soil Slump

Photo 16: April 21, 2017 Southeast of Crusher Soil Slump



Photo 1 – February 26, 2017, Snow removal activities reach Pond 3

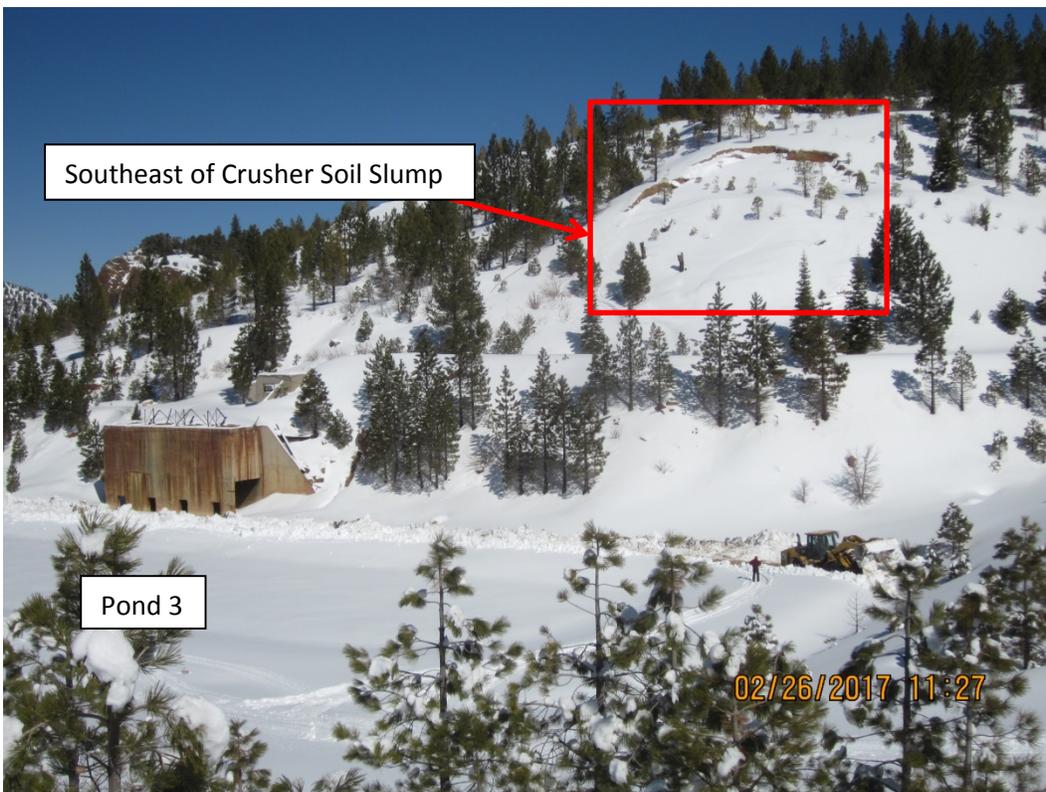


Photo 2 – February 26, 2017, Snow removal around Pond 3, the Southeast of Crusher Soil Slump is also visible on the hillside above and right of the Crusher

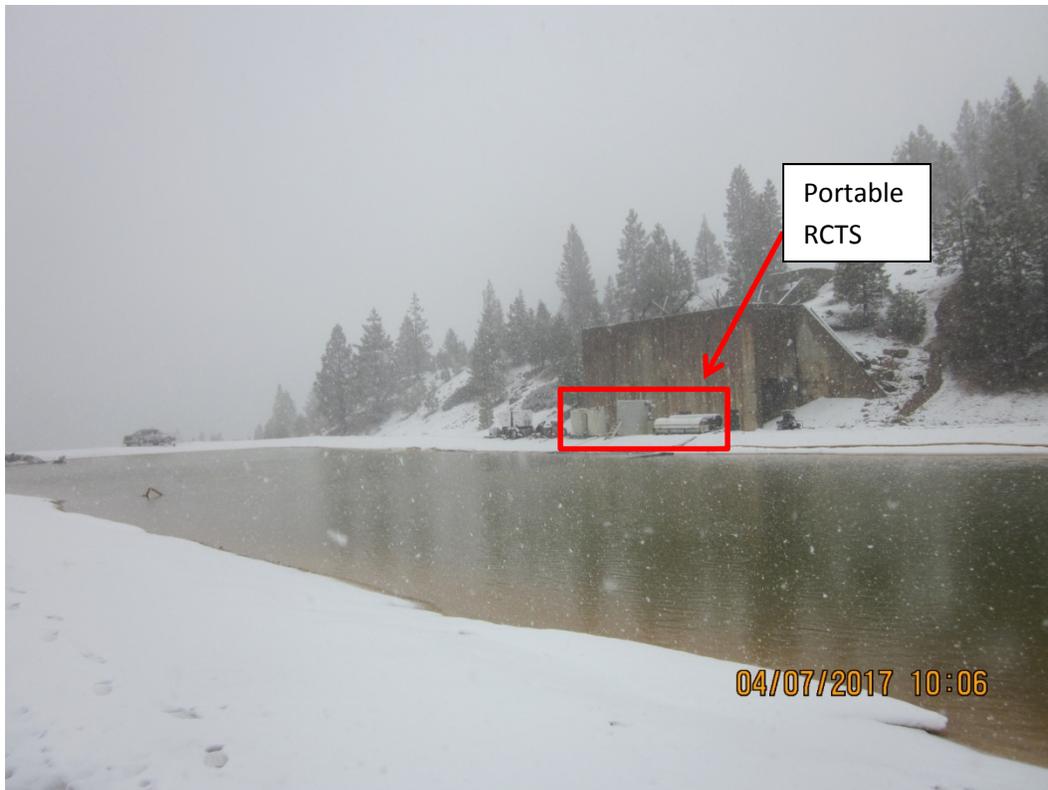


Photo 3 – April 7, 2017, Spring treatment activities at Pond 3



Photo 4 – April 9, 2017, Spring treatment activities at Pond 3



Photo 5 – June 2, 2017, Sludge stockpile activities at the pit clarifier and placement of new sand layer



Photo 6 – June 7, 2017, Startup of summer pond water treatment discharging to pit clarifier, note rock near piccolo



Photo 7 – September 6, 2017, First piccolo extension, note rock near piccolo



Photo 8 – September 25, 2017, Second piccolo extension, rock in photos 10 and 11 completely covered by sludge



Photo 9 – October 12, 2017, Pit clarifier on last day of summer pond water treatment



Photo 10 – October 17, 2017, Sludge haul from Pond 3, sludge generated during 2017 spring treatment activities

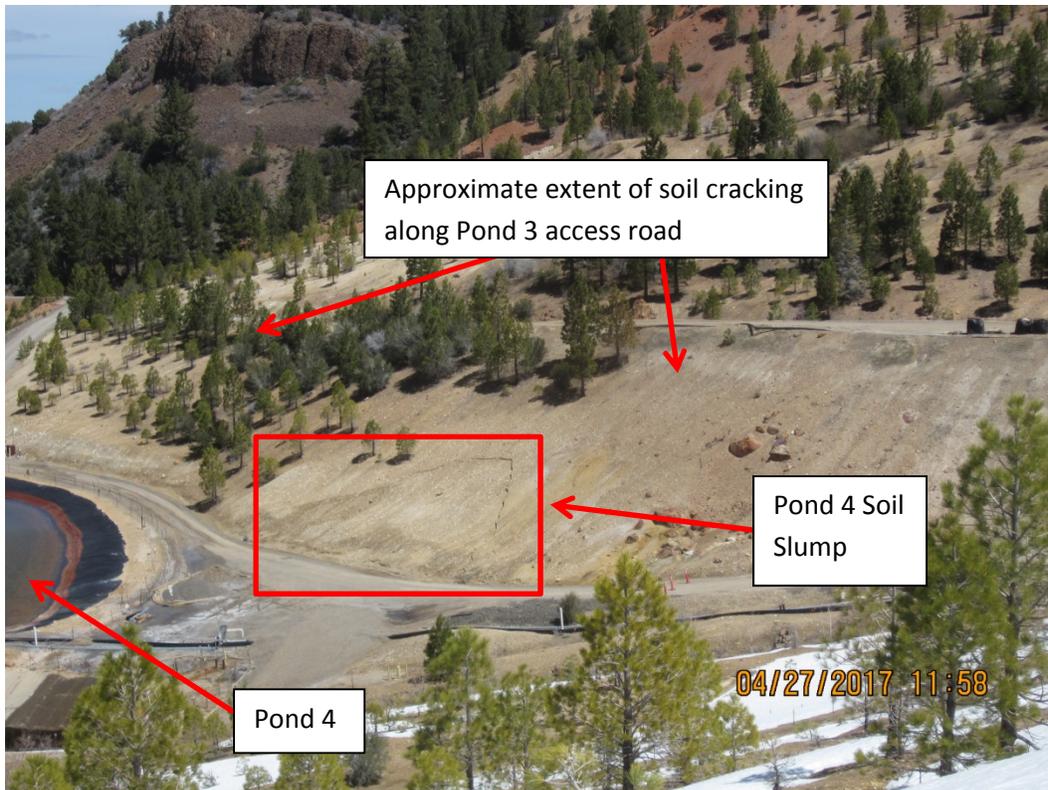


Photo 11 – April 27, 2017, Pond 4 Soil Slump on the day of discovery



Photo 12 – April 27, 2017, Soil cracking along Pond 3 access road above the Pond 4 Soil Slump

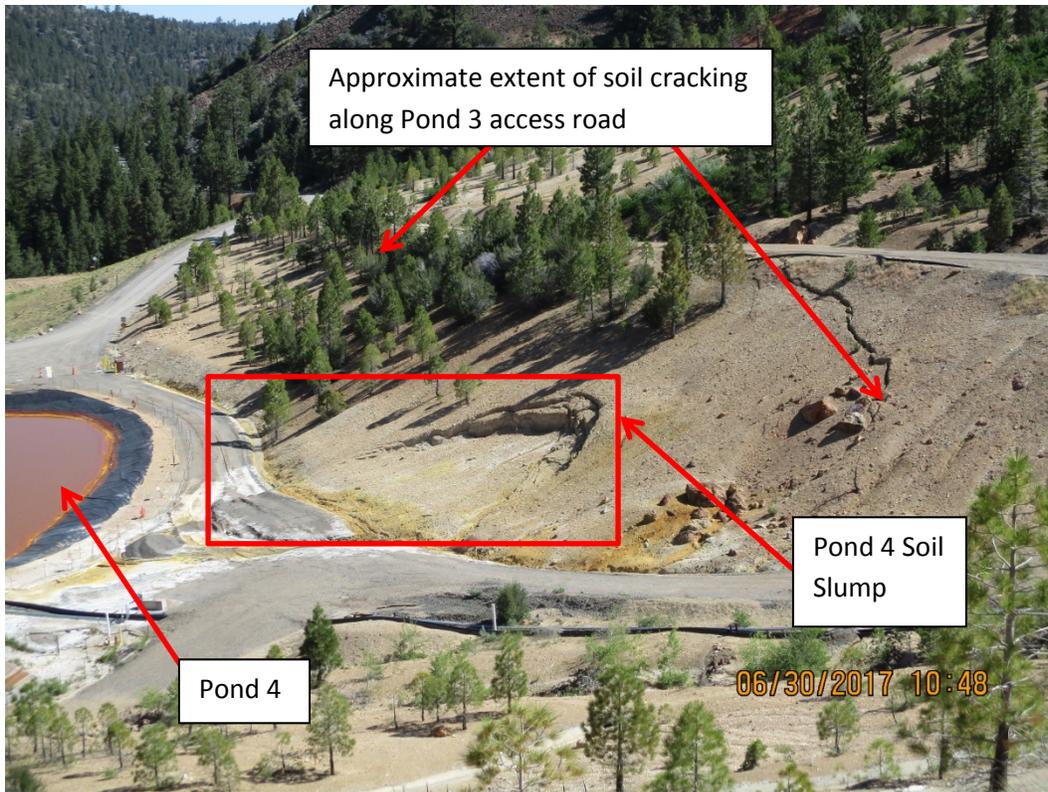


Photo 13 – June 30, 2017, Further development of the Pond 4 Soil Slump



Photo 14 –September 25, 2017, Pond 4 Soil Slump near the end of stabilization activities, grading along Pond 3 access road not yet completed in this photo

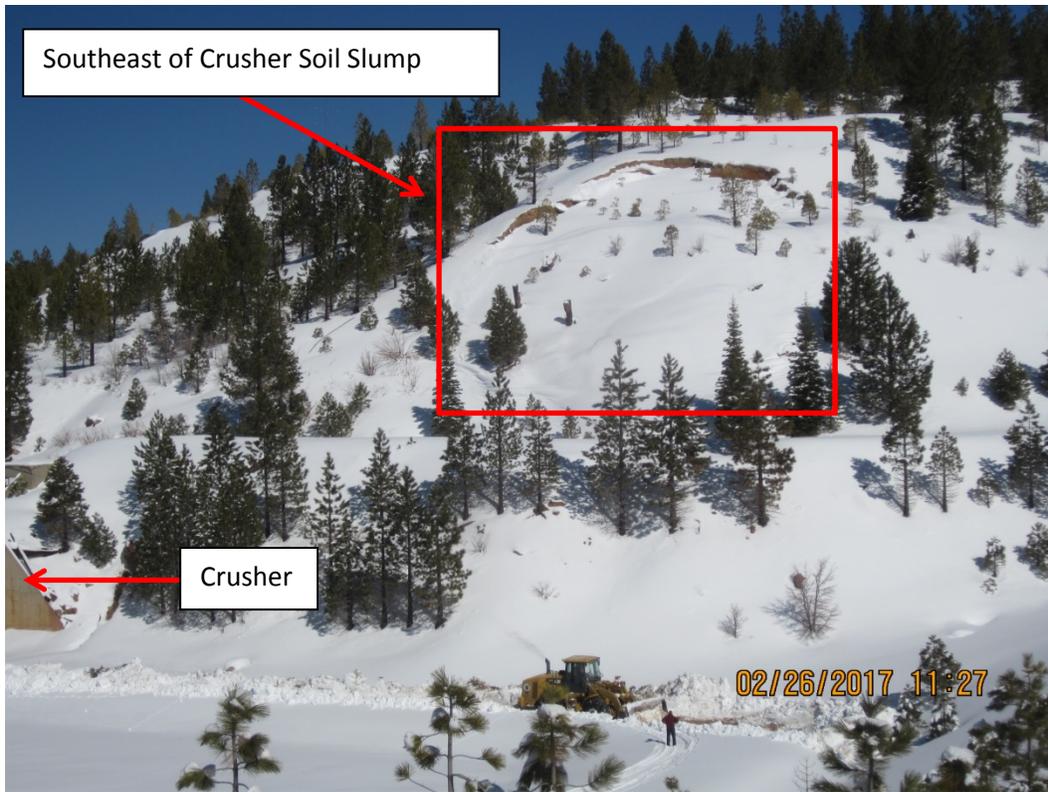


Photo 15 – February 26, 2017, Southeast of Crusher Soil Slump shortly after discovery

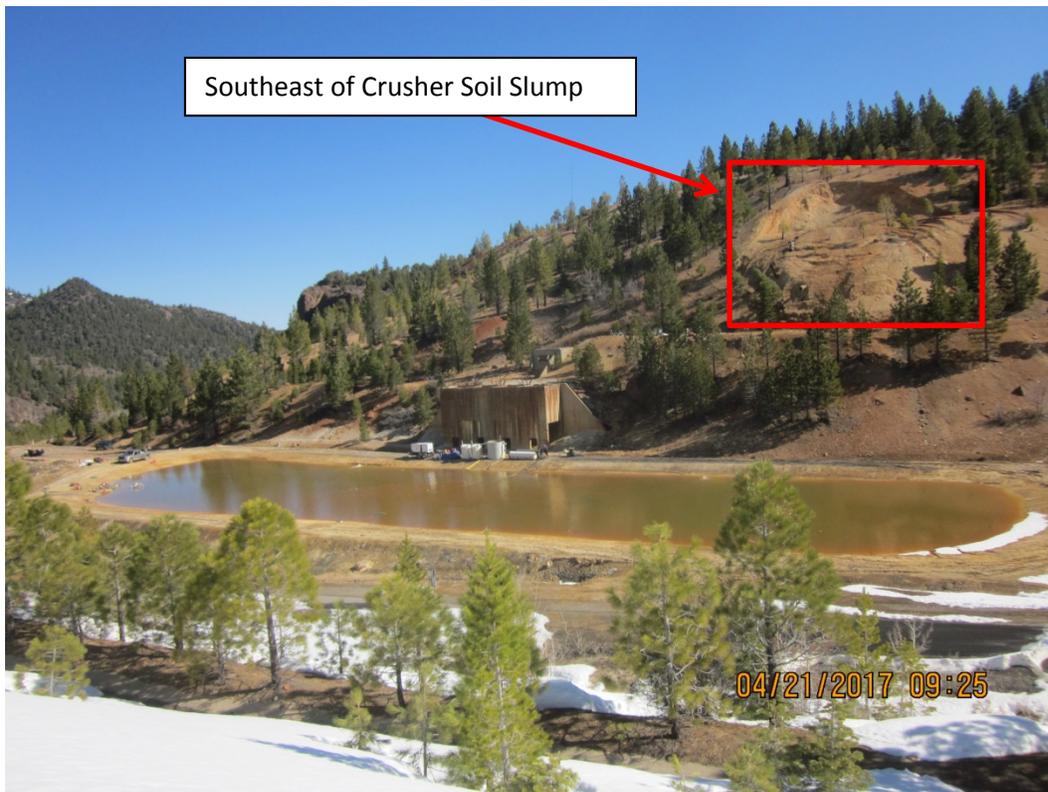


Photo 16 – April 21, 2017, further development of the Southeast of Crusher Soil Slump

APPENDICES

Appendix A - Data Summary for 2017 Pond Water Treatment

Table A-1: 2017 Spring Pond Water Treatment, Discharge Dates and Volumes

Table A-2: 2017 Spring Pond Water Treatment, Untreated Pond Water Field and Analytical Results

Table A-3: 2017 Spring Pond Water Treatment, Effluent Field and Analytical Results

Table A-4: 2017 Pond Water Treatment, Daily Discharge Summary

Table A-5: 2017 Pond Water Treatment Effluent Field and Analytical Results

Table A-6: 2017 Pond Water Treatment Influent Field and Analytical Results

Table A-7: Summary of 2017 Pond Water Treatment Plant Operators' Logs

Table A-8: 2017 Pond Water Treatment Sludge Analytical Results

Table A-1
2017 Spring Pond Water Treatment
Discharge Dates and Volumes

Date	Estimated Discharge Volume (Gallons)	Estimated Cumulative Discharge (Gallons)
3/4/2017	380,000	380,000
3/10/2017	430,000	810,000
3/13/2017	326,000	1,136,000
3/16/2017	430,000	1,566,000
3/18/2017	467,000	2,033,000
3/20/2017	394,000	2,427,000
3/22/2017	429,000	2,856,000
3/24/2017	371,000	3,227,000
3/26/2017	399,000	3,626,000
3/28/2017	363,000	3,989,000
3/30/2017	394,000	4,383,000
4/1/2017	338,000	4,721,000
4/3/2017	359,000	5,080,000
4/5/2017	339,000	5,419,000
4/7/2017	428,000	5,847,000
4/9/2017	511,000	6,358,000
4/11/2017	392,000	6,750,000
4/13/2017	405,000	7,155,000
4/15/2017	470,000	7,625,000
4/17/2017	469,000	8,094,000
4/19/2017	483,000	8,577,000
4/21/2017	436,000	9,013,000
4/23/2017	427,000	9,440,000
4/25/2017	337,000	9,777,000
4/27/2017	422,000	10,199,000
4/29/2017	383,000	10,582,000
5/1/2017	376,000	10,958,000
5/3/2017	381,000	11,339,000
5/5/2017	355,000	11,694,000
5/7/2017	503,250	12,197,250
5/9/2017	436,000	12,633,250
5/11/2017	326,000	12,959,250
5/13/2017	293,000	13,252,250
5/15/2017	236,000	13,488,250
5/17/2017	226,000	13,714,250
5/19/2017	195,000	13,909,250
5/21/2017	194,000	14,103,250
5/24/2017	216,000	14,319,250
5/27/2017	224,000	14,543,250
5/30/2017	192,000	14,735,250
6/1/2017	171,000	14,906,250
6/13/2017 - 6/27/2017	~ 20,000	14,926,250

**Table A-2
2017 Spring Pond Water Treatment
Untreated Pond Water Field and Analytical Results**

SAMPLE ID	Sample Description	SAMPLE DATE	pH	TEMP (°C)	Aluminum			Arsenic			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead			Magnesium			Manganese			Nickel			Selenium			Sulfate (as SO ₄)			Total Dissolved Solids			Zinc			
					Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	
USEPA Daily Maximum Discharge Criteria					6.0 - 9.0	4			0.34			0.009			NP			0.97			NP			0.026			2			0.136			NP			NP			0.84			NP			NP			0.21					
USEPA 4-Day Average Discharge Criteria					NP	2			0.15			0.004			NP			0.31			NP			0.016			1			0.005			NP			NP			0.094			0.005			NP			NP			0.21		
001P3001	Untreated water in Pond 3	2/24/2017	4.27	1.74	7.5	L		ND, 0.001		0.004			95.3		ND, 0.005		0.145	L		0.086			0.30		ND, 0.001		21.1		0.869			0.332			0.002			362	D		513			0.10									
001P1002	Untreated water in Pond 1	2/24/2017	3.05	0.09	36.2	D		0.188		0.004			90.4		0.075		0.22	D		0.127			36.3		ND, 0.001		7.6		1.24			0.577			0.001			587	D		789			0.13									
003P2S004	Untreated water in Pond 2 South	3/7/2017	2.23	0.30	98.7	D		0.894		0.009			53.2		0.236		0.550			0.341			147		ND, 0.001		12.5		2.99			1.47			0.002			1140	D		1680			0.29									
004P2S006	Untreated water in Pond 2 South	3/10/2017	2.69	0.0	67.9			0.403		0.007			39.8		0.170		0.425			0.253			88.7		ND, 0.001		10.3		2.20			1.12			0.003			868	D		1240			0.22									
006P2S008	Untreated water in Pond 2 South	3/14/2017	2.63	0.0	68.9	D		0.256		0.007			38.8		0.180		0.417			0.277			75.8		ND, 0.001		9.9		2.18			1.08			0.002			718	D		1110			0.20									
008P2S010	Untreated water in Pond 2 South	3/17/2017	2.50	0.0	40.9	L		0.06		0.004			23.6		0.087		0.223			0.148			36.3		ND, 0.001		5.8		1.18			0.582			ND, 0.001			450	D		644			0.12									
010P2S012	Untreated water in Pond 2 South	3/19/2017	2.59	0.0	30.8	L		0.035		0.003			17.0		0.064		0.171			0.118			24.5		ND, 0.001		4.4		0.877			0.442			0.002			342	D		469			0.09									
012P2S014	Untreated water in Pond 2 South	3/21/2016	2.36	0.0	22.3	L		0.027		0.002			14.0		0.045		0.123			0.085			17.5		ND, 0.001		3.1		0.649			0.318			ND, 0.001			245			351			0.06									
013P2S016	Untreated water in Pond 2 South	3/22/2017	2.83	0.0	25.0	L		0.077		0.003			15.4		0.058		0.145			0.100			25.9		ND, 0.001		3.9		0.821			0.388			ND, 0.001			286	D		395			0.08									
014P2S018	Untreated water in Pond 2 South	3/24/2017	3.03	0.0	20.6	L		0.032		0.002			13.1		0.047		0.127			0.089			17.8		ND, 0.001		3.2		0.687			0.334			ND, 0.001			231			308			0.07									
015P2S020	Untreated water in Pond 2 South	3/26/2017	2.97	0.0	30.6	L		0.059		0.003			18.7		0.059		0.152			0.107			25.4		ND, 0.001		4.0		0.830			0.414			ND, 0.001			323	D		438			0.08									
016P2S022	Untreated water in Pond 2 South	3/28/2017	2.93	0.0	29.3			0.088		0.003			18.8		0.071		0.163			0.114			30.8		ND, 0.001		4.5		0.934			0.438			ND, 0.001			293	D		419			0.09									
017P2S024	Untreated water in Pond 2 South	3/30/2017	2.32	0.0	48.2			0.406		0.004			30.3		0.113		0.259			0.173			72.9		ND, 0.001		7.7		1.53			0.677			ND, 0.001			569	D		778			0.14									
017P2D025	Untreated water in Pond 2 South, Duplicate Sample	3/30/2017	2.32	0.0	48.1			0.426		0.004			25.9		0.119		0.262			0.180			72.1		ND, 0.001		7.3		1.50			0.706			ND, 0.001			567	D		780			0.14									
018P2S027	Untreated water in Pond 2 South	4/1/2017	2.83	2.4	31.0			0.238		0.003			18.8		0.079		0.190			0.130			46.6		ND, 0.001		5.1		1.03			0.505			ND, 0.001			377	D		523			0.10									
019P2S029	Untreated water in Pond 2 South	4/3/2017	2.89	1.6	12.5	D		0.052		0.001			9.8		0.030		0.080			0.055			15.8		ND, 0.001		2.1		0.410			0.19	D		ND, 0.001			146			279			0.04									
020P2S032	Untreated water in Pond 2 South	4/5/2017	2.56	2.11	6.52			0.012		ND, 0.001			4.6		0.017		0.041			0.029			7.83		ND, 0.001		1.1		0.213			0.109			ND, 0.001			89			216			0.02									
021P2S033	Untreated water in Pond 2 South	4/7/2017	2.62	0.0	15.3	L		0.046		0.001			8.7		0.033		0.081			0.053			18.4		ND, 0.001		2.4		0.473			0.207			ND, 0.001			173			208			0.05									
022P2S035	Untreated water in Pond 2 South	4/9/2017	3.30	1.24	16.4	L		0.044		0.001			9.9		0.035		0.085			0.056			20.2		ND, 0.001		2.6		0.501			0.225			ND, 0.001			187			240			0.05									
023P2S037	Untreated water in Pond 2 South	4/11/2017	3.70	4.04	10.5			0.008		0.001			7.1		0.023		0.064			0.040			11.3		ND, 0.001		1.8		0.378			0.164			ND, 0.001			124			194			0.04									
024P2S039	Untreated water in Pond 2 South	4/13/2017	3.38	0.00	25.6			0.061		0.002			14.5		0.044		0.129			0.081			35.5		ND, 0.001		3.8		0.754			0.323			ND, 0.001			292			385			0.08									
025P2S041	Untreated water in Pond 2 South	4/15/2017	2.91	2.49	29.2	L		0.086		0.003			17.7		0.053		0.157			0.090			42.0		ND, 0.001		4.5		0.936			0.366			ND, 0.001			352	D		460			0.09									
026P2S042	Untreated water in Pond 2 South	4/17/2017	3.18	6.45	48.7	D		0.242		0.005			26.6		0.130	D	0.266			0.134			84.0		ND, 0.001		7.6		1.54			0.570			ND, 0.001			631	D		863			0.13									
027P2S044	Untreated water in Pond 2 South	4/19/2017	2.98	6.76	63.3			0.378		0.006			37.6		0.173		0.329			0.159			115		ND, 0.001		10.5		2.00			0.900			ND, 0.001			767	D		1070			0.20									
028P2S047	Untreated water in Pond 2 South	4/21/2017	2.93	7.86	93.0	D		0.646		0.009			45.2		0.212		0.372			0.255			152		ND, 0.001		13.5		2.33			1.10			0.001			1050	D		1400			0.24									
029P2S049	Untreated water in Pond 2 South	4/23/2017	2.90	11.0	106	D		0.759		0.010			53.2		0.246		0.487			0.295			173		ND, 0.001		15.7		2.92			1.25			0.002			1250	D		1660	D		0.27									
030P2S052	Untreated water in Pond 2 South	4/25/2017	2.75	7.23	134	D		1.19		0.016			64.3		0.386		0.670			0.431			242	D	ND, 0.001		20.0		3.48	D		1.81			0.002			1640	D		2570	D		0.35									
031P2S054	Untreated water in Pond 2 South	4/27/2017	2.54	10.53	155	D		1.57		0.020			72.6		0.466		0.761			0.523			288	D	ND, 0.001		22.6		3.86	D		2.15			0.003			2120	D		3160	D		0.41									
032P2S056	Untreated water in Pond 2 South	4/29/2017	2.73	9.05	176	D		1.64		0.021			87.2	D	0.500		0.856			0.540			351		0.289		27.8		4.80	D		2.29	D		0.003			2170	D		3030	D		0.51									
033P1058	Untreated water in Pond 1	5/1/2017	2.99	11.06	44.8			0.093		0.005			54.4		0.103		0.263			0.168			49.8		ND, 0.001		8.2		1.62			0.730			0.001			597	D		823			0.16									
035P1061	Untreated water in Pond 1	5/3/2017	2.96	11.07	57.1			0.083		0																																											

Table A-4
2017 Pond Water Treatment
Daily Discharge Summary

Date	Volume Discharged (Gallons)	Cumulative Discharge (Gallons)
6/9/2017	59,400	59,400
6/10/2017	129,600	189,000
6/11/2017	58,140	247,140
6/12/2017	0	247,140
6/13/2017	53,535	300,675
6/14/2017	162,720	463,395
6/15/2017	187,200	650,595
6/16/2017	187,200	837,795
6/17/2017	214,560	1,052,355
6/18/2017	175,680	1,228,035
6/19/2017	175,680	1,403,715
6/20/2017	187,200	1,590,915
6/21/2017	214,560	1,805,475
6/22/2017	228,960	2,034,435
6/23/2017	228,960	2,263,395
6/24/2017	244,800	2,508,195
6/25/2017	244,800	2,752,995
6/26/2017	201,600	2,954,595
6/27/2017	214,560	3,169,155
6/28/2017	109,440	3,278,595
6/29/2017	61,920	3,340,515
6/30/2017	44,640	3,385,155
7/1/2017	34,560	3,419,715
7/2/2017	30,240	3,449,955
7/3/2017	26,755	3,476,710
7/4/2017	19,800	3,496,510
7/5/2017	16,790	3,513,300
7/6/2017	14,098	3,527,398
7/7/2017	14,098	3,541,496
7/8/2017	11,693	3,553,189
7/9/2017	9,576	3,562,765
7/10/2017	9,576	3,572,341
7/11/2017	7,704	3,580,045
7/12/2017	6,091	3,586,136
7/13/2017	4,694	3,590,830
7/14/2017	3,600	3,594,430
7/15/2017	2,592	3,597,022
7/16/2017	1,728	3,598,750
7/17/2017	1,152	3,599,902
7/18/2017	0	3,599,902
7/19/2017	0	3,599,902
7/20/2017	0	3,599,902
7/21/2017	0	3,599,902
7/22/2017	0	3,599,902
7/23/2017	0	3,599,902

Table A-4 Continued
2017 Pond Water Treatment
Daily Discharge Summary

Date	Volume Discharged (Gallons)	Cumulative Discharge (Gallons)
7/24/2017	0	3,599,902
7/25/2017	0	3,599,902
7/26/2017	0	3,599,902
7/27/2017	0	3,599,902
7/28/2017	0	3,599,902
7/29/2017	0	3,599,902
7/30/2017	0	3,599,902
7/31/2017	0	3,599,902
8/1/2017	0	3,599,902
8/2/2017	0	3,599,902
8/3/2017	0	3,599,902
8/4/2017	0	3,599,902
8/5/2017	0	3,599,902
8/6/2017	0	3,599,902
8/7/2017	0	3,599,902
8/8/2017	0	3,599,902
8/9/2017	0	3,599,902
8/10/2017	0	3,599,902
8/11/2017	119,700	3,719,602
8/12/2017	187,200	3,906,802
8/13/2017	162,720	4,069,522
8/14/2017	47,310	4,116,832
8/15/2017	0	4,116,832
8/16/2017	67,800	4,184,632
8/17/2017	162,720	4,347,352
8/18/2017	175,680	4,523,032
8/19/2017	162,720	4,685,752
8/20/2017	151,200	4,836,952
8/21/2017	162,700	4,999,652
8/22/2017	151,200	5,150,852
8/23/2017	119,520	5,270,372
8/24/2017	151,200	5,421,572
8/25/2017	187,200	5,608,772
8/26/2017	201,600	5,810,372
8/27/2017	187,200	5,997,572
8/28/2017	109,440	6,107,012
8/29/2017	129,600	6,236,612
8/30/2017	34,560	6,271,172
8/31/2017	23,112	6,294,284
9/1/2017	16,790	6,311,074
9/2/2017	14,098	6,325,172
9/3/2017	9,576	6,334,748
9/4/2017	7,704	6,342,452
9/5/2017	9,576	6,352,028
9/6/2017	14,098	6,366,126
9/7/2017	83,520	6,449,646

Table A-4 Continued
2017 Pond Water Treatment
Daily Discharge Summary

Date	Volume Discharged (Gallons)	Cumulative Discharge (Gallons)
9/8/2017	228,960	6,678,606
9/9/2017	244,800	6,923,406
9/10/2017	244,800	7,168,206
9/11/2017	260,640	7,428,846
9/12/2017	228,960	7,657,806
9/13/2017	228,960	7,886,766
9/14/2017	228,960	8,115,726
9/15/2017	244,800	8,360,526
9/16/2017	244,800	8,605,326
9/17/2017	139,680	8,745,006
9/18/2017	175,680	8,920,686
9/19/2017	92,160	9,012,846
9/20/2017	139,680	9,152,526
9/21/2017	40,320	9,192,846
9/22/2017	30,240	9,223,086
9/23/2017	23,112	9,246,198
9/24/2017	16,790	9,262,988
9/25/2017	14,098	9,277,086
9/26/2017	23,112	9,300,198
9/27/2017	61,920	9,362,118
9/28/2017	83,520	9,445,638
9/29/2017	69,120	9,514,758
9/30/2017	34,560	9,549,318
10/1/2017	26,755	9,576,073
10/2/2017	26,755	9,602,828
10/3/2017	175,680	9,778,508
10/4/2017	92,160	9,870,668
10/5/2017	201,600	10,072,268
10/6/2017	109,440	10,181,708
10/7/2017	34,560	10,216,268
10/8/2017	23,112	10,239,380
10/9/2017	30,240	10,269,620
10/10/2017	175,680	10,445,300
10/11/2017	187,200	10,632,500
10/12/2017	119,520	10,752,020
10/13/2017	40,320	10,792,340
10/14/2017	23,112	10,815,452
10/15/2017	16,790	10,832,242
10/16/2017	14,098	10,846,340
10/17/2017	14,098	10,860,438
10/18/2017	11,693	10,872,131
10/19/2017	9,576	10,881,707
10/20/2017	9,576	10,891,283
10/21/2017	9,576	10,900,859
10/22/2017	9,576	10,910,435
10/23/2017	7,704	10,918,139

Table A-4 Continued
2017 Pond Water Treatment
Daily Discharge Summary

Date	Volume Discharged (Gallons)	Cumulative Discharge (Gallons)
10/24/2017	7,704	10,925,843
10/25/2017	5,760	10,931,603
10/26/2017	5,760	10,937,363
10/27/2017	5,760	10,943,123
10/28/2017	5,760	10,948,883
10/29/2017	5,760	10,954,643

**Table A-5
2017 Pond Water Treatment Effluent Field and Analytical Results**

SAMPLE ID	Sample Description	SAMPLE DATE	pH	TEMP (°C)	Aluminum			Arsenic			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead			Magnesium			Manganese			Nickel			Selenium			Sulfate (as SO ₄)			Total Dissolved Solids			Zinc		
					Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ			
USEPA Daily Maximum Discharge Criteria			6.0 - 9.0		4		0.34		0.009		NP		0.97		NP		0.026		2		0.136		NP		NP		0.84		NP		NP		0.05		NP		NP		NP		0.21											
USEPA 4-Day Average Discharge Criteria			NP		2		0.15		0.004		NP		0.31		NP		0.016		1		0.005		NP		NP		0.094		NP		0.005		NP		NP		NP		0.21													
1718PWT001-PC	Pre-Discharge	06/08/2017	7.83	16.4	0.0572	J	J	0.00491		U	0.000569	J	J	1060		0.0100	U	0.0422		0.0283	U	0.324		0.000500	U	32.2		0.785		0.136		0.0102		2680		3670		0.0100	U													
1718PWT002-PC	Pre-Discharge	06/09/2017	8.06	16.1	0.386			0.00478		U	0.000300	U		958		0.00315	U	0.0112		0.0305		0.134		0.00112	U	31.2		0.376		0.0631		0.00894		2560		3640		0.0100	U													
1718PWT004-EFF	PWT Effluent	06/14/2017	7.34	14.8	0.0500	U		0.0115		J, *	0.000300	U		604		0.00231	U, *	0.00314		J, *	0.00283		0.0761	J	J	0.000500	U	31.1		0.185		0.0227		0.00695		2300		2870		0.0100	U											
1718PWT005-FMB	Field Method Blank	06/14/2017	NA	NA	0.0500	U		0.00125	U		0.000300	U		2.20	**	0.00190	J	J	0.000500	U	0.00100	U	0.0500	U	0.000500	U	0.879	**	0.00121	J	J	0.00200	U	0.000500	U	0.672	J	J	10	U	0.0370	**										
1718PWT006-EFF	Duplicate	06/14/2017	7.34	14.8	0.0500	U		0.00369	J		0.000300	U		590		0.00179	J	U	0.00167	J	0.00249		0.0630	J	J	0.000500	U	30.4		0.175		0.0204		0.00615		2260		2730		0.0100	U											
1718PWT008-EFF	PWT Effluent	06/16/2017	7.50	22.2	0.0500	U		0.00960			0.000300	U		572		0.00161	J	J	0.00308		0.00424		0.335	J	0.000500	U	29.5		0.197		0.0230		0.00625						0.0100	U												
1718PWT010-EFF	PWT Effluent	06/19/2017	7.06	21.8	0.0845	J	J	0.00595			0.000300	U		551		0.00140	J	J	0.00211		0.00240		0.131		0.000500	U	30.3		0.286		0.0220		0.00621		1770		2510		0.0100	U												
1718PWT012-EFF	PWT Effluent	06/22/2017	7.29	23.7	0.311			0.00440			0.000300	U		657		0.00100	U	0.00404		0.00285		0.163		0.000500	U	29.4		0.299		0.0275		0.00568						0.0100	U													
1718PWT014-EFF	PWT Effluent	06/26/2017	7.29	20.9	0.411			0.00465			0.000328	J	J	673		0.00100	U	0.00501		0.00394		0.151		0.000500	U	33.8		0.463		0.0318		0.00467		2060		3160		0.0100	U													
1718PWT015-EFF	PWT Effluent	06/29/2017	7.27	17.4	0.0500	U		0.00442			0.000300	U		529		0.00100	U	0.00385		0.00413		0.0592	J	J	0.000500	U	42.7		1.02		0.0259		0.00208	U					0.0100	U												
1718PWT016-EFF	PWT Effluent	07/05/2017	7.81	22.6	0.0670	J	J, *	0.00298			0.000300	U		523		0.00100	U	0.00343		0.00396		0.0565	J	J	0.000500	U	45.6		1.73		0.0296		0.00359		1620		2500		0.0100	U												
1718PWT017-FMB	Field Method Blank	07/05/2017	NA	NA	0.0500	U		0.00125	U		0.000300	U		2.48	**	0.00100	U	0.000500	U	0.00100	U	0.0500	U	0.000500	U	0.812	**	0.00115	J	J	0.00200	U	0.000500	U	0.500	U	56.0	**	0.0311	**												
1718PWT018-EFF	Duplicate	07/05/2017	7.81	22.6	0.0500	U		0.00283			0.000300	U		531		0.00100	U	0.00355		0.00346		0.0624	J	J	0.000500	U	46.8		1.65		0.0294		0.00353		1630		2480		0.0100	U												
1718PWT019-EFF	PWT Effluent	07/07/2017	7.76	20.5	0.100	U		0.00332			0.0003	U		537		0.00103	J	J	0.00349		0.00311		0.0500	U	0.000500	U	48.9		1.77		0.0306		0.00329						0.0100	U												
1718PWT020-PC	Pre-Discharge	08/10/2017	8.03	22.3	0.701			0.00437			0.000502	J	J	903		0.00360		0.00711		0.00599		0.105	U	0.000500	U	42.0		0.171		0.0392		0.00664		2500		3590		0.0100	U													
1718PWT022-EFF	PWT Effluent	08/11/2017	7.20	20.8	0.157			0.00355			0.000300	U		769		0.00303	U	0.00225		0.00508		0.418		0.000500	U	50.8		0.0508		0.0293		0.00613		2290		3340		0.0100	U													
1718PWT024-EFF	PWT Effluent	08/16/2017	7.18	19.5	0.0500	U		0.00440			0.000312	J	J	646		0.00268		0.00209		0.00604		0.185	J	0.000500	U	60.3		0.172		0.0235		0.00547						0.0100	U													
1718PWT026-EFF	PWT Effluent	08/19/2017	7.19	19.8	0.0916	J	J	0.00505			0.000300	U		626		0.00146	J	J	0.00475		0.00521		0.214		0.000500	U	51.1		0.479		0.0303		0.00624		1870		2620		0.0100	U												
1718PWT028-EFF	PWT Effluent	08/21/2017	7.35	19.5	0.219			0.00712			0.000315	J	J	674	J+	0.00212		0.00478		0.00531		0.246	J+	0.000500	U	47.5		0.500		0.0308		0.00596		2060		2760		0.0100	U													
1718PWT030-EFF	PWT Effluent	08/24/2017	7.47	18.7	0.256	J+		0.00524			0.000351	J	J	718		0.00174	J	J	0.00798		0.00577		0.196		0.000500	U	53.3		0.628		0.0405		0.00488						0.0100	U												
1718PWT032-EFF	PWT Effluent	08/28/2017	7.44	24.6	0.0500	U		0.00556	U		0.000359	J	J	556		0.00169	J	J	0.00524		0.00585	J+	0.172	*	0.000500	U	60.3		1.99		0.0276		0.00414		1770		2500		0.0100	U												
1718PWT033-FMB	Field Method Blank	08/28/2017	NA	NA	0.0500	U		0.00274			0.000300	U		0.250	U	0.00111	J	J	0.000506	J	J	0.00166	J	J	0.000500	U	0.250	U	0.00268		0.00200	U	0.000500	U	1.60		30.0	**	0.0100	U												
1718PWT034-EFF	Duplicate	08/28/2017	7.44	24.6	0.0500	U		0.00649	J+		0.000360	J	J	558		0.00186	J	U	0.00546	U	0.00605	J+	0.0828	J	J	0.000500	U	60.6		2.01		0.0275		0.00326		1720		2460		0.0100	U											
1718PWT035-EFF	PWT Effluent	08/30/2017	7.05	23.1	0.101	U		0.00279			0.000300	U		582		0.00100	U	0.00270		0.00233		0.0645	J	J	0.000500	U	66.2		1.25		0.0131		0.00193						0.0100	U												
1718PWT037-EFF	PWT Effluent	09/07/2017	7.90	20.5	0.544			0.00923			0.000491	J	U	888		0.00180	J	U	0.0107		0.000491		0.0130	U	0.000500	U	48.7		1.71		0.0471		0.00455		2730		3450		0.0100	U												
1718PWT039-EFF	PWT Effluent	09/08/2017	7.83	20.0	0.256			0.00948			0.000497	J	J	925		0.00201		0.0130		0.0121		0.227		0.000500	U	46.1		1.81		0.0577		0.00474						0.0100	U													
1718PWT041-EFF	PWT Effluent	09/11/2017	8.00	21.1	0.515			0.00927	*		0.000364	J	J	958		0.00189	J	J, *	0.0105		0.0111		0.204	*	0.000500	U	38.5		0.868		0.0521		0.00459		2530		3530		0.0100	U												
1718PWT042-FMB	Field Method Blank	09/11/2017	NA	NA	0.0513	J	J	0.00125	U		0.000300	U		0.250	U	0.00100	U	0.000500	U	0.00330		0.0500	U	0.000500	U	0.250	U	0.00134	J	J	0.00200	U	0.000500	U	0.500	U	10.0	U	0.0100	U												
1718PWT043-EFF	Duplicate	09/11/2017	8.00	21.1	0.541			0.00694			0.000386	J	J	916	J	0.00100	U	0.0105		0.0116	U	0.101		0.000500	U	40.0		0.873		0.0542		0.00421		2520		3510		0.0100	U													
1718PWT045-EFF	PWT Eff																																																			

**Table A-6
2017 Pond Water Treatment Influent Field and Analytical Results**

Sample ID	Sample Description	Sample Date	PH	Temp (°C)	Aluminum			Arsenic			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead			Magnesium			Manganese			Nickel			Selenium			Sulfate (as SO ₄)			Total Dissolved Solids			Zinc		
					Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ	Result	DQ	EQ						
1718PWT003-INF	PWT Influent	6/14/2017	2.31	17.8	548			14.8			0.106			222			1.91			3.38			10.8			1530			0.0187			62.8			14.1			8.45			0.00637			8700			8800			1.52		
1718PWT007-INF	PWT Influent	6/16/2017	2.30	19.7	517			14.3			0.104			228			1.93			3.41			10.1			1410			0.0198			61.1			14.2			8.51			0.00535			6420			8960	H1	J	1.42		
1718PWT009-INF	PWT Influent	6/19/2017	2.32	20.7	535			14.7			0.114			242			1.84			3.29			8.92			1450			0.0208			63.7			13.6			8.31			0.00569			6930			8590	H1	J	1.48		
1718PWT011-INF	PWT Influent	6/22/2017	2.36	22.3	498			14.7			0.115			244			1.76			3.20			8.11			1350			0.0183			64.4			13.2			8.14			0.00460			6110			8890			1.41		
1718PWT013-INF	PWT Influent	6/26/2017	2.05	19.7	443			14.5			0.120			262			1.86			3.74			8.62			1230			0.0156			60.8			15.3			9.30			0.00298			5990			8610			1.32		
1718PWT021-INF	PWT Influent	8/11/2017	2.49	21.6	707			8.02			0.147			399		J+	4.29			9.88			1530			0.000769	J	J	88.1			17.3			10.9			0.00119			8600		^	5600		^	1.83					
1718PWT023-INF	PWT Influent	8/16/2017	2.41	22.0	667			5.83	J-		0.139			438			2.00			4.05			9.12	J-		1260			0.000760	J	J	104			16.5	J-		10.2	J-		0.00342			8280		^	6100		^	1.86		
1718PWT025-INF	PWT Influent	8/19/2017	2.34	20.1	719			13.5			0.128	J-		293			2.24			4.02			7.36			1550			0.00263			91.6			16.6			10.3			0.00103			8550		^	5980		^	1.90		
1718PWT027-INF	PWT Influent	8/21/2017	3.87	14.4	691			14.6			0.128	J-		279			2.25			3.94			7.02			1520			0.00327			86.8			16.3			10.1			0.00209			8520			10400			1.80		
1718PWT029-INF	PWT Influent	8/24/2017	2.48	13.5	627			16.7			0.140			331			2.43			3.91			7.49			1280			0.00437			84.4			18.9			10.0			0.000500	U		7720		J	9960		J	1.71		
1718PWT031-INF	PWT Influent	8/28/2017	3.59	13.8	635			13.6			0.122			294			2.41			3.90			6.24			1300			0.00502			79.4			15.8			9.90			0.000500	U		7970		^	6920		^	1.70		
1718PWT036-INF	PWT Influent	9/7/2017	2.51	22.7	588			12.8			0.120			299			1.98			3.77			4.83			1190			0.00518			77.9			15.2			9.74			0.00130	J	J	9000			9640			1.68		
1718PWT038-INF	PWT Influent	9/8/2017	2.41	19.9	613			12.6			0.116			292			1.97			3.78			4.66			1230			0.00491			74.1			15.0			9.64			0.00118	J	J	7280			9210			1.55		
1718PWT040-INF	PWT Influent	9/11/2017	2.48	20.1	622			12.7			0.115			269			2.02			3.84			4.38			1230			0.00479			73.1			15.3			9.84			0.00100	U		7060			8160			1.55		
1718PWT044-INF	PWT Influent	9/14/2017	3.37	14.2	657			14.2			0.144			254			2.07			3.87			5.28			1330			0.00324			79.1			15.6			10.0			0.00180			8960			10000			1.96		
1718PWT049-INF	PWT Influent	9/18/2017	3.47	11.7	724			14.8			0.159			262			2.08			3.95			5.62			1490			0.00297			80.8			15.9			10.1			0.00180			9670			10800			1.76		
1718PWT050-INF	PWT Influent	9/26/2017	2.53	12.9	466			11.5			0.108			263			1.45			2.93			3.60			1090			0.00633			66.4			11.7			7.54			0.00204			7480			7570			1.38		
1718PWT052-INF	PWT Influent	9/29/2017	2.38	10.5	486	I	J	12.1			0.104			324			1.60			3.18			3.70			1050			0.00566			68.2			12.5			8.15			0.000500	U		7680			8750			1.38		
1718PWT054-INF	PWT Influent	10/3/2017	2.65	7.9	462			13.1			0.112			350			1.69			3.40			3.81			865			0.00669			64.8			13.5			8.68			0.000500	U		6410		J	8860		J	1.32		
1718PWT056-INF	PWT Influent	10/5/2017	2.64	12.4	521			12.0			0.116			359			1.71			3.50			4.11			987			0.00602			68.7			14.0			9.02			0.00255			6860			8230			1.41		
1718PWT058-INF	PWT Influent	10/10/2017	2.58	12.2	576			14.2			0.125			331			2.02			3.95			4.40			1070			0.00613			75.3			16.0			10.0			0.000500	U	UJ	7060			9430			1.53		
1718PWT060-INF	PWT Influent	10/12/2017	2.51	8.8	521			12.4			0.112			360			1.77			3.60			3.87			976			0.00606			72.2			14.5			9.15			0.000500	U		6840			8790			1.41		

Notes:

All values reported in milligrams per liter (mg/L) except pH which are in Standard Units and temperature which are in the units specified above.
All parameters are dissolved except Selenium which is total recoverable.

Data Qualifiers (DQ) from the Laboratory:

J = Analyte positively identified, but the quantitation was below the reporting limit.
H1 = Sample analysis performed past holding time.
I = Semiquantative result (out of instrument calibration range)

EPA Qualifiers (EQ) from an additional QA/QC from URS:

J = Estimated concentration; the analyte was detected between the RL and DL and/or one or more quality control parameters were not met.
J+ = Estimated concentraton; potential for high bias
UJ = Result not detected; potential for false negative result at the stated detection limit.
^ = Anomalous result

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

Date	Time	Influent Flowrate (gpm)	R-1 Setpoint	R-1 pH	R-1 temp °F	R-2 Setpoint	R-2 pH	R-2 temp °F	FF-2 pH	Clarifier Pit pH	Clarifier Pit temp °F	Discharge Weir pH	Discharge Weir temp °F
06/07/17	11:30	NA	NA	NA	NA	8.60	8.42	67.1	8.31	8.04	70.3	NA	NA
06/07/17	12:30	160	NA	NA	NA	8.60	8.56	68.6	8.35	7.85	72.2	NA	NA
06/07/17	13:30	NA	NA	NA	NA	8.60	8.63	68.7	8.32	7.97	71.4	NA	NA
06/07/17	14:30	155	NA	NA	NA	8.60	8.56	69.9	8.40	8.16	71.8	NA	NA
06/07/17	15:30	NA	NA	NA	NA	8.60	8.56	70.6	8.46	8.19	69.5	NA	NA
06/07/17	16:30	125	NA	NA	NA	8.60	8.75	70.9	8.64	8.33	68.7	NA	NA
06/07/17	17:30	NA	NA	NA	NA	8.60	8.59	70.9	8.62	8.43	65.8	NA	NA
06/07/17	18:30	160	NA	NA	NA	8.40	8.54	70.9	8.87	9.26	65.0	NA	NA
06/07/17	19:30	NA	NA	NA	NA	8.60	8.25	70.6	NA	NA	NA	NA	NA
06/07/17	20:30	155	NA	NA	NA	8.40	8.51	70.2	8.16	7.20	64.9	NA	NA
06/07/17	21:30	NA	NA	NA	NA	8.40	8.28	70.2	8.13	7.40	60.6	NA	NA
06/07/17	22:30	155	NA	NA	NA	8.40	8.67	69.0	8.15	7.38	60.7	NA	NA
06/07/17	23:30	NA	NA	NA	NA	8.40	8.28	68.3	8.16	7.52	57.6	NA	NA
06/08/17	0:30	155	NA	NA	NA	8.45	8.01	67.5	8.70	8.05	57.6	NA	NA
06/08/17	1:30	NA	NA	NA	NA	8.45	8.31	66.8	8.36	8.01	57.3	NA	NA
06/08/17	2:30	160	NA	NA	NA	8.45	8.28	66.6	8.25	8.14	59.2	NA	NA
06/08/17	3:30	NA	NA	NA	NA	8.45	8.63	66.1	8.51	8.47	70.1	NA	NA
06/08/17	4:30	155	NA	NA	NA	8.45	8.63	65.6	8.45	8.71	57.8	NA	NA
06/08/17	5:30	NA	NA	NA	NA	8.45	8.11	65.4	8.16	8.43	61.2	NA	NA
06/08/17	6:30	155	NA	NA	NA	8.45	8.09	65.3	8.11	7.71	56.9	NA	NA
06/08/17	7:30	NA	NA	NA	NA	8.60	8.61	64.9	8.39	8.33	57.9	NA	NA
06/08/17	8:30	150	NA	NA	NA	8.60	8.74	64.9	8.37	8.19	61.2	NA	NA
06/08/17	9:30	NA	NA	NA	NA	8.60	8.70	64.9	8.35	CLOG	CLOG	NA	NA
06/08/17	10:30	LIME CLOG											
06/08/17	11:30	NA	NA	NA	NA	8.40	8.16	65.8	8.39	8.29	62.1	NA	NA
06/08/17	12:30	150	NA	NA	NA	8.40	8.60	65.9	8.49	8.11	62.9	NA	NA
06/08/17	13:30	NA	4.00	2.81	58.2	8.40	8.49	66.3	8.49	8.23	61.4	NA	NA
06/08/17	14:30	150	4.05	3.78	58.9	8.40	8.55	66.4	8.52	8.28	62.3	NA	NA
06/08/17	15:30	NA	4.00	3.96	59.2	8.40	8.34	66.4	8.55	8.24	62.1	NA	NA
06/08/17	16:30	150	4.05	3.85	59.2	8.40	8.47	66.4	8.52	8.26	61.0	NA	NA
06/08/17	17:30	NA	4.00	3.84	58.9	8.40	8.34	66.6	8.51	8.27	60.8	NA	NA
06/08/17	18:30	150	4.00	3.65	58.9	8.40	8.39	66.4	8.52	8.22	60.8	NA	NA
06/08/17	19:30	NA	4.00	3.65	58.7	8.40	8.50	66.3	8.43	8.04	60.1	NA	NA
06/08/17	20:30	150	4.00	3.65	58.8	8.35	8.53	66.1	8.50	8.10	56.2	NA	NA
06/08/17	21:30	NA	4.00	3.66	58.5	8.35	8.47	65.6	8.47	8.15	61.3	NA	NA
06/08/17	22:30	150	4.00	3.66	58.2	8.35	8.26	65.9	8.48	8.05	65.5	NA	NA
06/08/17	23:30	NA	4.00	3.64	58.0	8.35	8.56	65.7	8.47	8.09	59.0	NA	NA
06/09/17	0:30	150	4.00	3.71	58.6	8.35	8.46	65.4	8.52	7.98	56.7	NA	NA
06/09/17	1:30	NA	4.00	3.66	58.0	8.35	8.51	65.2	8.47	8.03	56.8	NA	NA
06/09/17	2:30	150	4.00	3.81	58.2	8.35	8.33	65.2	8.49	8.07	57.5	NA	NA
06/09/17	3:30	NA	4.00	3.84	57.5	8.35	8.35	64.9	8.51	8.10	57.3	NA	NA
06/09/17	4:30	150	4.00	3.87	57.3	8.35	8.35	64.7	8.46	8.00	55.5	NA	NA
06/09/17	5:30	NA	4.00	3.87	57.0	8.35	8.27	64.4	8.41	8.02	57.3	NA	NA
06/09/17	6:30	150	4.00	3.89	56.8	8.35	8.35	64.2	8.48	8.07	56.9	NA	NA
06/09/17	7:30	NA	4.00	3.90	56.6	8.35	8.30	63.3	8.44	NA	NA	NA	NA
06/09/17	8:30	150	4.00	3.78	56.3	8.35	8.20	64.7	8.38	8.12	60.9	NA	NA
06/09/17	9:30	NA	4.00	3.88	56.3	8.35	8.46	63.5	8.52	8.18	58.3	NA	NA
06/09/17	10:30	148	4.00	3.90	56.3	8.30	8.38	63.7	8.46	8.03	60.4	NA	NA
06/09/17	11:30	NA	4.00	3.92	56.3	8.20	8.16	63.5	8.53	8.14	62.4	NA	NA
06/09/17	12:30	148	4.00	3.92	56.8	8.20	8.38	63.7	8.34	8.06	61.0	NA	NA
06/09/17	13:30	NA	4.00	3.92	57.0	8.20	8.17	64.0	8.33	8.04	63.0	7.33	59.50
06/09/17	14:30	150	4.00	3.93	58.0	8.20	8.13	64.4	8.35	8.06	63.5	7.52	60.10
06/09/17	15:30	NA	4.00	3.86	58.2	8.20	8.27	65.4	8.36	8.03	64.3	7.41	60.90
06/09/17	16:30	150	4.00	3.90	58.9	8.20	8.12	65.9	8.34	8.04	64.7	7.62	61.80
06/09/17	17:30	NA	4.00	3.88	59.4	8.20	8.18	65.9	8.31	8.02	63.5	7.36	60.50
06/09/17	18:30	150	4.00	3.80	59.2	8.30	8.31	66.4	8.48	7.94	62.3	7.52	60.10
06/09/17	19:30	NA	4.00	3.84	59.2	8.30	8.31	66.4	8.51	7.20	57.3	7.61	58.70
06/09/17	20:30	110	4.00	3.95	58.9	8.30	8.42	66.1	8.55	7.67	61.0	7.72	55.90
06/09/17	21:30	NA	4.00	3.95	58.5	8.30	8.42	65.9	8.55	7.77	59.8	7.67	58.90
06/09/17	22:30	110	4.00	3.95	58.2	8.30	8.48	65.4	8.55	7.69	60.9	7.65	56.40
06/09/17	23:30	NA	4.00	3.84	57.5	8.30	8.33	64.9	8.51	7.69	57.0	7.80	53.90
06/10/17	0:30	110	4.00	3.79	57.0	8.30	8.44	64.7	8.51	7.71	56.6	7.83	51.90
06/10/17	1:30	NA	4.00	3.77	56.8	8.30	8.36	64.2	8.51	7.69	56.4	7.81	50.30
06/10/17	2:30	110	4.00	3.77	56.3	8.30	8.38	63.7	8.50	7.81	54.0	7.94	51.30
06/10/17	3:30	NA	4.00	3.68	55.9	8.30	8.26	63.5	8.41	7.72	55.1	7.82	51.70
06/10/17	4:30	110	4.00	3.70	55.6	8.30	8.21	63.0	8.41	7.85	50.0	7.88	49.50
06/10/17	5:30	NA	4.00	3.69	55.4	8.30	8.26	62.5	8.43	7.80	50.1	7.84	49.20

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

06/10/17	6:30	110	4.00	3.76	55.1	8.30	8.26	62.5	8.52	7.71	52.4	7.83	50.50
06/10/17	7:30	NA	4.00	3.77	54.7	8.20	8.23	62.1	8.43	7.96	55.9	7.36	54.30
06/10/17	8:30	110	4.00	3.79	54.7	8.20	8.45	62.8	8.38	7.76	58.2	7.39	56.80
06/10/17	9:30	NA	4.00	3.80	54.2	8.20	8.29	59.9	8.33	7.96	61.1	7.42	56.70
06/10/17	10:30	110	4.00	3.81	55.1	8.25	8.41	62.3	8.29	7.80	62.8	7.47	60.00
06/10/17	11:30	NA	4.00	3.88	55.2	8.25	8.60	62.5	8.33	NA	NA	NA	NA
06/10/17	12:30	SHUTDOWN											
06/12/17	14:30	130	4.00	4.06	52.0	8.40	8.66	58.0	8.44	8.25	55.8	NA	NA
06/12/17	15:30	NA	4.00	4.00	52.5	8.40	8.63	59.0	8.40	8.21	57.3	NA	NA
06/12/17	16:30	130	4.00	3.70	53.5	8.40	8.64	59.5	8.27	8.10	55.8	NA	NA
06/12/17	17:30	NA	4.00	3.58	53.2	8.40	8.36	59.9	8.29	8.10	56.7	NA	NA
06/12/17	18:30	100	4.00	3.16	53.7	8.40	8.62	60.2	8.28	8.12	56.7	NA	NA
06/12/17	19:30	NA	8.20	3.23	53.7	8.40	8.40	60.9	8.34	7.91	57.7	NA	NA
06/12/17	20:30	90	8.20	3.28	53.5	8.40	8.53	60.6	8.34	7.91	56.4	NA	NA
06/12/17	21:30	NA	8.20	3.29	53.2	8.40	8.50	60.6	8.37	7.88	56.3	NA	NA
06/12/17	22:30	100	8.20	3.30	53.0	8.40	8.53	60.4	8.36	7.94	54.2	NA	NA
06/12/17	23:30	NA	8.20	3.31	52.8	8.40	8.40	59.9	8.40	7.91	55.1	NA	NA
06/13/17	0:30	90	8.20	3.31	52.5	8.43	8.37	59.5	8.36	7.88	52.9	NA	NA
06/13/17	1:30	NA	8.20	3.31	52.0	8.43	8.54	59.2	8.41	8.00	52.5	NA	NA
06/13/17	2:30	90	8.20	3.32	51.9	8.43	8.60	59.8	8.41	7.94	52.0	NA	NA
06/13/17	3:30	NA	8.20	3.32	51.3	8.43	8.42	58.5	8.41	7.94	51.1	NA	NA
06/13/17	4:30	90	8.20	3.33	51.1	8.43	8.57	58.0	8.40	7.94	49.9	NA	NA
06/13/17	5:30	NA	8.20	3.33	50.6	8.43	8.63	57.8	8.43	7.98	49.8	NA	NA
06/13/17	6:30	90	8.20	3.33	50.1	8.43	8.59	57.5	8.35	7.88	50.1	NA	NA
06/13/17	7:30	NA	4.00	3.31	49.9	8.43	8.40	57.3	8.30	7.75	53.5	NA	NA
06/13/17	8:30	150	4.00	3.10	50.0	8.43	8.42	57.1	8.24	8.15	54.2	NA	NA
06/13/17	9:30	NA	4.00	3.06	50.4	8.43	8.54	57.0	8.46	8.23	55.2	NA	NA
06/13/17	10:30	160	4.00	3.16	52.3	8.43	8.62	58.5	8.46	8.25	58.1	NA	NA
06/13/17	11:30	NA	4.00	3.20	54.9	8.43	8.27	60.0	8.34	8.26	58.4	NA	NA
06/13/17	12:30	150	4.00	3.19	56.1	8.60	8.56	62.0	8.37	8.22	62.5	NA	NA
06/13/17	13:30	NA	4.00	3.25	57.8	8.60	9.33	63.7	8.41	8.35	62.8	7.36	55.80
06/13/17	14:30	150	4.00	3.28	58.9	8.60	8.50	64.7	8.49	8.43	62.2	7.20	57.40
06/13/17	15:30	NA	4.00	3.15	61.8	8.60	8.72	66.6	8.32	8.23	64.2	7.36	57.70
06/13/17	16:30	150	4.00	3.11	62.3	8.70	8.71	69.2	8.33	8.32	65.3	7.27	59.90
06/13/17	17:30	NA	4.00	3.16	59.9	8.70	8.60	69.0	8.33	8.34	64.5	7.32	60.20
06/13/17	18:30	150	4.00	3.10	60.0	8.60	9.39	67.5	8.34	8.37	63.0	7.38	60.00
06/13/17	19:30	NA	8.20	3.19	60.0	8.60	8.43	67.5	8.40	8.20	65.8	7.73	59.40
06/13/17	20:30	150	8.20	3.13	60.9	8.60	8.37	68.0	8.40	8.20	67.3	7.54	59.10
06/13/17	21:30	NA	8.20	3.11	61.1	8.60	8.43	68.0	8.46	8.24	65.6	7.60	58.40
06/13/17	22:30	150	8.20	3.11	60.1	8.62	8.40	67.8	8.42	8.28	64.7	7.57	58.20
06/13/17	23:30	NA	8.20	3.12	58.9	8.62	8.65	67.1	8.34	8.22	63.3	7.59	58.40
06/14/17	0:30	150	8.20	3.13	57.8	8.63	8.61	65.9	8.41	8.26	65.1	7.56	58.50
06/14/17	1:30	NA	8.20	3.12	56.8	8.63	8.67	64.7	8.47	8.26	64.2	7.61	58.20
06/14/17	2:30	150	8.20	3.13	55.6	8.62	8.60	63.7	8.49	8.31	62.7	7.62	57.30
06/14/17	3:30	NA	8.20	3.15	54.7	8.63	8.71	62.8	8.68	8.36	61.2	7.65	56.50
06/14/17	4:30	150	8.20	3.14	54.0	8.62	8.64	61.4	8.45	8.52	59.4	7.61	55.50
06/14/17	5:30	NA	8.20	3.14	53.2	8.60	8.47	60.9	8.58	8.50	58.4	7.60	55.80
06/14/17	6:30	150	8.20	3.15	52.5	8.58	8.60	60.4	8.69	9.10	58.0	7.65	55.10
06/14/17	7:30	RECIRCULATING											
06/14/17	8:30	156	NA	NA	NA	8.60	8.53	59.5	8.27	8.10	58.3	6.40	57.10
06/14/17	9:30	NA	NA	NA	NA	8.65	8.33	59.7	8.38	8.26	59.3	7.01	59.30
06/14/17	10:30	152	NA	NA	NA	8.65	8.39	60.4	8.27	8.23	60.7	7.34	58.70
06/14/17	11:30	NA	NA	NA	NA	8.65	8.58	61.4	8.34	8.16	61.9	6.73	61.70
06/14/17	12:30	146	NA	NA	NA	8.65	8.74	62.5	8.36	8.12	62.9	6.93	63.10
06/14/17	13:30	NA	NA	NA	NA	8.60	8.81	63.3	8.45	8.26	63.0	6.89	63.70
06/14/17	14:30	148	NA	NA	NA	8.60	8.85	64.4	8.30	8.18	64.3	7.18	64.20
06/14/17	15:30	NA	NA	NA	NA	8.60	8.43	67.5	8.31	8.17	65.4	6.90	66.00
06/14/17	16:30	144	NA	NA	NA	8.60	8.63	68.7	8.45	8.32	66.8	6.97	69.90
06/14/17	17:30	NA	NA	NA	NA	8.60	8.37	69.2	8.55	8.42	65.1	6.93	66.90
06/14/17	18:30	150	NA	NA	NA	8.60	8.72	69.2	8.63	8.52	66.9	6.95	67.70
06/14/17	19:30	NA	NA	NA	NA	8.55	8.38	69.0	8.49	8.26	68.0	7.35	64.50
06/14/17	20:30	160	NA	NA	NA	8.55	8.64	69.4	8.55	8.40	69.9	7.57	64.80
06/14/17	21:30	NA	NA	NA	NA	8.52	8.30	69.4	8.54	8.44	67.1	7.51	62.90
06/14/17	22:30	140	NA	NA	NA	8.52	8.59	69.7	8.50	8.37	65.4	7.48	62.10
06/14/17	23:30	NA	NA	NA	NA	8.52	8.44	69.0	8.48	8.37	65.7	7.55	62.20
06/15/17	0:30	140	NA	NA	NA	8.52	8.24	67.8	8.51	8.36	67.0	7.49	62.00
06/15/17	1:30	NA	NA	NA	NA	8.52	8.50	66.8	8.40	8.35	65.4	7.54	61.30
06/15/17	2:30	160	NA	NA	NA	8.52	8.50	66.1	8.45	8.32	64.0	7.59	60.50
06/15/17	3:30	NA	NA	NA	NA	8.52	8.45	65.2	8.51	8.39	62.8	7.57	60.00
06/15/17	4:30	150	NA	NA	NA	8.52	8.54	64.4	8.58	8.52	62.3	7.57	59.50

Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs

06/18/17	21:30	NA	NA	NA	NA	8.43	8.46	78.0	8.35	8.23	75.0	7.25	71.30
06/18/17	22:30	150	NA	NA	NA	8.43	8.40	77.5	8.34	8.23	73.6	7.22	70.80
06/18/17	23:30	NA	NA	NA	NA	8.43	8.37	76.6	8.27	8.23	73.4	7.27	69.90
06/19/17	0:30	140	NA	NA	NA	8.45	8.42	75.6	8.31	8.25	71.8	7.29	68.90
06/19/17	1:30	NA	NA	NA	NA	8.45	8.41	74.2	8.31	8.25	70.4	7.31	68.10
06/19/17	2:30	140	NA	NA	NA	8.45	8.32	72.8	8.32	8.19	69.1	7.32	66.70
06/19/17	3:30	NA	NA	NA	NA	8.45	8.35	71.6	8.40	8.10	68.3	7.32	66.40
06/19/17	4:30	150	NA	NA	NA	8.45	8.36	70.4	8.39	8.11	69.2	7.31	66.50
06/19/17	5:30	NA	NA	NA	NA	8.45	8.47	69.4	8.39	8.13	67.1	7.34	66.10
06/19/17	6:30	150	NA	NA	NA	8.45	8.41	68.5	8.44	8.14	68.0	7.35	65.70
06/19/17	7:30	NA	NA	NA	NA	8.45	8.31	68.3	8.23	8.05	68.5	7.05	72.00
06/19/17	8:30	130	NA	NA	NA	8.55	8.44	68.7	8.33	8.23	68.3	6.69	69.70
06/19/17	9:30	NA	NA	NA	NA	8.40	8.61	68.9	8.63	8.38	69.8	7.00	74.00
06/19/17	10:30	130	NA	NA	NA	8.40	8.30	69.4	8.48	8.23	72.5	7.06	71.20
06/19/17	11:30	NA	NA	NA	NA	8.40	8.41	71.3	8.41	8.14	73.0	6.48	75.10
06/19/17	12:30	140	NA	NA	NA	8.40	8.30	71.8	8.40	8.21	72.3	6.87	75.40
06/19/17	13:30	NA	NA	NA	NA	8.40	8.43	73.3	8.36	8.04	73.2	6.96	76.40
06/19/17	14:30	150	NA	NA	NA	8.50	8.27	74.0	8.45	8.21	74.5	7.03	75.30
06/19/17	15:30	NA	NA	NA	NA	8.50	8.52	76.0	8.42	8.25	76.1	7.09	76.50
06/19/17	16:30	140	NA	NA	NA	8.50	8.36	77.3	8.54	8.25	75.5	7.11	76.00
06/19/17	17:30	NA	NA	NA	NA	8.50	8.79	77.8	8.49	8.26	76.4	6.98	80.60
06/19/17	18:30	140	NA	NA	NA	8.50	8.48	78.5	8.37	8.24	75.3	7.06	76.80
06/19/17	19:30	NA	NA	NA	NA	8.40	8.48	77.8	8.29	8.01	77.6	7.30	72.50
06/19/17	20:30	140	NA	NA	NA	8.43	8.35	78.0	8.30	8.11	79.1	7.33	73.60
06/19/17	21:30	NA	NA	NA	NA	8.45	8.46	78.2	8.30	8.15	76.0	7.36	71.50
06/19/17	22:30	140	NA	NA	NA	8.45	8.48	77.8	8.35	8.20	73.8	7.36	70.40
06/19/17	23:30	NA	NA	NA	NA	8.45	8.47	76.6	8.31	8.19	72.3	7.38	69.50
06/20/17	0:30	140	NA	NA	NA	8.45	8.44	75.4	8.28	8.16	71.5	7.39	68.90
06/20/17	1:30	NA	NA	NA	NA	8.48	8.36	71.8	8.30	8.09	70.2	7.39	68.20
06/20/17	2:30	140	NA	NA	NA	8.50	8.48	72.8	8.29	8.14	70.5	7.40	68.00
06/20/17	3:30	NA	NA	NA	NA	8.50	8.47	71.8	8.16	8.02	69.2	7.38	67.60
06/20/17	4:30	140	NA	NA	NA	8.55	8.54	70.6	8.27	8.11	69.4	7.40	67.20
06/20/17	5:30	NA	NA	NA	NA	8.60	8.52	69.9	8.31	8.12	69.4	7.41	67.60
06/20/17	6:30	140	NA	NA	NA	8.65	8.59	69.2	8.44	8.27	69.1	7.41	67.80
06/20/17	7:30	NA	NA	NA	NA	8.65	8.62	69.0	8.33	8.13	69.4	7.13	71.80
06/20/17	8:30	140	NA	NA	NA	8.65	8.70	68.3	8.20	8.13	69.3	7.04	70.00
06/20/17	9:30	NA	NA	NA	NA	8.40	8.60	69.2	8.35	8.35	68.9	7.07	74.50
06/20/17	10:30	150	NA	NA	NA	8.40	8.19	71.0	8.28	8.17	70.9	7.16	71.40
06/20/17	11:30	NA	NA	NA	NA	8.45	8.66	70.9	8.33	8.22	71.9	7.15	71.60
06/20/17	12:30	146	NA	NA	NA	8.45	8.50	73.0	8.38	8.25	72.0	7.17	75.60
06/20/17	13:30	NA	NA	NA	NA	8.45	8.76	74.2	8.41	8.29	75.8	7.14	78.10
06/20/17	14:30	142	NA	NA	NA	8.45	8.36	74.4	8.50	8.27	73.7	7.17	74.40
06/20/17	15:30	NA	NA	NA	NA	8.45	8.80	79.9	8.36	8.29	76.0	7.04	75.90
06/20/17	16:30	140	NA	NA	NA	8.45	8.63	75.4	8.44	8.32	75.6	7.11	80.80
06/20/17	17:30	NA	NA	NA	NA	8.45	8.54	76.1	8.39	8.38	73.0	7.16	76.60
06/20/17	18:30	140	NA	NA	NA	8.45	8.42	76.6	8.50	8.40	78.2	7.16	75.90
06/20/17	19:30	NA	NA	NA	NA	8.45	8.34	77.1	8.45	8.32	77.5	7.39	74.10
06/20/17	20:30	130	NA	NA	NA	8.45	8.50	77.1	8.53	8.45	76.7	7.38	72.20
06/20/17	21:30	NA	NA	NA	NA	8.42	8.35	77.5	8.50	8.47	74.1	7.39	70.30
06/20/17	22:30	150	NA	NA	NA	8.42	8.45	77.5	8.48	8.45	72.6	7.42	69.30
06/20/17	23:30	NA	NA	NA	NA	8.42	8.40	76.6	8.42	8.41	71.0	7.45	68.50
06/21/17	0:30	140	NA	NA	NA	8.42	8.42	75.4	8.44	8.42	71.5	7.44	68.90
06/21/17	1:30	NA	NA	NA	NA	8.42	8.40	74.0	8.41	8.38	70.4	7.47	68.30
06/21/17	2:30	140	NA	NA	NA	8.42	8.43	73.0	8.45	8.40	70.0	7.49	67.70
06/21/17	3:30	NA	NA	NA	NA	8.42	8.40	72.1	8.42	8.37	69.9	7.49	67.00
06/21/17	4:30	140	NA	NA	NA	8.42	8.50	71.1	8.44	8.41	69.7	7.53	67.50
06/21/17	5:30	NA	NA	NA	NA	8.42	8.38	70.4	8.41	8.34	69.2	7.54	66.90
06/21/17	6:30	140	NA	NA	NA	8.42	8.46	69.7	8.41	8.33	68.5	7.57	65.90
06/21/17	7:30	NA	NA	NA	NA	8.42	8.38	69.2	8.37	8.38	65.8	7.54	65.00
06/21/17	8:30	140	NA	NA	NA	8.42	8.40	69.2	8.46	8.25	77.5	7.38	74.80
06/21/17	9:30	NA	NA	NA	NA	8.42	8.27	69.7	8.43	8.25	77.5	7.38	74.60
06/21/17	10:30	146	NA	NA	NA	8.42	8.52	70.4	8.35	8.14	71.8	7.13	77.90
06/21/17	11:30	NA	NA	NA	NA	8.42	8.29	71.6	8.36	8.20	73.8	7.30	77.30
06/21/17	12:30	152	NA	NA	NA	8.40	8.19	72.5	8.42	8.37	76.7	7.33	77.00
06/21/17	13:30	NA	NA	NA	NA	8.40	8.35	73.5	8.38	8.15	76.5	7.36	74.80
06/21/17	14:30	150	NA	NA	NA	8.40	8.06	74.4	8.37	8.19	79.5	7.31	85.20
06/21/17	15:30	NA	NA	NA	NA	8.40	8.39	75.6	8.47	8.13	81.4	7.51	82.40
06/21/17	16:30	HAIL	NA	NA	NA	8.40	8.53	76.8	8.47	HAIL	HAIL	HAIL	HAIL
06/21/17	17:30	152	NA	NA	NA	8.40	8.34	76.8	8.48	8.32	70.3	7.53	69.40
06/21/17	18:30	155	NA	NA	NA	8.42	8.48	76.6	8.33	8.07	68.1	7.59	66.30

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

06/21/17	19:30	NA	NA	NA	NA	8.50	8.38	76.6	8.42	8.32	70.7	7.27	71.60
06/21/17	20:30	152	NA	NA	NA	8.50	8.52	76.1	8.37	8.23	71.1	7.52	70.20
06/21/17	21:30	NA	NA	NA	NA	8.50	8.44	76.6	8.41	8.34	68.2	7.34	69.90
06/21/17	22:30	155	NA	NA	NA	8.50	8.54	73.5	8.41	8.20	67.7	7.58	68.30
06/21/17	23:30	NA	NA	NA	NA	8.50	8.51	72.3	8.40	8.36	67.4	7.29	68.70
06/22/17	0:30	152	NA	NA	NA	8.50	8.32	71.6	8.40	8.39	69.0	7.66	69.50
06/22/17	1:30	NA	NA	NA	NA	8.50	8.98	70.6	8.42	8.39	65.2	7.30	68.80
06/22/17	2:30	155	NA	NA	NA	8.50	8.27	70.6	8.39	8.37	66.2	7.68	68.80
06/22/17	3:30	NA	NA	NA	NA	8.50	8.55	69.7	8.39	8.36	66.3	7.53	67.70
06/22/17	4:30	155	NA	NA	NA	8.50	8.34	69.4	8.37	8.29	65.2	7.63	67.40
06/22/17	5:30	NA	NA	NA	NA	8.50	8.44	69.0	8.39	8.32	65.5	7.42	67.70
06/22/17	6:30	155	NA	NA	NA	8.50	8.66	68.5	8.38	8.33	64.7	7.65	65.60
06/22/17	7:30	NA	NA	NA	NA	8.50	8.36	67.5	8.34	8.16	68.6	7.85	65.50
06/22/17	8:30	156	NA	NA	NA	8.50	8.68	67.8	8.42	8.16	71.8	7.53	73.30
06/22/17	9:30	NA	NA	NA	NA	8.50	8.92	68.3	8.46	8.24	71.8	7.57	72.40
06/22/17	10:30	151	NA	NA	NA	8.45	8.32	69.0	8.30	8.16	75.5	7.59	77.50
06/22/17	11:30	NA	NA	NA	NA	8.45	8.74	69.9	8.33	8.07	77.7	7.64	78.80
06/22/17	12:30	151	NA	NA	NA	8.60	8.37	70.6	8.37	8.17	71.5	7.43	71.40
06/22/17	13:30	NA	NA	NA	NA	8.55	8.53	72.5	8.43	7.98	76.7	7.03	80.80
06/22/17	14:30	136	NA	NA	NA	8.50	8.42	74.9	8.39	7.96	81.5	7.07	88.40
06/22/17	15:30	NA	NA	NA	NA	8.50	8.56	76.1	8.33	7.94	81.1	7.08	86.00
06/22/17	16:30	138	NA	NA	NA	8.50	8.54	76.6	8.29	7.86	82.5	7.27	88.10
06/22/17	17:30	NA	NA	NA	NA	8.50	9.00	76.1	8.31	7.95	79.6	7.39	82.20
06/22/17	18:30	138	NA	NA	NA	8.50	8.54	76.3	8.54	8.05	79.1	7.26	84.80
06/22/17	19:30	NA	NA	NA	NA	8.50	8.87	76.8	8.61	8.38	75.5	7.44	73.10
06/22/17	20:30	138	NA	NA	NA	8.50	8.58	77.5	8.51	ND	ND	7.34	71.50
06/22/17	21:30	NA	NA	NA	NA	8.50	8.51	78.9	8.51	8.43	68.7	7.57	70.30
06/22/17	22:30	150	NA	NA	NA	8.40	8.48	77.1	8.49	8.40	71.1	7.19	71.40
06/22/17	23:30	NA	NA	NA	NA	8.40	8.47	75.9	8.48	8.40	67.3	7.63	69.90
06/23/17	0:30	155	NA	NA	NA	8.40	8.34	74.9	8.52	8.42	70.2	7.85	69.80
06/23/17	1:30	NA	NA	NA	NA	8.40	8.46	73.7	8.49	8.39	68.8	7.23	69.00
06/23/17	2:30	155	NA	NA	NA	8.40	8.36	72.5	8.49	8.39	70.2	7.52	70.60
06/23/17	3:30	NA	NA	NA	NA	8.40	8.42	72.5	8.46	8.41	70.1	7.30	70.40
06/23/17	4:30	155	NA	NA	NA	8.40	8.33	70.6	8.48	8.36	66.7	7.78	68.00
06/23/17	5:30	NA	NA	NA	NA	8.40	8.33	69.7	8.44	8.32	66.8	7.65	67.50
06/23/17	6:30	155	NA	NA	NA	8.40	8.48	69.7	8.42	8.25	66.0	7.67	67.20
06/23/17	7:30	NA	NA	NA	NA	8.40	8.33	68.7	8.45	8.15	65.5	7.78	64.20
06/23/17	8:30	158	NA	NA	NA	8.40	8.25	68.3	8.59	8.11	73.6	7.44	73.40
06/23/17	9:30	NA	NA	NA	NA	8.40	8.79	68.5	8.50	7.91	77.5	7.38	92.20
06/23/17	10:30	156	NA	NA	NA	8.40	8.34	69.2	8.46	7.92	75.9	7.36	76.20
06/23/17	11:30	NA	NA	NA	NA	8.40	8.29	70.9	8.41	NA	NA	NA	NA
06/23/17	12:30	156	NA	NA	NA	8.40	8.29	70.9	8.41	7.94	80.4	7.59	81.40
06/23/17	13:30	NA	NA	NA	NA	8.35	8.37	72.1	8.39	7.99	75.3	7.48	77.40
06/23/17	14:30	156	NA	NA	NA	8.40	8.58	73.7	8.43	7.84	81.7	7.50	93.30
06/23/17	15:30	NA	NA	NA	NA	8.40	8.50	74.2	8.42	7.86	78.0	7.48	75.00
06/23/17	16:30	156	NA	NA	NA	8.40	8.35	74.7	8.38	7.84	78.4	7.45	83.30
06/23/17	17:30	NA	NA	NA	NA								
06/23/17	18:30	156	NA	NA	NA								
06/23/17	19:30	NA	NA	NA	NA	8.50	8.45	76.1	8.30	7.88	75.3	7.42	75.00
06/23/17	20:30	154	NA	NA	NA	8.50	8.47	76.3	8.33	8.11	75.0	7.51	74.80
06/23/17	21:30	NA	NA	NA	NA	8.65	8.59	76.6	8.46	8.26	72.6	7.29	71.20
06/23/17	22:30	154	NA	NA	NA	8.65	8.65	75.9	8.42	8.30	72.4	7.32	71.60
06/23/17	23:30	NA	NA	NA	NA	8.65	8.73	75.2	8.43	8.31	73.4	7.63	72.40
06/24/17	0:30	155	NA	NA	NA	8.65	8.73	74.2	8.42	8.33	69.3	7.77	69.70
06/24/17	1:30	NA	NA	NA	NA	8.65	8.71	74.1	8.43	8.31	68.7	7.71	69.20
06/24/17	2:30	155	NA	NA	NA	8.65	8.63	72.3	8.40	8.29	67.1	7.68	67.90
06/24/17	3:30	NA	NA	NA	NA	8.65	8.65	71.1	8.40	8.15	68.1	7.73	68.00
06/24/17	4:30	155	NA	NA	NA	8.65	8.62	70.6	8.35	7.98	65.9	7.65	67.90
06/24/17	5:30	NA	NA	NA	NA	8.65	8.79	69.7	8.40	8.14	68.0	7.61	69.70
06/24/17	6:30	155	NA	NA	NA	8.70	8.58	69.0	8.28	7.82	65.5	7.37	65.40
06/24/17	7:30	NA	NA	NA	NA	8.40	8.42	68.5	8.51	NA	NA	7.19	67.20
06/24/17	8:30												
06/24/17	9:30	156	NA	NA	NA	8.50	8.45	69.9	8.23	7.75	77.2	7.12	89.40
06/24/17	10:30	156	NA	NA	NA	8.50	8.82	69.2	8.25	7.85	77.5	7.24	81.10
06/24/17	11:30	NA	NA	NA	NA	8.50	8.69	70.4	8.33	7.93	73.4	7.34	74.20
06/24/17	12:30	156	NA	NA	NA	8.50	8.44	73.0	8.39	8.03	77.8	7.35	76.40
06/24/17	13:30	NA	NA	NA	NA	8.50	8.44	74.9	8.38	8.18	78.1	7.41	76.80
06/24/17	14:30	156	NA	NA	NA	8.50	8.33	75.6	8.51	8.11	77.4	7.44	75.80
06/24/17	15:30	NA	NA	NA	NA	8.50	8.59	74.9	8.46	8.06	75.9	7.39	78.90
06/24/17	16:30												

**Table A-7
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06/24/17	17:30	NA	NA	NA	NA	8.50	8.37	77.3	8.41	7.98	76.5	7.48	76.70
06/24/17	18:30	ND	NA	NA	NA	8.40	8.72	77.1	8.43	7.85	75.3	7.35	74.20
06/24/17	19:30	NA	NA	NA	NA	8.40	8.21	77.5	8.44	8.14	73.4	7.57	73.00
06/24/17	20:30	155	NA	NA	NA	8.40	8.27	77.8	8.39	8.16	73.5	7.52	72.20
06/24/17	21:30	NA	NA	NA	NA	8.40	8.31	77.5	8.46	8.17	73.2	7.07	71.90
06/24/17	22:30	155	NA	NA	NA	8.40	8.48	76.8	8.47	8.21	72.6	7.47	72.30
06/24/17	23:30	NA	NA	NA	NA	8.40	8.55	75.9	8.46	8.10	70.7	7.52	68.50
06/25/17	0:30	155	NA	NA	NA	8.40	8.39	74.9	8.45	8.10	68.7	7.57	70.00
06/25/17	1:30	NA	NA	NA	NA	8.40	8.32	73.3	8.42	8.16	67.8	7.51	70.30
06/25/17	2:30	155	NA	NA	NA	8.40	8.22	72.3	8.44	8.18	67.2	7.53	70.00
06/25/17	3:30	NA	NA	NA	NA	8.40	8.31	71.0	8.44	8.10	66.7	7.50	69.80
06/25/17	4:30	155	NA	NA	NA	8.40	8.51	70.4	8.42	8.15	65.0	7.55	66.90
06/25/17	5:30	NA	NA	NA	NA	8.40	8.60	70.4	8.44	8.01	69.7	7.49	66.70
06/25/17	6:30	158	NA	NA	NA	8.40	8.41	69.2	8.45	8.13	65.1	7.52	67.60
06/25/17	7:30	NA	NA	NA	NA	8.40	8.47	69.0	8.40	8.16	67.8	7.37	68.00
06/25/17	8:30	160	NA	NA	NA	8.40	8.55	68.5	8.44	8.30	67.6	7.47	70.40
06/25/17	9:30	NA	NA	NA	NA	8.40	8.48	69.0	8.49	8.32	71.3	7.34	72.80
06/25/17	10:30	170	NA	NA	NA	8.40	8.24	69.9	8.31	8.24	72.3	7.27	75.20
06/25/17	11:30	NA	NA	NA	NA	8.40	8.11	71.3	8.23	8.07	73.6	7.34	73.40
06/25/17	12:30	160	N/A	NA	NA	8.45	8.37	72.1	8.43	8.10	72.4	7.27	74.60
06/25/17	13:30	NA	8.00	3.40	65.6	8.45	8.03	73.0	8.33	8.17	75.1	7.24	74.80
06/25/17	14:30	160	8.00	3.34	66.1	8.45	8.46	73.7	8.31	8.14	74.0	7.26	77.10
06/25/17	15:30	NA	8.00	3.28	67.5	8.45	8.27	74.0	8.36	8.18	75.0	7.27	77.00
06/25/17	16:30	160	8.00	3.24	67.8	8.45	8.33	75.4	8.34	8.26	75.3	7.29	78.60
06/25/17	17:30	NA	8.00	2.81	67.8	8.50	8.28	75.4	8.37	8.25	76.4	7.23	77.30
06/25/17	18:30	ND	8.00	NA	NA	8.50	NA	NA	7.76	NA	NA	NA	NA
06/25/17	19:30	NA	8.00	3.15	68.2	8.50	8.44	76.3	8.29	8.19	78.9	7.52	73.60
06/25/17	20:30	140	8.00	3.12	69.4	8.55	8.45	76.6	8.35	8.33	75.0	7.54	71.30
06/25/17	21:30	NA	8.00	3.11	69.4	8.57	8.33	77.1	8.43	8.41	72.3	7.54	69.60
06/25/17	22:30	140	8.00	3.12	68.7	8.57	8.41	76.8	8.41	8.43	71.3	7.55	68.30
06/25/17	23:30	NA	8.00	3.11	67.8	8.57	8.50	76.3	8.45	8.42	70.5	7.59	67.40
06/26/17	0:30	140	8.00	3.13	67.0	8.57	8.52	75.6	8.43	8.42	69.0	7.62	66.10
06/26/17	1:30	NA	8.00	3.14	66.3	8.57	8.46	74.7	8.40	8.42	69.7	7.60	67.00
06/26/17	2:30	140	8.00	3.14	65.4	8.57	8.40	74.0	8.37	8.39	72.1	7.63	68.10
06/26/17	3:30	NA	8.00	3.19	64.4	8.59	8.53	72.3	8.42	8.40	72.1	7.64	66.70
06/26/17	4:30	130	8.00	3.14	63.7	8.58	8.45	72.1	8.39	8.39	72.9	ND	63.70
06/26/17	5:30	NA	8.00	3.15	63.2	8.58	8.57	71.3	8.48	8.41	71.7	7.69	65.40
06/26/17	6:30	140	8.00	3.16	62.8	8.57	8.50	70.6	8.43	8.37	70.3	7.68	65.60
06/26/17	7:30	NA	8.00	3.20	62.0	8.57	8.66	70.2	8.58	8.60	66.9	7.16	67.10
06/26/17	8:30	90	8.00	3.25	62.0	8.50	8.74	69.9	8.51	8.58	68.3	7.38	70.10
06/26/17	9:30	NA	8.00	3.32	62.5	8.50	8.51	69.9	8.51	8.53	69.4	7.29	69.70
06/26/17	10:30	85	8.00	3.34	62.8	8.50	8.66	70.2	8.48	8.49	70.0	7.27	71.90
06/26/17	11:30	NA	8.00	3.36	63.2	8.50	8.52	70.9	8.58	8.46	71.6	7.24	72.90
06/26/17	12:30	85	8.00	3.36	63.9	8.40	8.36	71.1	8.45	8.40	73.0	7.10	71.80
06/26/17	13:30	NA	8.00	3.35	65.1	8.40	9.13	71.8	8.46	8.41	71.8	7.28	74.60
06/26/17	14:30	90	8.00	3.32	66.3	8.40	8.72	72.5	8.42	NA	NA	7.21	75.40
06/26/17	15:30	NA	8.00	3.17	67.3	8.40	8.69	74.4	8.32	8.34	73.1	7.30	74.00
06/26/17	16:30	150	8.00	3.14	68.2	8.40	8.43	74.9	8.31	8.35	71.4	7.44	74.70
06/26/17	17:30	NA	8.00	3.12	67.0	8.40	8.25	75.6	8.35	8.35	72.4	7.30	72.90
06/26/17	18:30	160	8.00	2.79	69.4	8.50	8.59	76.6	8.26	8.31	72.4	7.30	75.30
06/26/17	19:30	NA	8.20	2.80	68.5	8.50	8.25	76.6	8.26	8.09	73.9	7.56	68.80
06/26/17	20:30	155	8.20	2.81	68.0	8.55	8.35	75.9	8.38	8.24	72.1	7.71	67.50
06/26/17	21:30	NA	8.20	2.80	67.5	8.55	8.49	75.6	8.29	8.07	68.5	7.65	65.20
06/26/17	22:30	155	8.20	2.81	66.6	8.58	8.49	74.8	8.33	8.13	59.9	7.67	65.10
06/26/17	23:30	NA	8.20	2.82	65.5	8.60	8.54	74.0	8.40	8.17	69.7	7.66	64.90
06/27/17	0:30	160	8.20	2.82	64.7	8.60	8.53	73.0	8.41	8.15	69.2	7.72	52.10
06/27/17	1:30	NA	8.20	2.83	63.9	8.60	8.77	72.1	8.44	8.11	67.2	7.72	63.00
06/27/17	2:30	160	8.20	2.83	63.2	8.60	8.40	71.1	8.36	8.00	69.4	7.67	64.00
06/27/17	3:30	NA	8.20	2.84	62.5	8.63	8.82	70.6	9.20	NA	NA	7.76	63.10
06/27/17	4:30	160	8.20	2.83	61.8	8.61	8.44	69.7	8.51	8.22	67.7	7.73	62.70
06/27/17	5:30	NA	8.20	2.84	61.3	8.61	8.38	69.0	8.43	8.21	64.8	7.74	60.10
06/27/17	6:30	160	8.20	2.84	60.6	8.61	8.51	68.3	8.34	8.05	65.0	7.74	59.80
06/27/17	7:30	NA	8.00	2.89	59.7	8.62	8.57	67.5	8.44	8.25	66.6	7.62	67.80
06/27/17	8:30	155	8.00	3.98	59.9	8.62	8.73	67.3	8.48	8.34	65.7	7.51	66.40
06/27/17	9:30	NA	8.00	3.04	60.9	8.62	9.05	67.8	8.57	8.36	65.6	7.56	67.90
06/27/17	10:30	160	8.00	3.05	61.3	8.62	8.67	68.3	8.60	8.61	65.7	7.40	67.50
06/27/17	11:30	NA	8.00	3.08	61.8	8.50	8.50	69.0	8.40	8.39	68.8	7.56	67.30
06/27/17	12:30	160	8.00	3.07	62.8	8.60	8.61	69.7	8.51	NA	NA	7.55	70.10
06/27/17	13:30	NA	8.00	3.08	65.4	8.60	8.99	70.6	8.52	8.44	70.0	7.56	69.50
06/27/17	14:30									8.42	72.5	7.51	74.70

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

06/27/17	15:30	NA	RECIRCULATING										
06/27/17	16:30	155	8.00	3.05	67.5	8.47	8.65	74.6	8.30	8.17	69.1	7.48	73.40
06/27/17	17:30	NA	8.00	3.18	67.6	8.40	8.46	74.7	8.40	8.78	72.6	7.56	70.50
06/27/17	18:30	155	8.00	3.10	68.2	8.40	8.17	75.2	8.28	8.35	72.9	7.57	70.50
06/27/17	19:30	NA	8.20	3.07	68.0	8.41	8.39	75.3	8.35	8.04	78.2	7.48	70.70
06/27/17	20:30	160	8.20	3.06	67.8	8.41	8.37	75.4	8.36	8.15	73.5	7.59	67.80
06/27/17	21:30	NA	8.20	3.04	67.0	8.41	8.37	74.9	8.28	8.16	70.6	7.61	65.70
06/27/17	22:30	155	8.20	3.05	65.8	8.42	8.55	74.0	8.25	8.24	71.0	7.60	65.50
06/27/17	23:30	NA	8.20	2.74	64.7	8.44	8.37	73.0	8.41	8.25	69.5	7.63	64.40
06/28/17	0:30	160	8.20	2.54	63.2	8.44	8.33	71.8	8.23	8.11	68.8	7.63	62.90
06/28/17	1:30	NA	8.20	2.47	62.3	8.44	8.40	70.9	8.31	8.28	67.9	7.70	63.70
06/28/17	2:30	160	8.20	2.45	61.6	8.47	8.32	69.9	8.17	7.94	73.0	7.67	64.40
06/28/17	3:30	NA	8.20	2.44	60.9	8.52	8.52	69.2	8.43	8.24	69.6	7.75	62.40
06/28/17	4:30	160	8.20	2.45	60.1	8.52	8.50	68.3	8.30	8.14	67.8	7.76	61.90
06/28/17	5:30	NA	8.20	2.45	59.4	8.56	8.64	67.1	8.31	8.20	66.5	7.96	61.80
06/28/17	6:30	160	8.20	2.44	58.8	8.56	8.45	66.4	8.33	8.11	65.5	7.95	59.80
06/28/17	7:30	NA	8.00	2.54	58.2	8.57	8.47	66.4	8.27	8.07	63.0	7.70	60.40
06/28/17	8:30	156	8.00	2.89	58.2	8.57	8.80	66.2	8.50	8.33	64.2	7.01	65.80
06/28/17	9:30	NA	8.00	2.95	58.7	8.60	8.70	65.5	8.47	8.38	65.6	7.12	69.20
06/28/17	10:30	160	8.00	3.01	59.2	8.70	8.48	66.1	8.37	8.26	68.3	7.31	69.80
06/28/17	11:30	NA	8.00	3.04	59.7	8.70	8.65	67.1	8.32	8.26	67.4	7.34	70.60
06/28/17	12:30	160	8.00	3.04	61.1	8.70	8.44	67.5	8.35	8.31	66.3	7.35	69.20
06/28/17	13:30	NA	8.00	3.04	62.0	8.70	8.57	68.7	8.37	NA	NA	7.38	72.00
06/28/17	14:30	160	8.00	3.06	63.3	8.70	8.61	70.2	8.36	8.28	70.4	7.51	70.20
06/28/17	15:30	NA	8.00	3.03	65.6	8.70	8.63	70.9	8.39	8.26	77.0	7.49	69.50
06/28/17	16:30	SHUTDOWN											
08/09/17	12:30	145	8.00	3.45	60.6	8.45	8.60	68.0	8.28	8.33	70.7	NA	NA
08/09/17	13:30	NA	8.00	3.20	62.5	8.50	8.45	68.0	8.28	8.26	59.8	NA	NA
08/09/17	14:30	144	8.00	3.09	63.0	8.50	8.45	69.4	8.31	8.25	71.1	NA	NA
08/09/17	15:30	NA	8.00	3.03	63.2	8.50	8.74	70.4	8.24	8.11	71.2	NA	NA
08/09/17	16:30	144	8.00	2.97	62.5	8.50	8.70	70.2	8.31	8.30	71.8	NA	NA
08/09/17	17:30	NA	8.00	2.93	63.2	8.50	8.72	70.4	8.31	8.26	71.7	NA	NA
08/09/17	18:30	PH PROBE CALIBRATIONS											
08/09/17	19:30	NA	8.00	2.73	63.7	8.55	8.73	70.9	8.39	8.17	68.2	NA	NA
08/09/17	20:30	148	8.00	2.74	63.9	8.55	8.44	70.4	8.43	8.21	65.8	NA	NA
08/09/17	21:30	NA	8.00	2.74	63.5	8.55	8.54	69.9	8.43	8.48	66.2	NA	NA
08/09/17	22:30	148	8.00	2.74	62.8	8.55	8.55	69.7	8.43	8.45	66.7	NA	NA
08/09/17	23:30	NA	8.00	2.75	61.8	8.55	8.52	68.9	8.43	8.54	62.9	NA	NA
08/10/17	0:30	148	8.00	2.76	60.6	8.55	8.60	67.8	8.45	8.61	63.4	NA	NA
08/10/17	1:30	NA	8.00	2.77	59.7	8.55	8.62	67.1	8.44	8.53	63.3	NA	NA
08/10/17	2:30	145	8.00	2.76	58.7	8.55	8.74	65.9	8.45	8.57	65.7	NA	NA
08/10/17	3:30	NA	8.00	2.75	58.5	8.55	8.81	65.2	8.44	8.63	64.3	NA	NA
08/10/17	4:30	149	8.00	2.77	58.0	8.55	8.53	64.5	8.47	8.67	66.3	NA	NA
08/10/17	5:30	NA	8.00	2.76	57.3	8.55	8.70	64.2	8.41	8.44	60.6	NA	NA
08/10/17	6:30	150	8.00	2.79	57.0	8.55	8.69	63.5	8.43	8.62	68.0	NA	NA
08/10/17	7:30	NA	8.00	2.77	56.6	8.55	8.99	63.8	8.43	7.85	56.7	NA	NA
08/10/17	8:30	144	8.00	2.78	56.1	8.55	8.66	62.8	8.43	8.49	60.7	NA	NA
08/10/17	9:30	NA	8.00	2.57	57.0	8.55	8.58	62.3	8.78	8.71	68.2	NA	NA
08/10/17	10:30	144	8.00	2.47	59.2	8.30	8.53	63.5	8.45	8.44	67.6	NA	NA
08/10/17	11:30	NA	8.00	2.51	59.4	8.30	8.18	65.4	8.44	8.28	76.5	NA	NA
08/10/17	12:30	145	8.00	2.49	59.4	8.30	8.16	65.9	8.42	8.11	72.0	NA	NA
08/10/17	13:30	NA	8.00	2.46	61.1	8.30	8.10	66.6	8.30	7.99	73.2	NA	NA
08/10/17	14:30	145	8.00	2.44	63.0	8.30	8.32	67.3	8.39	8.12	74.7	NA	NA
08/10/17	15:30	NA	8.00	2.40	65.8	8.30	8.15	70.4	8.24	8.10	73.6	NA	NA
08/10/17	16:30	145	8.00	2.51	65.1	8.30	8.13	71.1	8.18	8.11	75.1	NA	NA
08/10/17	17:30	NA	8.00	PH PROBE CALIBRATIONS									
08/10/17	18:30	145	8.00	2.75	66.1	8.30	8.27	71.9	8.21	8.10	70.8	NA	NA
08/10/17	19:30	NA	8.00	2.77	65.4	8.40	8.33	71.4	8.27	7.98	71.5	NA	NA
08/10/17	20:30	145.00	8.00	2.75	66.6	8.50	8.28	71.9	8.28	7.85	71.3	NA	NA
08/10/17	21:30	NA	8.00	2.75	66.1	8.50	8.47	72.3	8.42	8.12	71.1	NA	NA
08/10/17	22:30	148.00	8.00	2.75	65.8	8.50	8.51	72.1	8.41	8.20	69.6	NA	NA
08/10/17	23:30	NA	8.00	2.74	65.1	8.50	8.45	71.9	8.43	8.26	69.4	NA	NA
08/11/17	0:30	148.00	8.00	2.77	64.4	8.50	8.47	71.4	8.44	8.32	72.6	NA	NA
08/11/17	1:30	NA	8.00	2.75	63.8	8.50	8.51	70.2	8.40	8.24	70.2	NA	NA
08/11/17	2:30	148.00	8.00	2.76	61.6	8.50	8.52	69.0	8.42	8.17	67.7	NA	NA
08/11/17	3:30	NA	8.00	2.75	60.9	8.50	8.48	67.8	8.42	8.30	65.5	NA	NA
08/11/17	4:30	148.00	8.00	2.76	60.1	8.50	8.42	66.9	8.44	8.18	69.7	NA	NA
08/11/17	5:30	NA	8.00	2.75	58.9	8.50	8.42	65.9	8.42	8.23	63.0	NA	NA
08/11/17	6:30	148.00	8.00	2.76	58.5	8.50	8.51	65.2	8.43	8.24	64.3	NA	NA
08/11/17	7:30	NA	8.00	2.76	57.8	8.50	8.49	65.2	8.41	8.11	59.5	NA	NA

**Table A-7
Summary of 2017
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08/11/17	8:30	145	8.00	2.89	57.3	8.45	NA						
08/11/17	9:30	NA	8.00	2.86	57.8	8.45	8.30	64.5	8.38	NA	NA	NA	NA
08/11/17	10:30	LIME CLOG											
08/11/17	11:30	LIME CLOG											
08/11/17	12:30	135	8.00	2.94	60.9	8.30	8.25	66.4	8.49	8.10	77.0	7.49	72.10
08/11/17	13:30	INFLUENT PUMP DOWN											
08/11/17	14:30	151	8.00	3.55	61.6	8.30	8.22	67.1	8.52	8.11	78.5	7.24	86.30
08/11/17	15:30	NA	8.00	2.78	61.6	8.40	8.11	67.8	8.32	7.49	79.7	6.60	73.60
08/11/17	16:30	152	8.00	2.76	62.3	8.40	8.26	69.0	8.43	8.21	70.0	7.23	71.40
08/11/17	17:30	NA	8.00	2.73	63.9	8.40	8.31	69.2	8.24	8.12	75.0	7.23	72.80
08/11/17	18:30	151	8.00	2.72	63.2	8.40	8.30	69.7	8.29	8.15	72.4	7.22	71.60
08/11/17	19:30	NA	8.00	2.71	65.1	8.35	8.34	70.2	8.35	8.28	68.7	7.52	69.20
08/11/17	20:30	150	8.00	2.70	65.6	8.35	8.31	70.9	8.33	8.33	70.1	7.40	69.10
08/11/17	21:30	NA	8.00	2.70	65.8	8.35	8.32	71.6	8.33	8.27	67.3	7.39	68.10
08/11/17	22:30	150	8.00	2.68	63.8	8.35	8.34	71.4	8.33	8.38	65.3	7.42	65.80
08/11/17	23:30	NA	8.00	2.68	63.7	8.35	8.23	71.1	8.29	8.41	62.8	7.47	65.70
08/12/17	0:30	150	8.00	2.40	62.0	8.35	8.45	69.9	8.34	8.43	64.4	7.52	64.00
08/12/17	1:30	LIME CLOG											
08/12/17	2:30	RECIRCULATING											
08/12/17	3:30	NA	8.00	2.63	59.4	8.45	8.54	67.1	8.42	8.42	62.8	7.69	61.90
08/12/17	4:30	150	8.00	2.31	58.2	8.45	8.34	66.2	8.47	8.45	63.2	7.45	64.80
08/12/17	5:30	NA	8.00	2.25	57.8	8.45	8.33	65.0	8.35	8.41	65.4	7.51	63.60
08/12/17	6:30	150	8.00	2.23	55.6	8.45	8.27	63.8	8.32	8.38	61.8	7.70	60.80
08/12/17	7:30	NA	8.00	2.41	55.4	8.45	8.54	62.9	8.44	8.20	53.1	7.37	60.10
08/12/17	8:30	110	8.00	2.61	54.9	8.45	8.40	62.1	8.47	8.21	59.1	7.32	62.20
08/12/17	9:30	NA	8.00	2.71	56.1	8.45	8.45	60.7	8.45	8.31	65.5	7.48	63.70
08/12/17	10:30	150	8.00	2.71	56.1	8.40	8.43	62.6	8.40	8.29	66.6	7.37	64.90
08/12/17	11:30	NA	8.00	2.32	57.0	8.40	8.30	62.1	8.40	8.15	70.6	7.30	66.20
08/12/17	12:30	120	8.00	2.23	57.5	8.40	8.34	64.0	8.35	8.22	77.7	7.31	68.50
08/12/17	13:30	NA	8.00	2.20	59.9	8.40	8.51	65.1	8.41	8.14	74.4	7.30	70.00
08/12/17	14:30	120	8.00	2.50	61.1	8.40	8.29	67.1	8.42	8.15	76.0	7.25	70.00
08/12/17	15:30	PLANT SHUTDOWN											
08/14/17	17:30	NA	8.00	2.74	61.8	8.40	8.51	68.3	8.29	8.18	66.9	NA	NA
08/14/17	18:30	100	8.00	2.94	63.0	8.40	8.38	68.8	8.31	8.27	68.7	NA	NA
08/14/17	19:30	NA	8.00	3.22	63.5	8.40	8.43	69.3	8.31	7.67	69.4	NA	NA
08/14/17	20:30	100	8.00	3.31	64.7	8.40	8.48	70.2	8.35	8.05	68.1	NA	NA
08/14/17	21:30	NA	8.00	3.31	64.1	8.40	8.39	70.2	8.33	8.04	67.3	NA	NA
08/14/17	22:30	105	8.00	3.28	63.5	8.40	8.36	70.2	8.33	7.93	63.8	NA	NA
08/14/17	23:30	NA	8.00	3.18	62.8	8.40	8.34	69.3	8.33	7.98	63.8	NA	NA
08/15/17	0:30	105	8.00	3.14	61.8	8.40	8.35	69.0	8.34	8.18	63.6	NA	NA
08/15/17	1:30	NA	8.00	2.60	60.9	8.40	8.34	68.3	8.34	8.24	62.7	NA	NA
08/15/17	2:30	100	8.00	2.40	59.4	8.40	8.38	67.4	8.32	8.27	64.0	NA	NA
08/15/17	3:30	NA	8.00	2.34	58.6	8.40	8.33	66.7	8.31	8.22	63.8	NA	NA
08/15/17	4:30	105	8.00	2.31	57.8	8.40	8.38	65.7	8.31	8.19	63.1	NA	NA
08/15/17	5:30	NA	8.00	2.28	56.8	8.40	8.32	65.0	8.31	8.24	58.2	NA	NA
08/15/17	6:30	ND	8.00	2.28	56.1	8.40	8.38	64.3	8.32	8.30	56.9	NA	NA
08/15/17	7:30	SHUT DOWN - LOW ON LIME											
08/15/17	8:30	SHUT DOWN - LOW ON LIME											
08/15/17	9:30	SHUT DOWN - LOW ON LIME											
08/15/17	10:30	SHUT DOWN - LOW ON LIME											
08/15/17	11:30	SHUT DOWN - LOW ON LIME											
08/15/17	12:30	100	8.00	2.87	60.1	8.40	8.48	65.2	8.37	8.32	69.2	NA	NA
08/15/17	13:30	NA	8.00	2.94	63.2	8.40	8.55	67.1	8.39	8.40	74.7	NA	NA
08/15/17	14:30	100	8.00	3.08	64.4	8.40	8.41	68.8	8.39	8.44	73.2	NA	NA
08/15/17	15:30	NA	8.00	3.25	65.1	8.35	8.56	70.5	8.35	8.31	78.9	NA	NA
08/15/17	16:30	100	8.00	3.37	65.8	8.35	8.38	71.4	8.33	8.38	72.8	NA	NA
08/15/17	17:30	NA	8.00	3.45	65.1	8.35	8.51	71.9	8.35	8.39	71.3	NA	NA
08/15/17	18:30	100	8.00	3.41	64.2	8.35	8.34	71.7	8.38	8.42	70.0	NA	NA
08/15/17	19:30	NA	8.00	3.35	65.4	8.35	8.22	71.2	8.36	8.28	68.0	NA	NA
08/15/17	20:30	100	8.00	3.40	65.4	8.35	8.36	71.7	8.36	8.30	70.3	NA	NA
08/15/17	21:30	NA	8.00	3.41	65.9	8.35	8.37	71.7	8.38	8.31	70.8	NA	NA
08/15/17	22:30	100	8.00	3.41	64.7	8.35	8.23	71.4	8.38	8.34	71.1	NA	NA
08/15/17	23:30	NA	8.00	3.43	64.2	8.35	8.35	70.9	8.40	8.37	68.2	NA	NA
08/16/17	0:30	100	8.00	3.43	63.5	8.35	8.31	70.0	8.40	8.41	56.8	NA	NA
08/16/17	1:30	NA	8.00	3.44	62.3	8.35	8.52	69.0	8.43	8.42	60.1	NA	NA
08/16/17	2:30	100	8.00	3.43	61.1	8.35	8.32	68.6	8.42	8.47	60.8	NA	NA
08/16/17	3:30	NA	8.00	3.42	59.9	8.35	8.34	67.8	8.42	8.46	61.0	NA	NA
08/16/17	4:30	100	8.00	3.44	59.2	8.35	8.31	66.4	8.43	8.47	61.3	NA	NA
08/16/17	5:30	NA	8.00	3.44	58.2	8.35	8.36	65.2	8.44	8.46	60.1	NA	NA
08/16/17	6:30	100	8.00	3.46	57.5	8.35	8.35	64.8	8.45	8.47	60.7	NA	NA

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

08/19/17	5:30	NA	8.00	3.41	59.4	8.35	8.43	66.0	8.53	8.45	64.5	7.18	64.60
08/19/17	6:30	120	8.00	3.42	58.5	8.35	8.37	65.1	8.54	8.46	67.9	7.17	68.20
08/19/17	7:30	NA	8.00	3.22	57.5	8.30	8.41	64.8	8.51	8.15	59.8	7.30	62.50
08/19/17	8:30	122	8.00	3.22	57.8	8.30	8.30	63.9	8.46	8.25	63.3	7.30	64.50
08/19/17	9:30	NA	8.00	3.13	58.5	8.30	8.43	64.4	8.37	8.27	70.3	7.30	67.10
08/19/17	10:30	122	8.00	3.12	58.9	8.30	8.45	64.8	8.36	8.26	72.7	7.30	68.30
08/19/17	11:30	NA	8.00	3.09	58.9	8.30	8.24	65.1	8.39	8.24	75.2	7.27	68.60
08/19/17	12:30	122	8.00	3.11	59.9	8.30	8.21	66.0	8.38	8.35	70.8	7.23	66.00
08/19/17	13:30	NA	8.00	3.10	60.8	8.30	8.47	66.7	8.38	8.33	70.3	7.25	66.40
08/19/17	14:30	122	8.00	3.10	62.0	8.30	8.45	67.2	8.38	8.23	66.5	7.25	65.80
08/19/17	15:30	NA	8.00	3.08	62.0	8.30	8.33	68.2	8.39	8.27	65.0	7.25	64.50
08/19/17	16:30	121	8.00	3.09	61.3	8.30	8.36	68.2	8.38	8.39	63.4	7.26	63.40
08/19/17	17:30	PH PROBE CALIBRATIONS											
08/19/17	18:30	122	8.00	3.14	61.3	8.30	8.35	67.7	8.35	8.26	64.1	7.26	64.30
08/19/17	19:30	NA	8.00	3.15	61.5	8.30	8.45	67.7	8.36	8.38	66.6	7.24	64.40
08/19/17	20:30	125	8.00	3.13	61.1	8.30	8.32	67.5	8.36	8.34	65.7	7.21	66.00
08/19/17	21:30	NA	8.00	3.13	60.9	8.30	8.37	67.2	8.36	8.32	63.9	7.36	63.60
08/19/17	22:30	122	8.00	3.12	60.4	8.30	8.29	66.7	8.35	8.34	63.6	7.39	63.20
08/19/17	23:30	NA	8.00	3.14	59.4	8.30	8.19	66.0	8.37	8.36	64.7	7.26	67.00
08/20/17	0:30	123	8.00	3.15	59.0	8.30	8.28	65.5	8.38	8.34	63.4	7.28	64.00
08/20/17	1:30	NA	8.00	3.16	58.2	8.30	8.36	65.1	8.37	8.32	64.2	7.40	62.30
08/20/17	2:30	122	8.00	3.14	58.2	8.30	8.28	64.1	8.37	8.38	62.5	7.47	62.40
08/20/17	3:30	NA	8.00	3.15	57.8	8.30	8.21	64.1	8.37	8.38	63.4	7.46	63.50
08/20/17	4:30	122	8.00	3.15	57.5	8.25	8.18	63.9	8.33	8.29	61.8	7.29	63.50
08/20/17	5:30	NA	8.00	3.17	57.0	8.25	8.14	63.6	8.35	8.30	64.0	7.27	68.60
08/20/17	6:30	125	8.00	3.15	56.8	8.25	8.27	63.2	8.33	8.28	61.6	7.28	63.90
08/20/17	7:30	NA	8.00	3.14	56.1	8.25	8.46	62.9	8.33	8.28	58.7	7.26	57.80
08/20/17	8:30	120	8.00	3.17	56.3	8.25	8.12	62.4	8.33	8.29	62.4	7.30	60.80
08/20/17	9:30	NA	8.00	3.54	57.0	8.25	8.30	62.4	8.39	8.30	65.7	7.24	66.00
08/20/17	10:30	120	8.00	3.52	57.0	8.25	8.45	62.9	8.23	8.24	66.4	7.30	68.80
08/20/17	11:30	NA	8.00	3.54	57.0	8.25	8.24	63.6	8.23	8.22	67.8	7.26	73.20
08/20/17	12:30	120	8.00	3.50	59.7	8.25	8.40	64.6	8.23	8.20	67.6	7.23	71.20
08/20/17	13:30	NA	8.00	3.43	63.0	8.25	8.41	66.7	8.22	8.20	72.0	7.21	74.10
08/20/17	14:30	120	8.00	3.44	65.6	8.25	8.26	69.1	8.22	8.19	72.7	7.19	74.10
08/20/17	15:30	NA	8.00	3.44	67.8	8.30	8.36	71.5	8.24	8.25	71.1	7.16	71.00
08/20/17	16:30	120	8.00	3.45	65.8	8.35	8.24	73.2	8.18	8.16	71.3	7.15	69.80
08/20/17	17:30	NA	8.00	3.43	64.7	8.35	8.45	72.4	8.30	8.30	72.0	7.18	70.60
08/20/17	18:30	120	8.00	3.29	65.1	8.35	8.41	71.5	8.35	8.32	70.5	7.14	68.70
08/20/17	19:30	NA	8.00	3.36	64.9	8.25	8.25	71.3	8.40	8.32	67.5	7.30	66.30
08/20/17	20:30	105	8.00	3.56	64.4	8.25	8.51	71.3	8.40	8.34	70.8	7.34	67.80
08/20/17	21:30	NA	8.00	3.57	63.7	8.25	8.36	70.5	8.41	8.32	68.0	7.43	65.80
08/20/17	22:30	105	8.00	3.59	63.0	8.25	8.44	70.1	8.41	8.36	64.0	7.45	65.10
08/20/17	23:30	NA	8.00	3.58	62.0	8.25	8.24	69.3	8.42	8.34	65.8	7.49	66.00
08/21/17	0:30	105	8.00	3.59	61.3	8.25	8.27	68.4	8.40	8.33	65.7	7.61	64.10
08/21/17	1:30	NA	8.00	3.63	60.6	8.25	8.54	67.7	8.41	8.31	64.7	7.62	64.00
08/21/17	2:30	105	8.00	3.64	59.7	8.25	8.36	66.5	8.42	8.34	63.4	7.69	63.70
08/21/17	3:30	NA	8.00	3.65	59.2	8.25	8.23	66.0	8.41	8.21	62.6	7.80	63.80
08/21/17	4:30	105	8.00	3.65	58.7	8.25	8.41	65.1	8.43	8.24	63.5	7.66	63.80
08/21/17	5:30	NA	8.00	3.66	56.6	8.25	8.47	64.4	8.44	8.29	62.7	7.68	63.20
08/21/17	6:30	105	8.00	3.67	56.8	8.25	8.47	64.1	8.43	8.26	62.9	7.80	63.90
08/21/17	7:30	NA	8.00	3.67	56.8	8.35	8.24	63.4	8.42	8.41	58.5	7.39	57.90
08/21/17	8:30	105	8.00	3.71	56.6	8.33	8.22	62.9	8.40	8.37	60.8	7.23	59.10
08/21/17	9:30	NA	8.00	2.75	56.4	8.33	8.22	62.7	8.40	7.71	63.8	7.35	65.90
08/21/17	10:30	105	8.00	3.00	56.6	8.33	8.25	63.2	8.38	8.21	64.1	7.36	65.50
08/21/17	11:30	NA	8.00	3.89	63.4	8.33	8.37	63.4	8.40	8.23	66.3	7.35	67.10
08/21/17	12:30	LOW ON LIME---SHUTDOWN UNTIL NIGHT SHIFT											
08/21/17	13:30												
08/21/17	14:30												
08/21/17	15:30												
08/21/17	16:30												
08/21/17	17:30												
08/21/17	18:30	105	8.00	3.68	65.1	8.35	8.22	71.3	8.36	8.33	67.8	7.40	66.50
08/21/17	19:30	NA	8.00	6.93	64.9	8.35	8.39	71.7	8.37	7.90	70.7	7.69	66.90
08/21/17	20:30	105	8.00	7.16	63.9	8.35	8.41	71.0	8.39	8.15	70.2	7.64	66.30
08/21/17	21:30	NA	8.00	7.24	63.5	8.35	8.31	70.5	8.39	8.23	69.6	7.92	66.50
08/21/17	22:30	105	8.00	7.21	62.5	8.35	4.52	69.6	4.54	4.33	66.4	6.53	64.70
08/21/17	23:30	RECIRCULATING											
08/22/17	0:30	80	8.00	7.41	61.8	8.35	8.38	68.9	8.48	6.80	66.2	7.20	64.80
08/22/17	1:30	NA	8.00	7.48	61.3	8.35	7.16	68.9	7.59	8.12	66.4	6.96	67.00
08/22/17	2:30	RECIRCULATING											

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

08/22/17	3:30	RECIRCULATING												
08/22/17	4:30	80	8.00	7.05	58.9	8.35	8.45	66.5	8.53	RECIRCULATING				
08/22/17	5:30	NA	8.00	6.96	57.5	8.35	8.32	65.9	8.54	8.11	64.1	7.85	63.30	
08/22/17	6:30	80	8.00	7.04	57.8	8.35	8.30	65.8	8.51	8.26	64.6	7.85	64.90	
08/22/17	7:30	NA	8.00	6.68	57.0	8.35	8.24	65.1	8.43	8.06	62.9	6.93	61.50	
08/22/17	8:30	80	8.00	7.02	57.0	8.35	8.23	64.6	8.48	8.26	63.0	7.35	63.20	
08/22/17	9:30	NA	8.00	6.45	57.5	8.32	8.46	64.6	8.30	8.37	67.6	7.30	68.60	
08/22/17	10:30	80	8.00	2.43	58.8	8.32	8.19	64.2	8.33	8.37	69.7	7.28	69.30	
08/22/17	11:30	NA	8.00	2.80	59.2	8.32	8.41	65.8	8.33	8.37	69.9	7.25	71.40	
08/22/17	12:30	80	8.00	2.90	66.0	8.32	8.34	65.8	8.31	8.39	68.7	7.29	70.30	
08/22/17	13:30	NA	8.00	3.35	62.0	8.32	8.28	66.7	8.34	8.36	69.7	7.24	69.80	
08/22/17	14:30	SHUTDOWN												
08/22/17	15:30	SHUTDOWN												
08/22/17	16:30	SHUTDOWN												
08/22/17	17:30	SHUTDOWN												
08/22/17	18:30	RECIRCULATING												
08/22/17	19:30	NA	8.00	2.56	63.5	8.32	4.00	68.9	4.59	RECIRCULATING				
08/22/17	20:30	85	8.00	2.51	62.5	8.32	3.98	69.3	4.02	RECIRCULATING				
08/22/17	21:30	NA	8.00	2.85	62.8	8.32	3.20	68.6	3.38	RECIRCULATING				
08/22/17	22:30	85	8.00	2.97	62.5	8.32	8.31	69.1	6.82	RECIRCULATING				
08/22/17	23:30	NA	8.00	3.62	62.3	8.32	8.38	69.1	8.44	7.04	57.2	7.11	60.00	
08/23/17	0:30	85	8.00	4.00	62.8	8.32	8.43	68.4	8.44	7.88	63.3	7.56	63.30	
08/23/17	1:30	NA	8.00	4.16	61.1	8.32	8.46	67.4	8.48	8.30	63.4	7.68	69.90	
08/23/17	2:30	85	8.00	4.02	60.4	8.32	8.39	67.0	8.48	8.29	74.3	7.55	63.90	
08/23/17	3:30	NA	8.00	4.19	59.4	8.32	8.42	66.0	8.50	8.33	70.5	7.57	61.50	
08/23/17	4:30	85	8.00	4.02	48.9	8.32	8.52	65.1	8.48	8.31	70.1	7.46	63.90	
08/23/17	5:30	NA	8.00	4.10	58.2	8.32	8.59	64.6	8.47	8.24	66.2	7.39	63.30	
08/23/17	6:30	85	8.00	4.14	57.5	8.32	8.33	66.0	8.44	8.24	63.0	7.57	57.10	
08/23/17	7:30	NA	8.00	4.12	57.0	8.32	8.56	63.2	8.49	8.48	58.8	7.00	59.00	
08/23/17	8:30	77	8.00	4.13	56.8	8.30	8.35	62.7	8.49	8.44	63.1	7.53	63.40	
08/23/17	9:30	EFFLUENT PUMP SHUTDOWN												
08/23/17	10:30	76	8.00	2.67	56.8	8.30	8.22	62.7	8.53	PUMP OFF			7.47	65.00
08/23/17	11:30	PH PROBE CALIBRATIONS												
08/23/17	12:30	123	8.00	2.40	58.2	8.30	8.50	64.6	8.40	8.19	73.3	7.49	66.50	
08/23/17	13:30	NA	8.00	2.34	59.7	8.28	8.17	65.8	8.38	8.32	67.3	7.30	65.00	
08/23/17	14:30	125	8.00	2.34	60.9	8.28	8.44	67.2	8.38	8.32	72.1	7.37	68.70	
08/23/17	15:30	NA	8.00	2.33	61.3	8.28	8.33	68.4	8.39	8.33	69.7	7.27	72.30	
08/23/17	16:30	123	8.00	2.32	62.3	8.28	8.53	68.6	8.38	8.25	76.4	7.36	68.40	
08/23/17	17:30	NA	8.00	2.32	61.6	8.28	8.42	69.1	8.42	8.28	73.1	7.24	76.70	
08/23/17	18:30	124	8.00	2.50	61.6	8.28	8.44	68.9	8.36	8.19	71.1	7.35	67.10	
08/23/17	19:30	NA	8.00	2.51	62.0	8.28	8.31	69.1	8.34	8.33	66.6	7.69	66.40	
08/23/17	20:30	125	8.00	2.52	63.2	8.28	8.34	70.1	8.33	8.31	67.3	7.64	65.70	
08/23/17	21:30	NA	8.00	2.53	63.0	8.28	8.55	70.1	8.35	8.30	67.6	7.60	67.20	
08/23/17	22:30	125	8.00	2.51	62.0	8.28	8.37	69.8	8.34	8.28	66.9	7.61	65.20	
08/23/17	23:30	NA	8.00	2.51	61.1	8.28	8.41	69.6	8.34	8.26	64.9	7.58	64.70	
08/24/17	0:30	125	8.00	2.52	61.4	8.28	8.51	68.9	8.33	8.27	63.9	7.53	63.90	
08/24/17	1:30	NA	8.00	2.53	58.5	8.28	8.50	66.7	8.38	8.26	59.9	7.57	62.80	
08/24/17	2:30	125	8.00	2.54	57.7	8.28	8.53	66.3	8.35	8.29	59.7	7.58	62.60	
08/24/17	3:30	NA	8.00	2.51	57.8	8.28	8.46	65.3	8.35	8.27	61.7	7.59	63.10	
08/24/17	4:30	125	8.00	2.52	57.8	8.28	8.29	46.4	8.34	8.29	66.3	7.82	63.90	
08/24/17	5:30	NA	8.00	2.51	57.8	8.28	8.43	65.6	8.30	8.27	66.7	7.76	63.80	
08/24/17	6:30	125	8.00	2.53	57.8	8.28	8.48	65.7	8.34	8.26	66.5	7.71	63.30	
08/24/17	7:30	NA	8.00	2.50	54.1	8.28	8.22	62.2	8.33	8.22	59.7	7.12	59.20	
08/24/17	8:30	125	8.00	2.48	54.9	8.28	6.14	81.0	8.36	RECIRCULATING				
08/24/17	9:30	RECIRCULATING												
08/24/17	10:30	123	8.00	2.48	56.3	8.28	8.11	62.7	8.36	7.90	65.0	7.47	65.60	
08/24/17	11:30	NA	8.00	2.49	57.3	8.30	8.40	62.9	8.54	8.02	71.1	7.41	66.70	
08/24/17	12:30	125	8.00	2.48	58.0	8.26	8.29	65.0	8.60	7.93	66.8	6.91	66.90	
08/24/17	13:30	NA	8.00	2.49	58.7	8.26	8.41	65.5	8.60	7.91	72.4	7.45	68.40	
08/24/17	14:30	129	8.00	2.49	60.1	8.26	8.30	67.0	8.62	7.92	68.0	7.40	73.50	
08/24/17	15:30	NA	8.00	2.48	60.6	8.26	8.46	67.0	8.61	7.93	73.4	7.39	69.20	
08/24/17	16:30	129	8.00	2.49	61.8	8.26	8.27	69.1	8.61	7.91	70.3	7.36	74.70	
08/24/17	17:30	NA	8.00	2.48	61.7	8.26	8.55	68.4	8.61	7.90	69.6	7.38	73.10	
08/24/17	18:30	SHUTDOWN												
08/24/17	19:30	NA	8.00	2.44	61.6	8.26	8.53	68.4	8.48	8.43	68.9	7.74	67.70	
08/24/17	20:30	123	8.00	2.43	63.7	8.26	8.40	70.1	8.53	8.39	68.8	7.61	67.50	
08/24/17	21:30	NA	8.00	2.43	63.5	8.26	8.37	70.1	8.53	8.30	65.9	7.54	66.00	
08/24/17	22:30	123	8.00	2.43	63.7	8.26	8.30	70.3	8.54	8.32	65.0	7.66	64.80	
08/24/17	23:30	NA	8.00	2.43	63.0	8.26	8.27	70.1	8.56	8.31	63.7	7.62	64.20	
08/25/17	0:30	123	8.00	2.43	61.6	8.26	8.31	69.3	8.56	8.40	62.9	7.82	63.70	

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

08/25/17	1:30	NA	8.00	2.43	60.4	8.26	8.49	68.4	8.57	8.37	62.1	7.73	62.90
08/25/17	2:30	123	8.00	2.43	59.7	8.26	8.31	67.4	8.56	8.34	62.0	7.70	61.90
08/25/17	3:30	NA	8.00	2.42	58.9	8.26	8.52	67.6	8.56	8.46	65.0	7.82	64.20
08/25/17	4:30	123	8.00	2.42	58.0	8.26	8.45	65.5	8.57	8.35	64.3	7.80	63.80
08/25/17	5:30	NA	8.00	2.42	58.6	8.26	8.49	65.7	8.57	8.38	63.8	7.76	63.20
08/25/17	6:30	123	8.00	2.43	58.7	8.26	8.46	64.8	8.49	8.35	63.5	7.75	63.40
08/25/17	7:30	NA	8.00	2.41	56.1	8.26	8.31	63.4	8.60	8.00	60.1	7.37	61.50
08/25/17	8:30	RECIRCULATING											
08/25/17	9:30	RECIRCULATING											
08/25/17	10:30	135	8.00	ND	ND	8.24	8.44	63.6	8.39	8.07	69.2	7.33	66.00
08/25/17	11:30	NA	8.00	ND	ND	8.24	8.27	64.1	8.40	8.10	71.5	7.34	67.10
08/25/17	12:30	135	8.00	ND	ND	8.24	8.40	65.1	8.41	8.11	72.6	7.35	68.20
08/25/17	13:30	NA	8.00	ND	ND	8.24	8.16	67.0	8.39	8.10	70.7	7.31	69.50
08/25/17	14:30	135	8.00	ND	ND	8.24	8.38	68.2	8.42	8.10	72.9	7.31	69.70
08/25/17	15:30	NA	8.00	ND	ND	8.24	8.21	69.3	8.45	8.15	76.4	7.33	71.40
08/25/17	16:30	135	8.00	2.88	61.3	8.24	8.52	69.3	8.45	7.90	69.8	6.99	70.30
08/25/17	17:30	NA	8.00	2.84	61.8	8.24	8.45	69.6	8.43	8.13	72.5	7.40	69.90
08/25/17	18:30	135	8.00	2.83	62.8	8.24	8.37	69.8	8.45	8.49	72.1	7.36	76.40
08/25/17	19:30	NA	8.00	2.84	63.7	8.29	8.50	70.5	8.43	8.12	74.4	7.55	71.20
08/25/17	20:30	135	8.00	2.83	68.7	8.29	8.56	71.3	8.50	8.38	71.2	7.86	70.40
08/25/17	21:30	NA	8.00	2.83	68.6	8.29	8.56	71.5	8.50	8.36	71.9	7.81	70.70
08/25/17	22:30	135	8.00	2.83	64.4	8.29	8.51	71.7	8.49	8.33	71.4	7.86	70.30
08/25/17	23:30	NA	8.00	2.84	63.7	8.29	8.51	71.3	8.47	8.48	66.4	7.93	66.00
08/26/17	0:30	135	8.00	3.01	62.8	8.29	8.25	70.3	8.49	8.50	66.2	7.89	65.90
08/26/17	1:30	NA	8.00	2.91	61.6	8.29	8.37	69.8	8.51	8.43	65.9	7.82	65.10
08/26/17	2:30	135	8.00	2.88	60.5	8.29	8.36	68.6	8.47	8.40	65.7	7.83	64.70
08/26/17	3:30	NA	8.00	2.85	59.4	8.29	8.46	67.9	8.45	8.41	65.0	7.88	64.20
08/26/17	4:30	135	8.00	2.84	58.9	8.29	8.33	67.0	8.45	8.35	64.3	7.81	63.90
08/26/17	5:30	NA	8.00	2.85	58.1	8.29	8.38	66.2	8.46	8.39	62.8	7.82	63.10
08/26/17	6:30	135	8.00	2.84	57.5	8.29	8.40	65.3	8.47	8.43	61.9	7.85	62.50
08/26/17	7:30	NA	8.00	2.85	56.8	8.29	8.20	64.6	8.46	8.50	60.3	7.60	61.70
08/26/17	8:30	135	8.00	2.85	56.1	8.29	8.26	64.1	8.43	8.10	63.9	7.52	64.10
08/26/17	9:30	NA	8.00	2.84	55.1	8.26	8.11	63.4	8.37	8.18	70.1	7.54	66.30
08/26/17	10:30	135	8.00	2.83	56.9	8.24	8.29	64.1	8.34	8.26	68.7	7.48	72.80
08/26/17	11:30	NA	8.00	2.83	59.2	8.24	8.52	64.8	8.41	8.26	70.0	7.51	75.80
08/26/17	12:30	135	8.00	2.99	59.2	8.24	8.45	66.5	8.39	8.28	69.8	7.52	72.20
08/26/17	13:30	NA	8.00	2.90	59.2	8.24	8.33	66.5	7.42	8.20	74.0	7.46	76.00
08/26/17	14:30	135	8.00	2.84	60.9	8.24	8.36	67.7	8.44	8.28	69.4	7.49	70.60
08/26/17	15:30	NA	8.00	2.83	61.6	8.24	8.54	68.6	8.40	8.33	70.4	7.50	71.90
08/26/17	16:30	135	8.00	2.82	63.0	8.24	8.19	69.3	8.40	8.22	75.7	7.48	71.50
08/26/17	17:30	NA	8.00	2.82	63.0	8.24	8.07	70.1	8.42	8.22	73.2	7.48	70.00
08/26/17	18:30	135	8.00	2.83	63.7	8.24	8.29	70.8	8.37	8.25	72.0	7.47	70.00
08/26/17	19:30	NA	8.00	2.20	63.7	8.24	8.23	71.8	8.18	8.12	67.9	7.75	67.70
08/26/17	20:30	135	8.00	2.28	64.4	8.29	8.38	71.5	8.17	8.10	67.4	7.71	67.90
08/26/17	21:30	NA	8.00	2.92	63.9	8.29	8.19	70.9	8.26	8.18	67.3	7.78	64.50
08/26/17	22:30	135	8.00	2.86	63.5	8.29	8.25	70.3	8.28	8.21	66.1	7.72	64.80
08/26/17	23:30	NA	8.00	2.84	63.2	8.29	8.28	70.4	8.26	8.22	66.4	7.74	64.70
08/27/17	0:30	135	8.00	2.42	63.6	8.29	8.25	70.6	8.29	8.27	66.5	7.78	63.70
08/27/17	1:30	NA	8.00	2.42	63.5	8.29	8.21	69.3	8.27	8.28	62.7	7.76	63.10
08/27/17	2:30	135	8.00	2.42	63.5	8.29	8.26	68.5	8.27	8.22	62.4	7.74	62.80
08/27/17	3:30	NA	8.00	2.89	59.9	8.29	8.31	66.3	8.20	8.24	62.8	7.78	62.30
08/27/17	4:30	135	8.00	2.88	58.2	8.29	8.42	66.7	8.11	8.21	62.3	7.74	62.00
08/27/17	5:30	NA	8.00	3.91	58.7	8.29	8.54	65.1	8.24	8.23	63.0	7.86	62.40
08/27/17	6:30	135	8.00	3.95	58.2	8.29	8.56	65.7	8.26	8.20	63.3	7.81	62.60
08/27/17	7:30	NA	8.00	3.99	57.5	8.29	8.47	63.9	8.31	8.35	62.1	7.50	60.40
08/27/17	8:30	110	8.00	3.94	56.6	8.35	8.20	63.4	8.21	8.33	64.2	7.52	63.20
08/27/17	9:30	SHUTDOWN-NO LIME											
08/27/17	10:30	SHUTDOWN-NO LIME											
08/27/17	11:30	SHUTDOWN-NO LIME											
08/27/17	12:30	105	8.00	4.12	59.7	8.35	8.51	65.1	8.34	8.43	72.3	7.48	75.70
08/27/17	13:30	NA	8.00	4.19	60.9	8.35	8.38	64.0	8.31	8.37	73.6	7.53	77.70
08/27/17	14:30	105	8.00	4.10	60.4	8.35	8.42	67.2	8.29	8.35	75.9	7.48	79.30
08/27/17	15:30	NA	8.00	4.03	61.8	8.35	8.29	68.4	8.27	8.36	76.3	7.53	81.80
08/27/17	16:30	105	8.00	3.83	62.8	8.35	8.43	68.4	8.30	8.39	73.3	7.43	75.00
08/27/17	17:30	NA	8.00	3.76	64.7	8.35	8.70	68.9	8.30	8.41	71.6	7.41	73.50
08/27/17	18:30	105	8.00	3.72	63.9	8.35	8.58	69.1	8.53	8.52	72.6	7.55	74.00
08/27/17	19:30	NA	8.00	3.69	65.4	8.35	8.27	70.5	8.46	8.38	69.8	7.54	65.50
08/27/17	20:30	105	8.00	3.66	65.6	8.35	8.58	71.0	8.49	8.38	68.8	7.53	63.90
08/27/17	21:30	NA	8.00	3.64	64.4	8.35	8.38	72.1	8.51	8.40	67.6	7.52	62.60
08/27/17	22:30	105	8.00	3.66	63.0	8.35	8.46	70.3	8.51	8.01	67.6	7.07	61.50

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

08/27/17	23:30	NA	8.00	3.65	62.0	8.35	8.32	69.6	8.50	8.04	64.1	7.17	60.00
08/28/17	0:30	105	8.00	3.63	61.1	8.35	8.65	62.0	8.54	7.98	65.4	7.15	59.90
08/28/17	1:30	NA	8.00	3.62	60.4	8.35	8.48	68.4	8.48	7.92	65.2	7.00	63.80
08/28/17	2:30	105	8.00	3.65	59.4	8.35	8.53	67.2	8.50	7.96	71.8	7.15	61.30
08/28/17	3:30	NA	8.00	3.68	58.9	8.35	8.65	65.8	8.47	7.96	71.6	7.12	61.80
08/28/17	4:30	105	8.00	3.73	58.2	8.35	8.65	65.1	8.44	7.95	67.1	7.22	59.70
08/28/17	5:30	NA	8.00	3.77	57.0	8.35	8.36	63.9	8.40	7.80	67.5	7.14	61.60
08/28/17	6:30	105	8.00	3.75	61.1	8.35	8.44	62.1	8.56	7.23	60.6	7.22	60.40
08/28/17	7:30	SHUTDOWN											
08/28/17	8:30	105	8.00	3.71	55.6	8.35	8.50	62.2	8.48	8.37	63.8	7.43	63.40
08/28/17	9:30	NA	8.00	3.64	55.4	8.35	8.48	62.0	8.47	8.35	66.9	7.42	67.10
08/28/17	10:30	105	8.00	3.58	56.1	8.35	8.31	62.0	8.45	8.35	70.3	7.44	72.80
08/28/17	11:30	NA	8.00	3.59	56.8	8.35	8.39	62.7	8.44	8.31	71.7	7.44	76.20
08/28/17	12:30	105	8.00	3.61	57.5	8.35	8.41	63.9	8.39	8.28	71.1	7.45	77.70
08/28/17	13:30	NA	8.00	3.25	58.9	8.35	8.25	64.4	8.40	8.27	72.1	7.44	78.30
08/28/17	14:30	105	8.00	3.21	60.9	8.35	8.35	65.3	8.40	8.28	75.1	7.53	80.20
08/28/17	15:30	NA	8.00	3.14	61.3	8.35	8.34	66.7	8.40	8.24	78.1	7.47	82.80
08/28/17	16:30	105	8.00	3.14	63.7	8.35	8.37	68.2	8.34	8.24	76.2	7.47	81.30
08/28/17	17:30	NA	8.00	3.18	65.1	8.35	8.51	69.8	8.40	8.31	75.1	7.45	81.30
08/28/17	18:30	105	8.00	3.37	65.6	8.35	8.24	70.5	8.35	8.30	76.1	7.54	79.80
08/28/17	19:30	NA	8.00	3.03	65.6	8.35	7.61	71.1	6.26	RECIRCULATING			
08/28/17	20:30	105	8.00	2.84	65.4	8.35	8.38	72.0	8.39	7.72	70.9	7.65	64.80
08/28/17	21:30	NA	8.00	2.63	64.4	8.35	8.39	72.9	8.37	8.29	72.3	7.61	65.90
08/28/17	22:30	105	8.00	2.57	63.5	8.35	8.47	71.5	8.37	8.27	72.3	7.72	65.30
08/28/17	23:30	NA	8.00	2.55	62.6	8.35	8.40	70.8	8.36	8.30	69.2	7.65	63.40
08/29/17	0:30	105	8.00	2.50	61.3	8.35	8.34	70.1	8.35	8.32	67.1	7.64	61.10
08/29/17	1:30	NA	8.00	2.54	60.4	8.35	8.33	69.1	8.35	8.28	70.9	7.68	63.60
08/29/17	2:30	105	8.00	2.92	59.9	8.35	8.30	67.3	8.35	8.23	67.6	7.69	63.10
08/29/17	3:30	NA	8.00	3.19	59.4	8.35	8.38	67.2	8.35	8.22	66.1	7.77	61.20
08/29/17	4:30	105	8.00	3.17	59.2	8.35	8.54	66.4	8.37	8.26	69.4	8.08	61.60
08/29/17	5:30	NA	8.00	3.23	58.5	8.35	8.43	65.8	8.36	8.11	67.0	7.96	65.40
08/29/17	6:30	105	8.00	3.01	57.8	8.35	8.30	65.1	8.39	8.12	66.4	7.75	65.00
08/29/17	7:30	NA	8.00	2.79	57.0	8.35	8.40	64.6	8.36	8.42	63.8	7.74	62.30
08/29/17	8:30	105	8.00	3.01	56.6	8.35	8.32	63.9	8.38	8.43	63.5	7.73	62.40
08/29/17	9:30	NA	8.00	3.23	57.0	8.35	8.34	63.9	8.30	8.41	65.3	7.75	65.40
08/29/17	10:30	105	8.00	3.43	57.8	8.35	8.34	63.9	8.39	8.41	68.3	7.75	69.60
08/29/17	11:30	NA	8.00	3.44	58.2	8.35	8.28	64.1	8.38	8.33	71.5	7.67	72.20
08/29/17	12:30	105	8.00	3.45	60.1	8.35	8.52	64.6	8.36	8.37	72.6	7.75	76.10
08/29/17	13:30	NA	8.00	3.32	60.4	8.35	8.32	66.0	8.36	8.35	74.3	7.73	76.90
08/29/17	14:30	150	8.00	3.24	60.9	8.35	8.22	ND	8.37	8.34	74.6	7.74	76.70
08/29/17	15:30	SHUTDOWN											
08/29/17	16:30	SHUTDOWN											
08/29/17	17:30	SHUTDOWN											
08/29/17	18:30	SHUTDOWN											
09/06/17	7:30	SHUTDOWN											
09/06/17	8:30	SHUTDOWN											
09/06/17	9:30	SHUTDOWN											
09/06/17	10:30	SHUTDOWN											
09/06/17	11:30	NA	8.00	3.45	58.5	8.35	8.11	65.3	8.42	8.43	67.5	7.78	68.40
09/06/17	12:30	160	8.00	4.15	60.4	8.35	8.30	65.7	8.43	8.48	68.0	8.05	67.80
09/06/17	13:30	NA	8.00	3.58	60.4	8.35	8.35	66.5	8.48	8.47	70.9	8.05	66.40
09/06/17	14:30	180	8.00	3.33	61.0	8.35	8.28	66.7	8.42	8.44	66.7	8.00	65.30
09/06/17	15:30	NA	8.00	3.30	62.0	8.30	8.45	67.7	8.32	8.34	71.2	8.05	64.10
09/06/17	16:30	160	8.00	3.27	61.6	8.30	8.69	68.1	8.34	8.36	70.8	8.03	65.60
09/06/17	17:30	NA	8.00	3.26	62.3	8.30	8.09	68.1	8.33	8.40	67.0	7.99	66.70
09/06/17	18:30	156	8.00	3.38	62.0	8.28	8.54	68.6	8.51	8.53	66.3	7.89	63.20
09/06/17	19:30	NA	8.00	3.41	62.0	8.28	8.71	69.0	8.36	8.11	70.1	7.88	64.80
09/06/17	20:30	155	8.00	3.93	60.9	8.28	8.92	68.1	8.40	8.62	66.3	8.37	65.20
09/06/17	21:30	NA	8.00	4.02	61.1	8.28	8.16	67.4	8.44	8.30	63.0	8.14	62.80
09/06/17	22:30	155	8.00	4.04	60.9	8.28	8.42	68.4	8.42	8.80	68.0	8.34	62.80
09/06/17	23:30	NA	8.00	4.05	60.1	8.28	8.58	66.5	8.42	8.75	65.6	8.38	63.90
09/07/17	0:30	155	8.00	4.05	59.9	8.28	8.58	66.2	8.39	8.51	65.0	8.41	62.10
09/07/17	1:30	NA	8.00	4.06	59.4	8.28	8.54	65.7	8.43	8.67	62.7	8.46	61.90
09/07/17	2:30	155	8.00	4.05	58.7	8.28	8.20	65.3	8.46	8.84	62.8	8.48	61.30
09/07/17	3:30	NA	8.00	4.05	58.0	8.28	8.43	64.6	8.43	8.82	62.6	8.46	61.20
09/07/17	4:30	155	8.00	4.06	57.8	8.28	8.39	64.1	8.38	8.68	61.5	8.49	61.20
09/07/17	5:30	NA	8.00	4.05	57.3	8.28	8.67	63.6	8.42	8.85	61.3	8.51	61.20
09/07/17	6:30	155	8.00	4.05	56.6	8.28	8.52	63.1	8.43	8.63	60.7	8.55	61.10
09/07/17	7:30	NA	8.00	4.04	56.1	8.25	8.35	62.4	8.36	8.31	58.7	8.06	57.80
09/07/17	8:30	155	8.00	ND	ND	8.25	8.44	61.9	8.48	8.39	61.9	8.06	66.30

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

09/10/17	7:30	NA	8.00	3.23	51.1	8.30	8.28	58.7	8.31	8.16	53.5	8.04	50.50
09/10/17	8:30	155	8.00	2.95	50.9	8.30	8.23	57.2	8.25	8.10	56.1	8.04	54.20
09/10/17	9:30	NA	8.00	2.92	51.3	8.30	8.22	57.4	8.44	8.42	60.5	8.00	59.50
09/10/17	10:30	155	8.00	3.23	51.8	8.30	8.38	57.9	8.26	8.26	62.1	7.99	65.40
09/10/17	11:30	NA	8.00	3.49	54.0	8.35	8.27	58.8	8.28	8.26	65.1	7.93	68.60
09/10/17	12:30	155	8.00	3.49	57.5	8.35	8.32	62.0	8.32	8.28	68.0	7.90	72.40
09/10/17	13:30	NA	8.00	3.43	59.4	8.35	8.37	63.8	8.36	8.32	71.1	7.86	73.90
09/10/17	14:30	155	8.00	3.41	61.6	8.35	8.23	66.0	8.37	8.31	71.4	7.86	74.10
09/10/17	15:30	NA	8.00	3.37	63.7	8.35	8.38	67.7	8.37	8.31	73.3	7.92	76.00
09/10/17	16:30	155	8.00	3.37	64.4	8.35	8.47	69.1	8.30	8.29	72.5	7.90	75.70
09/10/17	17:30	NA	8.00	3.37	65.6	8.35	8.33	70.0	8.33	8.30	74.9	7.92	78.10
09/10/17	18:30	155	8.00	3.36	64.2	8.35	8.31	70.1	8.45	8.46	72.2	7.97	73.80
09/10/17	19:30	NA	8.00	3.31	63.7	8.30	8.39	70.2	8.36	8.20	70.1	8.04	64.10
09/10/17	20:30	160	8.00	3.31	62.8	8.30	8.47	69.8	8.36	8.26	68.4	8.05	63.10
09/10/17	21:30	NA	8.00	3.31	62.0	8.30	8.35	69.1	8.34	8.23	67.7	8.03	62.00
09/10/17	22:30	150	8.00	3.31	60.9	8.30	8.60	68.1	8.36	8.28	65.6	8.07	61.10
09/10/17	23:30	NA	8.00	3.31	59.9	8.30	8.47	66.9	8.34	8.23	66.3	8.06	60.90
09/11/17	0:30	160	8.00	3.32	58.8	8.30	8.52	66.0	8.34	8.26	69.3	8.10	59.70
09/11/17	1:30	NA	8.00	3.33	57.8	8.30	8.33	64.8	8.35	8.17	63.4	8.05	59.10
09/11/17	2:30	160	8.00	3.32	57.0	8.30	8.33	63.8	8.33	8.26	63.4	8.11	59.10
09/11/17	3:30	NA	8.00	3.33	56.6	8.30	8.35	63.1	8.31	8.26	63.0	8.09	58.40
09/11/17	4:30	160	8.00	3.34	55.9	8.30	8.34	62.4	8.31	8.28	63.0	8.14	57.60
09/11/17	5:30	NA	8.00	3.34	55.7	8.30	8.36	61.7	8.35	8.30	63.2	8.12	61.60
09/11/17	6:30	150	8.00	3.33	54.7	8.30	8.41	61.2	8.34	8.31	61.5	8.12	57.00
09/11/17	7:30	NA	8.00	3.33	54.0	8.30	8.58	61.0	8.32	8.45	57.9	8.14	55.60
09/11/17	8:30	155	8.00	3.34	54.0	8.30	8.52	60.0	8.32	8.37	59.8	8.09	56.90
09/11/17	9:30	NA	8.00	3.33	54.2	8.30	8.20	59.8	8.35	8.41	63.9	8.07	63.00
09/11/17	10:30	155	8.00	3.35	55.1	8.30	8.28	60.5	8.32	8.39	64.8	8.08	66.70
09/11/17	11:30	NA	8.00	3.35	56.8	8.30	8.58	61.5	8.36	8.40	67.7	8.00	70.00
09/11/17	12:30	155	8.00	3.33	59.4	8.30	8.30	63.4	8.33	8.40	70.2	7.97	73.90
09/11/17	13:30	NA	8.00	3.31	61.1	8.30	8.38	65.7	8.37	8.41	71.5	7.97	75.70
09/11/17	14:30	155	8.00	3.28	63.9	8.30	8.39	67.2	8.33	8.40	71.7	7.94	76.40
09/11/17	15:30	NA	8.00	3.27	63.7	8.30	8.32	69.4	8.38	8.42	71.3	7.91	73.40
09/11/17	16:30	155	8.00	3.27	63.7	8.30	8.47	69.6	8.33	8.40	72.0	7.95	72.70
09/11/17	17:30	NA	8.00	3.22	63.7	8.30	8.20	69.6	8.46	8.44	69.0	7.96	70.70
09/11/17	18:30	155	8.00	3.27	63.2	8.30	8.28	69.6	8.47	8.45	66.7	7.97	65.00
09/11/17	19:30	NA	8.00	3.37	62.3	8.30	8.74	69.1	8.48	8.13	66.2	8.03	62.20
09/11/17	20:30	150	8.00	3.39	61.8	8.30	8.39	68.4	8.47	8.31	66.3	8.09	61.70
09/11/17	21:30	NA	8.00	3.39	61.3	8.30	8.41	67.9	8.48	8.34	70.0	8.15	63.00
09/11/17	22:30	160	8.00	3.38	60.6	8.30	8.51	66.9	8.47	8.31	69.0	8.13	63.90
09/11/17	23:30	NA	8.00	3.41	59.7	8.30	8.65	66.5	8.48	8.30	68.4	8.14	61.80
09/12/17	0:30	150	8.00	3.40	58.8	8.30	8.28	65.5	8.45	8.30	66.5	8.11	60.30
09/12/17	1:30	NA	8.00	3.39	58.2	8.30	8.32	64.8	8.47	8.32	65.6	8.15	59.80
09/12/17	2:30	160	8.00	3.41	57.8	8.30	8.37	64.1	8.49	8.30	64.5	8.16	59.20
09/12/17	3:30	NA	8.00	3.39	57.0	8.30	8.58	63.4	8.49	8.32	63.4	8.15	58.50
09/12/17	4:30	160	8.00	3.39	56.7	8.30	8.36	63.1	8.48	8.34	63.6	8.16	57.20
09/12/17	5:30	NA	8.00	3.37	56.1	8.30	8.49	62.7	8.49	8.36	63.0	8.15	57.20
09/12/17	6:30	160	8.00	3.37	55.6	8.30	8.41	61.9	8.46	8.32	62.2	8.16	56.70
09/12/17	7:30	NA	8.00	3.38	55.6	8.25	8.15	61.7	8.42	8.37	58.8	8.05	55.70
09/12/17	8:30	155	8.00	3.36	54.7	8.25	8.20	61.0	8.39	8.34	60.3	8.12	57.40
09/12/17	9:30	NA	8.00	3.33	55.1	8.25	8.28	61.0	8.43	8.46	63.2	8.08	62.40
09/12/17	10:30	155	8.00	3.33	55.4	8.25	8.25	61.2	8.39	8.35	63.9	8.08	65.10
09/12/17	11:30	NA	8.00	3.32	55.4	8.23	8.41	61.7	8.42	8.38	65.9	8.03	67.40
09/12/17	12:30	155	8.00	3.34	58.0	8.23	8.52	62.2	8.40	8.34	68.8	8.02	71.50
09/12/17	13:30	NA	8.00	3.33	60.6	8.20	8.34	64.6	8.40	8.39	67.8	7.94	72.70
09/12/17	14:30	155	8.00	3.33	59.6	8.20	8.20	65.7	8.36	8.36	67.2	7.97	72.00
09/12/17	15:30	NA	8.00	3.31	60.9	8.20	8.48	66.0	8.37	8.35	65.8	7.94	65.90
09/12/17	16:30	155	8.00	3.30	51.8	8.20	8.30	66.7	8.34	8.37	63.5	7.95	61.30
09/12/17	17:30	NA	8.00	3.30	61.3	8.20	8.29	66.9	8.40	8.39	61.2	7.98	58.30
09/12/17	18:30	155	8.00	3.29	61.9	8.20	8.58	66.9	8.47	8.37	60.3	7.97	56.40
09/12/17	19:30	NA	8.00	3.29	60.0	8.25	8.40	66.7	8.29	8.16	66.0	7.96	59.60
09/12/17	20:30	160	8.00	3.28	59.4	8.28	8.51	66.0	8.40	NR-LIGHTNING			
09/12/17	21:30	NA	8.00	3.27	58.9	8.28	8.40	65.5	8.37	8.27	64.5	8.08	59.70
09/12/17	22:30	160	8.00	3.28	58.5	8.28	8.55	65.0	8.37	8.24	62.5	8.08	58.20
09/12/17	23:30	NA	8.00	3.29	57.8	8.28	8.49	64.3	8.36	8.26	64.5	8.12	58.30
09/13/17	0:30	170	8.00	3.27	57.0	8.28	8.55	63.6	8.34	8.24	63.1	8.19	57.90
09/13/17	1:30	NA	8.00	3.30	56.1	8.28	8.59	62.7	8.38	8.22	63.2	8.15	57.30
09/13/17	2:30	160	8.00	3.30	55.4	8.28	8.32	61.9	8.32	8.20	62.0	8.16	56.80
09/13/17	3:30	NA	8.00	3.29	54.7	8.28	8.21	61.2	8.38	8.27	62.5	8.17	56.90
09/13/17	4:30	170	8.00	2.70	53.5	8.28	8.42	60.5	8.29	8.21	62.7	8.17	57.80

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

09/16/17	3:30	NA	4.00	3.26	54.7	8.30	8.22	60.5	8.35	8.23	64.5	8.15	56.20
09/16/17	4:30	160	4.00	3.24	54.0	8.30	8.61	60.0	8.35	8.25	61.6	8.18	56.20
09/16/17	5:30	NA	4.00	3.23	53.2	8.30	8.37	59.6	8.41	8.23	61.8	8.18	56.70
09/16/17	6:30	160	4.00	3.22	52.5	8.28	8.35	59.1	8.34	8.21	58.8	8.16	56.10
09/16/17	7:30	NA	4.00	3.20	52.0	8.28	8.42	58.4	8.34	8.49	49.1	8.45	49.40
09/16/17	8:30	150	4.00	3.19	51.8	8.28	8.37	57.9	8.34	8.37	55.9	8.35	54.40
09/16/17	9:30	NA	4.00	3.45	51.8	8.28	8.35	57.7	8.32	8.54	62.7	8.34	57.80
09/16/17	10:30	153	4.00	3.47	52.0	8.28	8.40	57.9	8.39	8.29	63.5	8.19	62.40
09/16/17	11:30	NA	8.00	NR	NR	8.30	8.42	58.1	8.37	8.20	62.2	8.08	60.20
09/16/17	12:30	155	8.00	3.37	55.6	8.30	8.74	59.6	8.32	8.19	64.4	8.05	66.50
09/16/17	13:30	NA	8.00	3.16	55.4	8.30	8.66	61.2	8.33	8.28	61.9	8.08	62.60
09/16/17	14:30	150	8.00	3.10	57.0	8.30	8.30	62.2	8.31	8.27	65.3	8.08	67.70
09/16/17	15:30	NA	8.00	3.06	58.2	8.30	8.22	63.1	8.36	8.25	67.0	8.08	67.10
09/16/17	16:30	150	8.00	3.21	57.8	8.30	8.14	64.3	8.35	8.16	69.5	8.08	68.30
09/16/17	17:30	NA	8.00	3.39	58.2	8.30	8.20	64.3	8.33	8.19	67.2	8.11	65.70
09/16/17	18:30	152	8.00	3.43	58.5	8.30	8.54	64.3	8.36	8.21	63.0	8.16	62.40
09/16/17	19:30	NA	8.00	3.41	58.2	8.30	8.63	64.6	8.34	8.22	61.6	8.08	59.70
09/16/17	20:30	150	8.00	3.29	58.5	8.30	8.14	64.1	8.33	8.26	65.1	8.19	60.70
09/16/17	21:30	NA	8.00	3.23	58.5	8.30	8.52	64.3	8.31	8.30	60.4	8.20	57.10
09/16/17	22:30	150	8.00	3.21	57.0	8.30	8.58	63.6	8.36	8.33	57.7	8.26	55.50
09/16/17	23:30	NA	8.00	3.20	56.1	8.27	8.05	62.9	8.33	8.26	59.4	8.22	56.20
09/17/17	0:30	150	8.00	3.18	55.1	8.27	8.24	61.9	8.29	8.27	58.9	8.25	54.10
09/17/17	1:30	NA	8.00	3.17	54.9	8.27	8.29	61.2	8.27	8.22	58.8	8.21	54.40
09/17/17	2:30	150	8.00	3.17	54.0	8.27	8.61	60.5	8.27	8.29	58.6	8.25	53.80
09/17/17	3:30	NA	8.00	3.17	53.5	8.27	8.35	60.0	8.26	8.26	59.0	8.25	54.70
09/17/17	4:30	150	8.00	3.25	52.8	8.30	8.35	59.6	8.32	8.29	61.7	8.26	53.70
09/17/17	5:30	NA	8.00	3.23	52.5	8.30	8.21	58.8	8.29	8.29	61.1	8.27	54.20
09/17/17	6:30	150	8.00	3.22	52.0	8.30	8.28	57.9	8.34	8.27	59.8	8.27	54.10
09/17/17	7:30	NA	8.00	3.23	51.3	8.30	8.27	57.7	8.27	8.26	51.3	8.05	50.60
09/17/17	8:30	150	8.00	3.22	51.3	8.30	8.27	57.0	8.27	8.04	56.3	7.60	50.40
09/17/17	9:30	NA	8.00	3.22	51.3	8.30	8.34	57.2	8.32	8.20	56.7	7.56	49.80
09/17/17	10:30	150	8.00	3.20	51.3	8.30	8.45	57.4	8.30	8.13	59.3	7.75	61.50
09/17/17	11:30	RECIRCULATING											
09/17/17	12:30	RECIRCULATING											
09/17/17	13:30	RECIRCULATING											
09/17/17	14:30	RECIRCULATING											
09/17/17	15:30	NA	8.00	3.41	58.7	8.30	8.37	61.7	8.43	8.10	69.1	7.95	71.80
09/17/17	16:30	150	8.00	3.81	59.7	8.20	8.33	63.1	8.38	8.26	69.0	7.83	79.20
09/17/17	17:30	NA	8.00	3.81	60.1	8.20	8.52	64.8	8.28	8.13	70.4	7.97	77.70
09/17/17	18:30	150	8.00	3.61	59.7	8.30	8.32	64.6	8.16	7.91	64.0	7.80	62.50
09/17/17	19:30	NA	8.00	3.52	59.7	8.30	8.55	65.3	8.41	8.28	63.3	8.19	61.80
09/17/17	20:30	140	8.00	2.54	58.2	8.30	8.10	65.3	8.44	8.27	66.3	8.17	61.70
09/17/17	21:30	NA	8.00	2.39	57.6	8.30	8.29	64.8	8.36	8.23	63.5	8.13	60.20
09/17/17	22:30	140	8.00	2.85	57.0	LIME CLOG				8.13	63.5	8.10	58.00
09/17/17	23:30	NA	8.00	3.37	56.1	8.25	8.35	63.1	8.41	7.86	64.2	7.78	58.70
09/18/17	0:30	140	8.00	3.26	56.3	8.25	8.21	62.7	8.34	8.18	62.2	8.10	58.20
09/18/17	1:30	NA	8.00	3.21	55.2	8.25	8.50	61.9	8.37	8.20	60.2	8.13	54.20
09/18/17	2:30	140	8.00	3.18	54.7	8.25	8.43	61.2	8.32	8.23	60.6	8.14	57.90
09/18/17	3:30	NA	8.00	3.17	53.1	8.25	8.41	60.3	8.37	8.25	60.5	8.17	53.20
09/18/17	4:30	140	8.00	3.14	53.5	8.25	8.64	60.0	8.37	8.25	58.7	8.11	54.90
09/18/17	5:30	NA	8.00	3.14	52.6	8.25	8.25	59.3	8.33	8.23	58.6	8.12	54.80
09/18/17	6:30	140	8.00	3.07	53.0	8.25	8.63	58.6	8.31	8.30	56.6	8.14	53.30
09/18/17	7:30	NA	8.00	3.03	52.0	8.30	8.19	58.4	8.33	8.34	50.6	8.27	47.80
09/18/17	8:30	140	8.00	3.03	51.3	8.30	8.11	57.9	8.30	8.24	54.0	8.16	56.00
09/18/17	9:30	NA	8.00	3.00	51.3	8.30	8.24	57.9	8.28	8.18	58.7	8.10	60.60
09/18/17	10:30	160	8.00	3.50	52.5	8.30	8.16	58.1	8.38	8.14	58.7	8.03	60.00
09/18/17	11:30	RECIRCULATING											
09/18/17	12:30	160	8.00	3.33	54.7	8.30	8.44	60.0	8.28	8.19	67.0	7.97	66.00
09/18/17	13:30	NA	8.00	3.29	55.4	8.30	8.60	60.5	8.28	8.08	67.6	7.77	67.70
09/18/17	14:30	160	8.00	3.23	56.3	8.30	9.04	61.5	8.29	8.07	67.8	7.91	65.40
09/18/17	15:30	NA	8.00	3.23	57.8	8.30	8.25	62.4	8.26	8.07	64.9	7.89	66.70
09/18/17	16:30	160	8.00	3.34	56.7	8.30	8.33	62.1	8.24	8.04	63.2	7.90	66.30
09/18/17	17:30	NA	8.00	3.35	56.6	8.30	8.25	64.6	8.24	8.09	63.1	7.87	62.20
09/18/17	18:30	RECIRCULATING											
09/18/17	19:30	RECIRCULATING											
09/18/17	20:30	RECIRCULATING											
09/18/17	21:30	RECIRCULATING											
09/18/17	22:30	RECIRCULATING											
09/18/17	23:30	RECIRCULATING											
09/19/17	0:30	RECIRCULATING											

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

09/19/17	1:30												
09/19/17	2:30												
09/19/17	3:30												
09/19/17	4:30												
09/19/17	5:30												
09/19/17	6:30												
09/19/17	7:30												
09/19/17	8:30												
09/19/17	9:30	NA	8.00	3.81	52.0	8.30	8.26	59.1	8.27	7.97	59.0	8.07	57.80
09/19/17	10:30	165	8.00	4.15	51.3	8.30	8.53	58.1	8.27	7.99	62.7	8.37	62.20
09/19/17	11:30	NA	8.00	3.95	51.8	8.30	8.31	57.7	8.35	8.04	56.1	8.05	61.70
09/19/17	12:30	165	8.00	3.68	53.2	8.35	8.40	58.6	8.27	7.94	62.0	7.84	63.50
09/19/17	13:30	NA	8.00	3.64	54.4	8.35	8.31	59.2	8.38	7.93	64.1	7.73	66.30
09/19/17	14:30	165	8.00	3.61	55.9	8.35	8.14	60.8	8.36	7.87	59.8	7.65	67.10
09/19/17	15:30	NA	8.00	3.55	54.1	8.35	8.45	60.2	8.34	7.88	62.1	7.90	66.50
09/19/17	16:30												
09/19/17	17:30	NA	8.00	4.29	56.8	8.30	8.10	62.2	8.40	7.99	58.5	7.77	67.00
09/19/17	18:30	165	8.00	4.23	56.8	8.30	8.22	62.9	8.40				
09/19/17	19:30	NA	8.00	4.20	57.0	8.30	8.38	62.9	8.42	8.00	60.1	7.99	57.10
09/19/17	20:30	165	8.00	3.91	56.8	8.30	8.41	62.7	8.36	8.05	55.4	8.01	53.70
09/19/17	21:30	NA	8.00	3.77	56.6	8.30	8.35	62.7	8.31	8.01	63.3	8.00	60.70
09/19/17	22:30	165	8.00	3.75	55.9	8.30	8.48	62.2	8.32	8.05	63.2	7.98	58.50
09/19/17	23:30	NA	8.00	3.12	54.9	8.30	8.47	61.5	8.18	7.92	54.4	7.97	55.60
09/20/17	0:30	160	8.00	3.57	54.4	8.30	8.53	61.0	8.44	8.10	61.8	8.01	56.80
09/20/17	1:30	NA	8.00	3.89	54.2	8.30	8.33	60.5	8.30	8.12	55.7	8.01	55.40
09/20/17	2:30	160	8.00	2.95	52.5	8.30							
09/20/17	3:30	NA	8.00	3.28	52.3	8.30	8.25	58.9	8.20	8.00	55.8	7.99	54.30
09/20/17	4:30	160	8.00	3.39	52.0	8.35	8.51	58.6	8.27	8.05	56.3	8.03	53.70
09/20/17	5:30	NA	8.00	2.85	52.0	8.35	8.46	58.1	8.18	8.06	58.7	8.01	54.30
09/20/17	6:30												
09/20/17	7:30	NA	8.20	3.32	50.9	8.35	8.44	57.4	8.24	7.98	54.1	8.01	51.50
09/20/17	8:30	155	8.20	3.29	49.9	8.35	8.54	57.0	8.37	8.16	55.5		RECIRCULATING
09/20/17	9:30	NA	8.20	3.33	50.1	8.30	8.38	57.0	8.38	8.11	60.5	8.26	59.90
09/20/17	10:30	155	8.20	3.31	50.9	8.27	8.14	57.0	8.32	8.08	65.9	8.00	60.90
09/20/17	11:30	NA	8.20	3.23	51.3	8.27	8.08	57.4	8.30	8.03	66.5	7.95	61.40
09/20/17	12:30	155	8.20	3.22	52.5	8.27	7.97	58.6	8.37	8.03	66.0	7.92	64.80
09/20/17	13:30	NA	8.20	3.19	54.7	8.27	8.68	59.6	8.33	8.01	64.3	7.92	63.20
09/20/17	14:30	155	8.20	3.17	55.9	8.27	8.74	61.7	8.25	8.02	63.7	7.94	58.90
09/20/17	15:30	NA	8.20	3.16	56.8	8.28	8.11	62.1	8.34				RECIRCULATING
09/20/17	16:30												
09/20/17	17:30												
09/20/17	18:30												
09/26/17	7:30												
09/26/17	8:30												
09/26/17	9:30												
09/26/17	10:30	156	8.00	3.67	45.1	8.22	8.13	50.3	8.33	7.99	54.2	8.20	58.00
09/26/17	11:30	NA	8.00	3.51	46.6	8.30	8.31	51.2	8.24	8.02	55.0	8.17	58.90
09/26/17	12:30	155	8.00	3.44	49.7	8.30	8.42	52.9	8.41	8.07	58.5	8.15	60.10
09/26/17	13:30	NA	8.00	3.43	51.1	8.30	8.35	55.1	8.31	8.07	59.5	8.10	61.00
09/26/17	14:30	155	8.00	3.41	52.8	8.25	8.59	57.7	8.65	8.15	63.3	8.15	64.10
09/26/17	15:30	NA	8.00	3.42	56.1	8.25	8.25	59.6	8.28	8.11	64.0	8.18	62.10
09/26/17	16:30	156	8.00	3.41	56.6	8.30	8.48	61.0	8.31	8.05	66.0	8.15	65.20
09/26/17	17:30	NA	8.00	3.42	56.1	8.30	8.25	61.7	8.30	8.08	63.7	8.15	65.20
09/26/17	18:30	155	8.00	3.42	55.6	8.30	8.43	61.7	8.25	8.05	62.3	8.12	64.60
09/27/17	7:30	NA	8.00	3.05	48.5	8.30	8.24	57.7	8.43	8.10	56.1	7.95	55.90
09/27/17	8:30	160	8.00	3.01	45.4	8.35	8.12	54.8	8.13	7.95	56.8	8.05	57.20
09/27/17	9:30	NA	8.00	3.47	45.1	8.40	8.27	52.4	8.41	8.27	58.2	8.25	60.10
09/27/17	10:30	160	8.00	3.43	45.9	8.40	8.66	51.7	8.49	8.14	60.7	8.33	60.30
09/27/17	11:30	NA	8.00	3.26	47.1	8.37	8.39	52.4	8.28	8.18	58.0	8.30	60.70
09/27/17	12:30	160	8.00	3.22	49.1	8.37	8.39	54.1	8.37	8.10	62.1	8.29	61.80
09/27/17	13:30	NA	8.00	3.20	50.1	8.37	8.30	55.3	8.32	8.07	63.4	7.95	64.30
09/27/17	14:30												
09/27/17	15:30	NA	8.00	3.13	53.2	8.70	8.70	57.9	8.41	8.32	69.3	8.15	66.50
09/27/17	16:30	162	8.00	3.35	54.1	8.53	8.46	59.1	8.34	8.32	64.6	8.11	64.80
09/27/17	17:30	NA	8.00	3.36	54.4	8.40	8.53	59.8	8.43	8.30	65.5	8.12	65.10
09/27/17	18:30	160	8.00	3.21	55.1	8.40	8.19	60.1	8.15	8.20	64.7	8.12	62.60
09/28/17	7:30	NA	8.00	3.47	50.4	8.50	8.42	57.7	8.33	8.06	51.1	8.05	54.00
09/28/17	8:30	156	8.00	4.10	47.8	8.40	8.37	56.0	8.56	8.13	56.7	8.12	58.00
09/28/17	9:30	NA	8.00	3.25	47.3	8.43	8.27	47.3	8.27	8.30	61.7	8.20	55.60
09/28/17	10:30	157	8.00	3.18	56.6	8.45	8.53	52.7	8.24	8.29	66.7	8.20	60.80

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

09/28/17	11:30	NA	8.00	3.20	47.1	8.50	8.75	53.9	8.37	8.25	68.5	8.05	60.50	
09/28/17	12:30	157	8.00	3.18	49.0	8.50	8.61	54.1	8.35	8.27	65.8	8.09	65.20	
09/28/17	13:30	NA	8.00	3.19	51.8	8.45	8.46	55.8	8.25	8.22	65.4	8.05	64.60	
09/28/17	14:30	156	8.00	3.15	52.8	8.47	8.23	58.1	8.34	8.24	65.7	8.06	67.30	
09/28/17	15:30	NA	8.00	3.17	52.0	8.45	8.44	57.2	8.31	8.22	65.1	8.05	67.40	
09/28/17	16:30	155	8.00	3.19	52.3	8.45	8.44	56.4	8.30	8.20	70.3	8.07	69.80	
09/28/17	17:30	NA	8.00	3.19	55.6	8.40	9.15	60.1	8.20	8.20	69.4	7.97	69.60	
09/28/17	18:30	155	8.00	3.18	56.0	8.40	8.11	61.2	8.33	8.19	67.1	8.10	65.50	
09/29/17	7:30	NA	8.00	3.22	50.1	8.50	8.43	58.1	8.27	7.95	53.7	7.96	53.80	
09/29/17	8:30	152	8.00	2.90	47.8	8.50	8.39	55.8	8.43	7.95	60.2	8.15	59.10	
09/29/17	9:30	NA	8.00	3.19	47.0	8.45	8.64	54.8	8.25	8.15	59.7	8.15	59.40	
09/29/17	10:30	140	8.00	3.55	48.2	8.45	8.71	53.9	8.35	8.31	60.5	8.10	58.60	
09/29/17	11:30	NA	8.00	3.27	45.2	8.40	8.15	54.1	8.39	8.27	60.1	8.07	62.20	
09/29/17	12:30	145	8.00	3.09	50.4	8.49	8.34	55.5	8.28	8.23	61.1	8.05	61.90	
09/29/17	13:30	NA	8.00	3.12	51.1	8.53	8.37	56.7	8.35	8.30	60.2	8.04	62.50	
09/29/17	14:30	145	8.00	3.16	51.8	8.53	8.73	57.0	8.38	8.28	62.5	8.01	61.50	
09/29/17	15:30	NA	8.00	3.19	52.3	8.47	8.35	57.3	8.37	8.16	62.1	8.10	61.20	
09/29/17	16:30	SHUTDOWN												
09/29/17	17:30													
09/29/17	18:30													
10/02/17	7:30													
10/02/17	8:30													
10/02/17	9:30													
10/02/17	10:30													
10/02/17	11:30													
10/02/17	12:30													
10/02/17	13:30	NA	8.00	3.28	50.6	8.47	8.49	55.1	8.24	7.98	55.9	7.59	58.20	
10/02/17	14:30	155	8.00	3.16	52.8	8.53	8.73	56.3	8.25	8.06	58.9	8.16	59.90	
10/02/17	15:30	NA	8.00	3.10	51.6	8.58	8.29	58.1	8.24	8.03	63.9	8.03	62.70	
10/02/17	16:30	158	8.00	3.41	54.2	8.58	8.61	59.6	8.32	8.11	56.9	8.21	56.60	
10/02/17	17:30	NA	8.00	3.45	54.2	8.58	8.85	60.1	8.29	8.08	58.9	8.15	57.10	
10/02/17	18:30	159	8.00	3.24	52.5	8.58	NR	NR	NR	8.13	54.7	8.28	55.10	
10/02/17	19:30	NA	8.20	3.15	52.0	8.58	5.04	57.9	4.73	RECIRCULATING		7.79	54.50	
10/02/17	20:30	155	8.20	3.14	51.3	8.58	8.53	58.1	8.18	7.86	51.3	8.04	52.20	
10/02/17	21:30	NA	8.20	3.15	50.4	8.58	8.75	57.0	7.19	RECIRCULATING		8.06	54.50	
10/02/17	22:30	150	8.20	3.17	49.7	8.58	4.24	56.0	4.64	RECIRCULATING		8.05	53.70	
10/02/17	23:30	NA	8.20	3.17	48.7	8.58	8.46	55.5	8.28	8.04	49.5	8.12	49.30	
10/03/17	0:30	155	8.20	3.23	47.8	8.58	8.54	54.8	8.33	8.03	48.8	8.10	51.30	
10/03/17	1:30	NA	8.20	3.27	46.8	8.58	8.75	53.1	8.19	7.98	48.5	8.11	50.70	
10/03/17	2:30	150	8.20	3.23	46.1	8.58	8.71	52.9	8.21	7.98	45.3	8.10	50.00	
10/03/17	3:30	NA	8.20	3.23	45.1	8.58	8.93	51.7	8.24	7.98	45.0	8.00	58.60	
10/03/17	4:30	145	8.20	3.25	44.4	8.58	8.70	51.0	8.23	7.96	44.4	7.95	46.50	
10/03/17	5:30	NA	8.20	3.24	43.7	8.58	8.30	50.4	8.26	7.97	43.8	7.95	44.10	
10/03/17	6:30	150	8.20	3.27	42.8	8.58	8.65	49.6	8.24	7.97	43.0	7.94	41.20	
10/03/17	7:30	NA	8.00	3.28	42.1	8.58	8.72	48.6	8.26	7.91	47.6	7.89	43.70	
10/03/17	8:30	152	8.00	3.26	41.3	8.58	8.61	48.0	8.25	7.95	42.4	7.78	43.20	
10/03/17	9:30	NA	8.00	3.23	42.1	8.68	8.51	47.7	8.19	8.09	50.9	8.01	49.60	
10/03/17	10:30	152	8.00	3.26	43.5	8.68	8.59	48.4	8.22	8.05	49.5	7.97	48.60	
10/03/17	11:30	NA	8.00	3.32	44.4	8.68	8.85	49.3	8.23	7.99	49.6	7.88	45.50	
10/03/17	12:30	149	8.00	3.33	45.6	8.68	8.53	50.8	8.27	8.14	47.4	7.97	45.10	
10/03/17	13:30	NA	8.00	3.34	46.3	8.68	8.40	52.0	8.32	8.04	51.2	8.04	54.10	
10/03/17	14:30	148	8.00	3.33	47.0	8.68	8.46	55.1	8.33	8.13	50.6	7.59	45.10	
10/03/17	15:30	NA	8.00	3.33	47.3	8.68	8.49	53.2	8.27	7.98	50.1	7.71	49.30	
10/03/17	16:30	150	8.00	3.34	47.3	8.70	8.55	52.4	8.30	8.13	50.4	7.85	53.30	
10/03/17	17:30	NA	8.00	3.31	47.1	8.70	8.41	52.7	8.35	8.11	49.7	7.73	49.70	
10/03/17	18:30	NR	8.00	3.31	46.6	8.70	8.54	52.5	8.32	8.14	52.2	7.75	48.00	
10/03/17	19:30	NA	8.00	3.29	46.3	8.70	8.71	53.4	8.36	7.95	47.4	7.82	48.00	
10/03/17	20:30	150	8.00	3.28	45.9	8.70	8.53	52.2	8.29	8.00	47.0	7.87	49.40	
10/03/17	21:30	NA	8.00	3.28	45.0	8.70	8.42	51.5	8.20	7.99	46.7	7.93	47.00	
10/03/17	22:30	150	8.00	3.29	44.2	8.72	8.48	50.8	8.43	8.08	46.2	7.90	47.00	
10/03/17	23:30	NA	8.00	3.29	43.5	8.72	6.88	49.8	7.95	RECIRCULATING		7.85	46.40	
10/04/17	0:30	150	8.00	3.28	42.8	8.70	7.22	49.1	8.43	RECIRCULATING		7.84	45.90	
10/04/17	1:30	NA	8.00	3.28	42.3	8.70	7.75	48.4	7.71	RECIRCULATING		7.88	45.30	
10/04/17	2:30	140	8.00	3.29	41.6	8.70	8.41	47.9	8.40	8.01	42.8	7.95	44.60	
10/04/17	3:30	NA	8.00	3.30	41.1	8.70	8.22	47.2	8.45	7.96	44.3	7.93	43.90	
10/04/17	4:30	80	8.00	3.09	40.4	8.70	3.15	46.5	4.28	RECIRCULATING		7.91	43.20	
10/04/17	5:30	NA	8.00	OUT OF LIME									8.00	43.00
10/04/17	6:30	75	8.00	OUT OF LIME									8.05	42.90
10/04/17	7:30	OUT OF LIME											7.50	54.70
10/04/17	8:30	OUT OF LIME											7.52	54.50

**Table A-7
Summary of 2017
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10/04/17	9:30												7.80	57.10
10/04/17	10:30												7.75	57.90
10/04/17	11:30												7.82	62.80
10/04/17	12:30												8.16	57.40
10/04/17	13:30												8.19	60.00
10/04/17	14:30	130	8.00	3.26	47.3	8.70	8.40	51.7	8.20	8.08	55.9	8.21	64.20	
10/04/17	15:30	NA	8.00	3.28	48.5	8.80	8.63	52.9	8.27	8.17	54.7	8.13	58.20	
10/04/17	16:30	125	8.00	3.30	49.0	8.80	8.60	54.3	8.37	8.16	58.2	7.98	67.20	
10/04/17	17:30	NA	8.00	3.32	48.5	8.78	8.92	54.1	8.39	8.16	56.0	7.75	55.10	
10/04/17	18:30	124	8.00	3.37	49.0	8.78	9.02	55.1	8.36	8.17	56.3	7.75	55.00	
10/04/17	19:30	NA	8.00	3.41	48.7	8.78	8.96	55.3	8.33	8.04	56.1	7.81	54.20	
10/04/17	20:30	120	8.00	3.47	48.2	8.78	8.89	54.6	8.40	8.14	54.1	7.83	52.40	
10/04/17	21:30	NA	8.00	3.51	47.5	8.78	8.99	53.9	8.45	8.20	52.0	7.85	50.70	
10/04/17	22:30	130	8.00	3.50	46.8	8.78	8.71	53.2	8.44	8.21	46.4	7.89	47.70	
10/04/17	23:30	NA	8.00	3.53	46.1	8.78	8.61	52.2	8.41	8.23	45.8	7.90	49.00	
10/05/17	0:30	120	8.00	3.46	45.1	8.78	8.58	52.0	8.61	8.40	45.3	8.01	49.30	
10/05/17	1:30	NA	8.00	3.38	44.4	8.78	8.98	51.0	8.36	8.21	44.8	8.03	47.90	
10/05/17	2:30	120	8.00	3.32	43.5	8.78	8.57	50.3	8.27	8.06	44.2	7.99	46.10	
10/05/17	3:30	NA	8.00	3.34	42.8	8.78	8.54	49.3	8.29	8.09	43.9	7.97	46.00	
10/05/17	4:30	120	8.00	3.38	41.6	8.78	8.49	48.6	8.29	8.10	43.1	7.99	45.90	
10/05/17	5:30	NA	8.00	3.43	40.9	8.78	8.83	47.4	8.33	8.15	42.4	8.00	45.50	
10/05/17	6:30	125	8.00	3.43	40.4	8.78	8.80	47.0	8.23	8.00	42.0	7.98	42.70	
10/05/17	7:30	NA	8.00	3.45	39.7	8.78	8.60	45.8	8.28	8.00	45.6	7.80	50.10	
10/05/17	8:30	140	8.00	3.46	39.2	8.78	8.75	45.3	8.28	8.10	44.0	7.93	48.20	
10/05/17	9:30	NA	8.00	6.37	40.6	8.80	8.73	45.5	8.22	8.04	50.0	7.87	52.60	
10/05/17	10:30	138	8.00	3.35	41.3	8.85	8.90	46.0	8.22	8.06	47.4	7.90	47.50	
10/05/17	11:30	NA	8.00	3.33	43.0	8.85	8.42	45.8	8.26	8.10	47.8	7.91	50.90	
10/05/17	12:30	145	8.00	3.31	45.4	8.85	9.02	48.9	8.32	8.01	52.5	7.77	56.20	
10/05/17	13:30	NA	8.00	3.32	47.5	8.87	8.93	52.4	8.29	8.07	54.0	7.78	60.30	
10/05/17	14:30	147	8.00	3.31	48.5	8.89	8.96	53.2	8.25	8.10	63.1	7.80	61.50	
10/05/17	15:30	NA	8.00	3.32	49.4	8.87	8.94	45.8	8.39	8.01	63.9	7.75	63.20	
10/05/17	16:30	150	8.00	3.30	49.4	8.87	9.15	55.3	8.36	8.03	63.9	7.77	65.10	
10/05/17	17:30	NA	8.00	3.29	49.7	8.87	8.55	55.3	8.34	8.02	54.0	7.82	58.10	
10/05/17	18:30	142	8.00	3.27	50.4	8.87	8.92	56.0	8.32	8.04	54.1	7.86	54.40	
10/05/17	19:30	NA	8.00	3.24	50.1	8.89	8.72	56.0	8.14	7.82	49.7	7.73	51.60	
10/05/17	20:30	130	8.00	3.30	49.4	8.92	8.80	55.5	8.22		RECIRCULATING	7.71	52.40	
10/05/17	21:30	NA	8.00	3.41	48.7	8.88	8.90	55.3	8.52	8.24	47.9	7.97	50.20	
10/05/17	22:30	90	8.00	3.41	48.0	8.88	8.72	54.6	8.14		RECIRCULATING	7.84	52.00	
10/05/17	23:30	NA	8.00	3.40	47.3	8.88	8.81	53.9	8.40	8.23	52.5	7.91	51.60	
10/06/17	0:30	90	8.00	3.35	46.2	8.88	8.79	53.4	8.41	8.22	51.9	7.87	50.10	
10/06/17	1:30	NA	8.00	3.26	45.4	8.88	8.78	52.4	8.22	8.02	51.1	7.87	49.20	
10/06/17	2:30	90	8.00	3.19	44.4	8.88	8.82	51.5	8.30	8.02	50.4	7.85	48.40	
10/06/17	3:30	NA	8.00	3.38	43.5	8.88	8.05	50.5	5.69		RECIRCULATING	7.90	47.90	
10/06/17	4:30	90	8.00	3.61	43.0	8.88	8.72	49.6	8.46	8.23	49.8	7.86	47.50	
10/06/17	5:30	NA	8.00	3.62	42.3	8.88	8.62	48.6	8.37	8.09	49.2	7.88	46.90	
10/06/17	6:30	90	8.00	3.54	41.6	8.88	8.76	47.9	8.39	8.13	48.8	7.92	43.90	
10/06/17	7:30	NA	8.00	3.52	40.1	8.88	8.78	47.7	8.34	8.03	42.0	7.45	47.10	
10/06/17	8:30	86	8.00	3.52	40.4	8.88	8.80	46.7	8.37	8.13	46.9	7.87	44.70	
10/06/17	9:30	NA	8.00	3.43	41.1	8.88	9.12	46.7	8.11		RECIRCULATING	7.92	51.60	
10/06/17	10:30	133	8.00	3.32	41.8	8.88	8.88	47.7	8.28	8.02	51.6	7.83	58.00	
10/06/17	11:30	NA	8.00	3.33	43.0	8.88	8.79	48.2	8.17	8.07	55.0	8.00	52.00	
10/06/17	12:30	134	8.00	3.30	45.6	8.90	8.78	50.1	8.34	8.08	60.8	7.95	56.90	
10/06/17	13:30	NA	8.00	3.31	46.7	8.90	8.71	51.2	8.37	8.09	64.4	7.96	61.70	
10/06/17	14:30	134	8.00	3.30	48.7	8.90	9.09	52.3	8.30	8.11	65.1	7.89	62.30	
10/06/17	15:30	NA	8.00	3.29	49.7	8.90	8.74	55.1	8.33	8.16	63.2	7.92	61.40	
10/06/17	16:30													
10/06/17	17:30													
10/06/17	18:30													
10/09/17	7:30													
10/09/17	8:30													
10/09/17	9:30													
10/09/17	10:30													
10/09/17	11:30													
10/09/17	12:30	103	8.00	3.24	45.4	8.90	8.73	51.7	8.23	8.26	54.5	7.99	53.10	
10/09/17	13:30	NA	8.00	3.17	45.9	8.90	9.00	52.2	8.30	8.22	55.6	7.86	53.30	
10/09/17	14:30	153	8.00	3.56	47.3	8.90	8.87	52.7	8.33	8.15	55.0	7.90	54.00	
10/09/17	15:30	NA	8.00	3.62	48.5	8.90	8.99	52.4	8.36	8.31	55.4	7.91	55.50	
10/09/17	16:30	153	8.00	3.42	49.2	8.90	8.92	53.9	8.34	8.28	58.4	8.05	55.40	
10/09/17	17:30	NA	8.00	3.42	50.1	8.90	8.83	55.3	8.37	8.24	58.3	8.00	55.40	
10/09/17	18:30	ND	8.00	3.41	49.9	8.90	9.20	55.2	8.36	8.26	55.4	8.05	55.10	

**Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs**

10/09/17	19:30	NA	8.20	3.41	49.2	8.90	8.95	55.5	8.40	8.11	54.2	7.99	52.40
10/09/17	20:30	155	8.20	3.42	48.2	8.90	8.94	54.6	8.38	8.21	53.0	8.07	50.00
10/09/17	21:30	NA	8.20	3.41	47.1	8.90	8.94	53.6	8.38	8.22	52.7	8.16	49.60
10/09/17	22:30	155	8.20	3.42	45.9	8.90	8.78	52.7	8.39	8.24	52.4	8.16	46.60
10/09/17	23:30	NA	8.20	3.39	44.9	8.90	8.67	51.5	8.36	8.24	50.8	8.16	44.80
10/10/17	0:30	155	8.20	3.35	43.7	8.90	8.82	50.8	8.33	8.23	49.6	8.18	45.40
10/10/17	1:30	NA	8.20	3.36	42.8	8.90	8.96	49.3	8.33	8.24	49.1	8.18	45.30
10/10/17	2:30	155	8.20	3.38	41.8	8.90	8.94	46.3	8.35	8.24	48.7	8.19	45.10
10/10/17	3:30	NA	8.20	3.36	41.1	8.90	8.68	47.7	8.31	8.22	48.4	8.17	44.90
10/10/17	4:30	130	8.20	3.36	40.9	8.90	8.86	47.0	8.29	8.20	43.5	8.12	42.90
10/10/17	5:30	RECIRCULATING											
10/10/17	6:30	RECIRCULATING											
10/10/17	7:30	RECIRCULATING										RECIRCULATING	
10/10/17	8:30	RECIRCULATING										7.82	51.00
10/10/17	9:30	NA	8.00	3.24	44.0	8.90	9.55	44.1	2.90	RECIRCULATING		7.79	52.10
10/10/17	10:30	154	8.20	3.63	40.1	8.90	8.77	44.8	8.35	8.29	54.5	7.90	52.00
10/10/17	11:30	NA	8.20	3.88	41.8	8.90	9.01	47.6	8.38	8.12	58.7	8.19	50.10
10/10/17	12:30	149	8.20	3.42	44.0	8.90	8.87	48.4	8.34	8.05	68.2	8.12	54.10
10/10/17	13:30	NA	8.20	3.61	44.9	8.85	8.79	49.2	8.50	8.15	67.7	8.05	59.20
10/10/17	14:30	149	8.20	3.59	47.3	8.75	9.15	51.7	8.31	8.15	57.3	8.14	55.20
10/10/17	15:30	NA	8.20	3.50	47.8	8.75	8.65	52.9	8.29	8.05	53.0	7.75	58.60
10/10/17	16:30	149	8.20	3.30	48.7	8.80	8.99	54.1	8.26	8.12	61.2	8.02	54.20
10/10/17	17:30	NA	8.20	3.25	48.5	8.80	8.97	57.2	8.32	8.10	65.2	8.04	58.10
10/10/17	18:30	149	8.20	3.24	48.5	8.80	8.98	54.8	8.32	8.14	65.5	8.13	57.70
10/10/17	19:30	NA	8.20	3.24	48.2	8.80	8.85	54.8	8.29	8.12	58.5	8.06	53.00
10/10/17	20:30	160	8.20	3.25	48.7	8.80	9.22	54.8	8.29	8.16	58.2	8.09	52.40
10/10/17	21:30	NA	8.20	3.25	48.2	8.80	8.96	54.6	8.30	8.19	55.2	8.16	50.60
10/10/17	22:30	150	8.20	3.30	47.5	8.80	9.09	54.3	8.32	8.22	54.6	8.17	50.40
10/10/17	23:30	NA	8.20	3.31	46.6	8.80	9.04	53.6	8.32	8.26	54.0	8.20	49.40
10/11/17	0:30	155	8.20	3.29	45.9	8.80	8.81	52.7	8.29	8.18	53.7	8.19	48.00
10/11/17	1:30	NA	8.20	3.30	44.6	8.80	8.93	51.5	8.30	8.20	53.3	8.18	47.70
10/11/17	2:30	150	8.20	3.30	43.7	8.80	9.05	50.8	8.31	8.24	52.9	8.17	47.50
10/11/17	3:30	NA	8.20	3.25	42.8	8.80	9.05	49.6	8.27	8.21	52.5	8.18	47.30
10/11/17	4:30	150	8.20	3.22	42.3	8.80	8.67	48.9	8.24	8.19	50.8	8.17	47.30
10/11/17	5:30	NA	8.20	3.20	42.1	8.80	8.62	48.4	8.21	8.21	50.1	8.14	46.90
10/11/17	6:30	150	8.20	3.20	41.6	8.80	8.66	48.4	8.20	8.20	49.8	8.15	46.50
10/11/17	7:30	NA	8.30	3.28	41.3	8.80	8.56	48.2	8.21	7.70	45.0	7.68	48.00
10/11/17	8:30	140	8.30	3.25	40.9	8.90	8.83	48.5	8.26	7.90	45.6	7.53	48.30
10/11/17	9:30	NA	8.30	3.58	42.1	8.90	8.88	48.2	8.28	8.18	50.6	7.99	55.10
10/11/17	10:30	135	8.20	3.39	43.5	8.90	8.99	47.7	8.32	8.21	56.1	8.24	48.90
10/11/17	11:30	NA	8.20	3.30	43.2	8.90	9.11	49.3	8.32	8.24	53.8	8.03	70.40
10/11/17	12:30	135	8.20	3.33	45.1	8.90	8.92	52.3	8.32	8.24	50.6	8.10	61.10
10/11/17	13:30	NA	8.20	3.32	46.5	8.90	9.27	54.1	8.33	8.30	51.0	8.13	63.00
10/11/17	14:30	135	8.20	3.31	48.0	8.90	9.19	52.4	8.34	8.26	59.8	8.15	59.60
10/11/17	15:30	NA	8.20	3.31	49.4	8.90	8.87	53.9	8.36	8.31	59.0	8.02	64.40
10/11/17	16:30	135	8.20	3.29	50.6	8.90	8.83	55.1	8.35	8.30	51.9	8.16	60.20
10/11/17	17:30	NA	8.20	3.29	50.9	8.90	9.16	54.8	8.36	8.29	48.5	8.24	56.20
10/11/17	18:30	135	8.20	3.36	50.1	8.90	8.93	56.2	8.38	8.25	58.0	8.33	47.10
10/11/17	19:30	NA	8.20	3.39	49.4	8.90	9.13	56.0	8.39	8.26	57.9	8.06	53.90
10/11/17	20:30	145	8.20	3.41	48.5	8.90	9.38	55.3	8.40	8.26	57.2	8.16	50.90
10/11/17	21:30	NA	8.20	3.36	48.0	8.88	8.99	54.3	8.40	8.27	56.7	8.19	50.50
10/11/17	22:30	115	8.20	3.42	47.1	8.88	8.74	53.6	8.42	8.30	56.1	8.20	49.60
10/11/17	23:30	NA	8.20	3.44	46.6	8.82	8.84	52.9	8.42	8.30	55.8	8.22	49.40
10/12/17	0:30	90	8.20	3.54	45.1	8.76	8.63	52.0	8.42	8.32	55.0	8.22	49.00
10/12/17	1:30	NA	8.20	3.57	44.2	8.76	8.93	51.2	8.42	RECIRCULATING			
10/12/17	2:30	115	8.20	3.05	43.0	8.76	8.77	50.3	8.16	8.27	54.6	8.22	46.90
10/12/17	3:30	NA	8.20	2.88	42.1	8.76	8.75	49.1	8.11	RECIRCULATING			
10/12/17	4:30	RECIRCULATING											
10/12/17	5:30	RECIRCULATING											
10/12/17	6:30	105	8.20	2.75	39.2	8.76	9.22	46.7	8.34	8.33	53.7	8.27	46.50
10/12/17	7:30	NA	ND	OFFLINE		8.76	8.77	45.5	8.38	7.93	38.4	7.84	50.40
10/12/17	8:30	125	ND	2.74	37.5	8.90	9.14	44.8	8.20	7.99	41.6	7.98	40.00
10/12/17	9:30	NA	ND	2.74	37.5	8.90	9.23	44.3	8.38	8.18	41.4	8.05	47.60
10/12/17	10:30	125	ND	2.73	38.7	8.95	8.90	44.6	8.35	8.11	46.0	8.00	52.80
10/12/17	11:30	NA	ND	2.72	40.1	9.00	9.34	45.3	8.36	8.19	49.5	8.07	54.60
10/12/17	12:30	125	ND	2.72	41.8	9.00	9.12	46.7	8.28	8.25	52.9	8.12	58.40
10/12/17	13:30	NA	ND	2.72	42.0	9.00	9.24	48.2	8.39	8.42	50.8	8.11	59.40
10/12/17	14:30	125	ND	2.71	41.0	9.00	8.89	50.3	8.19	8.21	62.5	8.14	56.90
10/12/17	15:30	NA	ND	ND	ND	9.00	8.84	49.4	8.20	8.18	62.1	8.13	55.90
10/12/17	16:30	SHUTDOWN - END OPERATIONS											

Table A-7
Summary of 2017
Pond Water Treatment Plant Operator's Logs

NA = Not applicable
ND = No Data

Appendices B through D

Appendix B – 2017 Pond Water Treatment Data

Laboratory Reports (PDF format)

Analytical Laboratory Electronic Data Deliverable Files (Microsoft Excel format)

Appendix C – 2017 Water Year USGS Flow and Stage Annual Data Reports

Annual Water Data Reports for 12 Stations (Microsoft Excel format)

Appendix D – AECOM: Leviathan Mine Pond Water Treatment, 2017 Data Summary Report

Attachment 4 – Data Quality Summary (PDF format)