

# **YEAR-END REPORT FOR THE 2023 FIELD SEASON AT LEVIATHAN MINE**

**Alpine County, California**

**Revised April 2024**



***Prepared by:***

**California Regional Water Quality Control Board, Lahontan Region  
2501 Lake Tahoe Boulevard  
South Lake Tahoe, CA 96150**

***Submitted to:***

**USEPA, Region IX  
75 Hawthorne Street, SFD-7-2  
San Francisco, CA 94105-3901**

# YEAR-END REPORT FOR THE 2023 FIELD SEASON AT LEVIATHAN MINE

1.	INTRODUCTION.....	1
2.	BACKGROUND.....	2
	2.1 Site Setting and History.....	2
	2.2 AMD Collection and Storage.....	3
	2.3 Pond Water Treatment Processes.....	5
	2.3.1 Early-Season Pond Water Treatment.....	5
	2.3.2 Summer Pond Water Treatment.....	6
3.	POND WATER TREATMENT AND SLUDGE REMOVAL ACTIVITIES.....	7
	3.1 2023 Early-Season Pond Water Treatment.....	8
	3.2 2022 Summer Pond Water Treatment Sludge Removal and Disposal.....	9
	3.3 2023 Summer Pond Water Treatment.....	10
	3.4 2023 Early-Season Pond Water Treatment Sludge Removal and Disposal.....	11
4.	POND WATER TREATMENT MONITORING AND SAMPLING RESULTS.....	11
	4.1 Early-Season Pond Water Treatment Monitoring.....	11
	4.2 Early-Season Pond Water Treatment Sludge Characterization.....	14
	4.3 Early-Season Pond Water Treatment Sampling Results.....	15
	4.3.1 Early-Season Pond Water Treatment Data Summary.....	15
	4.3.2 Early-Season Pond Water Treatment Data Quality Evaluation.....	18
	4.4 Summer Pond Water Treatment Monitoring.....	21
	4.5 Summer Pond Water Treatment Sludge Characterization.....	22
	4.6 Summer Pond Water Treatment Sampling Results.....	23
	4.6.1 Summer Pond Water Treatment Data Summary.....	23
	4.6.2 Summer Pond Water Treatment Data Quality Evaluation.....	24
	4.7 Database Format Discrepancies.....	26
5.	SURFACE WATER FLOW AND STAGE MONITORING.....	27
	5.1 Flow and Stage Monitoring.....	27
6.	SITE MAINTENANCE.....	27
	6.1 Routine Maintenance.....	28
	6.2 Non-Routine Maintenance.....	29
	6.2.1 Pond 1 and Pond 3 Liner Repairs.....	29
	6.2.2 Pond 2 South Valve Repair.....	29
	6.2.3 Installation of Storage Container at Pond 3.....	29
	6.2.4 Pit Slump Repair.....	30
	6.3 Maintenance Items Not Completed.....	31
7.	COMBINED SITE OPERATIONS PLAN.....	31

## FIGURES

- Figure 1: Site Location Map
- Figure 2: Bryant Creek Watershed
- Figure 3: Water Board AMD Capture and Treatment System
- Figure 4: Early-Season Pond Water Treatment System – System Layout
- Figure 5: Early-Season Pond Water Treatment System Simplified Piping and Instrumentation Diagram
- Figure 6: Summer Pond Water Treatment System – System Layout
- Figure 7: Summer Pond Water Treatment System – Simplified Piping & Instrumentation Diagram
- Figure 8: Flow and Stage Monitoring Locations

## TABLES

- Table 1: USEPA Discharge Criteria
- Table 2: 2023 Early-Season Pond Water Treatment Discharge Summary
- Table 3: Summary of Pond Water Treatment Volumes and Consumables
- Table 4: 2023 Summer Pond Water Treatment Daily Discharge Summary
- Table 5: 2023 Early-Season Pond Water Treatment Contingency Monitoring Plan
- Table 6: 2023 Early-Season Pond Water Treatment Influent Field and Analytical Results
- Table 7: 2023 Early-Season Pond Water Treatment Effluent Field and Analytical Results
- Table 8: 2023 Early-Season Treatment Surface Water Field and Analytical Results
- Table 9: 2023 Early-Season Pond Water Treatment Sludge Analytical Results
- Table 10: 2023 Summer Pond Water Treatment Monitoring Program
- Table 11: 2023 Summer Pond Water Treatment Influent Field and Analytical Results
- Table 12: 2023 Summer Pond Water Treatment Effluent Field and Analytical Results
- Table 13: Summary of 2023 Summer Pond Water Treatment Plant Operators' Logs
- Table 14: 2023 Summer Pond Water Treatment Sludge Analytical Results
- Table 15: 2023 Flow and Stage Monitoring Locations

## PHOTOS

- Photo 1 – January 26, 2023, Initial snow removal activities approaching the Pond 1 area. Snow depth approximately 4-5 feet in this area.
- Photo 2 – February 13, 2023, TKT setting up Early-Season Pond Water Treatment system at Pond 3.
- Photo 3 – February 20, 2023, TKT discharging neutralized pond water from below the ice and snow at Pond 3.
- Photo 4 – February 23, 2023, TKT personnel monitoring the progress of Early-Season Pond Water Treatment under the snow and ice at Pond 3.
- Photo 5 – April 3, 2023, TKT continuing Early-Season Pond Water Treatment efforts at Pond 3 during challenging conditions. Pond 3 still mostly ice and snow covered at this time.
- Photo 6 – April 17, 2023, Continuing Early-Season Pond Water Treatment at Pond 3. Pond ice and snow cover beginning to melt.

## PHOTOS (CONTINUED)

- Photo 7 – June 8, 2023, TKT utilizing two turbidity curtains in Pond 3 to improve sludge management and discharge quality.
- Photo 8 – March 7, 2023, Snow removal a short distance from the Nevada access gate. Snow depth in excess of six feet.
- Photo 9 – March 17, 2023, Nearly unpassable road conditions on the Nevada access road near the residential area.
- Photo 10 – July 13, 2023, The Pit Clarifier a short time after the startup of Summer Pond Water Treatment.
- Photo 11 – August 31, 2023, Sludge buildup in the Pit Clarifier. Note the installation of two turbidity curtains around the piccolo structure.
- Photo 12 – September 27, 2023, The Pit Clarifier full of sludge shortly after Summer Pond Water Treatment was shut down for the 2023 season.
- Photo 13 – September 27, 2023, Sludge stockpile activities at Pond 3. Much of the sludge was too wet to effectively stockpile at this time.
- Photo 14 – October 11, 2023, Sludge haul at Pond 3. The white material is Apromud P100XL, a highly absorbent non-hazardous polymer powder used to absorb water and solidify the sludge for shipment.
- Photo 15 – November 30, 2023, Pond 3 after the completion of sludge haul activities. A small quantity of sludge (less than half a truck) was left following haul activities and will be hauled next season.
- Photo 16 – September 21, 2023, Removal of accumulated sediment from the stormwater conveyances on the Pond 2 North berm.
- Photo 17 – September 7, 2023, Final Pond 1 liner patch on holes discovered in the fall of 2022.
- Photo 18 – April 17, 2023, Early observation of the Pit Slump. Debris flow had not yet occurred when this photo was taken.
- Photo 19 – April 24, 2023, Further development of the Pit Slump. Debris flow and slump seepage entering the Pit Clarifier at the time of this photo.
- Photo 20 – April 24, 2023, Debris flow in Pit Clarifier.
- Photo 21 – June 5, 2023, AECOM begins removal of Pit Slump debris from the Pit Clarifier.
- Photo 22 – June 20, 2023, Sludge haul activities at the Pit Clarifier.
- Photo 23 – August 30, 2023, Stabilization work being performed on the Pit Slump.
- Photo 24 – September 14, 2023, Installation of rock filled gabion baskets to buttress the toe of the Pit Slump.
- Photo 25 – September 15, 2023, Installation of a gravel drain behind the gabion baskets at the Pit Slump.

## **APPENDICES**

### **Appendix A – 2023 Early-Season Pond Water Treatment Data**

AECOM's Early-Season Pond Water Treatment Data Quality Summary (PDF format)  
Early-Season Pond Water Treatment Laboratory Reports (PDF format)  
Early-Season Pond Water Treatment Analytical Laboratory Electronic Data  
Deliverable Files (Microsoft Excel format)

### **Appendix B – 2023 Summer Pond Water Treatment Data**

AECOM's Summer Pond Water Treatment Data Quality Summary (PDF format)  
Summer Pond Water Treatment Laboratory Reports (PDF format)  
Summer Pond Water Treatment Analytical Laboratory Electronic Data Deliverable  
Files (Microsoft Excel format)

### **Appendix C – 2023 Water Year USGS Flow and Stage Annual Data Reports**

Annual USGS Flow and Stage Data Reports for 12 Stations (Microsoft Excel format)

## ACRONYMS AND ABBREVIATIONS

AAA	Administrative Abatement Action
AECOM	AECOM Technical Services
Ag	Silver
Al	Aluminum
AMD	Acid Mine Drainage
ARC	Atlantic Richfield Company
As	Arsenic
Ba	Barium
Be	Beryllium
Ca	Calcium
Ca[OH <sub>2</sub> ]	Calcium Hydroxide or Lime
Cd	Cadmium
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CL-2	Lamella Clarifier
Co	Cobalt
Cr	Chromium
Cu	Copper
EDCDA	El Dorado County Department of Agriculture
EDD	Electronic Data Deliverable
Energy Laboratories	Energy Laboratories, Inc. of Billings, Montana
Fe	Iron
FF-2	Flash/Flocculation Mix Tank
FMB	Field Method Blank
FRP	Fiberglass Reinforced Plastic
gpm	Gallons per minute
HDPE	High Density Polyethylene
Hg	Mercury
ID	Identification
Mg	Magnesium
mg/L	Milligrams per Liter
Mn	Manganese
Mo	Molybdenum
ND	Non-Detect
Ni	Nickel
NTCRAM	Non Time Critical Removal Action Memorandum
Pb	Lead
PDF	Portable Document Format
pH	Potential of Hydrogen
Pit	Open pit
pond water	consists of AMD and direct precipitation
PUD	Pit Under-Drain

## ACRONYMS AND ABBREVIATIONS (Continued)

PWT	Pond Water Treatment
PWT SAP	Water Board's 2024 Sampling and Analysis Plan for Leviathan Mine Site Pond Water Treatment
PVC	Polyvinyl Chloride
QA/QC	Quality assurance/quality control
R-1	Reactor Tank 1
R-2	Reactor Tank 2
RCTS	Rotating cylinder treatment system
RPD	Relative Percent Difference
Se	Selenium
Sb	Antimony
SO <sub>4</sub>	Sulfate
STLC	Soluble Threshold Limit Concentration
SU	Standard Unit
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total dissolved solids
Tl	Thallium
TKT	TKT Consulting, LLC
TTLC	Total Threshold Limit Concentration
Upper Ponds	Ponds 1, 2 South, and 2 North
USEPA	United States Environmental Protection Agency
USFS	United States Department of Agriculture, Forest Service, Humboldt-Toiyabe National Forest)
USGS	United States Geological Survey
V	Vanadium
Water Board Work Plan	California Regional Water Quality Control Board, Lahontan Region Water Board's 2023/2024 Work Plan for Leviathan Mine
Zn	Zinc

# 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 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 the Leviathan Mine Site (“Leviathan Mine” or “Site”) on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List, 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 the Water Board of the necessity to continue the work specified in the AAA on a year-to-year basis.

Paragraph No. 50 of USEPA’s 2005 AAA requires the Water Board to submit a written report within 90 days of USEPA’s pre-certification inspection. USEPA’s pre-certification inspection for the 2023 field season occurred on December 4, 2023, thus making March 3, 2024 the due date for a written report for the 2023 field season.

This *Year-End Report for the 2023 Field Season at Leviathan Mine* (Year-End Report) prepared by the Water Board 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 2023. The Year-End Report submitted on March 1, 2024 has been revised to incorporate comments and suggestions provided by USEPA in a letter dated March 20, 2024. The work to be completed by the Water Board is described in Paragraph No. 37 of the AAA, and consists of the following:

- Continue summer treatment of the flows from the Adit and Pit Under-Drain (PUD), captured year-round in the existing ponds;
- Maintain the Site as described in the approved Work Plan, including the ponds, drainage and diversion channels, and gates and fences; and
- Monitor conditions at the Site as described in the approved Work Plan, including flow rate measurements, surface water quality and meteorological information<sup>1</sup>.

This Year-End Report also summarizes Early-Season Pond Water Treatment (PWT) activities conducted by the Water Board during 2023 to mitigate the potential release of untreated or partially treated pond water to Leviathan Creek.

<sup>1</sup> In a letter dated March 28, 2011, the USEPA authorized the Water Board to discontinue surface water quality monitoring and meteorological monitoring responsibilities for the Site. Surface water monitoring was discontinued in 2011 and meteorological monitoring was discontinued when the station become inoperable in 2016.



Water Board staff conducted the above-listed activities in accordance with the *2023/2024 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 2023, and is organized into the following sections:

1. Introduction – provides the regulatory framework for the submission of the Year-End Report;
2. Background – provides information pertaining to the location of Leviathan Mine, property ownership, nearby surface waters, historic mining activities, the generation of acid mine drainage (AMD), Site improvements carried out by the Water Board to collect, store, evaporate, and treat AMD emanating from the Adit, and the Pit Under-Drain (PUD);
3. Pond Water Treatment and Sludge Removal Activities – provides a description of 2023 Early-Season and Summer PWT activities including the removal and disposal of sludge generated from treatment;
4. Pond Water Treatment Monitoring and Sampling Results – provides a description of 2023 Early-Season and Summer PWT monitoring and sampling results;
5. Surface Water Flow and Stage Monitoring – provides a description of ongoing surface water flow and stage monitoring conducted in 2023; and
6. Site Maintenance – provides a description of routine and non-routine maintenance activities conducted at the Site in 2023.

## **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 Site is approximately six miles east of Markleeville, California and five miles west of Topaz Lake, Nevada. Leviathan Mine encompasses approximately 465 acres of which approximately 230 acres were disturbed by mining activities. Most of the mining disturbance is on property owned by the State of California. The remainder of the disturbed area is located on property owned by the United States Department of Agriculture, Forest Service, Humboldt-Toiyabe National Forest (USFS). The USFS owns most land surrounding the Leviathan Mine, except for ten (10) private parcels along the southern boundary of the Site.

Leviathan and Aspen creeks (Figure 2) flow across the Site and join below Leviathan Mine. Approximately 1.5 miles downstream from where Aspen Creek flows into Leviathan Creek, 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.

Mining activities at Leviathan Mine included underground and open pit extraction of sulfur-rich ore. During open pit mining, approximately 22 million tons of overburden and mine waste material was excavated to access the ore body. This material was then deposited upon adjacent land areas resulting in the disturbance of approximately 230 acres and the exposure of naturally occurring sulfide-bearing minerals to air and water. The exposure of sulfide-bearing minerals to air and water triggered a series of chemical reactions that cause local groundwater to become acidic which leaches metals out of the surrounding soil and rocks and into the groundwater (i.e., the perpetual generation of AMD). The discharge of AMD at the Site occurs at several locations. When 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.

Since the early 1980s, the Water Board has implemented several projects to abate the generation and discharge of AMD. 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/evaporation ponds, which remain a major component of the Water Board's effort to mitigate the discharge of AMD from the Adit and the PUD.

## **2.2 AMD Collection and Storage**

The Water Board's 1985 Pollution Abatement Project included construction of five lined evaporation ponds (Figure 3) to store and evaporate AMD discharged from the Adit and the PUD.

The Adit is the location where AMD discharges from a tunnel excavated during underground mining activities in the 1930s. The portal to the tunnel has collapsed and the condition of the tunnel beyond the portal is unknown. The approximate location of the tunnel and other Site features are shown in Figure 3. As part of the 1985 Pollution Abatement Project, in the vicinity of the collapsed portal, the Water Board installed an underground drain to collect acidic groundwater emanating from the Adit. The underground drain consists of a 12-inch-diameter perforated Polyvinyl Chloride (PVC) pipe in a bed of drain rock. The perforated pipe is connected to a non-perforated 12-inch PVC pipe that carries the AMD to a concrete flow control structure, as shown in Figure 3. AMD from the Adit has a pH of less than 3.0 and typically has a discharge rate between nine (9) and 15 gallons per minute (gpm) with rates as high as approximately 76 gpm (based on flow data collected by United States Geological Survey [USGS] at 15-minute intervals from 1999 to present).

The Water Board 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 improve slope stability and control stormwater runoff. The PUD consists of approximately 1,500 linear feet of 12-inch-diameter perforated PVC 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 PVC pipe that conveys the AMD discharged from the PUD to the same concrete flow control structure that receives AMD from the Adit, as described above (Figure 3). 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 72 gpm (based on flow data collected by USGS at 15-minute intervals from 1999 to present).

The five ponds that were constructed as part of the 1985 Pollution Abatement Project are referred to as Pond 1, Pond 2 South, Pond 2 North, Pond 3, and Pond 4, as shown in Figure 3. The ponds cover a combined surface area of approximately 11.8 acres and provide a cumulative storage capacity of approximately 15.4 million gallons (based on a 2012 survey conducted by ARC contractors). The combined AMD from the Adit and PUD collected in the concrete flow control structure is routed to the pond system underground via non-perforated 12-inch-diameter PVC piping. AMD flows by gravity to any combination of Ponds 1, 2 South, and 2 North as these ponds are interconnected and at the same elevation. These three ponds are commonly referred to as the "upper ponds" and have a combined capacity of approximately 13 million gallons. Influent flow to the upper ponds that exceeds the storage capacity of the upper pond system is diverted to Pond 3 by gravity via underground 12-inch-diameter non-perforated PVC piping. Influent flow to Pond 3 that exceeds the storage capacity of Pond 3 can be diverted by gravity via underground non-perforated 12-inch-diameter piping to either Leviathan Creek or to Pond 4. The diversion of flow to Leviathan Creek or Pond 4 is controlled by a valve located on the piping from Pond 3. Since the spring of 2006, the valve on the piping from Pond 3 to Pond 4 has been closed and all discharges from Pond 3 have been routed to Leviathan Creek. ARC currently uses Pond 4 for storage of AMD discharged at other locations (i.e., the Channel Underdrain and the Delta Seep) and influent flow that exceeds the storage capacity of Pond 4 flows directly to Leviathan Creek via HDPE piping.

In addition to receiving AMD from the Adit and the PUD, the five ponds receive water from direct precipitation (rain/snow) that lands within the pond containment berms. The mixture of water from rain/snow and AMD from the Adit and PUD is collectively referred to as "pond water" and requires treatment. Based on the 2012 survey conducted by ARC, it is estimated 12-inches of water from rain/snow on the upper ponds would add approximately three (3) million gallons to the upper ponds. It should be noted that pond water is also lost to the atmosphere due to evaporation.

Between 1985 (following completion of the Water Board's Pollution Abatement Project) and 1999, during some water years (generally in the spring), the combined influent flows of AMD and direct precipitation would exceed the storage capacity of the pond system. When this occurred, excess pond water was routed from the upper ponds to Pond 3, from Pond 3 to Pond 4, and from Pond 4 to Leviathan Creek. During the summer of 1999, the Water Board constructed a PWT system (now referred to as the Summer PWT system) to treat pond water from the upper ponds during the summer months as a means to increase available pond storage capacity going into the subsequent winter/spring months (i.e., to prevent the discharge of untreated pond water from the pond system to Leviathan Creek). The Summer PWT system, with some modifications, has successfully operated every summer since 1999 to prevent the discharge of untreated pond water to Leviathan Creek.

Even with the initiation of Summer PWT in 1999, the Site has experienced some water years during which the combined flow of AMD and direct precipitation has threatened to exceed the storage capacity of the pond system (currently consisting of the upper ponds

and Pond 3 with a cumulative storage capacity of approximately 14 million gallons). In the spring of 2005, to prevent the discharge of untreated pond water to Leviathan Creek, the Water Board started Early-Season PWT. The Water Board has carried out Early-Season PWT (formerly referred to as Spring PWT) during the spring months of 2005, 2006, 2011, 2017, 2018, and 2019 and during the winter, spring, and summer months of 2023. The Early-Season and Summer PWT system processes are described below.

## **2.3 Pond Water Treatment Processes**

Early-Season and Summer PWT processes are 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 with pond water. 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 then settled out of solution. Application of the lime neutralization process for the treatment of pond water is intended to produce the following products: (1) an effluent that meets USEPA Discharge Criteria for Leviathan Mine (USEPA Discharge Criteria) set forth in the July 12, 2005 Non Time Critical Removal Action Memorandum (NTCRAM) with a near neutral pH, and (2) a free draining waste sludge consisting mostly of gypsum (Calcium Sulfate) and metal hydroxides. Treated effluent from the Early-Season and Summer PWT systems is discharged into Leviathan Creek. The USEPA Discharge Criteria are summarized in Table 1. The dewatered waste sludge from both Early-Season and Summer PWT is removed and hauled to an off-site Class I hazardous waste landfill for disposal.

### **2.3.1 Early-Season Pond Water Treatment**

The Water Board will initiate Early-Season PWT after confirming the following mobilization criteria are met: 1) Site and access conditions are conducive to allow for mobilization and Early-Season PWT to be conducted safely, 2) there is sufficient evidence to indicate that without Early-Season PWT influent flows of AMD and direct precipitation are likely to exceed the available storage capacity of the upper ponds and Pond 3 before the Summer PWT operations can be started, 3) adequate funding is available or could be made available for Early-Season PWT, and 4) USEPA concurs with the decision to move forward with Early-Season PWT.

For Early-Season PWT, the Water Board's contractor assembles and operates a portable Rotating Cylinder Treatment System (RCTS) adjacent to Pond 3. Unlike the Summer PWT system (see Section 2.3.2 below for more information), the RCTS can be installed and operated without the use of heavy equipment. The RCTS includes two (2) rotating cylinder mixers, a 2,000-gallon lime dosing tank, three (3) 500-gallon lime slurry tanks, a lime delivery pump, siphon lines from the upper ponds, and pumps to circulate pond water within Pond 3. Figure 4 shows the Early-Season PWT system layout and Figure 5 shows a simplified piping and instrumentation diagram of the Early-Season PWT system.

Pond water from the upper ponds is siphoned to the RCTS. Using the RCTS, a lime slurry is mixed with pond water and the treated pond water/sludge slurry is discharged

to Pond 3. Circulation pumps around the perimeter of Pond 3 facilitate further mixing and oxidation of the treated pond water/sludge slurry. Once the treated pond water/sludge slurry in Pond 3 is stabilized at a pH of approximately 7.5 to 8.5, the RCTS and circulation pumps are adjusted to allow the precipitated metals to settle as sludge in Pond 3. The liquid portion of the neutralized pond water (treated effluent) is pumped into the Pond 3 excess flow piping structure and associated piping to Leviathan Creek, leaving the precipitated metals in the form of waste sludge in Pond 3.

During Early-Season PWT, field parameters (pH and electrical conductivity) are closely monitored during discharge events to ensure only treated pond water is discharged to Leviathan Creek. Once the discharge of treated pond water is complete, discharge pumps are shut off and the next batch of pond water is transferred from the upper ponds to the RCTS for treatment. Batched treatment of upper pond water continues until there is sufficient capacity in the upper ponds to store pond water until the Summer PWT system is operational. The treated discharge volume for each batch is determined using the starting and ending depths of pond water in Pond 3 during discharge, and the known relationship between pond depth and pond volume.

The waste sludge in Pond 3 is allowed to dewater through the remaining field season and eventually removed and hauled to an off-site Class I hazardous waste landfill for disposal before the onset of winter conditions at the Site.

### **2.3.2 Summer Pond Water Treatment**

During the summer months, the Water Board's contractor operates the Summer PWT system adjacent to Pond 1 to treat pond water stored in the upper ponds. The Summer PWT system includes two (2) 10,000-gallon fiberglass-reinforced plastic (FRP) reactor tanks, a 1,500-gallon flash/flocculation mix tank, a 5,000-gallon lamella clarifier, a 8,000-gallon lime storage tank, two (2) lime delivery pumps, and two (2) slurry pumps which convey treated pond water/sludge slurry to an approximate 500,000-gallon capacity earthen clarifier in the Pit (hereinafter referred to as the "Pit Clarifier"). Figure 6 shows the Summer PWT system layout and Figure 7 shows the Summer PWT simplified piping and instrumentation diagram.

The Summer PWT system draws pond water from Pond 1 for treatment, thereby lowering the surface elevation of pond water stored in the upper ponds. Pond water from Pond 1 is transferred to a 10,000-gallon FRP reactor tank (R-1). Lime slurry from the 8,000-gallon lime storage tank is added to R-1 to increase the pH of the pond water from approximately 2.5 to an approximate range of 2.8 to 3.2. A pH probe installed in R-1 measures pH and controls the amount of lime slurry added. Lime slurry is batched by mixing high calcium hydrated lime delivered to the Site in 2,000-pound supersacks with utility water diverted from Leviathan Creek. A mixer and compressed air are used to agitate, oxidize, and mix pond water and lime slurry in R-1.

The partially treated pond water flows by gravity from R-1 to a second 10,000-gallon FRP reactor tank (R-2). Lime slurry from the 8,000-gallon lime storage tank is added to R-2 to increase the pH of the partially treated pond water to approximately 8.3. A pH probe in R-2 measures pH and controls the amount of lime slurry added. This is the second of a two-point lime addition process and an approximate pH setpoint of 8.3 in R-

2 causes all but trace amounts of remaining metals to precipitate out of solution. A mixer and compressed air are used in R-2 to further agitate, oxidize, and promote mixing of the partially treated pond water, precipitates, and lime slurry.

The treated pond water/sludge slurry from R-2 then flows through the flash/flocculation mix tank (FF-2), which contains two (2) mixers, and then into the lamella clarifier (CL-2). A polyacrylamide polymer solution (liquid flocculant) is injected into the sludge slurry line just upstream of the slurry pumps to promote flocculation and settling of sludge in the Pit Clarifier. A pH probe is used in FF-2 to control the slurry pumps and to prevent the transfer of treated pond water/sludge slurry having a pH below 8.1 or above 8.7 to the Pit Clarifier. By means of this control system, treated pond water/sludge slurry having a pH outside the range of 8.1-8.7 is automatically diverted to Pond 1. The pH probe, controller, and pump combination provide additional reliability as well as a final confirmation pH of the treated pond water/sludge slurry pumped to the Pit Clarifier. Two (2) slurry pumps transfer the treated pond water/sludge slurry from the bottom of CL-2 to the Pit Clarifier.

The treated pond water/sludge slurry from CL-2 is pumped to the Pit Clarifier where solids settle out in quiescent conditions. The Pit Clarifier includes a gravel/sand covered perforated pipe under-drain system where treated effluent collects and flows through a weir box. Treated effluent in the Pit Clarifier can also be decanted to the weir box through an outlet structure known as the "Piccolo". In the weir box, stage data are measured and recorded using a pressure transducer/data logger system to calculate discharge volumes, and treated effluent water quality samples are collected. Discharge of treated effluent from the Pit Clarifier is controlled using valves on the Pit Clarifier under-drain and Piccolo piping. Treated effluent is typically discharged 24-hours per day, seven (7) days per week, while the Summer PWT system is operating, after treatment has ceased, and the sludge continues to dewater until the subsequent summer season when the sludge is removed and hauled to an off-site Class I hazardous waste landfill for disposal.

Utility water used for lime slurry and liquid flocculant dilution is typically collected from Leviathan Creek upstream of the disturbed portion of the Site and is stored in two (2) 15,000-gallon utility water tanks adjacent to the Summer PWT system. During drier years, it has been necessary to use treated effluent from the Pit Clarifier as a source of utility water at times.

### **3. POND WATER TREATMENT AND SLUDGE REMOVAL ACTIVITIES**

The 2023 PWT activities included Early-Season PWT between late-January 2023 through late-June 2023 and Summer PWT between late-June 2023 through late-September 2023. Sludge accumulated in the Pit Clarifier during the 2022 Summer PWT season was removed and hauled to an off-site Class I hazardous waste landfill in Beatty, Nevada for disposal in late-June 2023 (prior to the start of 2023 Summer PWT season). Sludge accumulated in Pond 3 during 2023 Early-Season PWT activities was removed and hauled to an off-site Class I hazardous waste landfill in Beatty, Nevada for disposal in October 2023.

### **3.1 2023 Early-Season Pond Water Treatment**

The Water Board authorized their PWT contractor, AECOM to initiate Early-Season PWT after confirming the mobilization criteria described in Section 2.3.1 were satisfied. AECOM subcontracted with TKT Consulting, LLC (TKT) to conduct Early-Season PWT during 2023. By January 19, 2023, the snow water equivalent for the Central Sierra was already at 248 percent of normal resulting in the need to begin mobilization for Early-Season PWT activities in late-January 2023. This is the earliest start date for Early-Season PWT since initiating Early-Season PWT in 2005.

Following consultation with the U.S. Forest Service (USFS), the Water Board and ARC jointly contracted with a company specializing in snow removal to gain access to the Site. Snow was cleared from Leviathan Mine Road using a rubber-tired loader mounted with a large rotary snow blower on January 23 through 26, 2023. Snow removal activities can be seen in Photo 1 and snow depths at the Site ranged from approximately 4 to 6 feet. Mobilization of Early-Season PWT equipment and supplies to the Pond 3 area began on February 1, 2023 and treatment commenced on February 16, 2023. When treatment started, Ponds 1, 2 North, 2 South, and 3 were entirely covered by ice and snow posing significant operational and treatment challenges. The start-up of 2023 Early-Season PWT activities are shown in Photos 2 through 7.

When Early-Season PWT started, the initial volume of pond water contained in Pond 3 was from direct precipitation that landed inside the Pond 3 containment berms. After the RCTS neutralized the initial volume of pond water contained in Pond 3, TKT discharged the first batch of treated pond water to Leviathan Creek on February 20, 2023.

Between February 27 and March 16, 2023, a series of atmospheric rivers impacted the Site resulting in heavy snowfall restricting safe access to the Site. Early-Season PWT operations at Pond 3 abruptly stopped shortly after February 27, 2023 when the diesel generator ran out of fuel. Between storms, snow removal efforts intended to access the Site were undertaken on March 3, March 7, and March 17, 2023. The snowpack encountered near the Site on March 7, 2023 is shown in Photo 8. Although snow removal activities were not able to reach the Site on March 7, 2023, Water Board and TKT personnel were able to snowshoe to the Site. At this time, Pond 3 had freeboard capacity and pond water was fully contained. On March 17, 2023, TKT and Water Board personnel were able to safely access the Pond 3 area using four-wheel drive vehicles and observed untreated pond water from Pond 3 discharging to Leviathan Creek through the Pond 3 excess flow piping at an approximate rate of two (2) to three (3) gallons per minute.

While returning to Highway 395 on March 17, 2023, TKT and Water Board personnel found that the road near the residential area had become nearly unpassable and was no longer safe for travel. Road conditions on March 17, 2023 are shown in Photo 9. At this time, the Site again became inaccessible until road drainage improvements were implemented. On March 20, 2023, TKT and Water Board personnel performed hand work on the problematic section of the access road to allow water from the road to drain and flow to an existing culvert.

On March 23, 2023, TKT was able to regain safe access to the Site and restart the Early-Season PWT system at Pond 3. By March 27, 2023, the second batch of treated pond water in Pond 3 was discharged to Leviathan Creek. The treated discharge on March 27, 2023 lowered the water level in Pond 3 below the excess flow piping, minimizing the threat of a potential release of untreated pond water to Leviathan Creek. During the time when the Early-Season PWT system was being reinitiated (March 23 through March 27, 2023), excess flow discharged from Pond 3 was untreated, however, some lime neutralization had occurred (referred to as untreated pond water).

During 2023 Early-Season PWT activities, waste sludge accumulation in Pond 3 began to impede treatment operations. To improve Early-Season PWT operations in Pond 3, two (2) turbidity curtains were installed across the width of Pond 3. The turbidity curtains allowed better management of sludge accumulation in Pond 3 and minimized the potential of sludge being discharged into the Pond 3 excess flow piping during discharge events. As a result of Early-Season PWT in 2023, a total of 48 batches of pond water were treated in Pond 3 and discharged to Leviathan Creek. A final discharge of treated water from Pond 3 to Leviathan Creek occurred intermittently from June 29 through July 14, 2023, by siphoning less than five (5) gallons per minute out of Pond 3. Table 2 presents the days and approximate volume of treated pond water discharged from Pond 3 to Leviathan Creek. By July 14, 2023, a total of approximately 18 million gallons of pond water had been treated and discharged to Leviathan Creek during Early-Season PWT. The Early-Season PWT operations consumed approximately 73.92 tons of type S bagged lime (approximately 50 percent calcium hydroxide and 35 percent magnesium hydroxide by weight), 4,142 gallons of diesel fuel, and 814 gallons of gasoline. The consumables used during 2023 Early-Season PWT and total volume of pond water treated are included in Table 3.

Field measurements of pH and electrical conductivity in Pond 3 were made as needed during Early-Season PWT to ensure treatment efficiency. The frequency of field pH and electrical conductivity measurements ranged from approximately two (2) to three (3) times per day during normal Early-Season PWT activities when adequate Pond 3 freeboard remained, to numerous times per hour as TKT personnel prepared to discharge a Pond 3 treated effluent batch to Leviathan Creek. Discharge of treated pond water 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. During discharge events, TKT personnel measured pH, at a minimum, every hour to ensure that only treated water was discharged to Leviathan Creek.

### **3.2 2022 Summer Pond Water Treatment Sludge Removal and Disposal**

In late-June 2023, AECOM removed dewatered sludge accumulated in the Pit Clarifier generated during the 2022 Summer PWT operations. As described in Section 6.2.4, in mid-April of 2023 a soil slump occurred in the pit wall immediately adjacent to the Pit Clarifier and a portion of the soil debris that entered the Pit Clarifier was hauled off-site for disposal with the sludge. Approximately 265 tons of sludge generated during 2022 Summer PWT operations and 735 tons of slump debris (a total of approximately 1,000 tons) from the Pit Clarifier was removed and hauled to an off-site Class I hazardous waste landfill in Beatty, Nevada for disposal. The weight of sludge generated during the



2022 Summer PWT is summarized in Table 3. The sludge was sampled, analyzed, and characterized in the fall of 2022; the results from the fall 2022 sampling were reported in the Water Board's 2022 Year-End Report. The sludge Uniform Hazardous Waste Manifests and weigh tickets are available for review at the Water Board's office in South Lake Tahoe.

### **3.3 2023 Summer Pond Water Treatment**

The 2023 Summer PWT system operations began in late-June with treated pond water/sludge slurry first entering the Pit Clarifier on June 27, 2023. The discharge of treated pond water from the Pit Clarifier to Leviathan Creek began on June 30, 2023, and treatment ceased on September 25, 2023 due to reaching the maximum sludge holding capacity of the Pit Clarifier. AECOM operated the Summer PWT system 24-hours per day, seven days per week for the majority of the treatment season. Between August 10 and September 25, 2023, the Summer PWT was temporarily shutdown and restarted seven (7) times to allow for the sludge bed in the Pit Clarifier to dewater and settle, allowing for additional pond water to be treated. During this time, two (2) turbidity curtains were installed around the Piccolo piping structure in the Pit Clarifier. The turbidity curtains allowed better management of sludge accumulation in the Pit Clarifier and minimized the potential of sludge being discharged into the Piccolo piping. The Pit Clarifier can be seen in Photo 10 and the turbidity curtains can be seen in Photo 11.

After the Summer PWT system was shut down on September 25, 2023, treated pond water continued to be discharged from the Pit Clarifier as the accumulated sludge drained. By October 2, 2023, approximately 10.5 million gallons of treated pond water had been discharged to Leviathan Creek and flows from the Pit Clarifier underdrain were below five (5) gpm. A summary of total volume of treated pond water discharged to Leviathan Creek per day is presented in Table 4.

The Summer PWT system operations utilized 188.8 tons of high calcium hydrated lime (approximately 90 percent calcium hydroxide by weight), 341 gallons of liquid flocculent, 4,015 gallons of diesel fuel, and 121.3 gallons of gasoline. The consumables used and total volume of pond water treated each year since 1999 are included in Table 3.

The Water Board's Summer PWT effort in 2023, combined with evaporation, resulted in the upper ponds having slightly less than the maximum available storage capacity of approximately 13 million gallons at the end of the treatment effort. Water Board staff estimate that approximately 1.5 million gallons of pond water remained in the upper ponds at the end of the Summer PWT effort. The volume of pond water remaining in the upper ponds when the Summer PWT system was shutdown was due to a number of causes including: record Adit and PUD flow rates, well above average precipitation during the 2023 water year, higher than average lime utilization which lead to increased sludge generation, and most importantly, the Pit Clarifier reaching maximum sludge storage capacity. Sludge contained in the Pit Clarifier shortly after shutdown is shown in Photo 12.

Sludge generated by the 2023 Summer PWT operations is contained in the Pit Clarifier to allow for further dewatering. Dewatering of the sludge over the winter and spring months will increase solids content and reduce both the volume and mass of the sludge.

Water Board staff estimates that approximately 840 to 1,050 tons of sludge generated during the 2023 Summer PWT season will be disposed of in late-June or early-July 2024.

### **3.4 2023 Early-Season Pond Water Treatment Sludge Removal and Disposal**

In October 2023, AECOM removed and hauled the sludge generated by the 2023 Early-Season PWT effort (estimated at 782 tons) from Pond 3 to an off-site Class I hazardous waste landfill in Beatty, Nevada for disposal. The weight of sludge generated during the 2023 Early-Season PWT is summarized in Table 3. In late-September, AECOM took efforts to expedite dewatering and aeration of the sludge in Pond 3. Despite AECOM's early efforts, the sludge remained too wet to haul. As such, the Water Board purchased 18 supersacks (39,240 pounds total) of Aprotex Apromud P110XL (Apromud) to mix with the wet sludge. Apromud is a non-toxic and non-hazardous polymer powder which absorbs a high volume of water. When the Apromud was mixed with the wet sludge it solidified the sludge sufficiently for transport to the disposal facility. Pond 3 sludge removal and disposal activities are shown in Photos 13 through 15.

## **4. POND WATER TREATMENT MONITORING AND SAMPLING RESULTS**

This section describes the results from the monitoring and sampling activities conducted during 2023 Early-Season and Summer PWT operations.

### **4.1 Early-Season Pond Water Treatment Monitoring**

Early-Season PWT monitoring, sampling, and analysis were performed in accordance with the Water Board's *Contingency Monitoring Plan for a Potential Release of Untreated or Partially Treated Pond Water* (Contingency Monitoring Plan) included in the Work Plan. The sampling scenarios and frequency outlined in the Contingency Monitoring Plan were agreed upon by the Water Board and the USEPA. Water Board and TKT personnel, made their best efforts to adhere to the sampling requirements outlined in the Contingency Monitoring Plan; however, some deviations from the specified sampling frequency occurred and certain samples could not be collected due to weather conditions that prevented safe access to the Site.

A summary of the monitoring parameters, locations, and frequencies for the Contingency Monitoring Plan is presented in Table 5. Specific details of sample collection and handling are described in the Water Board's *June 2023 Sampling and Analysis Plan for Leviathan Mine Site Pond Water Treatment* (PWT SAP) included in the Work Plan. Pond 3 treated effluent samples were collected and analyzed for comparison with USEPA Discharge Criteria summarized in Table 1. Samples collected by TKT personnel were transferred under Chain of Custody for laboratory analysis by Energy Laboratories, Inc. of Billings, Montana (Energy Laboratories).

The specific objectives of the Contingency Monitoring Plan are:

- Identify the chemical characteristics of the Early-Season PWT influent (untreated pond water from Pond 1, Pond 2 South, and Pond 2 North).

- Identify the chemical characteristics of the Early-Season PWT effluent discharges to Leviathan Creek (Pond 3 treated effluent) and monitor the PWT system effectiveness in meeting USEPA Discharge Criteria.
- Identify the chemical characteristics of untreated or partially treated pond water discharges from Pond 3 to Leviathan Creek when the storage capacity of Pond 3 was exceeded.
- Identify the chemical characteristics in Leviathan Creek at Station 15 and Bryant Creek at Station 25 prior to, and during, the discharge of untreated or partially treated pond water from Pond 3 to Leviathan Creek.
- Identify the chemical characteristics of partially treated pond water stored in Pond 3.
- Identify the chemical characteristics of sludge generated by Early-Season PWT.
- Monitor field pH at critical points within the Early-Season PWT system and at the point of discharge from Pond 3 to provide real-time measurements to evaluate treatment efficiency.

During Early-Season PWT, the three sampling scenarios were encountered during the implementation of the Contingency Monitoring Plan included the following.

- Normal Early-Season PWT Operations: There was no flow from Pond 3 to Leviathan Creek except for scheduled Pond 3 treated effluent discharge events. Sufficient freeboard capacity remained in Pond 3, and it was unlikely untreated or partially treated pond water from Pond 3 would be discharged to Leviathan Creek through the Pond 3 excess flow piping.
- Normal Early-Season PWT Operations/Pond 3 Capacity May be Exceeded: There was no flow from Pond 3 to Leviathan Creek except for scheduled Pond 3 treated effluent discharge events. Pond water was retained in Pond 3 but there was a possibility that untreated or partially treated pond water from Pond 3 could be discharged through the Pond 3 excess flow piping.
- Pond 3 to Discharge to Leviathan Creek: The storage capacity of Pond 3 was exceeded and excess flow from Pond 3 was entering the Pond 3 excess flow piping and there was a discharge of untreated or partially treated pond water to Leviathan Creek.

The specific water quality samples collected and analyzed to evaluate the objectives for the three sampling scenarios encountered during the implementation of the Contingency Monitoring Plan included the following:

- Influent Pond Water Sampling: To evaluate the quality of influent pond water treated, TKT collected grab samples from Pond 1, Pond 2 North, or Pond 2 South. Influent samples were collected once daily during Pond 3 treated effluent discharge events except for on March 27, March 31, and April 2, 2023. The first

influent sample was collected from Pond 2 North on February 20, 2023 and the last influent sample was collected from Pond 2 South on June 28, 2023.

- **Pond 3 Treated Effluent Sampling:** To evaluate the quality of treated pond water discharges from Pond 3 to Leviathan Creek and for purposes of comparing to USEPA Discharge Criteria, TKT collected grab samples of the Pond 3 treated effluent once daily during discharge events. Effluent samples were collected from Pond 3, near the intakes for the pumps that delivered the treated pond water to Leviathan Creek. The first Pond 3 treated effluent sample was collected on February 20, 2023 and the last Pond 3 treated effluent sample was collected on June 28, 2023.
- **Pond 3 Discharge Sampling:** To evaluate the quality of untreated pond water (with some lime neutralization) discharges from Pond 3 to Leviathan Creek when the storage capacity of Pond 3 was exceeded, TKT collected grab samples from Pond 3 near the excess flow piping system on March 17, March 23, March 24, and March 25, 2023.
- **Surface Water Sampling:** To evaluate the quality of downstream receiving waters when conditions resulted in the threatened discharge of excess flow from Pond 3 or when untreated pond water from Pond 3 was discharged to Leviathan Creek, TKT collected up to three grab surface water samples per week from Leviathan Creek at Station 15 and Bryant Creek at Station 25. Surface water samples from Station 15 and Station 25 were collected on March 7, March 17, March 23, March 24, March 25, March 27, March 29, March 30 (sample was not collected from Station 15 due unsafe access), March 31, April 3, April 6, April 8, April 10, April 12, April 13, April 17, April 19, April 21, April 23, and April 25, 2023.
- **Partially Treated Pond Water Sampling:** To evaluate the quality of partially treated pond water in Pond 3 when conditions resulted in the threatened discharge of excess flow from Pond 3, TKT collected grab samples from Pond 3. Partially treated samples from Pond 3 were collected on March 29 and April 3, 2023.
- **Field Water Quality Monitoring:** During sample collection activities, TKT monitored and recorded the pH and temperature. Field measurements of pH and electrical conductivity in Pond 3 were measured as needed during Early-Season PWT to evaluate Early-Season PWT performance. During Pond 3 treated effluent discharge events, effluent pH was measured, at a minimum, every hour to ensure that only treated water was discharged to Leviathan Creek.

In summary, TKT collected the following samples for analytical laboratory analysis as part of the 2023 Contingency Monitoring Program:

- 45 influent samples (36 from Pond 2 South, seven [7] from Pond 1, and two [2] from Pond 2 North)
- 48 Pond 3 treated effluent samples (one [1] per discharge event)

- 12 Pond 3 treated effluent field duplicate samples
- Four (4) Pond 3 discharge (untreated pond water) samples
- 19 surface water samples at Station 15
- 20 surface water samples at Station 25
- One (1) surface water field duplicate sample
- Two (2) Pond 3 partially treated pond water samples
- 13 field method blank (FMB) samples

All samples collected as part of the 2023 Contingency Monitoring Plan were analyzed for USEPA Discharge Criteria which includes: pH, total recoverable selenium (Se), and dissolved: arsenic (As), aluminum (Al), cadmium (Cd), chromium (Cr), copper (Cu), iron (Fe), nickel (Ni), lead (Pb), and zinc (Zn). Samples were also analyzed for total dissolved solids (TDS), sulfate (SO<sub>4</sub>), and dissolved: antimony (Sb), barium (Ba), beryllium (Be), calcium (Ca), cobalt (Co), magnesium (Mg), manganese (Mn), mercury (Hg), silver (Ag), thallium (Tl), and vanadium (V). Samples for dissolved metals analysis were field filtered using a 0.45 micron filter and preserved with nitric acid, total metal recoverable Se analysis were field preserved with nitric acid, and TDS and SO<sub>4</sub> analysis were not field filtered or preserved.

Analytical and field monitoring results from the implementation of the 2023 Contingency Monitoring Plan are summarized in Tables 6 through 8. Table 6 summarizes the analytical and field monitoring results of the influent and partially treated pond water samples. Table 7 summarizes the analytical and field monitoring results of Pond 3 treated effluent and Pond 3 untreated discharge samples. Table 8 summarizes the analytical and field monitoring results of surface water samples. These tables include non-detect results for samples, in which case the sample reporting limit is listed in the result column preceded by a less than symbol (<) indicating that the analyte was not detected above the reporting limit.

## **4.2 Early-Season Pond Water Treatment Sludge Characterization**

Sludge generated during the 2023 Early-Season PWT effort contained in Pond 3, was sampled on September 5, 2023, for waste characterization and disposal purposes. AECOM collected three (3) discrete sludge samples from three (3) different locations in Pond 3.

Sludge samples were analyzed for comparisons with Total Threshold Limit Concentrations (TTL) and Soluble Threshold Limit Concentrations (STLC) for California Code of Regulations Title 22 metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, molybdenum (Mo), Ni, Se, Ag, Tl, V, and Zn), Al, and Fe; and percent solids.

Additionally, sludge samples were analyzed pursuant to the Toxicity Characteristic Leaching Procedure (TCLP) for disposal purposes. Analytical results for the sludge samples are summarized in Table 9. Table 9 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 with a less than symbol (<) preceding it.

### **4.3 Early-Season Pond Water Treatment Sampling Results**

This section describes the sampling results from 2023 Early-Season PWT operations.

#### **4.3.1 Early-Season Pond Water Treatment Data Summary**

Table 6 summarizes laboratory analytical results and field measurements of pH and temperature for Early-Season PWT influent samples from Pond 1, Pond 2 South, or Pond 2 North and partially treated water samples from Pond 3 collected to characterize water quality part-way through the treatment process. Results are generally consistent with previous Early-Season PWT seasons. Early-Season PWT influent sample pH ranged from 2.21 to 4.20 and TDS ranged from 37 to 6,540 mg/L. This wide range of influent quality is expected during the Early-Season PWT effort as the ponds initially have a large volume of direct precipitation and thus higher pH and lower TDS concentrations. As the treatment effort progresses, the pond water that is diluted with direct precipitation is treated and removed and is replaced by incoming AMD, thus the pond water becomes more concentrated with lower pH and higher TDS and metals concentrations.

Laboratory analytical results and field measurements of pH and temperature for Pond 3 treated effluent samples are summarized in Table 7. These data are collected for comparison with the USEPA Daily Maximum Discharge Criteria, which are also included in Table 7. All treated discharges from Pond 3 met USEPA Maximum Discharge Criteria except from discharges on April 10, 19, and 21, 2023 in which the USEPA Maximum Discharge Criteria of 2 milligrams per liter (mg/L) for Fe was exceeded with concentrations of 2.73 mg/L, 3.28 mg/L, and 2.31 mg/L, respectively.

Table 7 also includes the laboratory analytical results of the Pond 3 discharge samples collected between March 17 and March 25, 2023 (Sample IDs 003P3007, 004P3008, 005P301, and 006P3014). These samples were collected during the time when the storage capacity of Pond 3 was exceeded and excess flow from Pond 3 was discharging to Leviathan Creek. These samples show exceedances of the USEPA Maximum Discharge Criteria for pH (6.0 - 9.0), Al (4.0 mg/L), Cu (0.026 mg/L), Fe (2.0 mg/L), Ni (0.84 mg/L), and Zn (0.21 mg/L). For these samples, the pH ranged from 2.87 to 4.75, Al concentrations ranged from 10.6 mg/L to 96.7 mg/L, Cu concentrations ranged from 0.102 mg/L to 0.313 mg/L, Fe concentrations ranged from 9.04 mg/L to 108 mg/L, Ni concentrations ranged from 0.337 mg/L to 1.55 mg/L, and Zn concentrations ranged from 0.11 mg/L to 0.35 mg/L.

Table 8 summarizes laboratory analytical results and field measurements of pH and temperature for surface water samples collected from Station 15 and Station 25 between March 7 and April 25, 2023. Surface water quality results from Station 15 and Station 25 shows variability in pH, metals, TDS, and SO<sub>4</sub> concentrations. These variabilities may be due to a number of factors some of which could include: Pond 3 treated effluent and Pond 3 untreated discharges, untreated AMD discharges from the Channel Underdrain, Delta Seep, and other uncaptured AMD seeps, erosion of mine

waste, and increased surface water flows mobilizing stream sediment or causing channel erosion.

Since there were exceedances of the USEPA Maximum Discharge Criteria for pH, Al, Cu, Fe, Ni, and Zn for the four (4) Pond 3 discharge samples described above, these parameters were evaluated to assess the potential impact to surface water quality at Station 15 and Station 25 from these discharges.

#### Samples Collected at Station 15:

- pH ranged from 5.79 to 8.00 during the entire surface water sampling period and when untreated pond water was discharged from Pond 3 there was not a noticeable decrease in pH at Station 15 between March 17 and March 25, 2023 (pH ranged from 5.98 to 6.20).
- Al concentrations ranged from 0.03 mg/L to 2.74 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Al concentrations detected at Station 15 between March 17 and March 25, 2023 (concentrations ranged from 0.06 mg/L to 0.93 mg/L).
- Cu concentrations ranged from non-detect to 0.032 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Cu concentrations detected at Station 15 between March 17 and March 25, 2023 (concentrations ranged from 0.005 mg/L to 0.016 mg/L).
- Fe concentrations ranged from 0.35 mg/L to 5.44 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Fe concentrations detected at Station 15 between March 17 and March 25, 2023 (concentrations ranged from 3.81 mg/L to 4.58 mg/L).
- Ni concentrations ranged from 0.012 mg/L to 0.136 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Ni concentrations detected at Station 15 between March 17 and March 25, 2023 (concentrations ranged from 0.075 mg/L to 0.083 mg/L).
- Zn concentrations ranged from non-detect to 0.04 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Zn concentrations detected at Station 15 between March 17 and March 25, 2023 (concentrations remained at 0.03 mg/L).

#### Samples Collected at Station 25:

- pH ranged from 6.34 to 7.95 during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a

noticeable decrease in pH at Station 25 between March 17 and March 25, 2023 (pH ranged from 6.50 to 6.88).

- Al concentrations ranged from 0.03 mg/L to 1.48 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Al concentrations detected at Station 25 between March 17 and March 25, 2023 (concentrations ranged from 0.03 mg/L to 0.1 mg/L).
- Cu concentrations ranged from non-detect to 0.018 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, Cu was non-detect at Station 25 between March 17 and March 25, 2023.
- Fe concentrations ranged from non-detect to 2.82 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Fe concentrations detected at Station 25 between March 17 and March 25, 2023 (concentrations ranged from 0.03 mg/L to 0.15 mg/L).
- Ni concentrations ranged from 0.006 mg/L to 0.024 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, there was not a noticeable increase in Ni concentrations detected at Station 25 between March 17 and March 25, 2023 (concentrations ranged from 0.009 mg/L to 0.013 mg/L).
- Zn concentrations ranged from non-detect to 0.01 mg/L during the entire surface water sampling period and when untreated pond water was discharged from Pond 3, Zn was non-detect at Station 25 between March 17 and March 25, 2023.

A summary of discharge dates and volumes from the Early-Season PWT at Pond 3 is included in Table 2. A total of approximately 18 million gallons of effluent was discharged from Pond 3 to Leviathan Creek in 2023.

Results of the Pond 3 sludge characterization analyses are presented in Table 9 for sludge generated during the 2023 Early-Season PWT. Sludge generated during the 2023 Early-Season PWT effort was removed from Pond 3 in October of 2023 as detailed in Section 3.4 above. On September 5, 2023, three sludge samples were collected from Pond 3. These three sludge samples averaged 14.3 percent solids at the time of collection. With the exception of the TTLC analysis for As, the sludge did not exceed any other STLC, TTLC, or TCLP limits. The dry-weight As TTLC concentrations of 520 mg/kg and 535 mg/kg in two (2) of the three (3) sludge samples exceeded the As TTLC regulatory standard of 500 mg/kg. The average As concentration for the three samples was 501 mg/kg on a dry-weight basis.

Sludge sample results are reported on a dry-weight basis for this sampling effort. The dry-weight basis results constitute the most conservative evaluation of sludge quality. At the time of disposal in October of 2023, the percent solids in the sludge was similar to when the sludge samples were collected in early-September which had an average



percent solids content of 14.3%. The average concentration of As measured in the sludge would not exceed the TTLC on a wet-weight basis unless the sludge was approximately 84 percent or greater solids by weight. Therefore, it is extremely unlikely that the sludge exceeded the TTLC when it was disposed of in October of 2023.

Analytical laboratory reports and electronic data deliverables (EDDs) for Early-Season PWT influent, effluent, and sludge samples are provided in Appendix A.

#### **4.3.2 Early-Season Pond Water Treatment Data Quality Evaluation**

AECOM and Water Board personnel reviewed the quality of the Early-Season PWT sampling results and have determined data are considered usable for evaluation purposes. Sample collection, handling, preservation, and analysis were conducted as specified in the PWT SAP. Field quality control samples, including 13 field duplicate samples and 13 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, and an assessment of anomalous data.

Data qualifiers from the laboratory and AECOM review are presented with the data in Tables 6, 7, 8, and 9. AECOM data qualifiers are summarized in Appendix A – AECOM's Early-Season Pond Water Treatment Data Quality Summary. The data qualifiers assigned by AECOM are called EPA Qualifiers in Tables 6, 7, and 8. None of the analytical results were rejected and qualified data are considered usable, but data qualifiers should be interpreted when using the data for evaluation purposes.

TKT submitted 13 field duplicate samples to the laboratory during Early-Season PWT to measure the precision of the entire measurement system including sampling and analytical procedures in 2023. The relative percent difference (RPD) was calculated for each analyte in the primary and corresponding field duplicate sample. The RPD was calculated to evaluate if there were any samples that exceeded the control limit of 25% which would result in the primary and field duplicate sample concentrations being flagged for field duplicate imprecision, in accordance with the PWT SAP. In 2023, the field duplicate samples were within the control limits for all analytes with seven (7) exceptions described below.

- Fe results are flagged due to field duplicate imprecision for sample/duplicate pairs sample IDs 051 Dis 143/051 Dup 144, 052 Dis 147/052 Dup 148, 054 Dis 155/054 Dup 156, and 055 Dis 159/055 Dup 160.
- Ni results are flagged due to field duplicate imprecision for sample/duplicate pair sample IDs 054 Dis 155/054 Dup 156.
- Al results are flagged due to field duplicate imprecision for sample/duplicate pair sample IDs 051 Dis 143/ 051 Dup 144.

- Se results are flagged due to field duplicate imprecision for sample/duplicate pair sample IDs 055 Dis 159/055 Dup 160.

Thirteen 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 effluent samples, except using laboratory-supplied deionized water for the FMB. There was one (1) positive detection in the FMB samples collected during the 2023 Early-Season PWT effort. For sample 016BLA045, SO<sub>4</sub> was detected at a concentration of 4 mg/L which is below the concentrations detected in sample ID 016DIS044 (1,820 mg/L) and field duplicate sample ID 016DUP046 (1,840 mg/L) collected on the same day as the FMB sample. There is not an established USEPA Discharge Criterion for SO<sub>4</sub>.

During Early-Season PWT in 2023, there were a total of 219 minor deviations (86 effluent sample results, 71 influent sample results, 24 surface water sample results, 32 QA/QC sample results, and three [3] sludge sample results) from the PWT SAP due to reporting limits higher than what is specified in the PWT SAP, samples being analyzed past holding times, and samples exceeding the temperature limit upon arrival at the laboratory. A minor deviation from the PWT SAP indicates a data quality issue has been identified, data have been qualified (as appropriate), and data are usable as qualified. A majority of the minor deviations (a total of 143) are due to the Energy Laboratories reporting limit for Ba of 0.05 mg/L was greater than the PWT SAP reporting limit of 0.005 mg/L. There is not an established USEPA Discharge Criterion for Ba. Reporting limit exceedances in effluent samples did not occur for any analytes with USEPA Discharge Criteria, indicating the deviations did not impact the ability to evaluate effluent sample compliance with USEPA Discharge Criteria. Samples analyzed past holding times and exceeding the temperature threshold of 6 degree Celsius, were qualified as estimated concentrations. The PWT SAP deviations observed in the Early-Season PWT data are discussed below.

### Pond 3 Treated Effluent Samples

- There were 64 effluent samples in which Ba was non-detect and were analyzed at a reporting limit higher than specified in the PWT SAP.
- Sample ID 019DIS058 Be was non-detect and was analyzed at a reporting limit higher than specified in the PWT SAP.
- Sample ID 032 Dis 100 TDS was analyzed past the specified holding time of seven (7) days.
- There were ten (10) effluent samples (024 Dis 080, 025 Dis 084, 032 Dis 100, 038 Dis 114, 039 Dis 116, 042 Dis 122, 042 Dis 126, 042 Dup 123, 052 DIS 147, and 052 Dup 148) in which the sample temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub> (the ice was melted in the cooler).

### Influent Samples

- There were 47 influent samples in which Ba was non-detect and were analyzed at a reporting limit higher than specified in the PWT SAP.
- Sample ID 012P3032 two (2) analytes (Be and V) were non-detect and were analyzed at reporting limits higher than specified in the PWT SAP.
- There were six (6) influent samples (024 P2S 081, 025 P2S 085, 026 P2S 087, 027 P2S 089, 028 P2S 092, and 029 P2S 095) in which Mg was non-detect and was analyzed at a reporting limit higher than specified in the PWT SAP.
- There were eight (8) influent samples (024 P2S 081, 025 P2S 085, 029 P1 117, 032 P2S 101, 038 P2S 115, 042 P1 124, 042 P1 127, and 052 P2S 149) in which the temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub> (the ice was melted in the cooler).

### Surface Water Samples

- There were 19 surface water samples in which Ba was non-detect and were analyzed at a reporting limit higher than specified in the PWT SAP.
- Sample ID 012S25034 V was non-detect and was analyzed at a reporting limit higher than specified in the PWT SAP
- There were two (2) surface water samples (024 S15 082 and 024 S25 083) in which the temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub> (the ice was melted in the cooler).

### QA/QC Samples

- There were 13 FMB samples in which Ba and Ca were non-detect and were analyzed at reporting limits higher than specified in the PWT SAP.
- Sample ID 020BLA061 TDS was non-detect and was analyzed at a reporting limit higher than specified in the PWT SAP.
- There were two (2) FMB samples (042 Bla 125 and 052 Bla 146) in which the temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub>.
- One (1) FMB (052 Bla 146) TDS was analyzed past the specified holding time of seven (7) days.
- FMB and field duplicate samples were not collected at the frequency specified in the PWT SAP. A total of 138 primary, 13 FMB, and 13 field duplicate samples were collected. QA/QC samples should have been collected at a 10% frequency of the primary samples (14 FMB and 14 field duplicates).

## Sludge Samples

- Two sludge samples (057-P3SLUDGE-B and 058-P3SLUDGE-C) were non-detect for Zn and were analyzed at a reporting limit higher than specified in the PWT SAP.
- Sludge sample 057-P3SLUDGE-B was non-detect for Hg and was analyzed at a reporting limit higher than specified in the PWT SAP.

### **4.4 Summer Pond Water Treatment Monitoring**

Summer PWT monitoring, sampling, and analysis were performed in accordance with the Water Board's PWT SAP. A summary of the monitoring parameters, locations, and frequencies for the 2023 Summer PWT monitoring program is presented in Table 10. 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 summarized in Table 1. Samples collected by AECOM personnel were transferred under Chain of Custody for laboratory analysis by Microbac, of Marietta, Ohio except for Hg between July 26, and August 15, 2023, when the instrument was down and Hg was analyzed in the Microbac of Merrillville, Indiana laboratory during this time.

The specific objectives of the Summer PWT monitoring program are:

- Identify the chemical characteristics of the Summer PWT system influent.
- Identify the chemical characteristics of the Summer PWT system effluent discharges to Leviathan Creek and monitor the Summer PWT system effectiveness in meeting USEPA Discharge Criteria.
- Identify the chemical characteristics of solids generated by Summer PWT.
- Monitor field pH at critical points within the Summer PWT system and at the point of discharge from the Pit Clarifier to provide real-time measurements to evaluate treatment efficiency.

The specific water quality samples collected and analyzed to evaluate the specific objectives of the Summer PWT monitoring program included the following:

- **Influent Pond Water Sampling:** To evaluate the quality of influent of pond water treated, AECOM collected grab samples from the Summer PWT system sampling port once a week. The first influent sample was collected on June 30, 2023 and the last influent sample was collected on September 20, 2023.
- **Treated Effluent Sampling:** To evaluate the quality of treated pond water discharged to Leviathan Creek, AECOM collected grab samples of the treated pond water (effluent) twice weekly during the 2023 Summer PWT season. On June 29, 2023, one pre-discharge sample was collected in the Pit Clarifier prior to discharging effluent to Leviathan Creek to confirm the USEPA Discharge Criteria would be met. AECOM collected effluent samples from the effluent weir

box located near the Pit Clarifier. The first effluent sample was collected on June 30, 2023, and the last effluent sample was collected on September 28, 2023. As specified in the 2023 Work Plan, effluent sample collection stopped when the discharge of effluent dropped below five (5) gpm, which occurred on October 2, 2023.

- Field Water Quality Monitoring: During influent and effluent sample collection activities, AECOM monitored and recorded pH and temperature in the field on sampling record forms. During routine Summer PWT operations, AECOM measured the pH and temperature and recorded field measurements on operator logs approximately every hour from four (4) mid-process locations (R-1, R-2, FF-2, and influent to the Pit Clarifier) and at the effluent discharge 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.

In summary, AECOM collected the following samples for analytical laboratory analysis as part of the 2023 Summer PWT monitoring program:

- 27 effluent samples (two [2] per week)
- Five (5) effluent field duplicate samples
- One (1) pre-discharge sample
- 13 influent samples
- Five (5) FMB samples

All samples collected as part of the 2023 Summer PWT monitoring program were analyzed for USEPA Discharge Criteria which includes: pH, total recoverable Se, and dissolved: As, Al, Cd, Cr, Cu, Fe, Ni, Pb, and Zn. Samples were also analyzed for TDS, sulfate SO<sub>4</sub>, and dissolved: Sb, Ba, Be, Ca, Co, Mg, Mn, Hg, Ag, Tl, and V. Samples for dissolved metals analysis were field filtered using a 0.45 micron filter and preserved with nitric acid, total metal recoverable Se analysis were field preserved with nitric acid, and TDS and SO<sub>4</sub> analysis were not field filtered or preserved.

Analytical and field monitoring results of influent and effluent samples from the Summer PWT system are summarized in Tables 11 and 12, respectively. These tables include non-detect results for effluent and influent samples, in which case the lab qualifier of a U (The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.) is included in the Data Qualifier column and the method detection limit value is included in the table with a less than symbol (<) preceding it. 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 13.

#### **4.5 Summer Pond Water Treatment Sludge Characterization**

Sludge generated during the 2023 Summer PWT effort contained in the Pit Clarifier, was sampled on November 30, 2023, for waste characterization and disposal purposes.

AECOM collected three (3) discrete sludge samples from three (3) different locations in the Pit Clarifier. At the time of sampling, the depth of accumulated sludge in the Pit Clarifier ranged from 20 to 36 inches.

Sludge samples were analyzed for comparisons with TTLC and STLC for California Code of Regulations Title 22 metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, and Zn), Al, and Fe; and percent solids. Additionally, sludge samples were analyzed pursuant to the TCLP for disposal purposes. Analytical results for the sludge samples are summarized in Table 14. Table 14 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 with a less than symbol (<) preceding it. The Summer PWT sludge characterization analytical laboratory reports are included in Appendix B.

## **4.6 Summer Pond Water Treatment Sampling Results**

This section describes the sampling results from the Summer PWT operations.

### **4.6.1 Summer Pond Water Treatment Data Summary**

Laboratory analytical results and field measurements of pH and temperature for influent samples are summarized in Table 11. Results are fairly consistent with previous Summer PWT seasons, however the pH values are lower (more acidic) and many metal concentrations are higher in the influent samples collected this year due to receiving above average precipitation during the water year and the majority of the direct precipitation in the upper ponds had been treated during Early-Season PWT. Influent sample pH ranged from 1.8 to 2.34 and TDS ranged from 8,950 to 10,100 mg/L with an average of 9,510 mg/L.

Laboratory analytical results and field measurements of pH and temperature for effluent samples are summarized in Table 12. These data are collected for comparison with the USEPA Daily Maximum Discharge Criteria, which are also included in Table 12. All Summer PWT effluent data met the USEPA Daily Maximum Discharge Criteria in 2023.

Results of pH and temperature data collected by Summer PWT system operators are included in Table 13. Measurements of pH show that the discharge of effluent to Leviathan Creek met USEPA Discharge Criteria, and that desired pH levels were achieved in the Summer PWT system throughout the season.

A summary of daily discharge from the Pit Clarifier is included in Table 4. A total of approximately 10.5 million gallons of effluent was discharged from the Pit Clarifier to Leviathan Creek in 2023.

Results of the Pit Clarifier sludge characterization analyses are presented in Table 14 for sludge generated during the 2023 Summer PWT. On November 30, 2023, AECOM collected three sludge samples from the Pit Clarifier to characterize sludge generated during the 2023 Summer PWT. These three sludge samples averaged 17 percent solids at the time of collection. With the exception of the STLC analysis for Cr, Cu, and Ni, and

TTLIC analysis for As, the sludge did not exceed any other STLC, TTLIC, or TCLP limits. The Summer PWT sludge sample regulatory exceedances are described below.

- The Cr STLC concentration of 6.30 mg/L in one (1) of the three (3) sludge samples exceeded the regulatory standard of 5 mg/L.
- The Cu STLC concentration of 25.1 mg/L in one (1) of the three (3) sludge samples exceeded the regulatory standard of 25 mg/L.
- The Ni STLC concentrations of 23.8 mg/L, 25.8 mg/L, and 27.3 mg/L in the three (3) sludge samples exceeded the regulatory standard of 20 mg/L. The average Ni STLC concentration for these three samples was 25.6 mg/L.
- The dry-weight As TTLIC concentrations of 1,190 mg/kg, 1,450 mg/kg, and 1,180 mg/kg in the three (3) sludge samples exceeded the regulatory standard of 500 mg/kg. The average As concentration for these three (3) samples was 1,270 mg/kg on a dry-weight basis.

TTLIC 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. 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 As measured in the sludge would not exceed the TTLIC on a wet-weight basis unless the sludge was approximately 39 percent or greater solids by weight. Therefore, it is likely the sludge could exceed the TTLIC when it is disposed of in the late spring or early summer of 2024.

Analytical laboratory reports and EDDs for Summer PWT system influent, effluent, and sludge samples are provided in Appendix B.

#### **4.6.2 Summer Pond Water Treatment Data Quality Evaluation**

AECOM and Water Board personnel reviewed the quality of the 2023 Summer PWT sampling results and have determined data are considered usable for evaluation purposes. Sample collection, handling, preservation, and analysis were conducted as specified in the PWT SAP. Field quality control samples, including five (5) field duplicate samples and five (5) field FMB samples, were collected. A Chain of Custody form was completed for each group of samples submitted to the analytical laboratories. 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 and AECOM review are presented with the data in Tables 11, 12, and 13. AECOM data qualifiers are summarized in Appendix B – AECOM's Summer Pond Water Treatment Data Quality Summary Report. The data

qualifiers assigned by AECOM are called EPA Qualifiers in Tables 11, 12, and 13. None of the analytical results were rejected and qualified data are considered usable, but data qualifiers should be interpreted when using the data for evaluation purposes.

AECOM submitted five (5) field duplicate samples to the laboratory during Summer PWT to measure the precision of the entire measurement system including sampling and analytical procedures in 2023. The RPD was calculated for each analyte in the primary and corresponding field duplicate sample. The RPD was calculated to evaluate if there were any samples that exceeded the control limit of 25% which would result in the primary and field duplicate sample concentrations being flagged for field duplicate imprecision, in accordance with the PWT SAP. In 2023, the field duplicate samples were within the control limits for RPD for all analytes with 13 exceptions described below.

- Al, As, and Cu results are flagged due to field duplicate imprecision for the sample/duplicate pair sample IDs 2324PWT033-EFF/2324PWT034-EFF.
- As, Ba, Co, Mn, and Tl results are flagged due to field duplicate imprecision for sample/duplicate pair sample IDs 2324PWT041-EFF/ 2324PWT042-EFF).
- As, Ba, Co, Ni, and Tl results are flagged due to field duplicate imprecision for the sample/duplicate pair sample IDs 2324PWT049-EFF/2324PWT050-EFF.

Five (5) FMB samples were collected and submitted for laboratory analysis of the same parameters as Summer PWT effluent samples. The FMB sample is collected and processed in the same method as effluent samples, except using laboratory-supplied deionized water for the FMB. There were five (5) positive detections in the FMB samples collected during the 2023 Summer PWT effort. Each detection is described below.

- For sample ID 2324PWT007-FMB, TDS was detected at a concentration of 22.0 mg/L which is below the concentrations detected in sample ID 2324PWT006-EFF (2,920 mg/L) and field duplicate sample ID 2324PWT008-EFF (3,110 mg/L) taken on the same day as the FMB sample. There is not an established USEPA Discharge Criterion for TDS.
- For sample ID 2324PWT035-FMB, Ca was detected at a concentration of 0.229 mg/L which is below the concentrations detected in sample ID 2324PWT033-EFF (899 mg/L) and field duplicate sample ID 2324PWT034-EFF (1,050 mg/L) collected on the same day as the FMB sample. There is not an established USEPA Discharge Criterion for Ca.
- For sample ID 2324PWT043-FMB, Fe was detected at a concentration of 0.0524 mg/L which is below the maximum USEPA Discharge Criterion of 2.0 mg/L, and was below the concentrations detected in sample ID 2324PWT041-EFF (0.251 mg/L) and field duplicate sample ID 2324PWT042-EFF (0.335 mg/L) collected on the same day as the FMB sample.



- For sample ID 2324PWT051-FMB, Fe was detected at a concentration of 0.0577 mg/L which is below the maximum USEPA Discharge Criterion of 2.0 mg/L, and was below the concentrations detected in sample ID 2324PWT049-EFF (0.323 mg/L) and field duplicate sample ID 2324PWT050-EFF (0.341 mg/L) collected on the same day as the FMB sample.
- For sample ID 2324PWT051-FMB, TDS was detected at a concentration of 20.0 mg/L which is below the concentrations detected in sample ID 2324PWT049-EFF (2550 mg/L) and field duplicate sample ID 2324PWT050-EFF (2470 mg/L) collected on the same day as the FMB sample. There is not an established USEPA Discharge Criterion for TDS.

During Summer PWT in 2023, there were a total of six (6) minor deviations (three [3] influent samples and three [3] effluent samples) due to samples having the temperature exceeding the limit upon arrival to the laboratory and not including the time on the chain of custody. These deviations are discussed below.

#### Influent Samples

- Sample ID 2324PWT002-INF in which the temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub> (the ice was melted in the cooler).
- Sample ID 2324PWT009INF there was no time included in the chain of custody, the laboratory used the time printed on the sample bottle labels.

#### Effluent Samples

- Sample ID 2324PWT003-EFF in which the temperature exceeded the limit upon arrival to the laboratory for analysis of TDS and SO<sub>4</sub> (the ice was melted in the cooler).
- Sample ID 2324PWT010EFF there was no time included in the chain of custody, the laboratory used the time printed on the sample bottle labels.

Sample IDs 2324PWT025-EFF and 2324PWT044-EFF SO<sub>4</sub> concentrations were much lower than expected based on current and past sulfate results. The laboratory confirmed the reported concentrations, and the dilutions were correct. The reported sulfate concentrations are considered an anomalous result and have a footnote included in Table 12 (note this is not a deviation from the PWT SAP).

### **4.7 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 laboratories used by the Water Board's contractor provides laboratory data in an EDD that will require 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 have been in communication with ARC recently to determine the best approach for ensuring the Water Board's data has been uploaded to the Site-Wide Database.

Water Board staff will continue to coordinate with subcontractors and laboratories during 2024 PWT activities to ensure that samples required by the Water Board's Work Plan are collected and analyzed in accordance with the PWT SAP. Water Board staff plan to discuss continued improvements with their contractor prior to the 2024 field season.

## **5. SURFACE WATER FLOW AND STAGE MONITORING**

The Water Board continued its efforts through the 2023 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 and Pond 1 surface elevation data generated by Water Board monitoring activities are presented in the following section.

### **5.1 Flow and Stage Monitoring**

Flow data are reported on the basis of water year. The 2023 water year began October 1, 2022 and ended September 30, 2023. Under contract to the Water Board, the USGS monitored surface water stage/flow rates and pond water stage at 14 locations during the 2023 water year. Flow monitoring locations, USGS station numbers, and equipment are identified in Table 15 and are shown on Figure 6. As shown in Table 15, 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, when conditions allow, 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 flow or stage data for the 2023 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 internet for the following twelve stations: Adit, PUD, Pond 1, Station 1, Station 15, Station 22, Station 23, Station 25, Pit Junction Box, Upper Tributary, Lower Tributary, and 4L Creek. 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/>.

## **6. SITE MAINTENANCE**

The Water Board conducted routine and non-routine maintenance work at the Site during the 2023 field season in accordance with the Work Plan.

## 6.1 Routine Maintenance

Routine maintenance activities performed in 2023 included repairing high priority areas of the perimeter fence, maintaining pond liner cover material, removing invasive weeds, wildfire hardening activities, and the removal of sediment from select stormwater conveyances.

The perimeter fencing is barbed-wire and surrounds the majority of the Leviathan Mine property. Water Board staff inspected the perimeter fence in August and noted that the perimeter fence required major repairs. The extensive damage to the perimeter fence was caused by the very deep snowpack during the 2022/2023 winter. Due to the extensive repairs required and budget limitations, Water Board staff requested that AECOM hire a fence subcontractor to repair the perimeter fence in the most important areas. AECOM's subcontractor repaired the perimeter fence near each of the entrance gates and sections that are immediately adjacent to the road on the Aspen Seep side in September 2023.

Water Board staff inspected the perimeters of Ponds 1, 2 North, 2 South, and 3 periodically throughout the field season 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 Ponds 1, 2 North, 2 South, and 3 liner cover material on an as needed basis throughout the field season.

Periodically throughout the 2023 field season, Water Board staff inspected areas for the presence of the invasive plant, dyers woad (*Isatis tinctoria L.*). Dyers woad plants found by Water Board staff were removed using a small trowel to remove as much of the root as possible. Invasive plants were placed in sealed plastic bags for disposal. The El Dorado County Department of Agriculture (EDCDA) visited Leviathan Mine on July 27, and October 9, 2023, and spot applied an herbicide (Telar) on invasive plants. This year, EDCDA sprayed to eradicate tall whitetop (*Lepidium latifolium*) and dyers woad (*Isatis tinctoria L.*).

Periodically throughout the 2023 field season, Water Board staff cut and removed vegetation around the Summer PWT system and along the road just north of the Pond 1. This vegetation removal was intended to further fire hardening activities recommended by the California Department of Forestry and Fire Protection (CalFire) during the 2022 field season. The vegetation removed consisted mainly of small woody bushes which were stockpiled onsite for future chipping.

Water Board staff visually inspected storm water conveyances in the Pit and around Ponds 1, 2 North, 2 South, and 3 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 and Pond 2 South berms. Additionally, Water Board staff directed AECOM to remove sediment from culvert inlets/outlets on the Pond 2 North and Pond 2 South access road and from the southwest entrance to Pond 3. AECOM removed sediment from the specified stormwater conveyance ditches and culverts in September 2023. Sediment removal from the stormwater conveyance ditches on the Pond 2 North berm is shown in Photo 16.

## **6.2 Non-Routine Maintenance**

Non-routine maintenance activities performed in 2023 included pond liner repair, Pond 2 South valve repair, installation of a storage container, and Pit Slump repair. These activities are described in detail below.

### **6.2.1 Pond 1 and Pond 3 Liner Repairs**

In October of 2022, Water Board staff discovered three holes in an approximate 5-foot square area in the Pond 1 liner. Given unfavorable weather conditions and subcontractor availability, the Water Board contractor was unable to have the holes patched by a liner specialist prior to the onset of winter weather. In late-October, the Water Board's contractor, AECOM, applied a temporary patch as directed by a liner specialist.

In early-September 2023, once the water level in Pond 1 had been lowered, the Water Board's contractor, AECOM, hired liner specialists Contera Containment (Contera) to permanently patch the holes in the Pond 1 liner. Contera removed the temporary patch, cleaned, and prepared the area, and then installed one larger patch to cover the three holes. The completed Pond 1 liner repair is shown in Photo 17.

During Pond 3 sludge stockpile activities in early-October 2023, the excavator inadvertently damaged the Pond 3 liner. Water Board staff directed AECOM to repair the liner. In late October, AECOM again hired liner specialists Contera to repair the damage to the Pond 3 liner.

At both repair locations (Pond 1 and Pond 3), Contera cleaned and prepared the patch area and used Hypalon patch material and Hypalon glue. Following the installation of both patches, Contera used a probe to inspect and test the entire perimeter of each patch. Once the patch had cured, Water Board staff covered each patch location with adequate liner cover material.

### **6.2.2 Pond 2 South Valve Repair**

Due to the extremely deep and heavy 2022/2023 winter snowpack, the actuator rod on the Pond 2 South inlet valve was bent and damaged. The valve itself remained functional and was not damaged, but the bent actuator rod made manipulation of the valve difficult. Because the ability to open and close this particular valve is necessary to allow for the transfer of pond water from Pond 2 South to Pond 1 during Summer PWT operations, Water Board staff directed AECOM to repair the damaged actuator rod. In early October, AECOM was able to cut the bent section of actuator rod out and attach a new rod to the control lever and the remaining straight section connected to the valve itself. At the same time, AECOM replaced portions of the support structure that were also damaged due to the bent rod.

### **6.2.3 Installation of Storage Container at Pond 3**

Due to the likelihood that Early-Season PWT will be necessary in 2024, Water Board staff directed AECOM to install a storage container near Pond 3 to store Early-Season

PWT equipment. In mid-October, AECOM installed a gravel pad immediately northwest of Pond 3, in the Pond 3 staging area, and placed a 40-foot storage container on the gravel pad. Following the installation of the storage container, TKT disassembled portions of the RCTS at Pond 3 and placed the components and other needed supplies in the storage container. Additionally, more robust components of the RCTS were secured in place on the concrete treatment pad at Pond 3. By pre-staging and storing needed RCTS components onsite in the Pond 3 area, the Water Board and its contractors will be better prepared to implement Early-Season PWT operations in 2024, if necessary.

#### **6.2.4 Pit Slump Repair**

In mid-April of 2023, Water Board staff began to see soil movement in the Pit wall immediately northwest of the Pit Clarifier. On April 24, 2023, Water Board staff observed that the movement had developed into a soil slump that impacted the usability of the Pit Clarifier which required immediate corrective actions prior to the initiation of Summer PWT. Most of the material associated with the soil slump came to rest on the large flat bench above the Pit Clarifier. A dip formed just upslope from the head of the slump. Surface runoff and groundwater accumulated in the dip. Eventually, the water pushed out of the dip and flowed downhill towards the Pit Clarifier. The release of water from the dip caused significant erosion and the transport/deposition of earthen debris into the Pit Clarifier which is located immediately downslope from the slump. During the release of water from the dip, a path was eroded that allowed seepage from the hillside to continue entering the Pit Clarifier. The Pit slump and debris flow into the Pit Clarifier can be seen in Photos 18 through 20.

Because the Pit Clarifier is critical infrastructure needed for Summer PWT, Water Board staff worked with the California Department of General Services to secure an emergency contract for construction measures to improve drainage conditions and increase slope stability in the area of the slump.

The debris and seepage entering the Pit Clarifier were most problematic because they jeopardized the Water Board's ability to begin Summer PWT activities. At the direction of a licensed Geotechnical Engineer, the Water Board's emergency slump repair contractor, AECOM, redirected drainage from the slump away from the Pit Clarifier and into the Pit stormwater collection system in mid-May. This allowed the slump debris and sludge in the Pit Clarifier to begin dewatering.

In early-June, after several weeks without seepage entering the Pit Clarifier, AECOM was able to begin removing material from the Pit Clarifier. Approximately 72 cubic yards of slump debris, which could be cleanly segregated, was removed from the Pit Clarifier and stockpiled onsite in the Pit. Approximately 735 tons of slump debris which became mixed with sludge was removed and hauled with the sludge to an off-site Class I hazardous waste landfill in Beatty, Nevada for disposal. Removal of the Pit slump debris and sludge disposal activities are shown in Photos 21 and 22.

Once all slump debris and sludge were removed from the Pit Clarifier, the sand drainage layer in the bottom of the Pit Clarifier was replaced. The corrective actions to the Pit Clarifier allowed AECOM to initiate Summer PWT.

In late-August, AECOM began constructing additional measures to increase the stability of the slope above the Pit Clarifier. These measures included: 1) removal of necessary trees and brush on the slump, 2) regrading to reduce the angle of the slope and promote positive drainage from the slump to the existing stormwater ditch, 3) installation of rock filled gabion baskets keyed into the ground at the toe of the slump, and 4) installation of a fabric wrapped gravel drain between the gabion baskets and the toe of the slump. By late-September, AECOM completed construction activities at the Pit Slump. Pit Slump stabilization activities can be seen in Photos 23 through 25. Water Board staff will monitor the effectiveness of these stabilization measures as necessary over the upcoming years and coordinate any needed repair.

### **6.3 Maintenance Items Not Completed**

On May 11, 2023, the Water Board submitted the 2023 Work Plan to USEPA. Based on comments provided by the USEPA, the Water Board resubmitted the 2023 Work Plan to USEPA on June 16, 2023. Two site maintenance projects were removed from the Work Plan when it was resubmitted. These two projects included the Pond Water Treatment Plant Upgrades Project and the Lime Mixing System Demonstration Project.

The Pond Water Treatment Plant Upgrades Project was removed from the 2023 Work Plan submitted on June 16, 2023, because the Water Board realized there was insufficient funds to award a contract for the Pond Water Treatment Plant Upgrades Project. These insufficient funds were due in large part to the discovery of the Pit Slump and the subsequent repairs, and increased water treatment costs from treating a record volume of pond water during 2023. The Water Board is currently working to secure funding for the Pond Water Treatment Plant Upgrades Project.

The Lime Mixing System Demonstration Project was removed from the 2023 Work Plan submitted on June 16, 2023, because the Water Board's contractor, AECOM, was unable to find a vendor to supply the equipment needed for the demonstration.

## **7. COMBINED SITE OPERATIONS PLAN**

On March 22, 2024, AR submitted the Combined Site Operations Plan to the USEPA. The Combined Site Operations Plan was prepared by AR in conjunction with the Water Board. The purpose of the plan is to unify communications, operations, and emergency planning between AR and the Water Board. As part of the plan, a First Responder Information Sheet was created to give to first responders in the event of an emergency.

## **FIGURES**

Figure 1: Site Location Map

Figure 2: Bryant Creek Watershed

Figure 3: Water Board AMD Capture and Treatment System

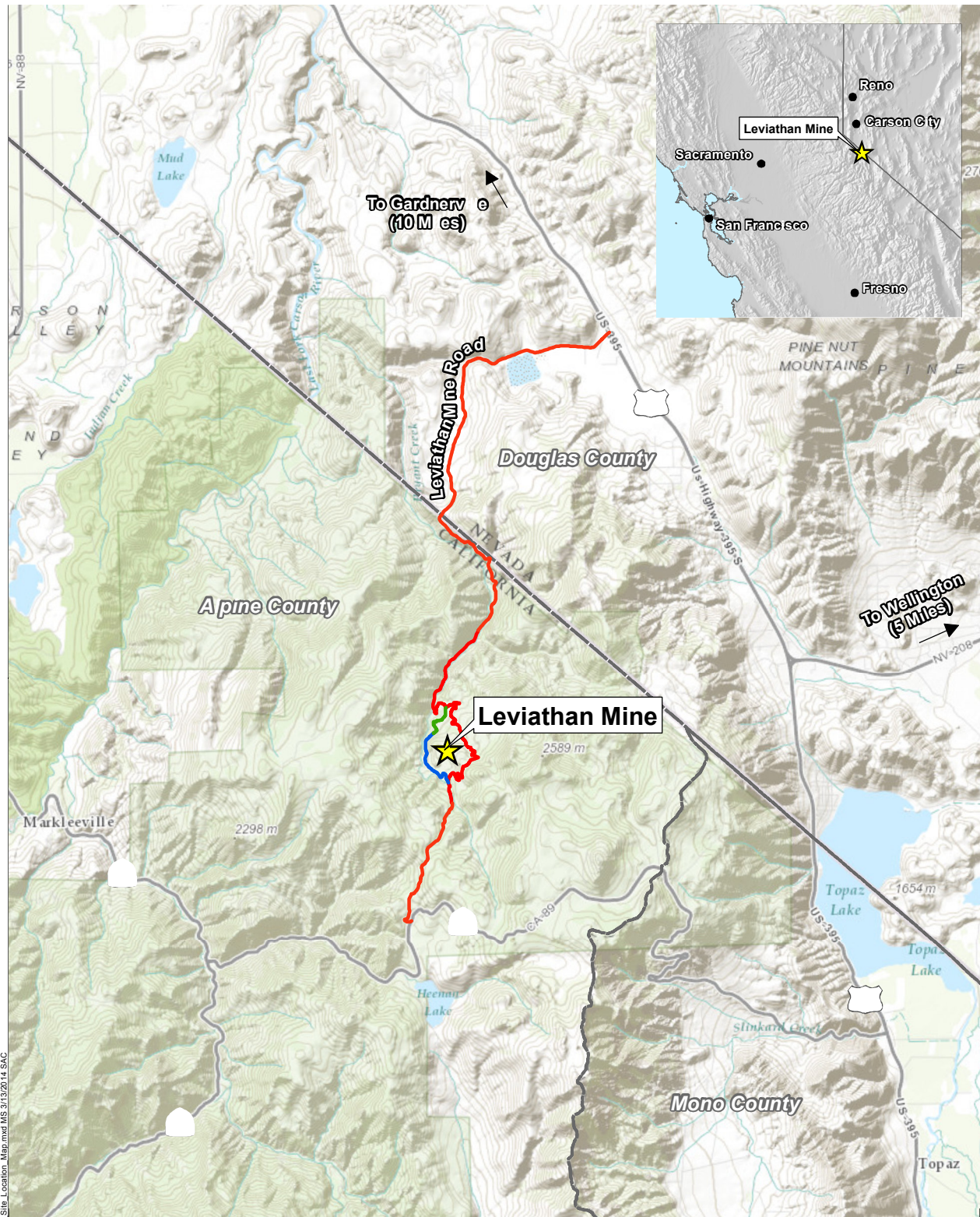
Figure 4: Early-Season Pond Water Treatment System – System Layout

Figure 5: Early-Season Pond Water Treatment System Simplified Piping and Instrumentation Diagram

Figure 6: Summer Pond Water Treatment System – System Layout

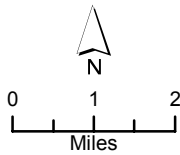
Figure 7: Summer Pond Water Treatment System – Simplified Piping & Instrumentation Diagram

Figure 8: Flow and Stage Monitoring Locations



L:\Projects\Leviathan\ArcMap\Fig.1\_Site\_Location\_Map.mxd MS 3/13/2014 SAC

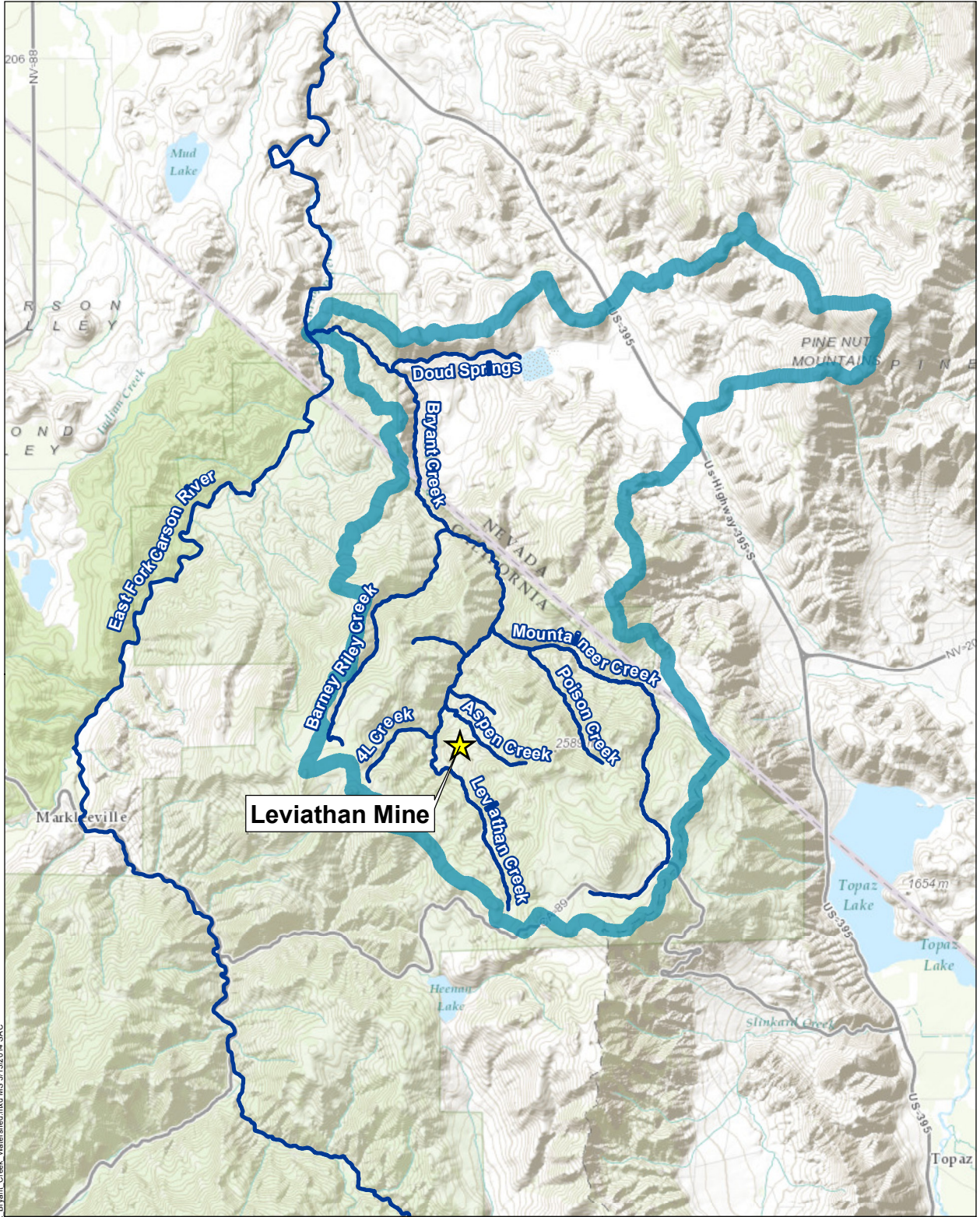
- Forest Service Road 31348
- Leviathan Mine Access Road
- Leviathan Mine Road (Forest Service Road 31052)
- National Forest



**Leviathan Mine  
Site Location Map**

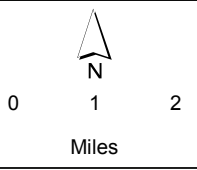
**Figure  
1**





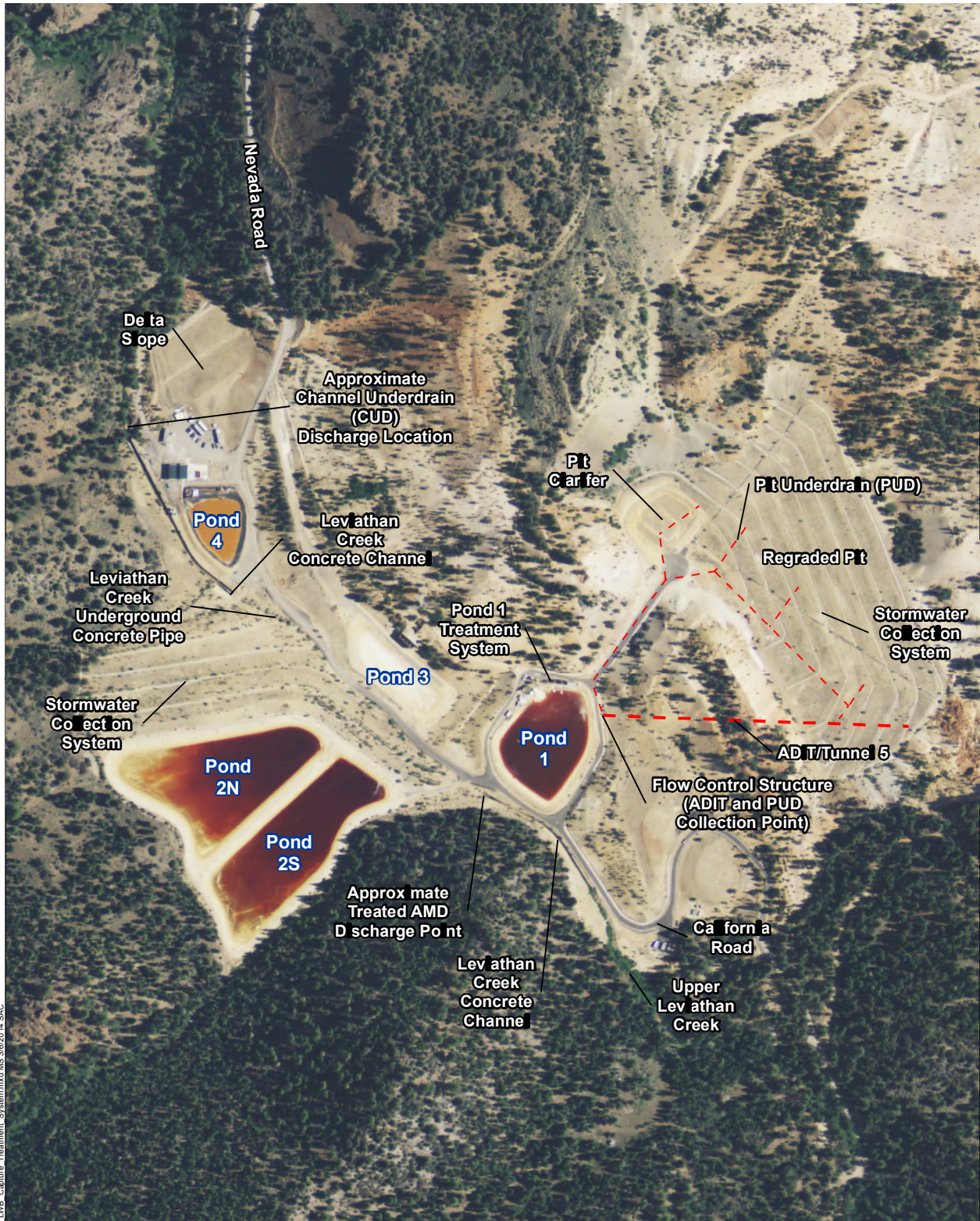
L:\Project\Leviathan\ArcMap\Fig2\_Bryant\_Creek\_Watershed.mxd MS 3/13/2014 SAC

Bryant Creek Watershed  
 River/Creek  
 National Forest



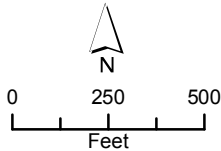
**Bryant Creek Watershed**

**Figure 2**



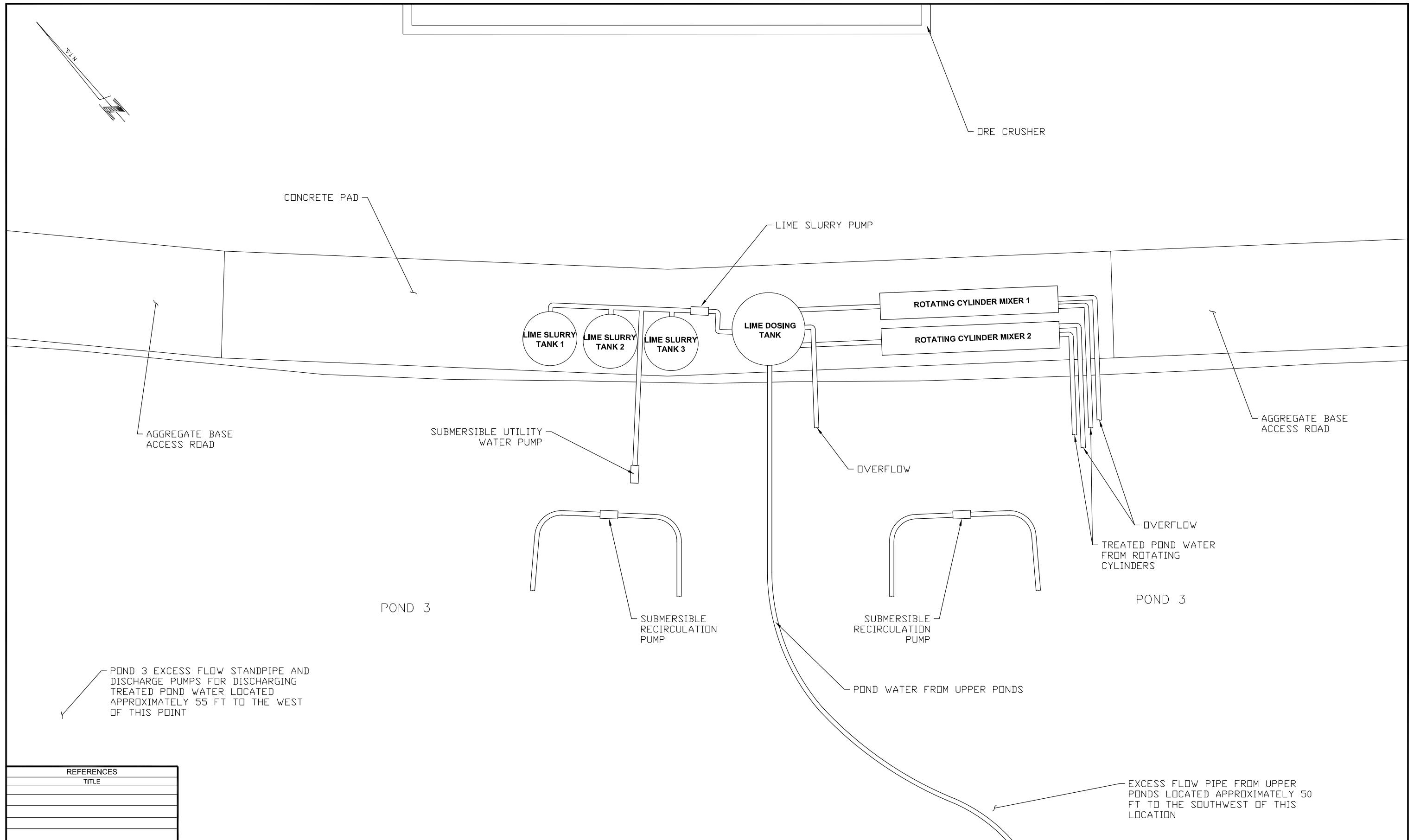
L:\Projects\Leviathan\ArcMap\Fig3\_LWB\_Capture\_Treatment\_System.mxd, MS 3/6/2014, SAC

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

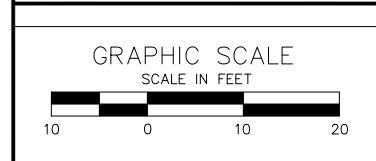


**Water Board  
AMD Capture  
and Treatment System**

**Figure  
3**



REFERENCES	
NO.	TITLE



NO.	BY.	DATE	REVISIONS DESCRIPTION
△			
△			
△			
△			

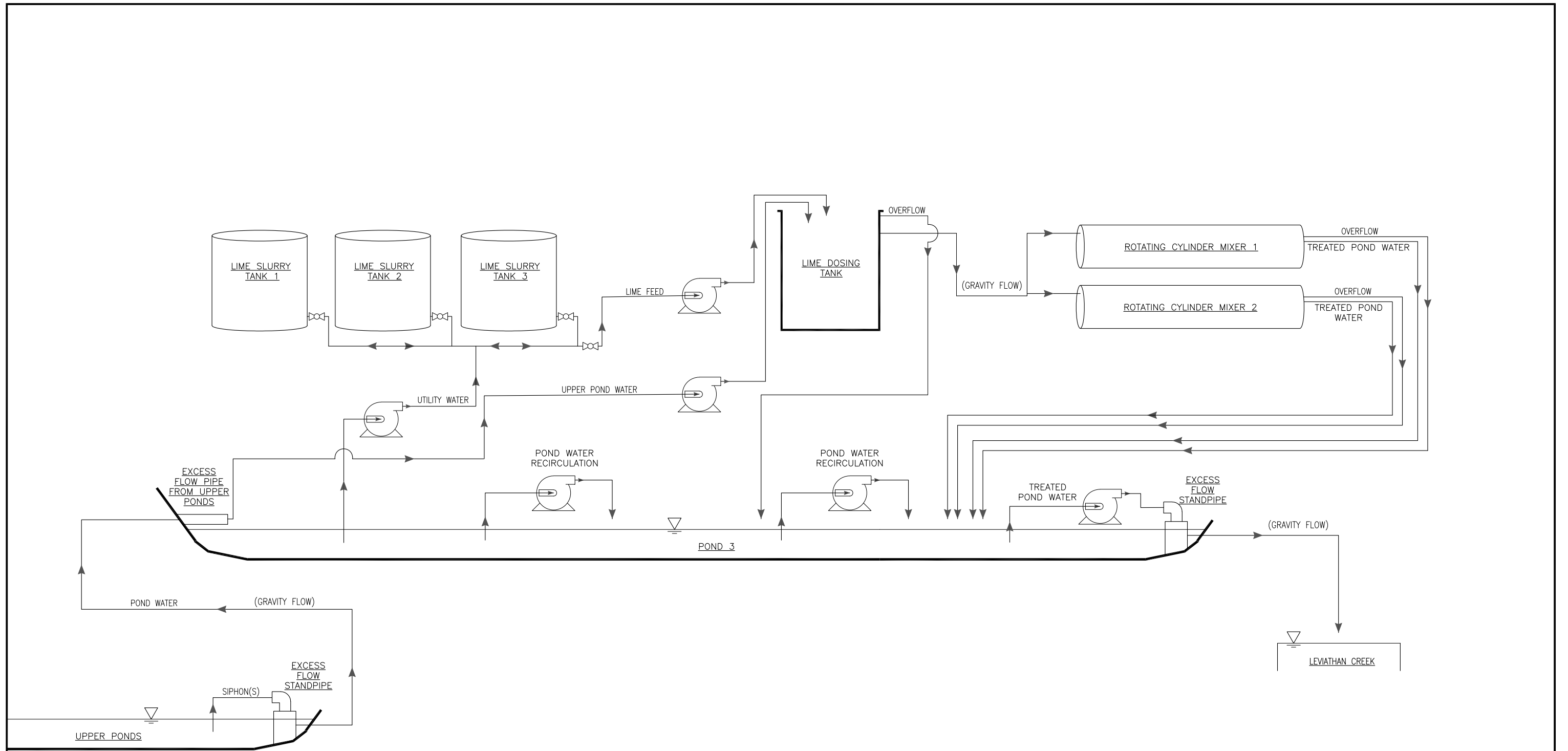
NO.	BY.	DATE	REVISIONS DESCRIPTION
△			
△			
△			
△			

DRAWING SCALE	AS NOTED	DATE
DESIGNED BY:		
DRAWN BY: DW		02/15/24
CHECKED BY:		
APPROVED BY:		



**EARLY-SEASON POND WATER TREATMENT SYSTEM LAYOUT**

JOB NO.	
PROJECT	
SHEET NO.	
<b>Figure 4</b>	



REFERENCES	
TITLE	

DRAWING SCALE	AS NOTED
---------------	----------

NO.	BY.	DATE	REVISIONS DESCRIPTION
▲			
▲			
▲			
▲			
▲			

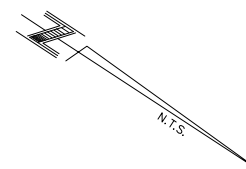
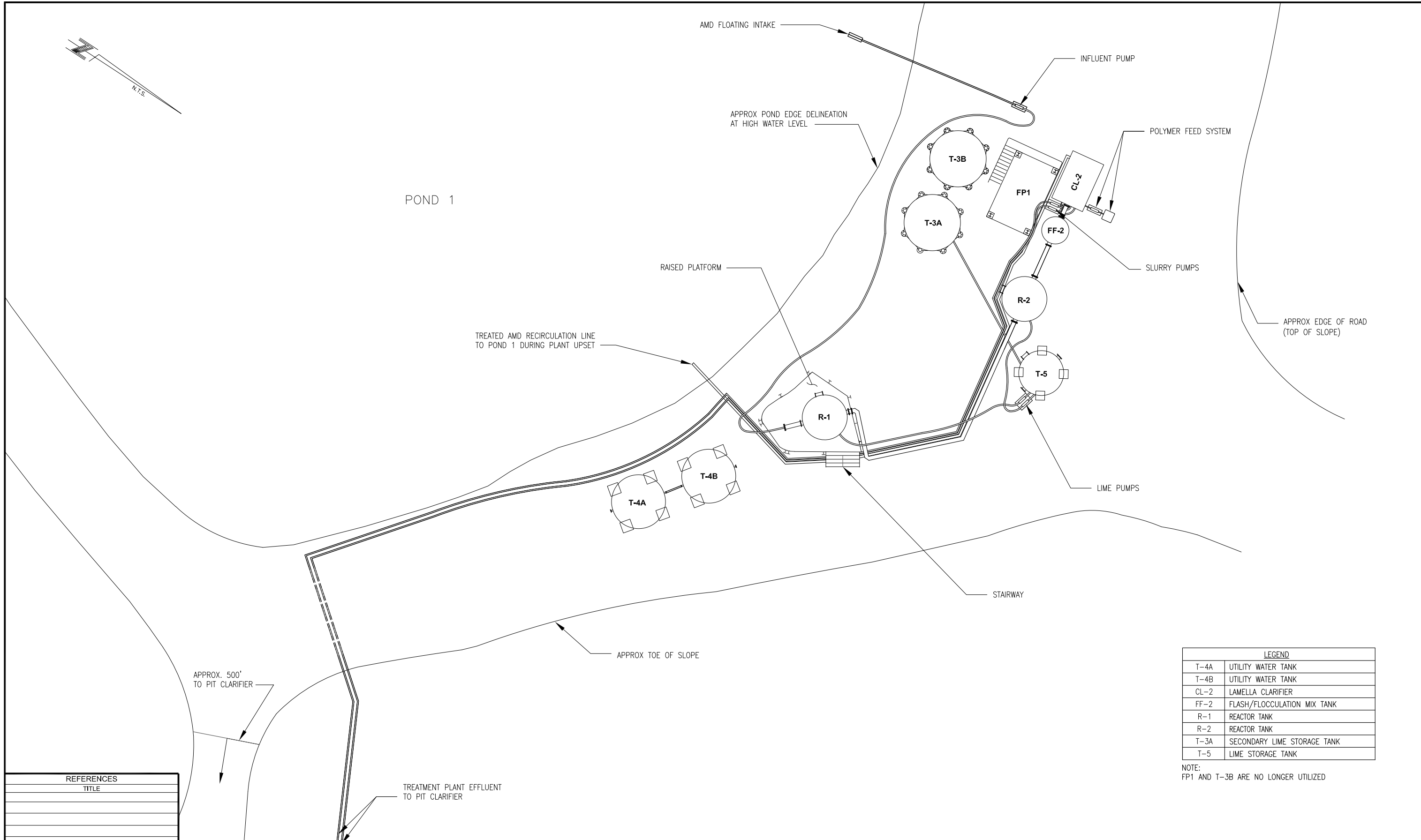
NO.	BY.	DATE	REVISIONS DESCRIPTION
▲			
▲			
▲			
▲			
▲			

DRAWING SCALE	AS NOTED	DATE
DESIGNED BY:		
DRAWN BY:	DW	02/15/24
CHECKED BY:		
APPROVED BY:		



**EARLY-SEASON POND WATER TREATMENT SYSTEM  
SIMPLIFIED PIPING & INSTRUMENTATION  
DIAGRAM**

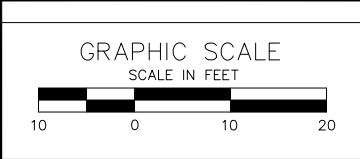
JOB NO.	
PROJECT	
SHEET NO.	
<b>Figure 5</b>	



LEGEND	
T-4A	UTILITY WATER TANK
T-4B	UTILITY WATER TANK
CL-2	LAMELLA CLARIFIER
FF-2	FLASH/FLOCCULATION MIX TANK
R-1	REACTOR TANK
R-2	REACTOR TANK
T-3A	SECONDARY LIME STORAGE TANK
T-5	LIME STORAGE TANK

NOTE:  
FP1 AND T-3B ARE NO LONGER UTILIZED

REFERENCES
TITLE



NO.	BY.	DATE	REVISIONS DESCRIPTION
△			
△			
△			
△			

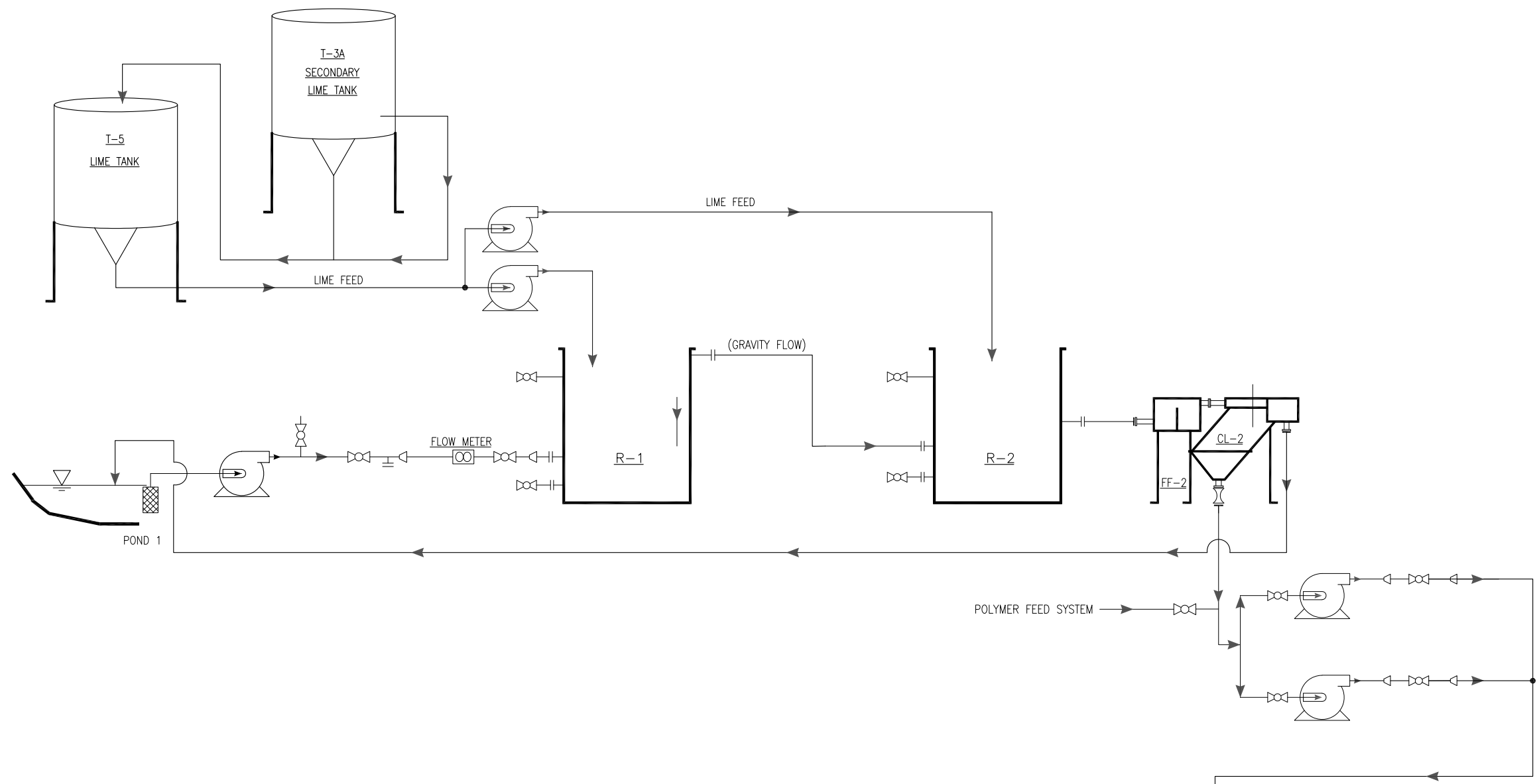
NO.	BY.	DATE	REVISIONS DESCRIPTION
△			
△			
△			
△			

DRAWING SCALE	AS NOTED	DATE
DESIGNED BY:		
DRAWN BY: DW		02/15/24
CHECKED BY:		
APPROVED BY:		



**SUMMER POND WATER TREATMENT SYSTEM SYSTEM LAYOUT**

JOB NO. \_\_\_\_\_  
PROJECT \_\_\_\_\_  
SHEET NO. \_\_\_\_\_  
**Figure 6**



LEGEND	
CL-2	LAMELLA CLARIFIER
FF-2	FLASH/FLOCCULATION MIX TANK
R-1	REACTOR TANK
R-2	REACTOR TANK
T-3A	SECONDARY LIME STORAGE TANK
T-5	LIME STORAGE TANK

REFERENCES	
TITLE	

DRAWING SCALE	AS NOTED
---------------	----------

NO.	BY.	DATE	REVISIONS DESCRIPTION

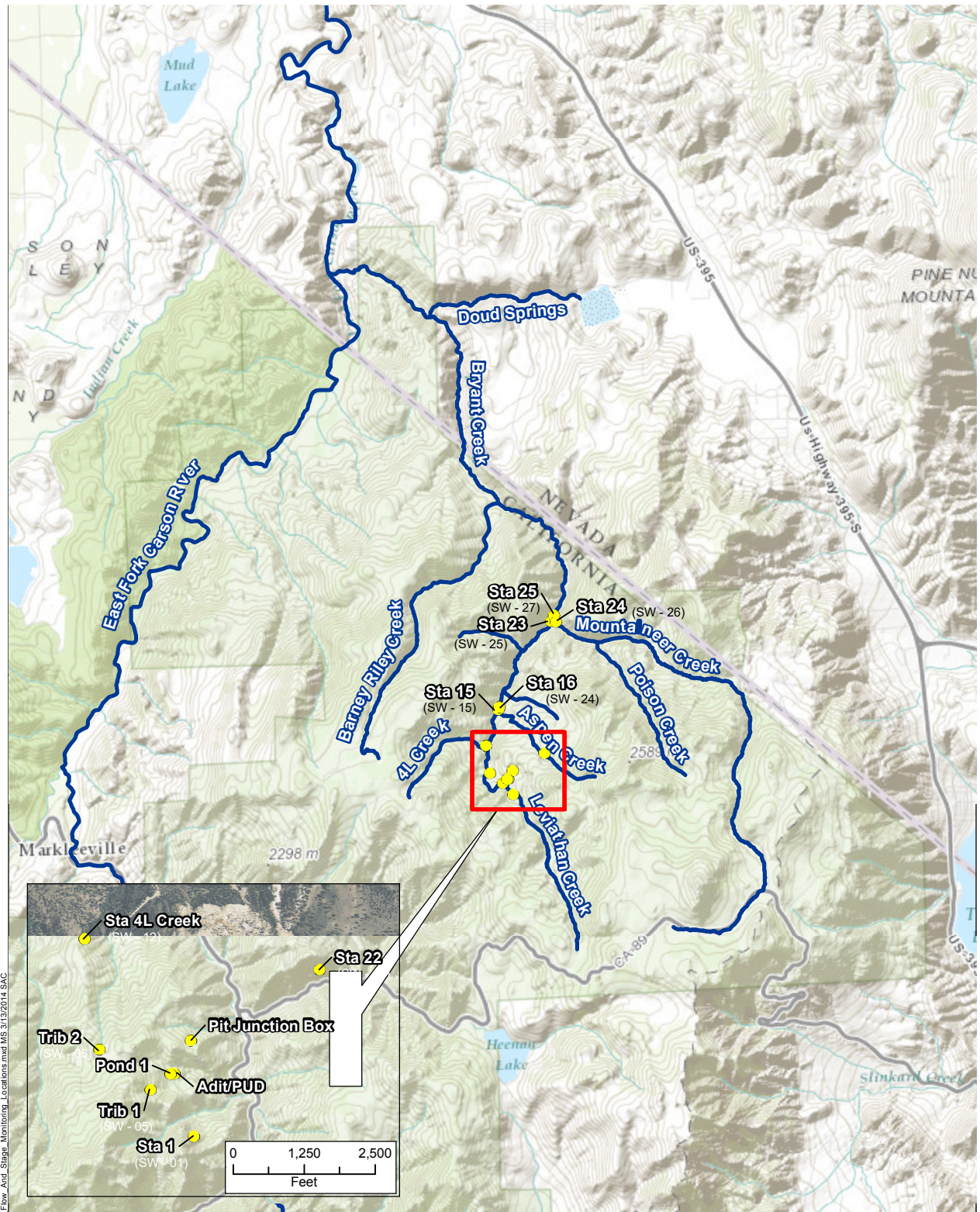
NO.	BY.	DATE	REVISIONS DESCRIPTION

DRAWING SCALE	AS NOTED	DATE
DESIGNED BY:		
DRAWN BY:	DW	02/15/24
CHECKED BY:		
APPROVED BY:		



**SUMMER POND WATER TREATMENT SYSTEM  
SIMPLIFIED PIPING & INSTRUMENTATION  
DIAGRAM**

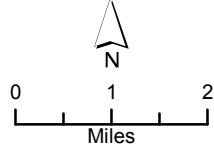
JOB NO. \_\_\_\_\_  
PROJECT \_\_\_\_\_  
SHEET NO. \_\_\_\_\_  
**Figure 7**



L:\Projects\Levatham\ArcMap\Fig4\_Flow\_And\_Stage\_Monitoring\_Locations.mxd MS\_3/13/2014\_SAC

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

Note: Station names in brackets under USGS Stations are Remedial Investigation/Feasibility Study monitoring locations.



**Flow and Stage  
Monitoring Locations**

**Figure  
8**

## **TABLES**

Table 1: USEPA Discharge Criteria

Table 2: 2023 Early-Season Pond Water Treatment Discharge Summary

Table 3: Summary of Pond Water Treatment Volumes and Consumables

Table 4: 2023 Summer Pond Water Treatment Daily Discharge Summary

Table 5: 2023 Early-Season Pond Water Treatment Contingency Monitoring Plan

Table 6: 2023 Early-Season Pond Water Treatment Influent Field and Analytical Results

Table 7: 2023 Early-Season Pond Water Treatment Effluent Field and Analytical Results

Table 8: 2023 Early-Season Treatment Surface Water Field and Analytical Results

Table 9: 2023 Early-Season Pond Water Treatment Sludge Analytical Results

Table 10: 2023 Summer Pond Water Treatment Monitoring Program

Table 11: 2023 Summer Pond Water Treatment Influent Field and Analytical Results

Table 12: 2023 Summer Pond Water Treatment Effluent Field and Analytical Results

Table 13: Summary of 2023 Summer Pond Water Treatment Plant Operators' Logs

Table 14: 2023 Summer Pond Water Treatment Sludge Analytical Results

Table 15: 2023 Flow and Stage Monitoring Locations



**TABLE 1  
USEPA DISCHARGE CRITERIA**

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

**Notes:**

- 1: pH measurement based on 24-hour (single day) average discharge.
- 2: Concentrations based on 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 2  
2023 EARLY-SEASON POND WATER TREATMENT  
DISCHARGE SUMMARY**

<b>Date</b>	<b>Volume Discharged (Gallons)</b>	<b>Cumulative Discharge (Gallons)</b>
2/20/2023	400,240	400,240
3/27/2023	321,769	722,009
3/31/2023	487,329	1,209,338
4/2/2023	396,960	1,606,298
4/4/2023	485,572	2,091,870
4/6/2023	486,011	2,577,881
4/8/2023	521,237	3,099,118
4/10/2023	575,927	3,675,045
4/12/2023	287,442	3,962,487
4/13/2023	332,877	4,295,364
4/15/2023	391,331	4,686,695
4/17/2023	497,267	5,183,962
4/19/2023	377,935	5,561,897
4/21/2023	376,138	5,938,035
4/23/2023	421,153	6,359,188
4/25/2023	521,758	6,880,946
4/27/2023	499,596	7,380,542
4/29/2023	482,477	7,863,019
5/1/2023	444,978	8,307,997
5/3/2023	476,789	8,784,786
5/5/2023	435,811	9,220,597
5/7/2023	476,311	9,696,908
5/9/2023	442,023	10,138,931
5/11/2023	424,688	10,563,619
5/13/2023	435,054	10,998,673
5/15/2023	444,700	11,443,373
5/17/2023	419,166	11,862,539
5/19/2023	419,845	12,282,384
5/21/2023	404,937	12,687,321
5/23/2023	382,655	13,069,976
5/25/2023	388,213	13,458,189
5/27/2023	442,131	13,900,320
5/29/2023	417,012	14,317,332
5/31/2023	419,710	14,737,042
6/2/2023	337,962	15,075,004
6/4/2023	246,528	15,321,532
6/6/2023	290,915	15,612,447
6/8/2023	282,721	15,895,168
6/10/2023	221,382	16,116,550
6/12/2023	186,393	16,302,943
6/14/2023	197,388	16,500,331
6/16/2023	278,228	16,778,559
6/18/2023	212,114	16,990,673
6/20/2023	202,747	17,193,420
6/22/2023	192,037	17,385,457
6/24/2023	168,106	17,553,563
6/26/2023	132,070	17,685,633
6/28/2023	301,308	17,986,941
6/29/23 through 7/14/23 <sup>1</sup>	57,320	18,044,261

**Note:**

1. Intermittent siphon at less than 5 gallons per minute.

**TABLE 3  
SUMMARY OF POND WATER TREATMENT VOLUMES AND CONSUMABLES**

<b>YEAR</b>	<b>DISCHARGE VOLUME (GALLONS)</b>	<b>SLUDGE GENERATED<sup>1,2</sup> (TONS)</b>	<b>DRY LIME (TONS)</b>	<b>LIME UTILIZATION (mg/L)</b>	<b>LIQUID POLYMER (GALLONS)</b>	<b>DIESEL (GALLONS)</b>	<b>GASOLINE (GALLONS)</b>
1999 <sup>3</sup>	4,500,000	116	139	7403	Not Recorded	12,609	Not Recorded
2000 <sup>3</sup>	6,000,000	100	200	7989	Not Recorded	13,000	Not Recorded
2001 <sup>3</sup>	4,000,000	50	140	8389	1,439	6,500	600
2002 <sup>3</sup>	3,800,000	50	75	4731	581	3,074	492
2003 <sup>3</sup>	3,500,000	57	36.8	2520	375	2,625	575
2004 <sup>3</sup>	5,900,000	91	78.4	3185	3,250	4,020	715
2005 (Spring)	530,000	--	7.2	3256	--	Not Recorded	Not Recorded
2005	10,000,000	916	240	5752	833	11,658	2,282
2006 (Spring) <sup>4</sup>	7,500,000	259	42.5	1358	--	Not Recorded	Not Recorded
2006	13,157,724	1,122	180	3279	508	6,294	756
2007	3,118,228	315	86	6610	208	3,641	646
2008	3,020,207	484	58	4603	300	2,037	851
2009	2,901,105	598	52	4296	37	4,056	708
2010	6,715,138	1,082	79	2820	289	4,994	609
2011 (Spring)	8,200,000	218	24.0	701	--	950	465
2011	9,804,502	1,000	198	4840	147	6,924	335
2012	2,842,452	324	62	5228	35	2,349	312
2013	2,663,709	178	48	4288	32	2,413	233
2014	814,792	156	40	11902	11	595	50
2015	2,537,261	163	79	7417	34	1,100	105
2016	5,668,270	475	62	2625	184	4,120	200
2017 (Spring)	14,926,250	277	60.3	968	--	5,183	432
2017	10,954,643	2,138	279	6099	356	10,007	283
2018 (Spring) <sup>5</sup>	920,000	427	2.7	690	--	494	29
2018	9,248,427	828	100	2592	300	5,449	193
2019 (Spring)	4,552,000	39	12.6	663	--	1,035	135
2019	11,790,788	1,432	170	3456	686	6,535	185
2020	3,293,628	336	42	3056	258	2,260	151
2021	2,888,168	277	46	3784	94	1,900	195
2022 <sup>6</sup>	2,653,896	265	42	3757	86	1,412	64
2023 (Early-Season)	18,044,261	782	74	982	--	4,142	814
2023	10,519,797	To be determined	196.7	4482	341	4,015	121
<b>Total</b>	<b>196,965,246</b>	<b>14,555</b>	<b>2,951</b>	<b>--</b>	<b>10,384</b>	<b>135,391</b>	<b>12,536</b>

**Notes:**

1. Sludge generated during Spring and Early-Season Pond Water Treatment is disposed of in the fall of the same treatment season. The quantity of sludge generated is based on weight at time of disposal.
2. Sludge generated during Summer Pond Water Treatment is disposed of prior to treatment the following year. The quantity of sludge generated based on weight at time of disposal.
3. Sludge generated includes Phase 1 sludge only, Phase 2 sludge was disposed of onsite and the weight is unknown.
4. Sludge generated amount includes sludge generated from 2005 spring treatment.
5. Sludge generated amount includes a portion of the sludge generated from 2017 spring treatment.
6. Sludge generated was approximately 265 tons based on the volume of pond water treated. A total of approximately 1,000 tons of material was disposed which included approximately 735 tons of debris deposited in the Pit Clarifier from the Pit Slump.

**TABLE 4  
2023 SUMMER POND WATER TREATMENT  
DAILY DISCHARGE SUMMARY**

<b>Date</b>	<b>Volume Discharged (Gallons)</b>	<b>Cumulative Discharge (Gallons)</b>
6/30/2023	10,136	10,136
7/1/2023	28,902	39,038
7/2/2023	25,424	64,462
7/3/2023	25,424	89,886
7/4/2023	25,424	115,310
7/5/2023	36,679	151,989
7/6/2023	195,896	347,885
7/7/2023	195,896	543,781
7/8/2023	195,896	739,677
7/9/2023	184,705	924,382
7/10/2023	173,906	1,098,288
7/11/2023	184,705	1,282,993
7/12/2023	231,873	1,514,866
7/13/2023	231,873	1,746,739
7/14/2023	244,681	1,991,420
7/15/2023	244,681	2,236,101
7/16/2023	219,476	2,455,577
7/17/2023	219,476	2,675,053
7/18/2023	219,476	2,894,529
7/19/2023	285,615	3,180,144
7/20/2023	244,681	3,424,825
7/21/2023	231,873	3,656,698
7/22/2023	195,896	3,852,594
7/23/2023	173,906	4,026,500
7/24/2023	108,906	4,135,406
7/25/2023	67,027	4,202,433
7/26/2023	50,490	4,252,923
7/27/2023	86,449	4,339,372
7/28/2023	207,485	4,546,857
7/29/2023	207,485	4,754,342
7/30/2023	153,468	4,907,810
7/31/2023	184,705	5,092,515
8/1/2023	173,906	5,266,421
8/2/2023	173,906	5,440,327
8/3/2023	184,705	5,625,032
8/4/2023	231,873	5,856,905
8/5/2023	219,476	6,076,381
8/6/2023	195,896	6,272,277
8/7/2023	231,873	6,504,150
8/8/2023	184,705	6,688,855
8/9/2023	219,476	6,908,331
8/10/2023	153,468	7,061,799
8/11/2023	61,202	7,123,001
8/12/2023	36,679	7,159,680
8/13/2023	25,424	7,185,104
8/14/2023	25,424	7,210,528

**TABLE 4  
2023 SUMMER POND WATER TREATMENT  
DAILY DISCHARGE SUMMARY**

<b>Date</b>	<b>Volume Discharged (Gallons)</b>	<b>Cumulative Discharge (Gallons)</b>
8/15/2023	163,495	7,374,023
8/16/2023	143,818	7,517,841
8/17/2023	143,818	7,661,659
8/18/2023	55,691	7,717,350
8/19/2023	40,990	7,758,340
8/20/2023	25,424	7,783,764
8/21/2023	28,902	7,812,666
8/22/2023	117,092	7,929,758
8/23/2023	219,476	8,149,234
8/24/2023	93,590	8,242,824
8/25/2023	61,202	8,304,026
8/26/2023	36,679	8,340,705
8/27/2023	22,209	8,362,914
8/28/2023	19,252	8,382,166
8/29/2023	173,906	8,556,072
8/30/2023	207,485	8,763,557
8/31/2023	231,873	8,995,430
9/1/2023	61,202	9,056,632
9/2/2023	45,591	9,102,223
9/3/2023	28,902	9,131,125
9/4/2023	16,545	9,147,670
9/5/2023	19,252	9,166,922
9/6/2023	163,495	9,330,417
9/7/2023	231,873	9,562,290
9/8/2023	134,543	9,696,833
9/9/2023	36,679	9,733,512
9/10/2023	16,545	9,750,057
9/11/2023	11,849	9,761,906
9/12/2023	9,845	9,771,751
9/13/2023	14,079	9,785,830
9/14/2023	153,468	9,939,298
9/15/2023	231,873	10,171,171
9/16/2023	32,652	10,203,823
9/17/2023	19,252	10,223,075
9/18/2023	6,484	10,229,559
9/19/2023	5,109	10,234,668
9/20/2023	9,845	10,244,513
9/21/2023	108,906	10,353,419
9/22/2023	36,679	10,390,098
9/23/2023	19,252	10,409,350
9/24/2023	8,060	10,417,410
9/25/2023	11,849	10,429,259
9/26/2023	36,679	10,465,938
9/27/2023	19,252	10,485,190
9/28/2023	9,845	10,495,035
9/29/2023	6,484	10,501,519

**TABLE 4**  
**2023 SUMMER POND WATER TREATMENT**  
**DAILY DISCHARGE SUMMARY**

<b>Date</b>	<b>Volume Discharged (Gallons)</b>	<b>Cumulative Discharge (Gallons)</b>
9/30/2023	5,109	10,506,628
10/1/2023	8,060	10,514,688
10/2/2023	5,109	10,519,797

**TABLE 5  
2023 EARLY-SEASON POND WATER TREATMENT CONTINGENCY MONITORING PLAN**

SAMPLE LOCATION	LOCATION DESCRIPTION	ANALYSES	SCHEDULE <sup>1</sup>
<b>Normal RCTS Operations. No flow from Pond 3 to Leviathan Creek except RCTS treated effluent discharge.</b>			
Pond 1 Pond 2 South Pond 2 North	Untreated upper pond water entering Pond 3 for treatment	pH, temperature (field) USEPA Discharge Criteria <sup>2</sup> with Additional Analytes <sup>3</sup>	one sample per batch treated
Pond 3 treated effluent	Pond 3 treated effluent near excess flow piping		one sample per batch discharged
<b>Normal RCTS Operations. Pond 3 capacity may be exceeded. No flow from Pond 3 to Leviathan Creek except RCTS treated effluent discharge.</b>			
Pond 1 Pond 2 South Pond 2 North	Untreated upper pond water entering Pond 3 for treatment	pH, temperature (field) USEPA Discharge	one sample per batch treated
Pond 3 treated effluent	Pond 3 treated effluent near excess flow piping	Criteria <sup>2</sup> with Additional Analytes <sup>3</sup>	one sample per batch discharged
Station 15	Station 15 - Leviathan Creek above Aspen Creek		up to three samples per week <sup>4</sup>
Station 25	Station 25 - Bryant Creek below Mountaineer Creek		up to three samples per week <sup>4</sup>
<b>Pond 3 capacity is exceeded. Excess flow from Pond 3 diverted to Leviathan Creek.</b>			
Pond 3 discharge	Untreated or partially treated discharge from Pond 3 excess flow piping to Leviathan Creek	pH, temperature (field) USEPA Discharge	up to three samples per week <sup>4</sup>
Station 15	Station 15 - Leviathan Creek above Aspen Creek	Criteria <sup>2</sup> with Additional Analytes <sup>3</sup>	up to three samples per week <sup>4</sup>
Station 25	Station 25 - Bryant Creek below Mountaineer Creek		up to three samples per week <sup>4</sup>
<b>Sludge</b>			
Pond 3	Sludge accumulated in Pond 3 from Early-Season Pond Water Treatment	CAM-17 <sup>5</sup> metals plus Al and Fe (for comparison with STLC and TTLC)	three grab samples collected once per year after treatment
<b>QA/QC Samples</b>			
To Be Determined	Field Duplicates	USEPA Discharge Criteria <sup>2</sup> with Additional Analytes <sup>3</sup>	minimum of 10%
To Be Determined	Field Method Blanks collected using laboratory-supplied deionized water	USEPA Discharge Criteria <sup>2</sup> with Additional Analytes <sup>3</sup>	minimum of 10%

**Abbreviations:**

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

QA/QC = Quality Control/Quality Assurance

**Notes:**

1. Sampling frequency subject to change based on observed conditions and safety concerns.
2. Dissolved As, Al, Cd, Cr, Cu, Fe, Pb, Ni, Zn (off-site laboratory); total recoverable Se (off-site laboratory); pH (field); temperature (field).
3. TDS, Sulfate, Dissolved: Sb, Ba, Be, Ca, Co, Mg, Mn, Hg, Ag, Tl, and V (off-site laboratory).
4. The sampling may be adjusted depending on site conditions and the availability of representative data from previous monitoring events.
5. 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)

**TABLE 6  
2023 EARLY-SEASON POND WATER TREATMENT INFLUENT WATER FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	Temp (°C)	Aluminum			Antimony			Arsenic			Barium			Beryllium			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead		
				Result	Result	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			
001P2N002	Pond 2 North	N	2/20/2023	3.24	0.0	51.1	D		<0.001			0.6	D		<0.05			0.002			0.004			34			0.12	D		0.268			0.157			78.2	D		<0.001		
008P3020	Partially treated water in Pond 3 <sup>1</sup>	N	3/29/2023	5.67	0.0	0.18			<0.001			<0.001			<0.05			<0.001			<0.001			126			<0.005			0.030			<0.005			0.27			<0.001		
012P3032	Partially treated water in Pond 3 <sup>1</sup>	N	4/3/2023	7.83	0.0	0.04			<0.001			<0.001			<0.05			<0.002	D		<0.001			320			<0.005			0.108			<0.005			4.14			<0.001		
013P2S035	Pond 2 South	N	4/4/2023	2.72	0.0	146	D		<0.001			1.4	D		<0.05			0.005	D		0.011			79	D		0.318			0.8	D		0.530			225	D		<0.001		
014P2S037	Pond 2 South	N	4/6/2023	2.52	0.0	51.7			<0.001			0.5			<0.05			0.002			0.004			30			0.120			0.268			0.19			80.6			<0.001		
015P2S041	Pond 2 South	N	4/8/2023	2.70	0.0	44.7	D		<0.001			0.298			<0.05			0.001			0.003			42			0.095			0.236			0.167			61.7	D		<0.001		
016P2S047	Pond 2 South	N	4/10/2023	2.45	0.2	188			<0.001			2.3			<0.05			0.006			0.015			99			0.44			0.97			0.56			299			<0.001		
017P1051	Pond 1	N	4/12/2023	2.91	0.2	135	D		<0.001			0.525			<0.05			0.004			0.010			182			0.210			0.761			0.399			131	D		<0.001		
018P2S055	Pond 2 South	N	4/13/2023	2.77	0.3	174	D		<0.001			1.68			<0.05			0.005	D		0.012			104	D		0.350			0.838			0.480			251	D		<0.001		
019P2S059	Pond 2 South	N	4/15/2023	2.88	2.8	135	D		<0.001			1.4	D		<0.05			0.005	D		0.010			76			0.303			0.727			0.407			180	D		<0.001		
020P2S060	Pond 2 South	N	4/17/2023	3.09	0.6	90.9			<0.001			0.528			<0.05			0.003			0.008			52			0.199			0.504			0.333			95	D		<0.001		
021 P2S 067	Pond 2 South	N	4/19/2023	2.94	1.5	134			<0.001			1.73			<0.05			0.004			0.011			81			0.339			0.710			0.426			231			<0.001		
022 P2S 071	Pond 2 South	N	4/21/2023	2.92	1.2	65.9			<0.001			0.637			<0.05			0.002			0.006			43			0.180			0.369			0.240			117			<0.001		
023 P2S 079	Pond 2 South	N	4/23/2023	4.09	1.1	18.7	D	J+	<0.001			0.023			<0.05			<0.001			0.002			16			0.035			0.115			0.073			16.7	D	J+	<0.001		
024 P2S 081	Pond 2 South	N	4/25/2023	4.20	1.8	4.39			<0.001			0.003			<0.05			<0.001			<0.001			4			0.009			0.030			0.020			4.01			<0.001		
025 P2S 085	Pond 2 South	N	4/27/2023	3.90	1.8	2.00			<0.001			<0.001			<0.05			<0.001			<0.001			3			<0.005			0.015			0.015			1.59			<0.001		
026 P2S 087	Pond 2 South	N	4/29/2023	2.97	3.1	1.43			<0.001			<0.001			<0.05			<0.001			<0.001			1			<0.005			0.009			0.008			1.00			<0.001		
027 P2S 089	Pond 2 South	N	5/1/2023	3.83	4.1	2.20			<0.001			<0.001			<0.05			<0.001			<0.001			2			<0.005			0.013			0.010	J+		1.88			<0.001		
028 P2S 092	Pond 2 South	N	5/3/2023	3.75	2.7	3.05			<0.001			<0.001			<0.05			<0.001			<0.001			2			0.006			0.018			0.014			3.13			<0.001		
029 P2S 095	Pond 2 South	N	5/5/2023	3.62	9.1	4.04			<0.001			<0.001			<0.05			<0.001			<0.001			3			0.008			0.022			0.015			4.05			<0.001		
030 P2S 097	Pond 2 South	N	5/7/2023	3.47	5.3	7.53			<0.001			0.003			<0.05			<0.001			<0.001			6			0.019			0.046			0.030			9.69			<0.001		
031 P2S 099	Pond 2 South	N	5/9/2023	3.12	6.8	18.1			<0.001			0.022			<0.05			<0.001			0.002			13			0.044			0.093			0.064			25.7			<0.001		
032 P2S 101	Pond 2 South	N	5/11/2023	3.07	9.9	23.7			<0.001			0.033			<0.05			<0.001			0.002			17			0.059			0.126			0.086			35.2			<0.001		
033 P2S 103	Pond 2 South	N	5/13/2023	3.00	13.6	48.1			<0.001			0.075			<0.05			0.002			0.003			27			0.094			0.208			0.132			66.2			<0.001		
034 P2S 105	Pond 2 South	N	5/15/2023	2.95	13.8	58.9			<0.001			0.127			<0.05			0.002			0.005			32			0.133			0.298			0.185			85			<0.001		
035 P2S 108	Pond 2 South	N	5/17/2023	2.99	18.1	70.3			<0.001			0.283			<0.05			0.002			0.007			44			0.197			0.338			0.250			114			<0.001		
036 P2S 111	Pond 2 South	N	5/19/2023	2.66	17.2	96.0			<0.001			0.519			<0.05			0.003			0.010			50			0.231			0.442			0.294			166			<0.001		
037 P2S 113	Pond 2 South	N	5/21/2023	2.98	16.9	125			<0.001			1.13			<0.05			0.003			0.014			61			0.312			0.556			0.402			234			<0.001		
038 P2S 115	Pond 2 South	N	5/23/2023	2.91	15.1	160			<0.001			1.29			<0.05			0.004			0.017			73			0.391			0.645			0.543			312			<0.001		
029 P1 117	Pond 1	N	5/25/2023	3.07	14.2	29.7			<0.001			0.009			<0.05			0.001			0.003			38			0.047			0.171			0.104			22.5			<0.001		
040 P1 119	Pond 1	N	5/27/2023	3.13	15.1	29.8			<0.001			0.011			<0.05			0.001			0.003			42			0.051			0.187			0.122			21.5			<0.001		
041 P1 121	Pond 1	N	5/29/2023	3.01	12.3	35.3			<0.001			0.028			<0.05			0.001			0.003			50			0.062			0.213			0.162			28.8			<0.001		
042 P1 124	Pond 1	N	5/31/2023	2.88	12.4	42.4			<0.001			0.076			<0.05			0.002			0.004			55			0.077			0.265			0.231			43			<0.001		
042 P1 127	Pond 1	N	6/2/2023	2.74	15.6	88.4			<0.001			0.787			<0.05			0.003			0.012			87			0.222			0.610			0.997			153			0.003		
043 P1 129	Pond 1	N	6/4/2023	2.50	19.8	240			<0.001			4.44			<0.05			0.005			0.036			142			0.654			1.25			3.67			519			0.011		
044 P2S 129	Pond 2 South	N	6/6/2023	2.88	17.9	203			<0.001			1.5			<0.05			0.004			0.027			93			0.579			0.9			0.9			391			0.002		
045 P2S131	Pond 2 South	N	6/8/2023	2.64	14.8	221			<0.001			2.18			<0.05			0.004			0.029			98			0.675			0.908			1.18			450			0.002		
046 P2S 133	Pond 2 South	N	6/10/2023	2.75	15.1	225			<0.001			2.84			<0.05			0.005			0.033			124			0.739			1.16			1.46			484			0.003		
047 P2S 135	Pond 2 South	N	6/12/2023	2.53	14.6	244			<0.001			2.80			<0.05			0.006			0.036			109			0.738			1.10			1.48			520			0.003		
048P2S 137	Pond 2 South	N	6/14/2023	2.65	18.6	239			<0.001			2.83			<0.05			0.006			0.038			106			0.739			1.22			1.67			531			0.003		
049 P2S 139	Pond 2 South	N	6/16/2023	2.57	17.9	296			<0.001			3.51			<0.05			0.008			0.041			131			0.850			1.19			1.93			635			0.004		
050 P2S 141	Pond 2 South	N	6/18/2023	2.47	18.9	319			<0.001			4.10			<0.05			0.006			0.049			140			0.961			1.32			2.31			691			0.006		
051 P2S 145																																									



**TABLE 6  
2023 EARLY-SEASON POND WATER TREATMENT INFLUENT WATER FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	Temp (°C)	Magnesium			Manganese			Mercury			Nickel			Selenium			Silver			Sulfate			Thallium			Total Dissolved Solids			Vanadium			Zinc		
				Result	Result	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
001P2N002	Pond 2 North	N	2/20/2023	3.24	0.0	9			1.64	D		<0.0001			0.76			0.002			<0.001			372			0.0244			498	D		0.03			0.19		
008P3020	Partially treated water in Pond 3 <sup>1</sup>	N	3/29/2023	5.67	0.0	23			0.367			<0.0001			0.07			0.002			<0.001			438			0.0055			625			<0.01			0.01		
012P3032	Partially treated water in Pond 3 <sup>1</sup>	N	4/3/2023	7.83	0.0	84			1.95	D		<0.0001			0.27	D		0.001			<0.001			1050	D		0.0313			1470			<0.04	D		<0.01		
013P2S035	Pond 2 South	N	4/4/2023	2.72	0.0	28			4.86	D		<0.0001			2.2			0.003			<0.001			2540	D		0.056	D		3750	D		0.12	D		0.49		
014P2S037	Pond 2 South	N	4/6/2023	2.52	0.0	10			1.62			<0.0001			0.71			<0.001			<0.001			430			0.0193			614			0.05			0.16		
015P2S041	Pond 2 South	N	4/8/2023	2.70	0.0	12			1.49	D		<0.0001			0.619			<0.001			<0.001			655	D	J+	0.0165			507			0.04			0.14		
016P2S047	Pond 2 South	N	4/10/2023	2.45	0.2	29			5.84			<0.0001			2.58			0.002			<0.001			2290	D		0.062	D		3520	D		0.23			0.57		
017P1051	Pond 1	N	4/12/2023	2.91	0.2	24			4.18	D		<0.0001			2.04			0.002			<0.001			1600	D		0.0324			2110	D		0.03			0.41		
018P2S055	Pond 2 South	N	4/13/2023	2.77	0.3	23			5.14	D		<0.0001			2.47			0.001			<0.001			1880	D		0.0335			2760	D		0.12			0.46		
019P2S059	Pond 2 South	N	4/15/2023	2.88	2.8	20			4.10	D		<0.0001			1.91			0.001			<0.001			1560	D		0.0349			2270	D		0.1			0.39		
020P2S060	Pond 2 South	N	4/17/2023	3.09	0.6	13			2.65			<0.0001			1.36			<0.001			<0.001			1020	D		0.0192			1390			0.03			0.28		
021 P2S 067	Pond 2 South	N	4/19/2023	2.94	1.5	23			4			<0.0001			1.83			0.002			<0.001			1630	D		0.045	D		2610	D		0.17			0.43		
022 P2S 071	Pond 2 South	N	4/21/2023	2.92	1.2	12			2			<0.0001			0.94			<0.001			<0.001			822	D		0.0281			1260			0.08			0.24		
023 P2S 079	Pond 2 South	N	4/23/2023	4.09	1.1	3			0.552			<0.0001			0.276			<0.001			<0.001			223			0.0042			303			<0.01			0.06		J+
024 P2S 081	Pond 2 South	N	4/25/2023	4.20	1.8	<1			0.158			<0.0001			0.072			<0.001			<0.001			59		J-	0.001			92		J	<0.01			0.02		U
025 P2S 085	Pond 2 South	N	4/27/2023	3.90	1.8	<1			0.098			<0.0001			0.04			<0.001			<0.001			36		J-	0.0007			60		J	<0.01			0.02		
026 P2S 087	Pond 2 South	N	4/29/2023	2.97	3.1	<1			0.044			<0.0001			0.032			<0.001			<0.001			17			0.0008			37			<0.01			<0.01		
027 P2S 089	Pond 2 South	N	5/1/2023	3.83	4.1	<1			0.072			<0.0001			0.038			<0.001			<0.001			28			0.0009			47			<0.01			0.01		
028 P2S 092	Pond 2 South	N	5/3/2023	3.75	2.7	<1			0.104			<0.0001			0.053			<0.001			<0.001			<1			0.0005			72			<0.01			0.02		
029 P2S 095	Pond 2 South	N	5/5/2023	3.62	9.1	<1			0.126			<0.0001			0.061			<0.001			<0.001			54			0.001			77			<0.01			0.02		
030 P2S 097	Pond 2 South	N	5/7/2023	3.47	5.3	1			0.261			<0.0001			0.125			<0.001			<0.001			112			0.0012			156			<0.01			0.03		
031 P2S 099	Pond 2 South	N	5/9/2023	3.12	6.8	3			0.556			<0.0001			0.259			<0.001			<0.001			249			0.0044			340			<0.01			0.06		
032 P2S 101	Pond 2 South	N	5/11/2023	3.07	9.9	5			0.762			<0.0001			0.357			<0.001			<0.001			328		J-	0.0054			476		J	<0.01			0.08		
033 P2S 103	Pond 2 South	N	5/13/2023	3.00	13.6	7			1.23			<0.0001			0.53			<0.001			<0.001			482			0.01			690			0.01		J+	0.12		
034 P2S 105	Pond 2 South	N	5/15/2023	2.95	13.8	9			1.66			<0.0001			0.732			<0.001			<0.001			683			0.015			970			0.03			0.17		
035 P2S 108	Pond 2 South	N	5/17/2023	2.99	18.1	12			1.92			<0.0001			0.93			<0.001			<0.001			909			0.022			1400			0.06			0.22		
036 P2S 111	Pond 2 South	N	5/19/2023	2.66	17.2	15			2.65			<0.0001			1.26			0.001			<0.001			1190			0.032			1980			0.11			0.28		
037 P2S 113	Pond 2 South	N	5/21/2023	2.98	16.9	19			3.25			<0.0001			1.56			0.002			<0.001			1190			0.054			2530			0.18			0.37		
038 P2S 115	Pond 2 South	N	5/23/2023	2.91	15.1	23			3.86			<0.0001			1.77			0.002			<0.001			1930		J-	0.077			2680		J	0.15			0.43		
029 P1 117	Pond 1	N	5/25/2023	3.07	14.2	6			1.33			<0.0001			0.453			<0.001			<0.001			389		J-	0.0069			604		J	<0.01			0.11		
040 P1 119	Pond 1	N	5/27/2023	3.13	15.1	6			1.33			<0.0001			0.496			<0.001			<0.001			407			0.0072			606			<0.01			0.12		
041 P1 121	Pond 1	N	5/29/2023	3.01	12.3	7			1.53			<0.0001			0.575			<0.001			<0.001			477			0.0126			715			<0.01			0.13		
042 P1 124	Pond 1	N	5/31/2023	2.88	12.4	9			1.73			<0.0001			0.654			<0.001			<0.001			625		J-	0.0201			941		J	<0.01			0.15		
042 P1 127	Pond 1	N	6/2/2023	2.74	15.6	18			3.49			<0.0001			1.56			0.001			<0.001			1390		J-	0.132			1830		J	0.07			0.33		
043 P1 129	Pond 1	N	6/4/2023	2.50	19.8	42			6.73			<0.0001			3.54			0.005			<0.001			3550			0.475			4180			0.28			0.74		
044 P2S 129	Pond 2 South	N	6/6/2023	2.88	17.9	29			4.93			<0.0001			2.3			0.003			<0.001			2620			0.0848			3350			0.08			0.55		
045 P2S131	Pond 2 South	N	6/8/2023	2.64	14.8	28			5.20			<0.0001			2.65			0.003			<0.001			2880			0.16			3800			0.23			0.6		
046 P2S 133	Pond 2 South	N	6/10/2023	2.75	15.1	37			5.46			<0.0001			2.89			0.004			<0.001			3330			0.212			4320	E	J	0.37			0.66		
047 P2S 135	Pond 2 South	N	6/12/2023	2.53	14.6	35			5.53			<0.0001			2.91			0.003			<0.001			3180			0.217			4260	E	J	0.31			0.68		
048P2S 137	Pond 2 South	N	6/14/2023	2.65	18.6	37			5.64			<0.0001			3.08			0.003			<0.001			3360			0.216			4320	E	J	0.26			0.73		
049 P2S 139	Pond 2 South	N	6/16/2023	2.57	17.9	41			6.04			<0.0001			3.3			0.004			<0.001			3680			0.289			5130		J	0.39			0.77		
050 P2S 141	Pond 2 South	N	6/18/2023	2.47	18.9	44			6.68			<0.0001			3.65			0.004			<0.001			4170			0.318	J-		5590		J	0.47			0.87		
051 P2S 145	Pond 2 South	N	6/20/2023	2.51	17.0	52			7.41			<0.0001			3.7			0.004			<0.001			4400			0.383			5910			0.54			0.84		
052 P2S 149	Pond 2 South	N	6/22/2023	2.50	15.4	48			7			<0.0001			4.1			0.004			<0.001			4560		J-	0.39			5920		J	0.6			0.95		
053 P2S 153	Pond 2 South	N	6/24/2023	2.42	20.4	46			8.11			<0.0001			4.27			0.004			<0.001			4590			0.396			6540			0.6			0.99		
054 P2S 157	Pond 2 South	N	6/26/2023	2.51	1																																	

**TABLE 7  
2023 EARLY-SEASON POND WATER TREATMENT EFFLUENT FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH		Temp (°C)			Aluminum			Antimony			Arsenic			Barium			Beryllium			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead		
				6.0-9.0	NA	NA	4			NA			0.34			NA			NA			0.009			NA			0.026			NA			0.026			2			0.136				
				NA	NA	2							0.15									0.004			NA			0.016			NA			0.016			1			0.005				
				Result	Result	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			
001DIS001	Pond 3 treated effluent	N	2/20/2023	8.49	0.3	0.06			<0.001			<0.001			<0.05			<0.001			<0.001			358	D	<0.005			0.017			<0.005			0.03			<0.001						
003P3007	Pond 3 discharge <sup>1</sup>	N	3/17/2023	3.42	0.0	96.7	D		<0.001			0.102			<0.05			0.004			0.009			317		0.123			0.633			0.313			108	D		<0.001						
004P3008	Pond 3 discharge <sup>1</sup>	N	3/23/2023	2.87	0.0	16.2	D		<0.001			0.009			<0.05			<0.001			0.003			174		0.014			0.14	D		0.102			9.04	D		<0.001						
005P3011	Pond 3 discharge <sup>1</sup>	N	3/24/2023	3.60	0.0	27.5	D		<0.001			0.016			<0.05			0.001			0.003			185		0.025			0.208			0.133			21.3	D		<0.001						
006P3014	Pond 3 discharge <sup>1</sup>	N	3/25/2023	4.75	0.0	10.6	D		<0.001			0.008			<0.05			<0.001			0.007			388	D	<0.005			0.484			0.107			43.3	D		<0.001						
007DIS017	Pond 3 treated effluent	N	3/27/2023	8.29	3.8	0.25			<0.001			<0.001			<0.05			<0.001			<0.001			478	D	<0.005			0.019			<0.005			0.09			<0.001						
010DIS026	Pond 3 treated effluent	N	3/31/2023	8.32	0.0	0.23			<0.001			<0.001			<0.05			<0.001			<0.001			471		<0.005			<0.005			<0.005			<0.02			<0.001						
010DUP027	Duplicate	FD	3/31/2023	8.32	0.0	0.24			<0.001			0.001			<0.05			<0.001			<0.001			465	D	<0.005			<0.005			<0.005			0.03			<0.001						
010BLA028	Field Method Blank	FMB	3/31/2023	NA	NA	<0.03			<0.001			<0.001			<0.05			<0.001			<0.001			<1		<0.005			<0.005			<0.005			<0.02			<0.001						
001DIS031	Pond 3 treated effluent	N	4/2/2023	8.46	0.0	0.17			<0.001			0.001			<0.05			<0.001			<0.001			370		<0.005			<0.005			<0.005			<0.02			<0.001						
013DIS035	Pond 3 treated effluent	N	4/4/2023	8.22	0.0	0.09			<0.001			0.001			<0.05			<0.001			<0.001			545	D	<0.005			0.031			<0.005			0.03			<0.001						
014DIS036	Pond 3 treated effluent	N	4/6/2023	8.22	0.0	0.20			<0.001			0.002			<0.05			<0.001			<0.001			591		<0.005			0.024			<0.005			0.12			<0.001						
015Dis040	Pond 3 treated effluent	N	4/8/2023	7.84	0.0	0.26			<0.001			0.004			<0.05			<0.001			<0.001			652	D	<0.005			0.060			<0.005			0.49			<0.001						
016DIS044	Pond 3 treated effluent	N	4/10/2023	7.89	0.1	1.16			<0.001			0.015			<0.05			<0.001			<0.001			630		<0.005			0.06			<0.005			2.85			<0.001						
016DUP046	Duplicate	FD	4/10/2023	7.89	0.1	1.03			<0.001			0.013			<0.05			<0.001			<0.001			638		<0.005			0.068			<0.005			2.61			<0.001						
016BLA045	Field Method Blank	FMB	4/10/2023	NA	NA	<0.03			<0.001			<0.001			<0.05			<0.001			<0.001			<1		<0.005			<0.005			<0.005			<0.02			<0.001						
017DIS050	Pond 3 treated effluent	N	4/12/2023	8.39	0.6	1.28			<0.001			0.007			<0.05			<0.001			<0.001			469		<0.005			0.009			<0.005			0.97			<0.001						
018DIS054	Pond 3 treated effluent	N	4/13/2023	8.37	0.0	0.88			<0.001			0.009			<0.05			<0.001			<0.001			429		<0.005			0.015			<0.005			0.85			<0.001						
019DIS058	Pond 3 treated effluent	N	4/15/2023	8.40	1.3	1.0	D		<0.001			0.010	D		<0.05			<0.002	D		<0.001			375		<0.005			0.025			<0.005			1.11			<0.001						
020DIS058	Pond 3 treated effluent	N	4/17/2023	8.25	0.8	1.27			<0.001			0.008			<0.05			<0.001			<0.001			304		<0.005			0.020			0.005			0.99			<0.001						
020DUP059	Duplicate	FD	4/17/2023	8.25	0.8	1.26			<0.001			0.009			<0.05			<0.001			<0.001			301		<0.005			0.021			<0.005			0.99			<0.001						
020BLA061	Field Method Blank	FMB	4/17/2023	NA	NA	<0.03			<0.001			<0.001			<0.05			<0.001			<0.001			<1		<0.005			<0.005			<0.005			<0.02			<0.001						
021 Dis 066	Pond 3 treated effluent	N	4/19/2023	7.96	2.1	1.8			<0.001			0.022			<0.05			<0.001			<0.001			338		<0.005			0.038			0.006			3.28			<0.001						
022 Dis 070	Pond 3 treated effluent	N	4/21/2023	8.65	0.9	3.0			<0.001			0.017			<0.05			<0.001			<0.001			343		<0.005			0.015			0.006			2.31			<0.001						
023 Dis 074	Pond 3 treated effluent	N	4/23/2023	8.47	1.0	1.80			<0.001			0.007			<0.05			<0.001			<0.001			141		<0.005			0.010			<0.005			1.17			<0.001						
023 Dup 075	Duplicate	FD	4/23/2023	8.47	1.0	1.69			<0.001			0.007			<0.05			<0.001			<0.001			137		<0.005			0.010			<0.005			1.12			<0.001						
023 Bla 076	Field Method Blank	FMB	4/23/2023	NA	NA	<0.03			<0.001			<0.001			<0.05			<0.001			<0.001			<1		<0.005			<0.005			<0.005			<0.02			<0.001						
024 Dis 080	Pond 3 treated effluent	N	4/25/2023	8.20	2.2	0.27			<0.001			<0.001			<0.05			<0.001			<0.001			86		<0.005			0.005			<0.005			<0.02			<0.001						
025 Dis 084	Pond 3 treated effluent	N	4/27/2023	8.23	2.8	0.07			<0.001			<0.001			<0.05			<0.001			<0.001			56		<0.005			0.005			<0.005			<0.02			<0.001						
026 Dis 086	Pond 3 treated effluent	N	4/29/2023	8.31	7.3	0.11			<0.001			<0.001			<0.05			<0.001			<0.001			40		<0.005			<0.005			<0.005			<0.02			<0.001						
027 Dis 088	Pond 3 treated effluent	N	5/1/2023	8.35	7.5	0.36			<0.001			<0.001			<0.05			<0.001			<0.001			46		<0.005			<0.005			<0.005			<0.02			<0.001						
028 Dis 090	Pond 3 treated effluent	N	5/3/2023	8.34	5.1	0.22			<0.001			<0.001			<0.05			<0.001			<0.001			41		<0.005			<0.005			<0.005			0.02			<0.001						
028 Dup 091	Duplicate	FD	5/3/2023	8.34	5.1	0.21			<0.001			<0.001			<0.05			<0.001			<0.001			41		<0.005			<0.005			<0.005			0.02			<0.001						
028 Bla 093	Field Method Blank	FMB	5/3/2023	NA	NA	<0.03			<0.001			<0.001			<0.05			<0.001			<0.001			<1		<0.005			<0.005			<0.005			<0.02			<0.001						
029 Dis 094	Pond 3 treated effluent	N	5/5/2023	8.28	7.7	0.43			<0.001			<0.001			<0.05			<0.001			<0.001			46		<0.005			<0.005			<0.005			0.08			<0.001						
030 Dis 096	Pond 3 treated effluent	N	5/7/2023	8.12	8.3	0.24			<0.001			0.001			<0.05			<0.001			<0.001			53		<0.005			0.010			<0.005			0.15			<0.001						
031 Dis 098	Pond 3 treated effluent	N	5/9/2023	8.16	5.8	0.29			<0.001			0.002			<0.05			<0.001			<0.001			73		<0.005			0.019			<0.005			0.36			<0.001						
032 Dis 100	Pond 3 treated effluent	N	5/11/2023	8.41	8.1	0.25			<0.001			<0.001			<0.05			<0.001			<0.001			113		<0.005			<0.005			<0.005			<0.02			<0.001						
033 Dis 102	Pond 3 treated effluent	N	5/13/2023	8.33	10.0	0.19			<0.001			<0.001			<0.05			<0.001			<0.001			158		<0.005			<0.005			<0.005			<0.02			<0.001						
034 Dis 104	Pond 3 treated effluent	N	5/15/2023	8.40	8.9	0.28	J+		<0.001			<0.001	</																															

**TABLE 7  
2023 EARLY-SEASON POND WATER TREATMENT EFFLUENT FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH		Temp (°C)		Magnesium		Manganese		Mercury		Nickel		Selenium		Silver		Sulfate		Thallium		Total Dissolved Solids			Vanadium			Zinc						
				6.0-9.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.094	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Result	Result	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	
001DIS001	Pond 3 treated effluent	N	2/20/2023	8.49	0.3	122	D		0.510			< 0.0001			0.070			0.006			<0.001			1430	D		0.0030			2060	D		<0.01			<0.01
003P3007	Pond 3 discharge <sup>1</sup>	N	3/17/2023	3.42	0.0	98			4.69	D		<0.0001			1.55	D		0.002			<0.001			1820	D		0.0658			2980	D		<0.01			0.35
004P3008	Pond 3 discharge <sup>1</sup>	N	3/23/2023	2.87	0.0	40			1.35	D		<0.0001			0.337			0.002			<0.001			1730	D		0.0122			2280	D		<0.01			0.11
005P3011	Pond 3 discharge <sup>1</sup>	N	3/24/2023	3.60	0.0	48			1.84	D		<0.0001			0.523			0.003			<0.001			1730	D		0.0204			2350	D		<0.01			0.15
006P3014	Pond 3 discharge <sup>1</sup>	N	3/25/2023	4.75	0.0	130	D		4.52	D		<0.0001			1.10	D		0.003			<0.001			1820	D		0.0532			2540	D		<0.01			0.26
007DIS017	Pond 3 treated effluent	N	3/27/2023	8.29	3.8	84	D		0.580			< 0.0001			0.080			0.003			<0.001			1530	D		0.0185			2210	D		<0.01			<0.01
010DIS026	Pond 3 treated effluent	N	3/31/2023	8.32	0.0	55			0.326			< 0.0001			0.037			0.003			<0.001			1440	D		0.0227			1860	D		<0.01			<0.01
010DUP027	Duplicate	FD	3/31/2023	8.32	0.0	54	D		0.313			< 0.0001			0.036			0.003			<0.001			1480	D		0.0230			1880	D		<0.01			<0.01
010BLA028	Field Method Blank	FMB	3/31/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			<1			<0.0005			<20			<0.01			<0.01
001DIS031	Pond 3 treated effluent	N	4/2/2023	8.46	0.0	71			0.842			< 0.0001			0.040			0.002			<0.001			1260	D		0.0313			1820	D		<0.01			<0.01
013DIS035	Pond 3 treated effluent	N	4/4/2023	8.22	0.0	111	D		1.62			< 0.0001			0.133			0.002			<0.001			1950	D		0.036	D		2830			<0.01			<0.01
014DIS036	Pond 3 treated effluent	N	4/6/2023	8.22	0.0	107			1.68			< 0.0001			0.10			0.002			<0.001			2080	D		0.054	D		2850	D		<0.01			<0.01
015Dis040	Pond 3 treated effluent	N	4/8/2023	7.84	0.0	113	D		2.00	D		< 0.0001			0.205			0.002			<0.001			2020	D		0.0505			2940	D		<0.01			<0.01
016DIS044	Pond 3 treated effluent	N	4/10/2023	7.89	0.1	53			0.735			< 0.0001			0.19			0.001			<0.001			1820	D		0.034	D		2590	D		<0.01			<0.01
016DUP046	Duplicate	FD	4/10/2023	7.89	0.1	51			0.747			< 0.0001			0.207			0.001			<0.001			1840	D		0.034	D		2620	D		<0.01			<0.01
016BLA045	Field Method Blank	FMB	4/10/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			4			<0.0005			<20			<0.01			<0.01
017DIS050	Pond 3 treated effluent	N	4/12/2023	8.39	0.6	20			0.152			< 0.0001			0.032			0.001			<0.001			1260	D		0.0178			1720	D		<0.01			<0.01
018DIS054	Pond 3 treated effluent	N	4/13/2023	8.37	0.0	20			0.281			< 0.0001			0.059			0.002			<0.001			1230	D		0.016	D		1660			<0.01			<0.01
019DIS058	Pond 3 treated effluent	N	4/15/2023	8.40	1.3	21			0.364			< 0.0001			0.079			0.002			<0.001			1070	D		0.0142			1530			<0.01			<0.01
020DIS058	Pond 3 treated effluent	N	4/17/2023	8.25	0.8	14			0.245			< 0.0001			0.063			0.002			<0.001			882	D		0.0097			1220			<0.01			<0.01
020DUP059	Duplicate	FD	4/17/2023	8.25	0.8	13			0.250			< 0.0001			0.064			0.002			<0.001			859	D		0.0104			1220	D		<0.01			<0.01
020BLA061	Field Method Blank	FMB	4/17/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			<1			<0.0005			<30			<0.01			<0.01
021 Dis 066	Pond 3 treated effluent	N	4/19/2023	7.96	2.1	22			0.492			< 0.0001			0.119			0.002			<0.001			1010	D		0.0138			1490			<0.01			0.01
022 Dis 070	Pond 3 treated effluent	N	4/21/2023	8.65	0.9	5			0.158			< 0.0001			0.047			0.003			<0.001			936	D		0.0119			1360			<0.01			<0.01
023 Dis 074	Pond 3 treated effluent	N	4/23/2023	8.47	1.0	8			0.086			< 0.0001			0.028			0.002			<0.001			430			0.0043			619			<0.01			<0.01
023 Dup 075	Duplicate	FD	4/23/2023	8.47	1.0	8			0.084			< 0.0001			0.026			0.003			<0.001			430			0.0038			617			<0.01			<0.01
023 Bla 076	Field Method Blank	FMB	4/23/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			<1			<0.0005			<20			<0.01			<0.01
024 Dis 080	Pond 3 treated effluent	N	4/25/2023	8.20	2.2	5			0.120			< 0.0001			0.016			0.003			<0.001			219	J		0.0022			341	J		<0.01			<0.01
025 Dis 084	Pond 3 treated effluent	N	4/27/2023	8.23	2.8	5			0.160			< 0.0001			0.016			0.003			<0.001			147	J		0.0006			229	J		<0.01			<0.01
026 Dis 086	Pond 3 treated effluent	N	4/29/2023	8.31	7.3	5			0.125			< 0.0001			0.007			0.003			<0.001			125			0.0009			203			<0.01			<0.01
027 DIS 088	Pond 3 treated effluent	N	5/1/2023	8.35	7.5	5			0.059			< 0.0001			<0.005			0.004			<0.001			120			0.0011	U		197			<0.01			<0.01
028 Dis 090	Pond 3 treated effluent	N	5/3/2023	8.34	5.1	5			0.169			< 0.0001			0.015			0.004			<0.001			112			0.0014			177			<0.01			<0.01
028 Dup 091	Duplicate	FD	5/3/2023	8.34	5.1	5			0.168			< 0.0001			0.015			0.004			<0.001			113			0.0013			177			<0.01			<0.01
028 Bla 093	Field Method Blank	FMB	5/3/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			<1			<0.0005			<20			<0.01			<0.01
029 Dis 094	Pond 3 treated effluent	N	5/5/2023	8.28	7.7	4			0.110			< 0.0001			0.011			0.003			<0.001			123			0.0017			187			<0.01			<0.01
030 Dis 096	Pond 3 treated effluent	N	5/7/2023	8.12	8.3	6			0.208			< 0.0001			0.031			0.003			<0.001			144			0.0021			216			<0.01			<0.01
031 Dis 098	Pond 3 treated effluent	N	5/9/2023	8.16	5.8	12			0.365			< 0.0001			0.058			0.003			<0.001			228			0.0035			319			<0.01			<0.01
032 Dis 100	Pond 3 treated effluent	N	5/11/2023	8.41	8.1	11			0.196			< 0.0001			0.017			0.003			<0.001			313	J		0.0036			458	J		<0.01			<0.01
033 DIS 102	Pond 3 treated effluent	N	5/13/2023	8.33	10.0	12			0.261			< 0.0001			0.017			0.003			<0.001			428			0.0061			641			<0.01			<0.01
034 DIS 104	Pond 3 treated effluent	N	5/15/2023	8.40	8.9	16			0.296			< 0.0001			0.024			0.003			<0.001			596			0.0084			858			<0.01			<0.01
035 Bla 109	Field Method Blank	FMB	5/17/2023	NA	NA	<1			<0.001			< 0.0001			<0.005			<0.001			< 0.001			<1			<0.0005			<20			<0.01			<0.01
035 Dis 106	Pond 3 treated effluent	N	5/17/2023	8.41	11.3	19			0.334			< 0.0001			0.012			0.003			<0.001			673			0.0102			1010			<0.01			<0.01
035 Dup 107	Duplicate	FD	5/17/2023	8.41	11.3	18			0.320			< 0.0001			0.011			0.003			<0.001			678			0.0103			1010			<0.01			<0.01
036 Dis 110	Pond 3 treated effluent	N	5/19/2023	8.31	12.2	16			0.260			< 0.0001			0.016			0.002			<0.001			877			0.0174			1310			<0.01</			

**TABLE 7**  
**2023 EARLY-SEASON POND WATER TREATMENT EFFLUENT FIELD AND ANALYTICAL RESULTS**

**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 metals are dissolved except Selenium which is total recoverable.

FD = Field duplicate sample

FMB = Field method blank sample

ID = Identification

N = Normal field sample

NA = Not applicable

< = Less than the reporting limit

1. The Site was inaccessible to conduct continuous Early-Season Pond Water Treatment due to extreme winter weather conditions that could have compromised worker safety from February 27 through March 16, 2023. Sometime between March 7 and March 17, 2023, the storage capacity of Pond 3 was exceeded and excess flow from Pond 3 began discharging to Leviathan Creek through the excess flow piping system. Samples of excess flow from Pond 3 were collected on March 17, March 23, March 24, and March 25, 2023. Excess flow discharged from Pond 3 was untreated but some lime neutralization had occurred. Values shown in **bold** exceed the USEPA Daily Maximum Discharge Criteria

**Data Qualifiers (DQ) from the Laboratory:**

D = Reporting Limit (RL) increased due to sample matrix.

H = Analysis performed past the method holding time.

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

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for high bias.

J- = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for low bias.

U = The analyte was detected but is qualified as not detected due to blank contamination.

UJ = The analyte was not detected and was reported less than the method detection limit. The associated numerical value is approximate.

**TABLE 8  
2023 EARLY-SEASON TREATMENT SURFACE WATER FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	Temp (°C)	Aluminum			Antimony			Arsenic			Barium			Beryllium			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead			
				Result	Result	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				
002S15003	Station 15	N	3/7/2023	5.82	2.0	0.29				<0.001			0.007			<0.05			<0.001			<0.001			81			<0.005			0.048			<0.005			4.70	D		<0.001		
002S25004	Station 25	N	3/7/2023	6.73	2.0	0.08				<0.001			0.002			<0.05			<0.001			<0.001			38			<0.005			0.006			<0.005			0.15			<0.001		
003S15005	Station 15	N	3/17/2023	6.20	2.4	0.93	D			<0.001			0.005			<0.05			<0.001			<0.001			58			<0.005			0.032			0.016			4.58	D		<0.001		
003S25006	Station 25	N	3/17/2023	6.50	3.3	0.10				<0.001			0.002			<0.05			<0.001			<0.001			23			<0.005			<0.005			<0.005			0.15			<0.001		
004S15009	Station 15	N	3/23/2023	5.98	3.9	0.06				<0.001			0.005			<0.05			<0.001			<0.001			61			<0.005			0.03	D		0.005			3.81			<0.001		
004S25010	Station 25	N	3/23/2023	6.88	4.5	0.03				<0.001			0.001			0.05			<0.001			<0.001			30			<0.005			<0.005			<0.005			0.03			<0.001		
005S15012	Station 15	N	3/24/2023	6.12	5.2	0.21				<0.001			0.006			<0.05			<0.001			<0.001			63			<0.005			0.035			0.006			4.07			<0.001		
005S25013	Station 25	N	3/24/2023	6.68	4.5	0.05				<0.001			0.001			<0.05			<0.001			<0.001			30			<0.005			<0.005			<0.005			0.04			<0.001		
006S15015	Station 15	N	3/25/2023	6.03	4.4	0.23				<0.001			0.006			0.05			<0.001			<0.001			61			<0.005			0.036			0.008			4.11			<0.001		
006S25016	Station 25	N	3/25/2023	6.85	4.4	0.09				<0.001			<0.001			0.05			<0.001			<0.001			29			<0.005			<0.005			<0.005			0.03			<0.001		
007S25019	Station 25	N	3/27/2023	6.50	3.7	0.13				<0.001			0.002			<0.05			<0.001			<0.001			41			<0.005			0.005			<0.005			0.09			<0.001		
007S15018	Station 15	N	3/27/2023	6.13	3.3	0.33				<0.001			0.006			<0.05			<0.001			<0.001			151			<0.005			0.041			0.005			4.40			<0.001		
008S15021	Station 15	N	3/29/2023	5.79	3.3	0.03				<0.001			0.006			0.05			<0.001			<0.001			66			<0.005			0.040			<0.005			4.66	D		<0.001		
008S25022	Station 25	N	3/29/2023	6.34	4.5	0.05				<0.001			0.001			0.05			<0.001			<0.001			32			<0.005			0.006			<0.005			0.05			<0.001		
009S25023	Station 25	N	3/30/2023	6.71	4.8	0.07				<0.001			0.002			0.05			<0.001			<0.001			32			<0.005			0.005			<0.005			0.06			<0.001		
009DUP024	Duplicate at Stn 25	FD	3/30/2023	6.71	4.8	0.07				<0.001			0.002			0.05			<0.001			<0.001			33			<0.005			0.005			<0.005			0.06			<0.001		
009BLA025	Field Method Blank	FMB	3/30/2023	NA	NA	<0.03				<0.001			<0.001			<0.05			<0.001			<0.001			<1			<0.005			<0.005			<0.005			<0.02			<0.001		
010S15029	Station 15	N	3/31/2023	7.49	2.3	0.06				<0.001			0.001			<0.05			<0.001			<0.001			169			<0.005			0.012			<0.005			<0.02			<0.001		
010S25030	Station 25	N	3/31/2023	7.48	0.4	0.06				<0.001			<0.001			<0.05			<0.001			<0.001			69			<0.005			<0.005			<0.005			<0.02			<0.001		
012S15033	Station 15	N	4/3/2023	6.26	3.2	0.05				<0.001			0.005			<0.05			<0.001			<0.001			63			<0.005			0.029			<0.005			2.9			<0.001		
012S25034	Station 25	N	4/3/2023	6.67	2.9	0.08				<0.001			<0.001			<0.05			<0.001			<0.001			29			<0.005			0.009			<0.005			0.15			<0.001		
014S15038	Station 15	N	4/6/2023	6.31	3.1	0.05				<0.001			0.003			0.05			<0.001			<0.001			60			<0.005			0.024			<0.005			1.88			<0.001		
014S25039	Station 25	N	4/6/2023	6.87	4.4	0.07				<0.001			<0.001			<0.05			<0.001			<0.001			29			<0.005			<0.005			<0.005			0.06			<0.001		
015S15042	Station 15	N	4/8/2023	7.41	3.2	2.54	D			<0.001			0.007			<0.05			<0.001			<0.001			137			<0.005			0.052			0.010			2.37			<0.001		
015S25043	Station 25	N	4/8/2023	7.38	5.2	0.05				<0.001			<0.001			0.05			<0.001			<0.001			51			<0.005			0.008			<0.005			0.04			<0.001		
016S15048	Station 15	N	4/10/2023	6.82	0.5	0.58				<0.001			0.006			0.05			<0.001			<0.001			76			<0.005			0.018			<0.005			1.27			<0.001		
016S25049	Station 25	N	4/10/2023	7.12	2.4	0.09				<0.001			<0.001			<0.05			<0.001			<0.001			24			<0.005			0.005			<0.005			0.13			<0.001		
017S15052	Station 15	N	4/12/2023	7.58	1.3	2.58				<0.001			0.014			0.07			<0.001			<0.001			63			<0.005			0.017			0.030			5.44	D		<0.001		
017S25053	Station 25	N	4/12/2023	7.70	3.0	1.48				<0.001			0.009			0.07			<0.001			<0.001			27			<0.005			0.007			0.014			2.82			<0.001		
018S15056	Station 15	N	4/13/2023	8.00	3.0	2.55				<0.001			0.009			0.05			<0.001			<0.001			49			<0.005			0.014			0.030			3.45			<0.001		
018S25057	Station 25	N	4/13/2023	7.95	4.7	1.15				<0.001			0.006			0.06			<0.001			<0.001			26			<0.005			0.006			0.013			1.23			<0.001		
020S15062	Station 15	N	4/17/2023	7.10	2.7	2.74				<0.001			0.009			0.05			<0.001			<0.001			54			<0.005			0.013			0.032			3.06			<0.001		
020S25063	Station 25	N	4/17/2023	7.48	3.8	1.38				<0.001			0.006			0.05			<0.001			<0.001			31			<0.005			0.006			0.015			1.47			<0.001		
021 S15 068	Station 15	N	4/19/2023	6.49	3.9	2.34				<0.001			0.013			<0.05			<0.001			<0.001			83			<0.005			0.018			0.030			3.53			<0.001		
021 S25 069	Station 25	N	4/19/2023	7.03	5.1	1.43				<0.001			0.009			0.06			<0.001			<0.001			42			<0.005			0.007			0.018			1.69			<0.001		
022 S15 072	Station 15	N	4/21/2023	6.36	2.5	2.19				<0.001			0.012			0.06			<0.001			<0.001			56			<0.005			0.010			0.029			3.99			<0.001		
022 S25 073	Station 25	N	4/21/2023	6.50	4.3	0.89				<0.001			0.007			0.06			<0.001			<0.001			26			<0.005			<0.005			0.014			1.57			<0.001		
023 S15 077	Station 15	N	4/23/2023	7.50	3.1	2.19				<0.001			0.012			0.10			<0.001			<0.001			29			<0.005			0.008			0.020			4.96			<0.001		
023 S25 078	Station 25	N	4/23/2023	7.53	4.8	1.15				<0.001			0.008			0.08			<0.001			<0.001			19			<0.005			0.005			0.011			2.12			<0.001		
024 S15 082	Station 15	N	4/25/2023	7.28	3.4	0.06				<0.001			0.002			<0.05			<0.001			<0.001			24			<0.005			0.007			<0.005			0.35			<0.001		
024 S25 083	Station 25	N	4/25/2023	7.35	4.8	0.07				<0.001			0.002			<0.05			<0.001			<0.001																				

**TABLE 8  
2023 EARLY-SEASON TREATMENT SURFACE WATER FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	Temp (°C)	Magnesium			Manganese			Mercury			Nickel			Selenium			Silver			Sulfate			Thallium			Total Dissolved Solids			Vanadium			Zinc		
				Result	Result	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
002S15003	Station 15	N	3/7/2023	5.82	2.0	20			1.87	D		<0.0001			0.118			<0.001			<0.001			309			0.002			494	D		<0.01			0.04		
002S25004	Station 25	N	3/7/2023	6.73	2.0	11			0.344			<0.0001			0.016			<0.001			<0.001			77			<0.0005			243	D		<0.01			<0.01		
003S15005	Station 15	N	3/17/2023	6.20	2.4	15			1.14	D		<0.0001			0.075			0.002			<0.001			197			0.0034		U	355			<0.01			0.03		
003S25006	Station 25	N	3/17/2023	6.50	3.3	7			0.134			<0.0001			0.009			<0.001			<0.001			39			<0.0005			169			<0.01			<0.01		
004S15009	Station 15	N	3/23/2023	5.98	3.9	16			1.34	D		<0.0001			0.079			0.001			<0.001			234			0.0041			379			<0.01			0.03		
004S25010	Station 25	N	3/23/2023	6.88	4.5	9			0.221			<0.0001			0.013			<0.001			<0.001			61			0.002			200			<0.01			<0.01		
005S15012	Station 15	N	3/24/2023	6.12	5.2	17			1.42	D		<0.0001			0.083			0.001			<0.001			234			0.0026			388			<0.01			0.03		
005S25013	Station 25	N	3/24/2023	6.68	4.5	9			0.231			<0.0001			0.013			<0.001			<0.001		J+	63		0.0006			202			<0.01			<0.01			
006S15015	Station 15	N	3/25/2023	6.03	4.4	16			1.37	D		<0.0001			0.083			<0.001			<0.001			227		0.0024			376			<0.01			0.03			
006S25016	Station 25	N	3/25/2023	6.85	4.4	9			0.219			<0.0001			0.013			<0.001			<0.001			60		<0.0005			202			<0.01			<0.01			
007S25019	Station 25	N	3/27/2023	6.50	3.7	12			0.247			<0.0001			0.015			<0.001			<0.001			68		0.0026			204			<0.01			<0.01			
007S15018	Station 15	N	3/27/2023	6.13	3.3	33			1.46	D		<0.0001			0.095			0.002			<0.001			554	D	0.0055			820			<0.01			0.02			
008S15021	Station 15	N	3/29/2023	5.79	3.3	17			1.54	D		<0.0001			0.084			0.001			<0.001			244		0.0022			385			<0.01			0.03			
008S25022	Station 25	N	3/29/2023	6.34	4.5	10			0.259			<0.0001			0.015			<0.001			<0.001			68		<0.0005			202			<0.01			<0.01			
009S25023	Station 25	N	3/30/2023	6.71	4.8	10			0.262			<0.0001			0.014			<0.001			<0.001			64		<0.0005			183			<0.01			<0.01			
009DUP024	Duplicate at Stn 25	FD	3/30/2023	6.71	4.8	10			0.256			<0.0001			0.014			<0.001			<0.001			65		0.0005			187			<0.01			<0.01			
009BLA025	Field Method Blank	FMB	3/30/2023	NA	NA	<1			<0.001			<0.0001			<0.005			<0.001			<0.001			<1		<0.0005			<20			<0.01			<0.01			
010S15029	Station 15	N	3/31/2023	7.49	2.3	47			1.12			<0.0001			0.058			0.002			<0.001			599	D	0.011			740	D		<0.01			<0.01			
010S25030	Station 25	N	3/31/2023	7.48	0.4	22			0.379			<0.0001			0.021			<0.001			<0.001			188	D	0.0041			323	D		<0.01			<0.01			
012S15033	Station 15	N	4/3/2023	6.26	3.2	17			1.34			<0.0001			0.08			<0.001			<0.001			226		0.0069			361			<0.01			<0.01			
012S25034	Station 25	N	4/3/2023	6.67	2.9	9			0.364			<0.0001			0.021			<0.001			<0.001			58		0.0024			185			<0.02	L		<0.01			
014S15038	Station 15	N	4/6/2023	6.31	3.1	17			0.891			<0.0001			0.05			<0.001			<0.001			209		0.0055			349			<0.01			<0.01			
014S25039	Station 25	N	4/6/2023	6.87	4.4	9			0.111			<0.0001			0.009			<0.001			<0.001			68		0.0012			183			<0.01			<0.01			
015S15042	Station 15	N	4/8/2023	7.41	3.2	38			1.21	D		<0.0001			0.136			0.001			<0.001			501	D	0.0096			718			<0.01			0.01			
015S25043	Station 25	N	4/8/2023	7.38	5.2	14			0.281			<0.0001			0.024			<0.001			<0.001			111	D	0.0026			241			<0.01			<0.01			
016S15048	Station 15	N	4/10/2023	6.82	0.5	15			0.579			<0.0001			0.04			0.002			<0.001			208	D	0.0032			315			<0.01			<0.01			
016S25049	Station 25	N	4/10/2023	7.12	2.4	7			0.166			<0.0001			0.012			<0.001			<0.001			49	D	0.0009			141			<0.01			<0.01			
017S15052	Station 15	N	4/12/2023	7.58	1.3	10			0.608			<0.0001			0.042			0.002			<0.001			165		0.0023			269			<0.01			0.02			
017S25053	Station 25	N	4/12/2023	7.70	3.0	7			0.346			<0.0001			0.015			<0.001			<0.001			62		0.0007			166	D		<0.01			0.01			
018S15056	Station 15	N	4/13/2023	8.00	3.0	10			0.562			<0.0001			0.034			0.002			<0.001			124		0.0021		U	221			<0.01			0.02			
018S25057	Station 25	N	4/13/2023	7.95	4.7	7			0.247			<0.0001			0.014			0.001			<0.001			55		0.0009		U	165			<0.01			<0.01			
020S15062	Station 15	N	4/17/2023	7.10	2.7	8			0.500			<0.0001			0.032			0.002			<0.001			146		0.0019			253			<0.01			0.02			
020S25063	Station 25	N	4/17/2023	7.48	3.8	7			0.250			<0.0001			0.015			0.001			<0.001			73		0.0007			186			<0.01			<0.01			
021 S15 068	Station 15	N	4/19/2023	6.49	3.9	12			0.630			<0.0001			0.047			0.002			<0.001			220		0.0035			374			<0.01			0.02			
021 S25 069	Station 25	N	4/19/2023	7.03	5.1	9			0.282			<0.0001			0.018			0.001			<0.001			101		0.0008			237			<0.01			0.01			
022 S15 072	Station 15	N	4/21/2023	6.36	2.5	7			0.428			<0.0001			0.024			0.001			<0.001			119		0.0019			228			<0.01			0.02			
022 S25 073	Station 25	N	4/21/2023	6.50	4.3	6			0.226			<0.0001			0.011			<0.001			<0.001			52		0.0012		D	163			<0.01			<0.01			
023 S15 077	Station 15	N	4/23/2023	7.50	3.1	6			0.358			<0.0001			0.012			0.001			<0.001			79		0.0015			174			<0.01			0.01			
023 S25 078	Station 25	N	4/23/2023	7.53	4.8	5			0.266			<0.0001			0.009			0.001			<0.001			43		0.0015			140			<0.01			<0.01			
024 S15 082	Station 15	N	4/25/2023	7.28	3.4	5			0.304			<0.0001			0.013			0.001			<0.001			65		J-	0.0006		J	159		J	<0.01			<0.01		
024 S25 083	Station 25	N	4/25/2023	7.35	4.8	5			0.129			<0.0001			0.006			0.001			<0.001			36		J-	<0.005		J	150		J	<0.01			<0.01		

**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 metals are dissolved except Selenium which is total recoverable.  
 FD = Field duplicate sample  
 FMB = Field method blank sample  
 ID = Identification  
 N = Normal field sample  
 NA = Not applicable  
 < = Less than the reporting limit  
 Station 15 - Leviathan Creek above the confluence with Aspen Creek, USGS Station number 10308789  
 Station 25 - Bryant Creek below the confluence of Leviathan and Mountaineer creeks, USGS Station number 10308794

**Data Qualifiers (DQ) from the Laboratory:**

D = Reporting Limit (RL) increased due to sample matrix.  
 L = Lowest available reporting limit for the analytical method used.

**EPA Qualifiers (EQ) from an additional QA/QC**

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.  
 J+ = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for high bias.  
 J- = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for low bias.



**TABLE 10  
2023 SUMMER POND WATER TREATMENT MONITORING PROGRAM**

SAMPLE LOCATION	LOCATION DESCRIPTION	ANALYSES	SCHEDULE	SAMPLER
Influent	Sampling port prior to lime addition	USEPA Discharge Criteria <sup>1</sup> with Additional Analytes <sup>2</sup>	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
		USEPA Discharge Criteria	twice per week <sup>5</sup>	Contractor
		USEPA Discharge Criteria with Additional Analytes	weekly	Contractor
Field Duplicates	Effluent samples at weir box	USEPA Discharge Criteria	minimum of 10%	Contractor
Field Method Blanks	Collected at Weir Box using laboratory-supplied deionized water	USEPA Discharge Criteria	minimum of 10%	Contractor
Sludge	Pit Clarifier	CAM-17 <sup>3</sup> metals plus Al and Fe (for comparison with STLC and TTLC) <sup>4</sup>	three grab 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. TDS, Sulfate, Dissolved: Sb, Ba, Be Ca, Co, Mg, Mn, Hg, Ag, Tl, and V (off-site laboratory).
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 11  
2023 SUMMER POND WATER TREATMENT INFLUENT FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	TEMP (°F)	Aluminum			Antimony			Arsenic			Barium			Beryllium			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead		
				Result	Result	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			
2324PWT002-INF	PWT Influent	N	6/30/2023	2.02	68.4	487	D3		0.00127	J	U	10.3	D3		0.00847			0.0102	D1		0.0833			223		J+	1.53	D3		2.96	D3		8.40	D3		1270	D3		0.0261	D1	
2324PWT004-INF	PWT Influent	N	7/6/2023	2.24	69.4	467	D3		0.00139	J	U	11.5	D3		0.00785			0.0106	D1		0.0881			246			1.56	D3		2.62	D3		7.47	D3		1240	D3		0.0167		
2324PWT009-INF	PWT Influent	N	7/11/2023	2.34	66.9	466	D3		0.00137	J	U	13.0	D3		0.00764			0.00721	D1		0.0955			264			0.951	D3		1.56	D3		3.59	D3		1210	D3		0.0155		
2324PWT012-INF	PWT Influent	N	7/18/2023	2.1	67.8	454	D3		0.00193	J	U	13.8	D3		0.00617			0.0118	D1		0.0986			225			1.55	D3		2.51	D3		6.14	D3		1060	D3		0.0124		
2324PWT015-INF	PWT Influent	N	7/26/2023	2.18	67.3	510	D3		0.00152	J	U	14.6	D3		0.00618			0.0148	D1		0.111			286			1.72	D3		2.89	D3		5.80	D3		1180	D3		0.0105		
2324PWT018-INF	PWT Influent	N	8/1/2023	2.1	67.2	483	D3		< 0.00100	U		9.74	D3		0.00445			0.0116	D1		0.101			268			1.48	D3		2.53	D3		4.08	D3		1140	D3		0.00788		
2324PWT023-INF	PWT Influent	N	8/8/2023	2.2	65.2	528	D3		< 0.00100	U		14.2	D3		0.00354			0.0129	D1		0.105			240			1.60			2.90	D3		4.24	D3		1100	D3		0.00672		
2324PWT026-INF	PWT Influent	N	8/15/2023	1.9	67.5	562	D3		< 0.00100	U		17.0	D3		0.00429			0.0128	D1		0.106			279			1.79	D3		3.15	D3		4.86	D3		1240	D3		0.00640		
2324PWT029-INF	PWT Influent	N	8/22/2023	1.8	66.5	549	D3		< 0.00100	U		10.3	D3		0.00246	J	J	0.00893	D1		0.0767			271			1.24	D3		2.14	D3		3.32	D3		1160	D3		0.00405		
2324PWT032-INF	PWT Influent	N	8/29/2023	1.8	60.3	607	D3		0.00138	J	U	16.6	D3		0.00260	J	J	0.0138	D1	J-	0.103			280			1.92	D3		3.31	D3		4.93	D3		1310	D3		0.00511		
2324PWT037-INF	PWT Influent	N	9/5/2023	2.1	62.8	589	D3		< 0.00100	U		16.6	D3		0.00206	J	J	0.0131	D1		0.0968			267			1.87	D3		3.25	D3		4.70	D3		1270	D3		0.00409		
2324PWT040-INF	PWT Influent	N	9/14/2023	2.1	60.7	550	D3		< 0.00100	U		12.1	D3		0.00232	J	J	0.00985	D1		0.0918			239			1.40	D3		2.51	D3		3.58	D3		1050	D3		0.00412		
2324PWT045-INF	PWT Influent	N	9/20/2023	2.1	60.9	518	D3		< 0.00100	U		10.9	D3		0.00283	J	J	0.0107	D1		0.0850			223			1.50	D3		2.70	D3		3.28	D3		999	B6, D3		0.00515		

Sample ID	Sample Description	Sample Type	Sample Date	pH	TEMP (°F)	Magnesium			Manganese			Mercury			Nickel			Selenium			Silver			Sulfate			Thallium			Total Dissolved Solids			Vanadium			Zinc		
				Result	Result	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
2324PWT002-INF	PWT Influent	N	6/30/2023	2.02	68.4	65.2		J+	13.3	D3		< 0.000100	U		7.54	D3		0.0116			< 0.000500	U		6760	D3	J	1.00	D1		9750		J	0.956			1.35		
2324PWT004-INF	PWT Influent	N	7/6/2023	2.24	69.4	66.2			13.7	D3		< 0.000100	U		7.60	D3		0.00936			< 0.000500	U		5980	D3		0.705			9270			0.893			1.40		
2324PWT009-INF	PWT Influent	N	7/11/2023	2.34	66.9	64.8			14.2	D3		< 0.000100	U		4.10	D3		0.0102			< 0.000500	U		6260	B6, D3		0.750			9060			0.944			1.37		
2324PWT012-INF	PWT Influent	N	7/18/2023	2.1	67.8	62.2			14.1	D3		< 0.000100	U		7.80	D3		0.0178	D1		< 0.000500	U		7480	D3		0.363			9160			1.00			1.29		
2324PWT015-INF	PWT Influent	N	7/26/2023	2.18	67.3	70.0			14.9	D3		< 0.00013	U		8.29	D3		0.0115			< 0.000500	U		7510	D3		0.625			9060			1.00			1.30		
2324PWT018-INF	PWT Influent	N	8/1/2023	2.1	67.2	70.8			10.4	D3		< 0.00013	U		6.36	D3		0.0133			< 0.000500	U		7560	D3		0.539			9750			0.917			1.29		
2324PWT023-INF	PWT Influent	N	8/8/2023	2.2	65.2	64.7			14.2	D3		< 0.00013	U		7.25	D3		0.00943			< 0.000500	U		8870	D3		0.480			9590			0.758			1.34		
2324PWT026-INF	PWT Influent	N	8/15/2023	1.9	67.5	69.9			14.8	D3		< 0.00013	U		7.96	D3		0.0207	D1		< 0.000500	U		8460	D3		0.442			10100			0.699			1.45		
2324PWT029-INF	PWT Influent	N	8/22/2023	1.8	66.5	69.2			10.1	D3		< 0.000100	U		5.49	D3		0.0159	D1		< 0.000500	U		8520	D3		0.253			9450			0.686			1.42		
2324PWT032-INF	PWT Influent	N	8/29/2023	1.8	60.3	77.9			14.2	D3		0.000192	J, Q7	J	8.37	D3		0.0225	D1		< 0.000500	U		9220	D3		0.301			9690			0.886			1.51		
2324PWT037-INF	PWT Influent	N	9/5/2023	2.1	62.8	76.3			13.8	D3		< 0.000100	Q7, U		8.11	D3		0.0246	D1		< 0.000500	U		6610	D3		0.259			9980			0.862			1.56		
2324PWT040-INF	PWT Influent	N	9/14/2023	2.1	60.7	73.5			10.3	D3		< 0.000100	U		6.45	D3		0.0147			< 0.000500	U		6710	D3		0.228			9870			0.692			1.40		
2324PWT045-INF	PWT Influent	N	9/20/2023	2.1	60.9	65.3			11.5	D3		< 0.000100	Q4, U		7.05	D3	U	0.0158			< 0.000500	U		6100	D3		0.251			8950			0.632			1.29		

**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 metals are dissolved except Selenium which is total recoverable.

N = Normal field sample

< = Less than the method detection limit

INF = Influent

PWT = Pond Water Treatment

**Data Qualifiers (DQ) from the Laboratory:**

U = The analyte was analyzed for but was not detected above the reported quantitation limit. The quantitation limit has been adjusted for any dilution or concentration of the sample.

D1 = Dilution performed due to matrix interference.

D3 = Dilution performed due to high target analyte concentration.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

B6 = Target analyte is detected in continuing calibration blank at or above the reporting limit. There is no impact on the reported value.

Q4 = ICV recovery is above the acceptance limits. The reported value is estimated.

Q7 = CCV recovery is above acceptance limits. However there is no impact on the reported value.

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

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for high bias.

J- = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample with a potential for low bias.

U = The analyte was detected but is qualified as not detected due to blank contamination.

**TABLE 12  
2023 SUMMER POND WATER TREATMENT EFFLUENT FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH	TEMP (°C)	Aluminum			Antimony			Arsenic			Barium			Beryllium			Cadmium			Calcium			Chromium			Cobalt			Copper			Iron			Lead		
USEPA Daily Maximum Discharge Criteria				6.0-9.0	NA	4			NA			0.34			NA			NA			0.009			NA			0.97			NA			0.026			2			0.136		
USEPA 4-Day Average Discharge Criteria				NA	NA	2			NA			0.15			NA			NA			0.004			NA			0.31			NA			0.016			1			0.005		
				Result	Result	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			
2324PWT001-PC	Pre-Discharge	N	6/29/2023	8.37	64.6	0.853			NA			0.00352			NA			NA			< 0.000300	U	NA			< 0.00350	U		NA			0.00157	J	J	< 0.0500	U		< 0.000500	U		
2324PWT003-EFF	PWT Effluent	N	6/30/2023	6.62	64.6	< 0.0800	U		< 0.00100	U		0.00557			0.0480			< 0.000100	U		< 0.000300	U	788	D3	J	< 0.00350	U		0.00131			0.00226	J	J	0.0541	J	U	< 0.000500	U		
2324PWT005-EFF	PWT Effluent	N	7/6/2023	7.25	70.2	< 0.0800	U		< 0.00100	U		0.00571			0.0428			< 0.000100	U		< 0.000300	U	743	D3		< 0.00350	U		0.00157			< 0.00100	U		< 0.0400	U		< 0.000500	U		
2324PWT006-EFF	PWT Effluent	N	7/7/2023	7.44	68.1	< 0.0800	U		0.00131	J	U	0.00330			0.0329			< 0.000100	U		< 0.000300	U	764	D3		< 0.00350	U		0.00129			< 0.00100	U		< 0.0400	U		< 0.000500	U		
2324PWT007-FMB	Field Method Blank	FMB	7/7/2023	NA	NA	< 0.0800	U		< 0.00100	U		< 0.00160	U		< 0.00150	U		< 0.000100	U		< 0.000300	U	< 0.200	U		< 0.00350	U		< 0.000500	U		< 0.00100	U		< 0.0400	U		< 0.000500	U		
2324PWT008-EFF	Field Duplicate	FD	7/7/2023	7.44	68.1	< 0.0800	U		< 0.00100	U		0.00348			0.0356			< 0.000100	U		< 0.000300	U	740	D3		< 0.00350	U		0.00137			< 0.00100	U		0.0507	J	U	< 0.000500	U		
2324PWT010-EFF	PWT Effluent	N	7/11/2023	7.17	68.5	0.0851	J	J	< 0.00100	U		0.00606			0.0411			< 0.000100	U		< 0.000300	U	675	D3		< 0.00350	U		0.00217			< 0.00100	U		0.0829	J	U	< 0.000500	U		
2324PWT011-EFF	PWT Effluent	N	7/13/2023	7.47	71.2	0.503			0.00104	J	U	0.00386			0.0287			< 0.000100	U		< 0.000300	U	829	D3		< 0.00350	U		0.00378			0.00124	J	J	< 0.0400	U		< 0.000500	U		
2324PWT013-EFF	PWT Effluent	N	7/18/2023	7.5	71.1	1.10			< 0.00100	U		0.00526			0.0253			< 0.000100	U		< 0.000300	U	750	D3		< 0.00350	U		0.00373			< 0.00100	U		1.28			< 0.000500	U		
2324PWT014-EFF	PWT Effluent	N	7/20/2023	7.4	70.9	0.942			0.00131	J	U	0.00505			0.0240			< 0.000100	U		< 0.000300	U	836	D3		< 0.00350	U		0.00371			0.00102	J	U	< 0.0400	U		< 0.000500	U		
2324PWT016-EFF	PWT Effluent	N	7/26/2023	7.16	68.5	< 0.0800	U		0.00114	J	U	0.00879			0.0368			< 0.000100	U		< 0.000300	U	608	D3		< 0.00350	U		0.00415			0.00163	J	J	0.190			< 0.000500	U		
2324PWT017-EFF	PWT Effluent	N	7/27/2023	7.7	67.2	< 0.0800	U		< 0.00100	U		0.00720			0.0338			< 0.000100	U		< 0.000300	U	582	D3		< 0.00350	U		0.00383			0.00163	J	J	< 0.0400	U		< 0.000500	U		
2324PWT019-EFF	PWT Effluent	N	8/1/2023	7.7	70	0.909			< 0.00100	U		0.00723			0.0250			< 0.000100	U		0.000355	J	J	796	D3		< 0.00350	U		0.00560			0.00132	J	J	< 0.0400	U		< 0.000500	U	
2324PWT020-EFF	Field Duplicate	FD	8/1/2023	7.7	70	0.866			< 0.00100	U		0.00678			0.0241			< 0.000100	U		0.000360	J	J	781	D3		< 0.00350	U		0.00545			0.00126	J	J	0.0493	J	J	< 0.000500	U	
2324PWT021-FMB	Field Method Blank	FMB	8/1/2023	NA	NA	< 0.0800	U		< 0.00100	U		< 0.00160	U		< 0.00150	U		< 0.000100	U		< 0.000300	U	< 0.200	U		< 0.00350	U		< 0.000500	U		< 0.00100	U		< 0.0400	U		< 0.000500	U		
2324PWT022-EFF	PWT Effluent	N	8/3/2023	7.9	73.8	1.48			< 0.00100	U		0.00850			0.0236			< 0.000100	U		0.000428	J	J	878	D3		< 0.00350	U		0.00623	J		0.00138	J	J	< 0.0400	U		< 0.000500	U	
2324PWT024-EFF	PWT Effluent	N	8/8/2023	7.2	70.2	0.260			< 0.00100	U		0.0182			0.0285			< 0.000100	U		< 0.000300	U	543	D3		< 0.00350	U		0.00550			< 0.00100	U		0.437			< 0.000500	U		
2324PWT025-EFF	PWT Effluent	N	8/10/2023	8.1	70	< 0.0800	U		< 0.00100	U		0.00997			0.0269			< 0.000100	U		< 0.000300	U	601	D3		< 0.00350	U		0.00564			0.00111	J	J	< 0.0400	U		< 0.000500	U		
2324PWT027-EFF	PWT Effluent	N	8/15/2023	7.4	66.7	0.675			< 0.00100	U		0.0104			0.0256			< 0.000100	U		< 0.000300	U	888	D3		< 0.00350	U		0.00597			0.00145	J	J	0.961			< 0.000500	U		
2324PWT028-EFF	PWT Effluent	N	8/17/2023	7.4	68.7	0.126	J	J	0.00116	J	J	0.00943			0.0232			< 0.000100	U		< 0.000300	U	610	D3		< 0.00350	U		0.00553			0.00136	J	J	0.0518	J	J	< 0.000500	U		
2324PWT030-EFF	PWT Effluent	N	8/22/2023	6.8	67.5	0.122	J	J	< 0.00100	U		0.0135			0.0289			< 0.000100	U		< 0.000300	U	592	D3		< 0.00350	U		0.00714			0.00149	J	J	0.189			< 0.000500	U		
2324PWT031-EFF	PWT Effluent	N	8/24/2023	7.3	63	0.0983	J	J	0.00106	J	U	0.0124			0.0272			< 0.000100	U		< 0.000300	U	642	D3		< 0.00350	U		0.00685			0.00149	J	J	0.0882			< 0.000500	U		
2324PWT033-EFF	PWT Effluent	N	8/29/2023	7.4	58.5	0.583		J	< 0.00100	U		0.00971			0.0201			< 0.000100	U		< 0.000300	U	899	D3		< 0.00350	U		0.00649			0.00112	J	J	< 0.0400	U	J	< 0.000500	U		
2324PWT034-EFF	Field Duplicate	FD	8/29/2023	7.4	58.5	1.00		J	< 0.00100	U		0.0148			0.0212			< 0.000100	U		< 0.000300	U	1050	D3		< 0.00350	U		0.00798			0.00296			0.500	J		< 0.000500	U		
2324PWT035-FMB	Field Method Blank	FMB	8/29/2023	NA	NA	< 0.0800	U		< 0.00100	U		< 0.00160	U		< 0.00150	U		< 0.000100	U		< 0.000300	U	0.229	J	J	< 0.00350	U		< 0.000500	U		< 0.00100	U		< 0.0400	Q2, Q7, U		< 0.000500	U		
2324PWT036-EFF	PWT Effluent	N	8/31/2023	7.7	62.6	0.610			< 0.00100	U		0.00898			0.0200			< 0.000100	U		< 0.000300	U	970	D3		< 0.00350	U		0.00624			< 0.00100	U		< 0.0400	Q2, Q7, U		< 0.000500	U		
2324PWT038-EFF	PWT Effluent	N	9/5/2023	7.2	65.5	< 0.0800	U		< 0.00100	U		0.0204			0.0320			< 0.000100	U		< 0.000300	U	603	D3		< 0.00350	U		0.00932			< 0.00100	U		0.248			< 0.000500	U		
2324PWT039-EFF	PWT Effluent	N	9/7/2023	7.5	59.4	0.527			0.00141	J	U	0.00932		J+	0.0183			< 0.000100	U		< 0.000300	U	890	D3		< 0.00350	U		0.00658			< 0.00100	U		< 0.0400	U		< 0.000500	U		
2324PWT041-EFF	PWT Effluent	N	9/14/2023	7.5	60.4	0.924			< 0.00100	U		0.0155		J	0.0196		J	< 0.000100	U		< 0.000300	U	873	D3		< 0.00350	U		0.00589	J		< 0.00100	U		0.251		U	< 0.000500	U		
2324PWT042-EFF	Field Duplicate	FD	9/14/2023	7.5	60.4	0.881			< 0.00100	U		0.00981		J	0.0146		J	< 0.000100	U		< 0.000300	U	870	D3		< 0.00350	U		0.00447	J		< 0.00100	U		0.335		U	< 0.000500	U		
2324PWT043-FMB	Field Method Blank	FMB	9/14/2023	NA	NA	< 0.0800	U		< 0.00100	U		< 0.00160	U		< 0.00150	U		< 0.000100	U		< 0.000300	U	< 0.200	U		< 0.00350	U		< 0.000500	U		< 0.00100	U		0.0524						

**TABLE 12  
2023 SUMMER POND WATER TREATMENT EFFLUENT FIELD AND ANALYTICAL RESULTS**

Sample ID	Sample Description	Sample Type	Sample Date	pH		TEMP (°C)		Magnesium		Manganese		Mercury			Nickel			Selenium			Silver			Sulfate			Thallium			Total Dissolved Solids			Vanadium			Zinc		
				Result	Result	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
<b>USEPA Daily Maximum Discharge Criteria</b>				6.0-9.0	NA	NA	NA	NA	NA	NA	NA	NA	0.0209	0.00345	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.21
<b>USEPA 4-Day Average Discharge Criteria</b>				NA	NA	NA	NA	NA	NA	NA	NA	NA	0.094	0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.21	
2324PWT001-PC	Pre-Discharge	N	6/29/2023	8.37	64.6	NA		NA		NA		0.0209	0.00345	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.0125	U	
2324PWT003-EFF	PWT Effluent	N	6/30/2023	6.62	64.6	59.8		J	0.00515			< 0.000100	U	0.00728			0.00347		< 0.000500	U	2050	D3	J	0.0397			3120		J	< 0.00400	U	< 0.0100	U					
2324PWT005-EFF	PWT Effluent	N	7/6/2023	7.25	70.2	27.1			0.0452			< 0.000100	U	0.00808			0.00318		< 0.000500	U	2060	D3		0.298			3220			< 0.00400	U	< 0.0100	U					
2324PWT006-EFF	PWT Effluent	N	7/7/2023	7.44	68.1	27.9			0.0281			< 0.000100	U	0.00581			0.00360		< 0.000500	U	1890	D3		0.260			2920			< 0.00400	U	< 0.0100	U					
2324PWT007-FMB	Field Method Blank	FMB	7/7/2023	NA	NA	< 0.200	U		< 0.00200	U		< 0.000100	U	< 0.00200	U		< 0.000500	U	< 0.000500	U	< 0.50	U		< 0.000100	U		22.0			< 0.00400	U	< 0.0100	U					
2324PWT008-EFF	Field Duplicate	FD	7/7/2023	7.44	68.1	27.4			0.0300			< 0.000100	U	0.00643			0.00279		< 0.000500	U	1880	D3		0.279			3110			< 0.00400	U	< 0.0100	U					
2324PWT010-EFF	PWT Effluent	N	7/11/2023	7.17	68.5	30.5			0.121			< 0.000100	U	0.00898			0.00298		< 0.000500	U	1780	B6, D3		0.399			2700			< 0.00400	U	< 0.0100	U					
2324PWT011-EFF	PWT Effluent	N	7/13/2023	7.47	71.2	32.4			0.186			< 0.000100	Q4, U	0.0156			0.00329		< 0.000500	U	1940	D3		0.401			3120			< 0.00400	U	< 0.0100	U					
2324PWT013-EFF	PWT Effluent	N	7/18/2023	7.5	71.1	27.9			0.275		J+	< 0.000100	U	0.0112			0.00327		< 0.000500	U	2360	D3		0.403			3120			< 0.00400	U	< 0.0100	U					
2324PWT014-EFF	PWT Effluent	N	7/20/2023	7.4	70.9	31.5			0.318			< 0.000100	U	0.0108			0.00304		< 0.000500	U	2120	D3		0.381			3150			< 0.00400	U	< 0.0100	U					
2324PWT016-EFF	PWT Effluent	N	7/26/2023	7.16	68.5	42.9			0.537			< 0.00013	U	0.0119			0.00235		< 0.000500	U	1810	D3		0.279			2420			< 0.00400	U	< 0.0100	U					
2324PWT017-EFF	PWT Effluent	N	7/27/2023	7.7	67.2	42.9			0.520			< 0.00013	U	0.0114			0.00205		< 0.000500	U	1560	D3		0.288			2560			< 0.00400	U	< 0.0100	U					
2324PWT019-EFF	PWT Effluent	N	8/1/2023	7.7	70	32.0			0.380			< 0.00013	U	0.0168			0.00285		< 0.000500	U	2530	D3		0.368			3400			< 0.00400	U	< 0.0100	U					
2324PWT020-EFF	Field Duplicate	FD	8/1/2023	7.7	70	32.0			0.371			< 0.00013	U	0.0163			0.00243		< 0.000500	U	2160	D3		0.356			3250			< 0.00400	U	< 0.0100	U					
2324PWT021-FMB	Field Method Blank	FMB	8/1/2023	NA	NA	< 0.200	U		< 0.00200	U		< 0.00013	U	< 0.00200	U		< 0.000500	U	< 0.000500	U	< 0.50	U		< 0.000100	U		< 20.0	U		< 0.00400	U	< 0.0100	U					
2324PWT022-EFF	PWT Effluent	N	8/3/2023	7.9	73.8	29.3			0.320			< 0.00013	U	0.0214		J	0.00265		< 0.000500	U	2270	D3		0.387			3460			< 0.00400	U	< 0.0100	U					
2324PWT024-EFF	PWT Effluent	N	8/8/2023	7.2	70.2	40.6			1.17	D3		< 0.00013	U	0.0147			0.00168		< 0.000500	U	1630	D3		0.237			2530			< 0.00400	U	< 0.0100	U					
2324PWT025-EFF	PWT Effluent	N	8/10/2023	8.1	70	42.3			1.25	D3		< 0.00013	U	0.0152			0.00228		< 0.000500	U	39.5 <sup>1</sup>	D3, J	J	0.212			2530			< 0.00400	U	< 0.0100	U					
2324PWT027-EFF	PWT Effluent	N	8/15/2023	7.4	66.7	38.3			0.635			< 0.00013	U	0.0204			0.00367		< 0.000500	U	2440	D3		0.249			3380			< 0.00400	U	< 0.0100	U					
2324PWT028-EFF	PWT Effluent	N	8/17/2023	7.4	68.7	46.4			1.28	D3		< 0.000100	U	0.0149			0.00249		< 0.000500	U	1780	D3	UJ	0.146			2490			< 0.00400	U	< 0.0100	U					
2324PWT030-EFF	PWT Effluent	N	8/22/2023	6.8	67.5	47.4			1.73	D3		< 0.000100	U	0.0193			0.00170		< 0.000500	U	2300	D3		0.160			2600			< 0.00400	U	< 0.0100	U					
2324PWT031-EFF	PWT Effluent	N	8/24/2023	7.3	63	51.0			1.81	D3		< 0.000100	U	0.0173			0.00169		< 0.000500	U	1580	D3		0.135			2580			< 0.00400	U	< 0.0100	U					
2324PWT033-EFF	PWT Effluent	N	8/29/2023	7.4	58.5	39.4			0.572			0.000121	J, Q7	J	0.0248			0.00383		< 0.000500	U	1620	D3		0.128			3770			< 0.00400	U	< 0.0100	U				
2324PWT034-EFF	Field Duplicate	FD	8/29/2023	7.4	58.5	42.9			0.541			< 0.000100	Q7, U			0.0304		< 0.000500	U	1620	D3		0.139			3820			< 0.00400	U	< 0.0100	U						
2324PWT035-FMB	Field Method Blank	FMB	8/29/2023	NA	NA	< 0.200	U		< 0.00200	U		< 0.000100	Q7, U	< 0.00200	U		< 0.000500	U	< 0.000500	U	< 0.50	U		< 0.000100	U		< 20.0	U		< 0.00400	U	< 0.0100	U					
2324PWT036-EFF	PWT Effluent	N	8/31/2023	7.7	62.6	43.8			0.659			< 0.000100	Q7, U	0.0241			0.00322		< 0.000500	U	2570	D3		0.114			3250			< 0.00400	U	< 0.0100	U					
2324PWT038-EFF	PWT Effluent	N	9/5/2023	7.2	65.5	56.1			3.09	D3		< 0.000100	Q7, U	0.0214			0.00137		< 0.000500	U	1620	D3		0.0778			2370			< 0.00400	U	< 0.0100	U					
2324PWT039-EFF	PWT Effluent	N	9/7/2023	7.5	59.4	42.2			0.606		J+	< 0.000100	U	0.0256			0.00375		< 0.000500	U	1790	D3	UJ	0.0917			3380			< 0.00400	U	< 0.0100	U					
2324PWT041-EFF	PWT Effluent	N	9/14/2023	7.5	60.4	39.8			0.597		J	< 0.000100	U	0.0185			0.00492		< 0.000500	U	2180	D3		0.0991		J	3480			< 0.00400	U	< 0.0100	U					
2324PWT042-EFF	Field Duplicate	FD	9/14/2023	7.5	60.4	38.9			0.443		J	< 0.000100	U	0.0146			0.00508		< 0.000500	U	2130	D3		0.0751		J	3500			< 0.00400	U	< 0.0100	U					
2324PWT043-FMB	Field Method Blank	FMB	9/14/2023	NA	NA	< 0.200	U		< 0.00200	U		< 0.000100	U	< 0.00200	U		< 0.000500	U	< 0.000500	U	< 0.50	Q7, U		< 0.000100	U		< 10.0	U		< 0.00400	U	< 0.0100	U					
2324PWT044-EFF	PWT Effluent	N	9/15/2023	7.1	58.6	36.9			0.522			< 0.000100	Q4, U	0.0179			0.00412		< 0.000500	U	14.8 <sup>1</sup>			0.0954			3150			< 0.00400	U	< 0.0100	U					
2324PWT046-EFF	PWT Effluent	N	9/20/2023	7.0	64.5	53.4			2.75	D3		< 0.000100	Q4, U	0.0126		U	0.00103		< 0.000500	U	1550	D3		0.0306			2400			< 0.00400	U	< 0.0100	U					
2324PWT047-EFF	PWT Effluent	N	9/21/2023	7.8	54.4	82.5			0.473			< 0.000100	Q4, U	0.0144		U	0.00467		< 0.000500	U	2490	D3		0.0984			3620			< 0.00400	U	< 0.0100	U					
2324PWT048-EFF	PWT Effluent	N	9/26/2023	7.2	57.1	61.7			2.66	D3		< 0.000100	B1, Q7, U	0.0205			0.000960																					

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
06/27/23	19:30	NA	8.00	2.59	62.80	8.40	8.13	67.80	8.57	8.21	66.50		
06/27/23	20:30	172.0	8.00	2.97	62.50	8.40	8.23	68.70	8.57	8.25	67.00		
06/27/23	21:30	NA	8.00	3.01	62.00	8.40	8.23	68.50	8.60	8.30	66.30		
06/27/23	22:30	171.48	8.00	3.02	60.8	8.39	8.13	67.6	8.61	8.28	66.1		
06/27/23	23:30	NA	8.00	3.03	59.9	8.33	8.05	66.8	8.64	8.21	65.6		
06/28/23	0:30	171	8.00	3.04	60.1	8.31	8.31	66.1	8.52	8.27	65.1		
06/28/23	1:30	NA	8.00	3.05	59.2	8.31	8.16	65.4	8.51	8.31	64.1		
06/28/23	2:30	172.49	8.00	3.80	58.7	8.31	8.27	65.6	8.53	8.31	63.5		
06/28/23	3:30	NA	8.00	3.01	56.0	8.31	8.17	64.4	8.52	8.29	62.8		
06/28/23	4:30	172.54	8.00	3.13	57.0	8.31	8.10	64.2	8.49	8.33	69.5		
06/28/23	5:30	NA	8.00	3.07	57.0	8.31	7.99	63.5	8.49	8.31	63.1		
06/28/23	6:30	171.98	8.00	3.08	56.8	8.31	8.26	63.0	8.46	8.22	61.0		
06/28/23	7:30	NA	8.00	3.06	56.8	8.31	8.20	63.0	8.48	8.31	61.1		
06/28/23	8:30												
06/28/23	9:30												
06/28/23	10:30												
06/28/23	11:30												
06/28/23	12:30												
06/28/23	13:30												
06/28/23	14:30												
06/28/23	15:30												
06/28/23	16:30												
06/28/23	17:30												
06/28/23	18:30	139	8.00	3.02	61.8	8.40	8.18	68.0	8.44	8.28	64.9		
06/28/23	19:30	NA	8.00	3.10	62.2	8.40	8.38	68.2	8.40	8.20	67.2		
06/28/23	20:30	138	8.00	3.11	62.2	8.40	8.30	68.5	8.50	8.48	67.1		
06/28/23	21:30	NA	8.00	3.12	61.5	8.40	8.29	68.5	8.55	8.24	67.0		
06/28/23	22:30	138.84	8.00	3.13	60.3	8.40	8.40	67.8	8.56	8.48	67.5		
06/28/23	23:30	NA	8.00	3.11	59.6	8.40	8.54	67.5	8.55	8.31	67.1		
06/29/23	0:30	138.88	8.00	3.13	58.4	8.38	8.25	66.1	8.60	8.28	67.3		
06/29/23	1:30	NA	8.00	3.11	57.5	8.38	8.39	65.6	8.56	8.21	67.2		
06/29/23	2:30	138.22	8.00	3.16	58.2	8.38	8.18	65.1	8.54	8.22	67.5		
06/29/23	3:30	NA	8.00	3.11	56.5	8.38	8.32	64.7	8.54	8.20	67.1		
06/29/23	4:30	138.74	8.00	3.10	55.6	8.38	8.45	63.9	8.53	8.32	67.3		
06/29/23	5:30	NA	8.00	3.10	55.3	8.38	8.51	63.5	8.53	8.27	67.2		
06/29/23	6:30	138.52	8.00	3.10	55.8	8.38	8.40	62.8	8.60	8.52	67.4		
06/29/23	7:30	139	8.00	3.12	56.5	8.30	8.45	62.5	8.60	8.46	61.0		
06/29/23	8:30	138	8.00	3.17	57.0	8.30	8.22	62.5	8.37	8.36	61.3		
06/29/23	9:30	138	8.00	3.23	56.5	8.30	8.20	63.0	8.44	8.41	60.8		
06/29/23	10:30	171	8.00	3.18	58.2	8.30	7.92	63.7	8.45	8.38	62.1		
06/29/23	11:30	172	8.00	3.13	59.9	8.30	8.35	64.9	8.44	8.37	64.6		
06/29/23	12:30	171	8.00	3.63	61.1	8.30	8.10	66.3	8.46	8.33	66.2		
06/29/23	13:30	172	8.00	3.07	62.0	8.30	8.03	68.0	8.47	8.42	66.6		
06/29/23	14:30	176	8.00	3.07	64.4	8.25	8.16	69.7	8.46	8.39	69.1		
06/29/23	15:30	176	8.00	3.06	65.8	8.25	7.97	70.6	8.47	8.33	69.4		
06/29/23	16:30	176	8.00	3.09	65.6	8.25	8.20	71.6	8.49	8.37	70.6		
06/29/23	17:30	176	8.00	3.05	66.5	8.25	8.03	72.3	8.50	8.42	69.8		
06/29/23	18:30	176	8.00	3.05	65.8	8.30	8.33	72.3	8.27	8.50	68.2		
06/29/23	19:30	NA	8.00	3.07	66.3	8.30	8.24	72.3	8.30	8.44	67.1		
06/29/23	20:30	172.29	8.00	3.04	66.5	8.30	8.34	72.5	8.32	8.60	71.2		
06/29/23	21:30	NA	8.00	3.04	66.1	8.30	8.31	72.7	8.32	8.56	70.9		
06/29/23	22:30	175.48	8.00	3.04	64.4	8.30	7.99	71.6	8.35	8.55	70.7		
06/29/23	23:30	NA	8.00	3.04	63.2	8.30	8.34	70.6	8.29	8.51	70.2		
06/30/23	0:30	175.23	8.00	3.04	61.3	8.30	7.97	58.9	8.35	8.43	67.3		
06/30/23	1:30	NA	8.00	3.02	60.6	8.30	8.21	67.8	8.30	8.32	63.7		
06/30/23	2:30	175.03	8.00	3.06	59.9	8.30	8.30	66.8	8.22	8.38	65.1		
06/30/23	3:30	NA	8.00	3.03	59.1	8.30	8.31	66.3	8.24	8.30	64.6		
06/30/23	4:30	175.66	8.00	3.01	59.2	8.30	8.31	65.1	8.33	8.39	65.5		
06/30/23	5:30	NA	8.00	3.05	57.2	8.30	8.30	64.4	8.26	8.31	61.9		
06/30/23	6:30	175.55	8.00	3.06	57.5	8.30	8.28	63.9	8.16	8.59	62.5		
06/30/23	7:30	NA	8.00	3.07	56.8	8.31	8.42	63.5	8.25	8.35	62.2		
06/30/23	8:30	175	8.00	3.08	56.8	8.31	8.16	63.2	8.16	8.30	62.1		
06/30/23	9:30	NA	8.00	3.08	57.5	8.40	8.28	63.7	8.26	8.30	63.1		
06/30/23	10:30	175	8.00	3.10	58.4	8.40	8.30	64.4	8.26	8.28	64.4		
06/30/23	11:30	NA	8.00	2.98	60.1	8.40	8.38	65.8	8.31	8.36	65.8	6.35	64.4
06/30/23	12:30												
06/30/23	13:30												
06/30/23	14:30												
06/30/23	15:30												
06/30/23	16:30												
06/30/23	17:30												
06/30/23	18:30												
07/05/23	7:30												
07/05/23	8:30												
07/05/23	9:30	170	8.00	3.76	61.8	8.25	7.97	68.7	8.48	8.20	67.7	6.20	69.1

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/05/23	10:30	170	8.00	3.99	62.7	8.25	8.11	68.9	8.53	8.10	68.5	6.20	69.3
07/05/23	11:30	NA	8.00	2.99	65.1	8.25	8.18	70.6	8.48	8.10	69.7	6.30	69.5
07/05/23	12:30	176	8.00	2.47	67.8	8.40	8.37	72.5	8.29	8.20	71.7	6.40	69.8
07/05/23	13:30	NA	8.00	3.00	67.0	8.40	8.26	73.2	8.35	8.20	72.6	6.50	71.6
07/05/23	14:30	175	8.00	3.05	68.0	8.40	8.30	74.2	8.43	8.20	73.7	6.20	73.6
07/05/23	15:30	NA	8.00	3.06	67.2	8.40	8.42	74.2	8.44	8.20	74.3	6.50	74.7
07/05/23	16:30	175	8.00	3.08	67.5	8.40	8.47	73.9	8.47	8.20	74.2	6.50	75.4
07/05/23	17:30	NA	8.00	3.11	68.2	8.40	8.35	74.7	8.49	8.20	73.5	6.50	75.9
07/05/23	18:30	176	8.00	3.10	68.9	8.40	8.27	74.7	8.23	8.20	73.4	6.50	75.8
07/05/23	19:30	NA	8.00	3.09	68.9	8.40	8.53	75.4	8.26	8.17	75.7	6.50	75.8
07/05/23	20:30	175.98	8.00	3.03	69.9	8.40	8.34	75.8	8.31	8.31	75.0	6.50	75.8
07/05/23	21:30	NA	8.00	3.07	68.4	8.40	8.42	75.8	8.29	8.22	70.5	6.40	71.6
07/05/23	22:30	175.98	8.00	3.04	69.8	8.40	8.47	75.6	8.31	8.58	72.1	8.24	72.3
07/05/23	23:30	NA	8.00	3.04	68.0	8.40	8.41	77.9	8.29	8.00	71.4	7.25	72.1
07/06/23	0:30	176.4	8.00	3.06	67.0	8.40	8.20	73.5	8.31	9.00	70.9	8.14	70.5
07/06/23	1:30	NA	8.00	3.05	66.8	8.40	8.45	72.5	8.29	9.40	71.1	8.16	68.0
07/06/23	2:30	176.3	8.00	3.03	65.1	8.40	8.50	71.6	8.27	9.38	69.4	8.32	69.6
07/06/23	3:30	NA	8.00	3.06	64.1	8.40	8.39	71.1	8.29	9.33	69.4	8.20	68.0
07/06/23	4:30	175.92	8.00	3.03	64.5	8.40	8.32	69.8	8.30	9.28	69.4	8.12	68.4
07/06/23	5:30	NA	8.00	3.07	62.7	8.40	8.28	68.7	8.30	8.00	67.5	8.32	67.5
07/06/23	6:30	175.45	8.00	3.08	61.5	8.40	8.37	68.5	8.32	9.62	67.1	8.16	67.1
07/06/23	7:30	NA	8.00	3.11	61.1	8.40	8.28	67.8	8.30	8.40	66.9	7.16	66.0
07/06/23	8:30	175	8.00	3.10	61.3	8.40	8.22	67.5	8.32	8.25	67.3	7.25	67.1
07/06/23	9:30	NA	8.00	3.10	61.8	8.40	8.50	67.8	8.04	8.44	67.8	7.24	67.5
07/06/23	10:30	175	8.00	3.08	63.4	8.50	8.26	68.9	8.12	8.53	69.8	7.24	69.4
07/06/23	11:30	NA	8.00	3.05	63.9	8.45	8.52	70.1	8.47	8.51	69.8	7.25	70.2
07/06/23	12:30	175	8.00	3.00	64.1	8.45	8.43	70.4	8.40	8.50	70.7	7.20	72.0
07/06/23	13:30	NA	8.00	3.08	65.6	8.45	8.50	71.3	8.45	8.80	71.8	7.22	73.0
07/06/23	14:30	175	8.00	3.10	66.1	8.45	8.24	72.0	8.48	8.50	72.1	7.20	73.7
07/06/23	15:30	NA	8.00	3.08	66.8	8.45	8.56	72.7	8.52	8.53	73.8	7.19	75.2
07/06/23	16:30	175	8.00	3.14	67.2	8.45	8.32	73.5	8.49	8.53	73.6	7.10	75.6
07/06/23	17:30	NA	8.00	3.10	67.7	8.45	8.50	73.9	8.53	8.55	73.2	7.18	75.9
07/06/23	18:30	175	8.00	3.11	67.5	8.45	8.12	74.4	8.41	8.56	72.9	7.17	75.2
07/06/23	19:30	NA	8.00	3.11	67.5	8.45	8.54	73.5	8.48	8.48	72.3	7.10	74.3
07/06/23	20:30	175	8.00	3.10	67.5	8.45	8.45	74.2	8.50	8.49	72.0	7.04	72.5
07/06/23	21:30	NA	8.00	3.04	68.4	8.45	8.42	74.7	8.55	8.33	71.8	7.03	71.8
07/06/23	22:30	175	8.00	3.08	67.7	8.45	8.27	73.9	8.58	8.68	71.2	7.02	70.7
07/06/23	23:30	NA	8.00	3.06	66.5	8.45	8.53	73.7	8.55	8.56	70.5	7.60	70.3
07/07/23	0:30	175	8.00	3.07	65.8	8.45	8.37	73.0	8.38	8.48	72.3	7.40	69.3
07/07/23	1:30	NA	8.00	3.06	66.1	8.45	8.52	71.8	8.35	8.36	71.8	7.30	68.7
07/07/23	2:30	175	8.00	3.05	63.9	8.45	8.36	70.8	8.33	8.34	72.1	7.03	71.8
07/07/23	3:30	NA	8.00	3.07	62.7	8.45	8.39	70.1	8.30	8.22	71.8	7.05	72.1
07/07/23	4:30	175	8.00	3.10	61.8	8.45	8.27	68.0	8.29	8.66	66.6	7.06	66.7
07/07/23	5:30	NA	8.00	3.09	61.5	8.45	8.55	68.2	8.26	8.56	66.4	7.52	66.9
07/07/23	6:30	175	8.00	3.10	61.1	8.45	8.46	67.5	8.26	8.56	66.4	7.47	65.7
07/07/23	7:30	NA	8.00	3.10	61.1	8.50	8.31	67.3	8.24	8.58	66.9	7.39	55.9
07/07/23	8:30	175	8.00	3.14	60.8	8.50	8.70	67.3	8.30	8.54	67.4	7.30	66.9
07/07/23	9:30	NA	8.00	3.13	61.1	8.55	8.50	67.5	8.30	8.61	68.2	7.42	68.0
07/07/23	10:30	174	8.00	3.12	61.5	8.50	8.30	68.2	8.24	8.53	69.2	7.35	68.4
07/07/23	11:30	NA	8.00	3.15	63.0	8.50	8.44	68.9	8.25	8.52	68.5	7.35	69.6
07/07/23	12:30	174	8.00	3.00	63.0	8.50	8.47	69.4	8.27	8.54	70.0	7.34	70.8
07/07/23	13:30	NA	8.00	3.10	62.0	8.50	8.42	70.1	8.27	8.55	70.4	7.26	72.8
07/07/23	14:30	174	8.00	3.10	65.6	8.50	8.59	71.3	8.30	8.53	70.0	7.37	73.0
07/07/23	15:30	NA	8.00	3.12	64.7	8.50	8.55	72.7	8.28	8.51	72.0	7.20	74.0
07/07/23	16:30	178	8.00	3.10	66.8	8.50	8.50	73.0	8.31	8.53	72.0	7.20	74.6
07/07/23	17:30	NA	8.00	3.10	67.7	8.45	8.41	73.2	8.27	8.50	72.3	7.18	74.2
07/07/23	18:30	173	8.00	3.11	68.3	8.45	8.30	73.9	8.52	8.65	72.9	7.17	74.7
07/07/23	19:30	NA	8.00	3.10	67.5	8.45	8.33	74.2	8.45	8.62	72.2	7.26	73.1
07/07/23	20:30	174	8.00	3.10	67.7	8.45	8.51	73.9	8.39	8.55	72.0	7.40	73.2
07/07/23	21:30	NA	8.00	3.10	67.6	8.45	8.39	75.4	8.39	8.60	72.3	7.10	71.4
07/07/23	22:30	173.89	8.00	3.08	66.8	8.45	8.59	73.7	8.37	8.65	70.5	7.08	71.2
07/07/23	23:30	NA	8.00	3.07	66.1	8.45	8.40	73.2	8.36	8.62	70.8	7.06	71.0
07/08/23	0:30	174.08	8.00	3.08	65.6	8.45	8.47	72.3	8.27	8.62	72.2	7.37	69.2
07/08/23	1:30	NA	8.00	3.05	64.9	8.47	8.23	71.3	8.24	8.54	72.1	7.39	68.4
07/08/23	2:30	174.11	8.00	3.07	63.7	8.47	8.56	70.4	8.19	8.63	72.2	7.30	67.9
07/08/23	3:30	NA	8.00	3.08	63.1	8.52	8.23	69.4	8.15	8.44	71.9	7.22	67.1
07/08/23	4:30	174.23	8.00	3.06	61.1	8.52	8.26	68.5	8.17	8.60	72.3	7.10	67.7
07/08/23	5:30	NA	8.00	3.10	61.1	8.54	8.42	67.8	8.14	8.54	74.1	7.16	67.3
07/08/23	6:30	174.3	8.00	3.08	60.1	8.58	8.39	67.5	8.16	8.69	65.3	7.31	66.4
07/08/23	7:30	NA	8.00	3.19	60.6	8.58	8.60	66.8	8.18	8.56	65.6	7.28	65.0
07/08/23	8:30	174	8.00	3.21	59.6	8.35	8.27	66.6	9.00	NA	NA	7.30	65.5
07/08/23	9:30	NA	8.00	3.19	61.1	8.35	8.27	66.8	8.87	NA	NA	7.26	66.2
07/08/23	10:30	174	8.00	3.22	61.5	8.35	8.38	67.8	8.45	8.22	67.5	7.21	67.4
07/08/23	11:30	NA	8.00	3.23	63.4	8.35	8.32	69.2	8.43	8.25	68.5	7.27	67.1
07/08/23	12:30	173	8.00	3.14	64.6	8.35	8.11	70.6	8.39	8.23	70.6	7.25	64.5

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/08/23	13:30	NA	8.00	3.31	65.3	8.35	8.24	71.3	8.40	8.27	71.1	7.23	70.9
07/08/23	14:30	174	8.00	3.30	66.5	8.35	8.22	72.3	8.42	8.27	73.5	7.20	73.2
07/08/23	15:30	NA	8.00	3.28	66.3	8.35	8.22	72.5	7.45	8.23	73.2	7.22	73.9
07/08/23	16:30	173	8.00	3.29	67.7	8.35	8.38	73.5	8.50	8.30	72.2	7.18	73.6
07/08/23	17:30	NA	8.00	3.30	67.2	8.30	8.25	73.7	8.43	8.27	73.6	7.17	74.3
07/08/23	18:30	173	8.00	3.27	68.0	8.30	8.48	73.9	8.44	8.26	72.6	7.09	74.5
07/08/23	19:30	NA	8.00	3.24	67.7	8.30	8.40	73.9	8.44	8.10	72.3	7.10	73.5
07/08/23	20:30	173.37	8.00	3.26	67.5	8.30	8.32	74.4	8.46	8.29	71.8	7.18	71.9
07/08/23	21:30	NA	8.00	3.24	68.4	8.30	8.41	74.4	8.46	8.20	71.6	7.15	71.6
07/08/23	22:30	172.8	8.00	3.20	68.4	8.30	8.16	74.4	8.47	8.23	71.1	7.29	70.8
07/08/23	23:30	NA	8.00	3.19	68.2	8.30	8.31	73.9	8.46	8.14	71.0	7.24	70.6
07/09/23	0:30	173.37	8.00	3.19	66.1	8.30	8.36	73.0	8.50	8.12	72.1	6.96	67.4
07/09/23	1:30	NA	8.00	3.20	65.3	8.30	8.38	71.8	8.48	8.17	71.9	7.12	67.8
07/09/23	2:30	174	8.00	3.20	63.4	8.30	8.43	71.6	8.50	8.12	71.1	7.22	68.0
07/09/23	3:30	NA	8.00	3.23	63.0	8.30	8.42	69.7	8.49	7.90	66.5	7.16	66.9
07/09/23	4:30	173.69	8.00	3.22	61.5	8.30	8.06	68.7	8.52	8.40	65.2	7.21	66.3
07/09/23	5:30	NA	8.00	3.24	61.7	8.30	7.47	67.5	8.43	7.87	65.4	7.33	66.5
07/09/23	6:30	NA	BYPASS										
07/09/23	7:30	NA	8.00	3.21	60.1	8.32	8.42	67.0	8.33	8.24	65.3	7.37	66.6
07/09/23	8:30	173	8.00	3.23	60.1	8.32	8.42	66.6	8.30	8.16	6.6	7.30	67.0
07/09/23	9:30	NA	8.00	3.26	60.6	8.32	8.37	67.0	8.32	8.15	66.4	7.38	67.6
07/09/23	10:30	173	8.00	3.25	62.5	8.32	8.33	67.8	8.33	8.14	67.1	7.27	68.4
07/09/23	17:00	NA	8.00	3.28	62.7	8.32	8.35	68.9	8.34	8.20	69.5	7.27	69.2
07/09/23	12:30	173	8.00	3.28	63.9	8.32	8.34	69.9	8.37	8.22	68.2	7.22	70.3
07/09/23	13:30	NA	8.00	3.31	63.9	8.31	8.37	69.9	8.31	8.24	69.5	7.21	70.5
07/09/23	14:30	173	8.00	3.31	63.4	8.32	8.41	69.9	8.41	8.19	69.0	7.20	71.5
07/09/23	15:30	NA	8.00	3.32	64.9	8.32	8.31	70.6	8.37	8.19	70.1	7.18	72.6
07/09/23	16:30	173	8.00	3.31	66.7	8.32	8.36	72.3	8.40	8.20	71.7	7.19	73.2
07/09/23	17:30	NA	8.00	3.34	66.8	8.32	8.22	72.7	8.43	8.21	71.5	7.17	73.5
07/09/23	18:30	173	8.00	3.30	67.2	8.32	8.23	72.5	8.24	8.21	71.2	7.17	75.4
07/09/23	19:30	NA	8.00	3.00	66.8	8.32	8.27	73.2	8.22	8.17	72.0	7.14	72.7
07/09/23	20:30	173	8.00	2.54	67.2	8.32	8.25	73.0	8.25	8.31	71.2	7.13	71.9
07/09/23	21:30	NA	8.00	2.44	66.8	8.32	8.19	73.7	8.26	8.35	71.0	7.22	71.2
07/09/23	22:30	173	8.00	2.37	66.1	8.32	8.18	73.5	8.28	8.35	71.3	7.30	69.6
07/09/23	23:30	NA	8.00	2.35	65.3	8.32	8.24	72.7	8.28	8.35	70.3	7.35	69.8
07/10/23	0:30	173	8.00	2.35	65.1	8.32	8.34	71.1	8.27	8.36	68.3	7.38	68.7
07/10/23	1:30	NA	8.00	2.32	63.0	8.32	8.15	71.1	8.27	8.36	68.3	7.38	68.7
07/10/23	2:30	Plant Shutdown											
07/10/23	3:30	Plant Shutdown											
07/10/23	4:30	Plant Shutdown											
07/10/23	5:30	Plant Shutdown											
07/10/23	6:30	Plant Shutdown											
07/10/23	7:30	Plant Shutdown											
07/10/23	8:30	174	8.00	2.87	60.1	8.32	8.56	67.5	8.22	8.24	66.7	7.22	66.3
07/10/23	9:30	NA	8.00	3.05	60.8	8.32	8.12	67.0	8.18	8.24	66.3	7.18	66.8
07/10/23	10:30	174	8.00	3.16	62.5	8.35	8.21	67.8	8.21	8.24	67.2	7.21	67.6
07/10/23	11:30	174	8.00	NA	NA	8.35	8.24	69.2	8.26	8.21	68.8	7.20	68.5
07/10/23	12:30	173	8.00	2.39	83.7	8.35	8.40	70.6	8.25	8.23	69.8	7.20	69.6
07/10/23	13:30	NA	8.00	2.98	65.6	8.35	8.38	71.8	8.26	8.23	71.3	7.19	70.3
07/10/23	14:30	173	8.00	3.12	66.3	8.35	8.39	71.8	8.20	8.19	70.9	7.18	71.7
07/10/23	15:30	NA	8.00	3.12	66.3	8.35	8.44	73.0	8.32	8.26	73.7	7.18	72.6
07/10/23	16:30	173	8.00	3.19	68.0	8.35	8.29	73.9	8.52	8.39	73.3	7.18	73.1
07/10/23	17:30	NA	8.00	3.24	67.5	8.35	8.53	73.9	8.23	8.28	73.7	7.16	73.4
07/10/23	18:30	173	8.00	3.23	68.0	8.35	8.22	73.9	8.61	8.49	72.8	7.16	73.6
07/10/23	19:30	NA	8.00	3.24	67.5	8.35	8.25	73.9	8.58	8.51	72.3	7.15	73.2
07/10/23	20:30	173	8.00	3.20	69.4	8.25	8.33	74.9	8.65	8.62	71.2	7.16	72.2
07/10/23	21:30	NA	8.00	3.11	69.1	8.25	8.00	74.9	8.44	8.53	70.0	7.26	71.5
07/10/23	22:30	173	8.00	3.10	68.0	8.50	8.11	74.4	8.50	8.44	68.2	7.31	70.8
07/10/23	23:30	NA	8.00	3.10	67.2	8.15	8.17	73.7	8.51	8.42	70.8	7.12	71.0
07/11/23	0:30	173	8.00	3.11	66.1	8.30	8.13	72.7	8.27	8.20	67.3	7.28	69.6
07/11/23	1:30	NA	8.00	3.12	65.3	8.30	8.28	72.0	8.53	8.51	69.7	7.36	70.4
07/11/23	2:30	173	8.00	3.12	63.6	8.30	8.21	71.2	8.45	8.40	68.5	7.41	70.1
07/11/23	3:30	NA	8.00	3.10	62.2	8.30	8.24	70.0	8.40	8.33	67.6	7.45	69.6
07/11/23	4:30	173	8.00	3.11	62.5	8.30	8.33	68.7	8.40	8.28	67.3	7.43	67.6
07/11/23	5:30	NA	8.00	3.12	61.2	8.30	8.07	68.0	8.46	8.33	65.8	7.47	69.7
07/11/23	6:30	173	8.00	3.10	61.8	8.30	8.10	67.3	8.43	8.31	62.8	7.48	66.7
07/11/23	7:30	NA	8.00	3.10	60.3	8.30	8.15	67.0	8.56	8.37	65.0	7.38	65.7
07/11/23	8:30	173	8.00	3.13	60.6	8.30	8.22	66.3	8.22	8.26	65.8	7.18	67.4
07/11/23	9:30	NA	8.00	3.15	60.8	8.30	8.12	66.6	8.22	8.20	65.4	7.17	67.7
07/11/23	10:30	173	8.00	3.15	61.8	8.30	8.13	68.0	8.25	8.23	67.1	7.17	68.5
07/11/23	11:30	NA	8.00	3.18	63.7	8.30	8.11	68.9	8.31	8.29	68.4	7.19	69.1
07/11/23	12:30	173	8.00	3.14	65.1	8.30	8.34	70.1	8.29	8.31	69.6	7.15	69.9
07/11/23	13:30	NA	8.00	3.14	64.9	8.30	8.35	71.6	8.24	8.30	70.2	7.39	72.5
07/11/23	14:30	172	8.00	3.15	65.1	8.30	8.36	71.3	8.29	8.32	70.2	7.37	73.5
07/11/23	15:30	NA	8.00	3.14	65.6	8.30	8.37	71.8	8.27	8.27	71.3	7.39	73.6

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F			
07/11/23	16:30	172	8.00	3.14	67.2	8.30	8.19	73.2	8.30	8.31	72.1	7.26	75.6			
07/11/23	17:30	NA	8.00	3.15	68.0	8.30	8.15	73.7	8.31	8.33	72.4	7.30	75.3			
07/11/23	18:30	172	8.00	3.18	68.0	8.30	8.20	73.9	8.39	8.38	72.1	7.35	74.8			
07/11/23	19:30	NA	8.00	3.14	68.7	8.30	8.28	74.7	8.38	8.30	71.1	7.29	72.6			
07/11/23	20:30	173	8.00	3.13	68.7	8.30	8.31	74.9	8.42	8.24	69.3	7.35	72.0			
07/11/23	21:30	NA	8.00	3.17	68.4	8.30	8.23	74.7	8.25	8.25	70.5	7.35	71.50			
07/11/23	22:30	173	8.00	3.09	68.2	8.30	8.26	74.4	8.45	8.36	69.7	7.54	70.1			
07/11/23	23:30	NA	8.00	3.08	67.0	8.30	8.18	73.7	8.45	8.44	69.6	7.46	70.5			
07/12/23	0:30	172	8.00	3.07	65.3	8.30	8.28	72.7	8.47	8.45	66.9	7.48	69.6			
07/12/23	1:30	NA	8.00	3.09	63.4	8.20	8.18	71.8	8.38	8.40	66.2	7.44	69.6			
07/12/23	2:30	172	8.00	3.09	63.4	8.20	8.00	70.6	8.40	8.38	66.0	7.43	69.1			
07/12/23	3:30	NA	8.00	3.11	62.7	8.20	8.33	69.9	8.39	8.40	66.0	7.50	68.7			
07/12/23	4:30	172	8.00	3.12	62.5	8.20	8.03	68.8	8.37	8.34	65.7	7.48	68.0			
07/12/23	5:30	NA	8.00	3.12	61.3	8.20	8.05	68.0	8.36	8.35	67.2	7.50	71.1			
07/12/23	6:30	172	8.00	3.10	61.1	8.20	8.10	67.0	8.36	8.35	63.0	7.58	66.6			
07/12/23	7:30	NA	8.00	3.10	59.9	8.20	8.15	67.0	8.33	8.35	64.8	7.42	65.0			
07/12/23	8:30	173	8.00	3.10	60.6	8.30	8.26	67.0	8.18	8.15	64.4	7.49	66.3			
07/12/23	9:30	NA	8.00	3.13	60.8	8.30	8.34	66.8	8.18	8.17	64.8	7.47	66.7			
07/12/23	10:30	173	8.00	3.11	61.5	8.35	8.23	67.8	8.26	8.24	66.4	7.49	67.6			
07/12/23	11:30	NA	8.00	3.11	62.2	8.35	8.13	68.0	8.27	8.25	64.7	7.45	68.8			
07/12/23	12:30	172	8.00	3.19	62.7	8.35	8.38	68.7	8.28	8.27	68.1	7.43	69.6			
07/12/23	13:30	NA	8.00	3.13	62.5	8.35	8.34	69.8	8.28	8.28	68.1	7.40	70.5			
07/12/23	14:30	171	8.00	3.18	65.6	8.35	8.28	71.1	8.28	8.30	69.4	7.39	71.9			
07/12/23	15:30	NA	8.00	3.12	65.6	8.35	8.29	71.8	8.21	8.31	70.7	7.36	72.8			
07/12/23	16:30	171	8.00	2.99	67.0	8.40	8.50	73.0	8.41	8.22	71.5	7.38	72.9			
07/12/23	17:30	NA	8.00	3.17	69.8	8.37	8.36	74.2	8.15	8.28	71.5	7.37	72.4			
07/12/23	18:30	172	8.00	3.06	69.4	NA										
07/12/23	19:30	NA	8.00	3.06	68.4	8.38	8.26	75.4	8.28	8.28	72.4	7.34	73.4			
07/12/23	20:30	171	8.00	3.02	68.2	8.38	8.30	74.7	8.29	8.28	70.9	7.35	71.7			
07/12/23	21:30	NA	8.00	3.02	67.5	8.38	8.17	74.2	8.29	8.27	69.0	7.36	70.4			
07/12/23	22:30	172	8.00	3.00	67.0	8.38	8.48	73.0	8.28	8.29	68.5	7.45	68.3			
07/12/23	23:30	NA	8.00	3.01	65.1	8.38	8.34	72.5	8.28	8.38	67.6	7.49	69.1			
07/13/23	0:30	171	8.00	3.00	64.4	8.45	8.26	71.3	8.33	8.26	66.3	7.48	69.6			
07/13/23	1:30	NA	8.00	3.00	64.1	8.05	8.42	70.1	8.27	8.33	65.7	7.45	67.8			
07/13/23	2:30	172	8.00	3.02	62.2	8.45	8.50	69.2	8.22	8.33	65.6	7.44	67.2			
07/13/23	3:30	NA	8.00	3.00	61.5	8.45	8.37	68.2	8.20	8.26	68.4	7.41	73.7			
07/13/23	4:30	172	8.00	3.01	60.8	8.45	8.31	67.5	8.19	8.28	60.3	7.41	72.3			
07/13/23	5:30	NA	8.00	3.00	62.2	8.60	8.59	67.0	8.31	8.46	63.6	7.47	71.2			
07/13/23	6:30	172	8.00	2.97	60.6	8.60	8.56	66.6	8.33	8.35	61.4	7.44	70.5			
07/13/23	7:30	NA	8.00	2.99	60.1	8.60	8.53	66.1	8.38	8.72	62.7	7.61	64.4			
07/13/23	8:30	172	8.00	2.96	59.2	8.60	8.72	65.6	8.35	8.54	65.8	7.66	65.5			
07/13/23	9:30	NA	8.00	2.98	59.9	8.60	8.67	65.8	8.32	8.52	66.0	7.60	66.1			
07/13/23	10:30	172	8.00	2.93	60.1	8.60	8.75	66.3	8.33	8.37	68.0	7.60	69.1			
07/13/23	11:30	NA	8.00	3.00	62.2	8.60	8.46	67.0	8.43	8.43	68.1	7.61	68.2			
07/13/23	12:30	172	8.00	2.96	61.3	8.60	8.38	68.9	8.46	8.46	69.2	7.59	67.5			
07/13/23	13:30	NA	8.00	2.95	63.9	8.60	8.47	69.9	8.46	8.43	7.3	7.47	71.1			
07/13/23	14:30	172	8.00	2.91	64.6	8.60	8.56	70.6	8.49	8.35	71.7	7.43	72.5			
07/13/23	15:30	NA	8.00	2.94	65.6	8.60	8.36	71.3	8.44	8.42	72.0	7.49	74.2			
07/13/23	16:30	171	8.00	2.97	67.0	8.60	8.63	71.8	8.40	8.40	73.6	7.53	71.8			
07/13/23	17:30	NA	8.00	2.96	67.2	8.60	8.64	72.7	8.45	8.46	73.6	7.47	74.2			
07/13/23	18:30	171	8.00	3.00	67.0	8.60	8.61	73.0	8.56	8.61	72.5	7.54	72.4			
07/13/23	19:30	NA	8.00	3.02	67.2	8.60	8.51	73.0	8.53	8.59	70.1	7.53	72.6			
07/13/23	20:30	171	8.00	2.95	68.7	8.60	8.58	73.2	8.53	8.52	68.3	7.48	71.3			
07/13/23	21:30	NA	8.00	2.91	68.2	8.60	8.39	73.9	8.57	8.53	69.3	7.73	70.3			
07/13/23	22:30	171	8.00	2.91	67.7	8.58	8.58	73.4	8.54	8.58	70.1	7.01	68.2			
07/13/23	23:30	NA	8.00	2.92	66.8	8.58	8.62	72.5	8.58	8.50	69.5	7.55	69.0			
07/14/23	0:30	172	8.00	2.91	71.1	8.56	8.45	71.1	8.49	8.49	68.7	7.53	72.0			
07/14/23	1:30	NA	8.00	3.00	62.5	8.56	8.45	69.9	8.45	8.40	68.4	7.51	71.1			
07/14/23	2:30	172	8.00	2.92	61.8	8.56	8.50	68.7	8.48	8.52	68.3	7.48	67.2			
07/14/23	3:30	NA	8.00	2.94	61.3	8.56	8.39	67.3	8.50	8.44	68.1	7.40	67.1			
07/14/23	4:30	172	8.00	2.92	60.8	8.86	8.52	67.0	8.47	8.52	68.3	7.48	67.2			
07/14/23	5:30	NA	8.00	2.93	60.1	8.56	8.66	66.5	8.37	8.46	64.4	7.56	70.3			
07/14/23	6:30	172	8.00	2.91	60.1	8.56	8.43	66.3	8.44	8.35	66.3	7.58	66.2			
07/14/23	7:30	NA	8.00	2.90	59.9	8.56	8.55	65.3	8.46	8.42	64.5	7.55	65.0			
07/14/23	8:30	172	8.00	2.88	58.2	8.56	8.48	65.6	8.43	8.33	65.7	7.56	66.6			
07/14/23	9:30	NA	8.00	2.88	59.6	8.56	8.63	65.6	8.43	8.32	65.6	7.45	67.4			
07/14/23	10:30	172	8.00	2.90	60.3	8.56	8.60	66.3	8.41	8.34	68.7	7.58	69.9			
07/14/23	11:30	NA	8.00	2.91	62.2	8.56	8.56	67.5	8.44	8.46	68.4	7.69	71.2			
07/14/23	12:30	171	8.00	2.91	63.7	8.56	8.65	68.9	8.45	8.48	69.6	7.66	71.2			
07/14/23	13:30	NA	8.00	2.90	64.6	8.56	8.42	69.9	8.40	8.46	71.6	7.58	72.8			
07/14/23	14:30	171	8.00	2.95	65.8	8.56	8.31	71.3	8.52	8.46	72.6	7.58	74.2			
07/14/23	15:30	NA	8.00	2.95	66.3	8.55	8.53	72.0	8.49	8.52	73.5	7.70	77.4			
07/14/23	16:30	171	8.00	2.93	67.7	8.55	8.61	73.2	8.50	8.45	76.2	7.66	77.7			
07/14/23	17:30	NA	8.00	2.95	68.0	8.55	8.52	73.9	8.47	8.43	76.2	7.00	76.3			
07/14/23	18:30	171	8.00	3.01	67.50	8.55	8.47	73.9	8.57	8.56	74.6	7.71	74.1			

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/14/23	19:30	NA	8.00	3.01	67.7	8.55	8.49	73.9	8.52	8.11	72.1	7.64	70.1
07/14/23	20:30	169.5	8.00	2.94	69.6	8.55	8.57	74.6	8.54	8.33	69.1	7.26	71.1
07/14/23	21:30	NA	8.00	2.95	69.1	8.55	8.59	74.9	8.55	8.37	70.0	7.61	72.1
07/14/23	22:30	171	8.00	2.95	68.20	8.55	8.56	74.6	8.55	8.13	70.70	7.11	70.1
07/14/23	23:30	NA	8.00	2.94	67.0	8.55	8.53	73.4	8.49	8.24	70.12	7.11	70.0
07/15/23	0:30	170.27	8.00	2.96	66.50	8.55	8.55	72.50	8.54	8.26	70.10	7.74	70.4
07/15/23	1:30	NA	8.00	2.93	63.90	8.55	8.61	70.80	8.49	8.21	70.12	7.55	70.1
07/15/23	2:30	170.97	8.00	2.92	62.20	8.55	8.51	68.70	8.48	8.11	72.10	7.69	70.1
07/15/23	3:30	NA	8.00	2.93	61.30	8.55	8.51	68.70	8.45	8.18	70.40	7.56	70.4
07/15/23	4:30	170.8	8.00	2.95	61.10	8.55	8.50	67.50	8.47	8.35	69.20	7.27	71.3
07/15/23	5:30	NA	8.00	2.93	60.60	8.55	8.42	66.80	8.47	8.37	69.10	7.48	71.0
07/15/23	6:30	170.92	8.00	2.96	60.80	8.55	8.67	66.50	8.47	8.24	70.10	7.69	67.80
07/15/23	7:30	NA	8.00	2.92	59.9	8.55	8.41	66.1	8.49	8.45	65.0	7.74	66.4
07/15/23	8:30	171	8.00	2.92	59.6	8.55	8.46	65.8	8.49	8.46	66.1	7.71	67.6
07/15/23	9:30	NA	8.00	2.92	59.9	8.55	8.49	65.6	8.47	8.39	68.8	7.66	70.0
07/15/23	10:30	171	8.00	2.95	60.1	8.55	8.56	66.8	8.45	8.40	69.0	7.71	71.0
07/15/23	11:30	NA	8.00	2.97	62.2	8.55	8.42	68.2	8.46	8.38	70.4	7.68	72.5
07/15/23	12:30	171	8.00	2.93	63.0	8.55	8.66	69.2	8.45	8.40	72.8	7.48	74.0
07/15/23	13:30	NA	8.00	2.95	64.6	8.55	8.60	69.6	8.49	8.40	73.5	7.53	76.5
07/15/23	14:30	170	8.00	2.91	68.4	8.55	8.67	72.7	8.47	8.43	75.2	7.59	77.2
07/15/23	15:30	NA	8.00	2.95	69.9	8.55	8.50	74.6	8.49	8.30	77.1	7.55	78.7
07/15/23	16:30	171	8.00	2.92	70.1	8.55	8.39	76.3	8.52	8.32	78.4	7.53	78.4
07/15/23	17:30	NA	8.00	3.00	68.4	8.55	8.51	75.1	8.48	8.33	77.7	7.54	78.5
07/15/23	18:30	170	8.00	2.96	69.1	8.55	8.60	74.9	8.56	8.04	76.0	7.29	75.4
07/15/23	19:30	NA	8.00	2.90	68.9	8.55	8.64	75.1	8.46	8.11	74.2	6.93	77.3
07/15/23	20:30	170	8.00	2.92	69.1	8.55	8.41	75.3	8.47	7.56	72.6	7.39	74.0
07/15/23	21:30	NA	8.00	2.88	68.9	8.55	8.34	75.1	8.48	6.94	71.6	6.93	71.5
07/15/23	22:30	170	8.00	2.87	61.9	8.55	8.44	74.6	8.45	7.24	71.1	7.12	71.0
07/15/23	23:30	NA	8.00	2.86	65.6	8.55	8.45	72.2	8.44	8.14	76.3	6.98	76.2
07/16/23	0:30	170	8.00	2.87	65.6	8.55	8.45	72.2	8.47	8.10	75.8	7.07	75.2
07/16/23	1:30	NA	8.00	2.86	64.4	8.55	8.57	71.1	8.41	8.12	74.4	7.13	74.4
07/16/23	2:30	170	8.00	2.87	63.4	8.55	8.62	70.1	8.42	8.17	73.9	7.10	74.1
07/16/23	3:30	NA	8.00	2.89	62.2	8.55	8.33	68.2	8.41	8.17	73.9	7.12	72.5
07/16/23	4:30	170	8.00	2.88	61.5	8.55	8.57	68.4	8.38	8.11	77.28	7.16	72.0
07/16/23	5:30	NA	8.00	2.88	60.3	8.55	8.45	67.7	8.37	8.26	76.2	7.16	68.1
07/16/23	6:30	170	8.00	2.92	61.3	8.55	8.52	67.0	8.38	8.22	75.8	7.10	68.2
07/16/23	7:30	NA	8.00	2.89	60.3	8.55	8.53	66.5	8.42	7.89	65.7	7.24	67.4
07/16/23	8:30	170	8.00	2.86	59.9	8.55	8.59	66.3	8.42	7.30	66.4	7.70	69.3
07/16/23	9:30	NA	8.00	2.85	59.6	8.55	8.53	66.3	8.42	8.40	66.7	7.60	69.4
07/16/23	10:30	170	8.00	2.87	61.3	8.55	8.53	66.8	8.45	8.40	67.5	7.60	69.7
07/16/23	11:30	NA	8.00	2.88	62.5	8.50	8.58	68.0	8.34	8.30	68.5	7.70	70.7
07/16/23	12:30	170	8.00	2.89	64.4	8.50	8.61	69.6	8.33	8.30	70.2	7.70	71.8
07/16/23	13:30	NA	8.00	2.91	64.1	8.50	8.59	70.6	8.38	8.30	70.9	7.80	72.3
07/16/23	14:30	170	8.00	2.94	65.1	8.50	8.49	70.8	8.40	7.30	71.8	7.00	73.0
07/16/23	15:30	NA	8.00	2.92	67.0	8.50	8.44	72.5	8.39	8.30	72.7	7.60	73.9
07/16/23	16:30	170	8.00	2.89	68.00	8.50	8.50	73.40	8.37	8.30	73.94	7.70	74.3
07/16/23	17:30	NA	8.00	2.92	67.70	8.50	8.30	73.90	8.35	8.30	73.94	7.80	74.3
07/16/23	18:30	170	8.00	3.12	68.70	8.50	8.64	73.90	8.43	8.43	73.58	7.60	74.3
07/16/23	19:30	NA	8.00	3.14	69.60	8.50	8.27	74.90	8.39	8.40	73.58	7.40	74.3
07/16/23	20:30	170	8.00	3.10	69.4	8.50	8.57	75.6	8.36	8.40	74.7	7.40	74.12
07/16/23	21:30	NA	8.00	3.07	69.4	8.50	8.54	75.3	8.38	8.30	73.9	7.40	74.12
07/16/23	22:30	170	8.00	3.10	69.4	8.50	8.57	75.6	8.36	8.40	74.7	7.40	74.12
07/16/23	23:30	NA	8.00	3.06	67.2	8.50	8.68	73.9	8.41	8.40	71.6	7.40	72.3
07/17/23	0:30	170	8.00	3.07	67	8.40	8.68	73.2	8.40	8.30	72.7	7.20	72.3
07/17/23	1:30	NA	8.00	3.09	65.8	8.40	8.25	72.5	8.37	8.40	70.3	7.20	72.1
07/17/23	2:30	170	8.00	3.08	65.1	8.40	8.50	72	8.38	8.20	70.2	7.20	71.6
07/17/23	3:30	NA	8.00	3.06	65.2	8.40	8.32	71.5	8.39	8.20	70.2	7.20	71.2
07/17/23	4:30	170	8.00	3.04	65.1	8.40	8.27	70.3	8.39	8.20	67.8	7.20	71.1
07/17/23	5:30	NA	8.00	3.12	63.5	8.40	8.30	69.9	8.41	8.20	68.2	7.20	70.7
07/17/23	6:30	170	8.00	3.04	62.4	8.40	8.28	69.4	8.40	8.20	67.8	7.20	67.1
07/17/23	7:30	NA	8.00	3.09	62.7	8.40	8.28	68.9	8.42	8.30	68.2	7.40	70.3
07/17/23	8:30	165	8.00	3.00	62.2	8.40	8.16	68.9	8.53	8.30	69.1	7.40	70.3
07/17/23	9:30	NA	8.00	3.10	62.7	8.40	8.37	68.9	8.35	8.30	69.8	7.40	70.3
07/17/23	10:30	165	8.00	3.07	63.2	8.40	8.44	69.2	8.38	8.30	70.5	7.40	70.7
07/17/23	11:30	NA	8.00	3.08	64.1	8.40	8.38	70.1	8.36	8.30	71.2	7.60	71.4
07/17/23	12:30	165	8.00	3.10	65.6	8.40	8.17	70.3	8.34	8.30	71.4	7.50	72.0
07/17/23	13:30	NA	8.00	3.07	65.6	8.40	8.31	71.8	8.34	8.30	73.2	7.60	73.0
07/17/23	14:30	165	8.00	3.08	67.0	8.40	8.48	72.2	8.34	8.30	73.0	7.60	73.2
07/17/23	15:30	NA	8.00	3.09	67.5	8.40	8.34	73.7	8.35	8.30	74.5	7.70	74.3
07/17/23	16:30	164	8.00	3.10	68.4	8.40	8.21	74.1	8.37	8.30	74.7	7.70	75.0
07/17/23	17:30	NA	8.00	3.10	69.1	8.40	8.38	75.3	8.39	8.30	75.2	7.70	75.4
07/17/23	18:30	164	8.00	3.09	70.1	8.40	8.29	75.6	8.39	8.30	75.2	7.50	75.0
07/17/23	19:30	NA	8.00	3.11	69.9	8.40	8.48	75.8	8.42	8.40	74.8	7.20	75.0
07/17/23	20:30	165	8.00	3.09	70.1	8.40	8.38	76.1	8.44	8.40	74.8	7.20	75.0
07/17/23	21:30	NA	8.00	3.10	70.0	8.40	8.40	76.3	8.50	8.30	74.3	7.20	75.0



**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/17/23	22:30	165	8.00	3.09	69.6	8.40	8.27	76.3	8.48	8.30	75.0	7.20	74.3
07/17/23	23:30	NA	8.00	3.11	71.0	8.40	8.21	75.1	8.44	8.40	76.7	7.20	76.2
07/18/23	0:30	165	8.00	3.10	67.5	8.40	8.33	74.4	8.27	8.20	74.3	7.10	73.6
07/18/23	1:30	NA	8.00	3.12	68.2	8.40	8.49	73.4	8.41	8.30	71.8	7.30	72.7
07/18/23	2:30	165	8.00	3.09	66.1	8.40	8.28	72.7	8.43	8.20	70.7	7.20	71.4
07/18/23	3:30	NA	8.00	3.08	66.7	8.40	8.21	72.0	8.45	8.30	70.9	7.30	72.1
07/18/23	4:30	165	8.00	3.08	65.3	8.4	8.46	71.5	8.42	8.30	69.6	7.20	68.2
07/18/23	5:30	NA	8.00	3.12	65.0	8.40	8.50	70.8	8.44	8.30	68.8	7.30	71.2
07/18/23	6:30	165	8.00	3.08	63.7	8.40	8.42	70.1	8.42	8.30	67.3	7.30	71.2
07/18/23	7:30	NA	8.00	3.05	62.5	8.40	8.17	69.6	8.41	8.40	69.3	7.60	70.9
07/18/23	8:30	165	8.00	3.07	63.4	8.40	8.30	68.4	8.41	8.40	69.8	7.50	71.1
07/18/23	9:30	NA	8.00	3.06	64.1	8.40	8.34	69.4	8.38	8.40	69.4	7.50	71.1
07/18/23	10:30	165	8.00	3.07	64.1	8.40	8.19	69.9	8.36	8.30	69.3	7.50	71.1
07/18/23	11:30	NA	8.00	3.11	64.1	8.40	8.25	70.3	8.35	8.30	70.2	7.60	71.8
07/18/23	12:30	165	8.00	3.07	65.8	8.40	8.48	71.1	8.34	8.30	71.8	7.50	72.9
07/18/23	13:30	NA	8.00	3.08	66.1	8.40	8.43	72.0	8.36	8.30	72.5	7.50	73.6
07/18/23	14:30	164	8.00	3.05	68.7	8.40	8.44	73.7	8.40	8.40	73.4	7.50	74.3
07/18/23	15:30	NA	8.00	3.06	69.9	8.40	8.31	75.6	8.35	8.30	74.1	7.50	74.8
07/18/23	16:30	164	8.00	3.09	71.5	8.40	8.46	76.3	8.36	8.30	75.0	7.80	75.0
07/18/23	17:30	NA	8.00	3.07	71.3	8.40	8.52	76.1	8.35	8.30	75.6	7.50	75.4
07/18/23	18:30	163	8.00	3.08	71.0	8.40	8.35	76.3	8.55	8.40	75.6	7.40	75.4
07/18/23	19:30	NA	8.00	3.07	70.8	8.40	8.38	76.5	8.41	8.30	72.5	7.70	73.4
07/18/23	20:30	164	8.00	3.10	70.3	8.40	8.61	77.0	8.45	8.40	75.4	7.40	74.8
07/18/23	21:30	NA	8.00	3.05	71.0	8.40	8.46	77.0	8.53	8.50	75.0	7.50	74.1
07/18/23	22:30	163	8.00	3.07	70.3	8.30	8.35	76.1	8.39	8.40	74.8	7.30	73.8
07/18/23	23:30	NA	8.00	3.04	69.1	8.30	8.12	75.8	8.35	8.30	74.3	7.70	75.2
07/19/23	0:30	164	8.00	3.01	68.2	8.30	8.34	75.1	8.26	8.40	73.6	7.30	72.9
07/19/23	1:30	NA	8.00	3.05	68.1	8.30	8.39	74.1	8.34	8.40	73.2	7.40	75.0
07/19/23	2:30	163	8.00	3.10	67.8	8.30	8.25	73.4	8.34	8.40	74.1	7.40	72.1
07/19/23	3:30	NA	8.00	3.04	67.0	8.30	8.36	73.0	8.34	8.40	71.8	7.40	71.1
07/19/23	4:30	163	8.00	3.05	66.5	8.30	8.30	72.5	7.34	8.40	71.4	7.40	69.8
07/19/23	5:30	NA	8.00	3.02	65.6	8.30	8.18	71.8	8.33	8.20	70.0	7.40	72.5
07/19/23	6:30	163	8.00	3.03	64.4	8.30	8.10	71.3	8.33	8.40	69.8	7.30	71.1
07/19/23	7:30	NA	8.00	3.04	64.40	8.30	8.17	70.80	8.39	8.20	70.34	7.40	70.88
07/19/23	8:30	164	8.00	3.06	63.40	8.35	8.26	70.60	8.22	8.20	70.52	7.50	71.42
07/19/23	9:30	NA	8.00	3.01	65.60	8.35	8.12	71.10	8.29	8.20	71.06	7.60	71.78
07/19/23	10:30	164	8.00	3.06	65.60	8.40	8.42	71.50	8.33	8.20	72.32	7.40	72.68
07/19/23	11:30	NA	8.00	3.06	66.50	8.40	8.47	72.50	8.36	8.20	72.86	7.40	73.4
07/19/23	12:30	164	8.00	3.08	68.90	8.40	8.22	73.70	8.36	8.20	74.84	7.30	74.3
07/19/23	13:30	NA	8.00	3.10	69.10	8.40	8.32	75.80	8.49	8.20	75.56	7.60	76.76
07/19/23	14:30	163.00	8.00	3.06	70.10	8.40	8.52	75.80	8.37	8.20	76.10	7.20	75.74
07/19/23	15:30	NA	8.00	3.08	72.20	8.40	8.24	77.50	8.39	8.20	76.82	7.30	76.28
07/19/23	16:30	163.00	8.00	3.08	72.50	8.40	8.17	78.40	8.37	8.37	77.36	7.20	74.46
07/19/23	17:30	NA	8.00	3.07	73.0	8.40	8.27	78.7	8.40	8.20	78.3	7.30	74.5
07/19/23	18:30	155	8.00	3.14	71.3	8.43	8.53	78.0	8.42	8.20	77.2	7.20	76.3
07/19/23	19:30	NA	8.00	3.22	70.8	8.43	8.36	77.2	8.37	8.20	75.4	7.30	73.6
07/19/23	20:30	155	8.00	3.20	71.8	8.43	8.47	77.2	8.40	8.30	75.4	7.30	75.0
07/19/23	21:30	NA	8.00	3.20	70.6	8.43	8.33	77.2	8.39	8.20	74.8	7.10	72.9
07/19/23	22:30	155	8.00	3.20	69.1	8.43	8.32	76.5	8.37	8.30	74.8	7.50	73.2
07/19/23	23:30	NA	8.00	3.20	70.1	8.43	8.53	74.1	8.31	8.30	74.9	7.50	72.5
07/20/23	0:30	155	8.00	3.19	69.6	8.43	8.53	74.9	8.35	8.30	74.1	7.20	71.4
07/20/23	1:30	NA	8.00	3.20	70.9	8.45	8.17	74.1	8.27	8.30	73.2	7.20	72.3
07/20/23	2:30	155	8.00	3.19	65.8	8.45	8.13	72.5	8.23	8.30	73.6	7.20	72.1
07/20/23	3:30	NA	8.00	3.20	66.8	8.45	8.30	71.5	8.22	8.30	70.6	7.20	71.6
07/20/23	4:30	155	8.00	3.20	64.9	8.40	8.43	71.1	8.19	8.30	68.9	7.30	71.6
07/20/23	5:30	NA	8.00	3.20	63.7	8.40	8.21	70.6	8.25	8.20	67.6	7.40	70.9
07/20/23	6:30	155	8.00	3.20	64.0	8.40	8.54	69.9	8.30	8.20	69.1	7.30	70.5
07/20/23	7:30	NA	8.00	3.25	61.5	8.45	8.46	69.2	8.28	7.70	69.8	7.30	70.3
07/20/23	8:30	155.7	8.00	3.19	62.7	8.45	8.36	68.4	8.30	7.90	69.1	7.40	70.9
07/20/23	9:30	NA	8.00	3.16	64.1	8.45	8.40	68.9	8.40	7.70	70.2	7.50	70.7
07/20/23	10:30	155	8.00	3.20	64.1	8.45	8.26	69.4	8.38	7.50	70.7	7.50	72.5
07/20/23	11:30	NA	8.00	3.21	65.1	8.45	8.39	70.6	8.41	8.00	71.4	7.90	72.7
07/20/23	12:30	155	8.00	3.20	67.0	8.45	8.38	71.1	8.46	8.30	72.1	7.80	74.3
07/20/23	13:30	NA	8.00	3.19	67.2	8.35	8.09	72.7	8.43	8.10	73.0	7.70	74.3
07/20/23	14:30	155	8.00	3.20	68.2	8.35	8.33	74.1	8.40	8.00	73.8	7.60	75.8
07/20/23	15:30	NA	8.00	3.19	68.0	8.35	8.47	74.1	8.36	8.00	73.9	7.40	75.9
07/20/23	16:30	155	8.00	3.17	69.4	8.35	8.42	74.4	8.35	8.20	74.6	8.00	76.5
07/20/23	17:30	NA	8.00	3.15	69.6	8.40	8.48	74.1	8.41	8.10	74.5	7.40	76.3
07/20/23	18:30	155	8.00	3.14	69.6	8.40	8.72	74.9	8.33	8.10	73.9	7.30	76.1
07/20/23	19:30	NA	8.00	3.15	68.9	8.40	8.45	74.6	8.38	7.31	74.8	7.05	77.3
07/20/23	20:30	154	8.00	3.11	69.6	8.40	8.25	75.6	8.39	7.31	74.3	7.01	75.0
07/20/23	21:30	NA	8.00	3.10	69.6	8.40	8.34	75.8	8.39	7.34	74.5	7.03	76.1
07/20/23	22:30	154	8.00	3.11	69.1	8.40	8.43	75.6	8.40	7.93	73.2	7.55	73.8
07/20/23	23:30	NA	8.00	3.09	67.0	8.40	8.43	75.1	8.38	7.43	75.3	7.04	67.4
07/21/23	0:30	154	8.00	3.08	67.2	8.40	8.31	74.1	8.33	8.28	71.4	7.55	72.9

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/21/23	1:30	NA	8.00	3.08	67.5	8.40	8.48	72.2	8.38	7.35	74.4	7.06	77.4
07/21/23	2:30	154	8.00	3.10	65.3	8.40	8.41	72.5	8.37	8.00	69.6	7.76	72.6
07/21/23	3:30	NA	8.00	3.09	64.1	8.40	8.42	71.3	8.40	8.35	67.5	7.67	71.4
07/21/23	4:30	154.11	8.00	3.11	65.3	8.40	8.42	70.3	8.37	7.32	75.1	7.08	78.2
07/21/23	5:30	NA	8.00	3.10	63.2	8.40	8.45	69.9	8.35	7.64	74.4	7.03	76.2
07/21/23	6:30	154	8.00	3.11	63.0	8.40	8.50	68.7	8.30	8.33	65.5	7.73	70.2
07/21/23	7:30	NA	8.00	3.09	62.0	8.40	8.32	68.4	8.30	8.10	68.4	7.30	70.2
07/21/23	8:30	154	8.00	3.11	62.6	8.40	8.66	68.4	8.26	8.00	69.1	7.20	70.9
07/21/23	9:30	NA	8.00	3.14	62.6	8.45	8.23	68.7	8.29	8.10	69.9	7.80	71.4
07/21/23	10:30	154	8.00	3.18	63.2	8.45	8.58	69.4	8.35	8.40	69.6	7.40	71.4
07/21/23	11:30	NA	8.00	3.10	64.6	8.45	8.52	69.6	8.35	8.10	70.9	7.30	73.6
07/21/23	12:30	154	8.00	3.06	65.6	8.45	8.47	71.3	8.37	8.20	72.7	7.90	73.6
07/21/23	13:30	Missed Due to EFF2 Pump Issues											
07/21/23	14:30	157	8.00	3.01	66.1	8.45	8.38	71.9	8.38	8.00	73.9	7.40	75.0
07/21/23	15:30	NA	8.00	2.99	67.5	8.45	8.41	73.4	8.37	8.10	74.7	7.20	75.0
07/21/23	16:30	152	8.00	3.02	70.1	8.45	8.34	73.4	8.34	8.20	73.8	7.30	75.7
07/21/23	17:30	NA	8.00	3.01	71.0	8.45	8.29	76.1	8.35	8.00	75.0	7.00	75.9
07/21/23	18:30	152	8.00	3.02	71.0	8.45	8.71	76.3	8.32	8.10	74.7	7.00	75.7
07/21/23	19:30	NA	8.00	3.01	70.1	8.45	8.19	75.8	8.33	8.32	77.0	7.51	75.4
07/21/23	20:30	151.96	8.00	3.06	70.8	8.45	8.36	76.1	8.39	8.65	76.1	7.65	74.1
07/21/23	21:30	NA	8.00	3.00	71.0	8.45	8.33	76.5	8.48	7.05	74.2	7.05	74.0
07/21/23	22:30	152.41	8.00	2.98	69.1	8.45	8.44	75.8	8.54	8.34	77.2	7.50	75.2
07/21/23	23:30	NA	8.00	3.05	68.2	8.45	8.48	74.6	8.56	8.56	74.0	7.75	72.5
07/22/23	0:30	151	8.00	3.00	66.3	8.45	8.45	73.4	8.47	8.74	73.6	7.91	72.7
07/22/23	1:30	NA	8.00	3.00	65.1	8.45	8.43	72.2	8.45	8.65	76.1	7.65	74.2
07/22/23	2:30	152	8.00	2.98	64.4	8.45	8.48	71.3	8.45	8.48	69.1	7.77	71.8
07/22/23	3:30	NA	8.00	2.99	63.2	8.45	8.57	70.6	8.44	8.46	67.1	7.67	71.8
07/22/23	4:30	152	8.00	3.01	62.4	8.50	8.23	69.6	8.44	8.46	68.7	7.64	70.3
07/22/23	5:30	NA	8.00	3.04	61.3	8.45	8.30	68.9	8.41	7.05	65.3	7.08	69.1
07/22/23	6:30	151.67	8.00	3.14	61.3	8.45	8.53	68.2	8.40	8.34	77.2	7.06	69.3
07/22/23	7:30	NA	8.00	3.00	61.5	8.45	8.51	67.5	8.40	8.10	67.5	7.20	70.2
07/22/23	8:30	152	8.00	3.00	61.5	8.45	8.51	67.7	8.40	8.10	68.4	7.30	70.2
07/22/23	9:30	NA	8.00	2.91	61.8	8.45	8.45	68.0	8.43	8.10	69.3	7.20	70.9
07/22/23	10:30	152	8.00	2.83	63.2	8.45	8.53	68.7	8.43	8.10	69.6	7.40	71.8
07/22/23	11:30	NA	8.00	2.80	64.9	8.45	8.33	69.4	8.44	8.10	70.2	7.30	72.5
07/22/23	12:30	152	8.00	2.77	65.1	8.40	8.36	70.3	8.41	8.20	71.4	7.40	73.6
07/22/23	13:30	NA	8.00	2.81	65.8	8.40	8.37	71.8	8.37	8.00	72.5	7.30	75.0
07/22/23	14:30	152	8.00	2.82	66.8	8.40	8.48	72.0	8.37	8.10	73.76	7.30	74.12
07/22/23	15:30	149	8.00	2.90	67.7	8.40	8.43	73.4	8.42	8.00	73.0	7.30	74.7
07/22/23	16:30	149	8.00	2.78	68.4	8.45	8.36	75.1	8.37	8.10	74.3	7.70	75.0
07/22/23	17:30	143	8.00	2.80	68.4	8.45	8.30	74.1	8.40	8.10	74.3	7.70	75.2
07/22/23	18:30	143	8.00	2.89	69.6	8.45	8.25	74.4	8.43	8.10	73.6	7.20	74.8
07/22/23	19:30	NA	8.00	2.87	70.0	8.45	8.31	75.1	8.37	8.34	74.3	7.62	74.4
07/22/23	20:30	142.87	8.00	2.93	70.1	8.45	8.25	75.1	8.36	8.35	74.5	7.23	71.3
07/22/23	21:30	NA	8.00	2.86	69.8	8.45	8.45	75.3	8.35	8.46	74.8	7.60	73.6
07/22/23	22:30	142.55	8.00	2.83	67.7	8.45	8.50	74.9	8.35	8.48	74.8	7.53	71.4
07/22/23	23:30	NA	8.00	2.03	66.5	8.45	8.33	74.1	8.35	8.45	74.4	7.50	73.2
07/23/23	0:30	142	8.00	2.54	64.8	8.45	8.44	73.2	8.10	8.68	73.5	7.86	71.4
07/23/23	1:30	NA	8.00	2.89	64.1	8.50	8.45	71.5	8.54	8.54	70.9	7.65	71.1
07/23/23	2:30	142.73	8.00	2.85	64.6	8.50	8.47	70.8	8.30	8.56	71.2	7.60	73.3
07/23/23	3:30	NA	8.00	2.89	63.4	8.50	8.38	70.0	8.28	8.54	68.9	7.65	70.2
07/23/23	4:30	142.58	8.00	2.84	63.4	8.50	8.41	68.9	8.25	8.55	71.2	7.63	74.7
07/23/23	5:30	NA	8.00	2.81	61.5	8.50	8.54	68.7	8.29	8.48	74.8	8.48	75.8
07/23/23	6:30	142.72	8.00	2.84	62.3	8.50	8.63	68.0	8.29	8.58	71.2	7.86	73.5
07/23/23	7:30	NA	8.00	2.81	61.5	8.50	8.48	67.7	8.29	8.46	67.3	7.64	68.0
07/23/23	8:30	142	8.00	2.91	60.1	8.50	8.53	67.0	8.43	8.43	67.6	7.63	69.1
07/23/23	9:30	NA	8.00	2.94	61.5	8.50	8.48	67.5	8.42	8.42	67.7	7.62	69.8
07/23/23	10:30	142	8.00	2.94	64.1	8.50	8.53	67.0	8.43	8.42	69.4	7.63	70.8
07/23/23	11:30	NA	8.00	2.97	62.0	8.50	8.48	68.4	8.41	8.42	69.8	7.63	71.5
07/23/23	12:30	152	8.00	2.94	63.7	8.50	8.49	69.2	8.35	8.42	70.6	7.62	72.7
07/23/23	13:30	NA	8.00	2.94	64.5	8.50	8.43	70.1	8.36	8.41	70.8	7.61	73.2
07/23/23	14:30	151	8.00	2.92	65.3	8.50	8.45	71.8	8.37	8.40	72.60	7.59	73.5
07/23/23	15:30	NA	8.00	2.95	66.8	8.50	8.51	72.5	8.40	8.39	72.1	7.59	74.0
07/23/23	16:30	151	8.00	2.99	67.5	8.50	8.48	72.7	8.39	8.40	72.6	7.58	73.4
07/23/23	17:30	NA	8.00	2.98	67.7	8.50	8.38	73.2	8.40	8.42	72.7	7.58	73.1
07/23/23	18:30	151	8.00	3.25	68.4	8.50	8.66	73.7	8.29	8.43	73.9	7.58	73.5
07/26/23	7:30	Plant Startup Procedures											
07/26/23	8:30	Plant Startup Procedures											
07/26/23	9:30	Plant Startup Procedures											
07/26/23	10:30	165	8.00	3.08	60.3	8.50	8.49	66.1	8.38	8.52	67.5	7.17	68.2
07/26/23	11:30	NA	8.00	3.06	60.8	8.50	8.45	66.5	8.38	8.53	67.8	7.16	68.5
07/26/23	12:30	162	8.00	3.11	61.8	8.45	8.57	66.5	8.32	8.48	68.9	7.16	70.0
07/26/23	13:30	NA	8.00	3.03	63.2	8.45	8.23	67.7	8.32	8.48	68.9	7.14	70.3
07/26/23	14:30	162	8.00	3.01	63.0	8.45	8.33	68.7	8.32	8.49	69.4	7.17	70.0
07/26/23	15:30	NA	8.00	3.03	63.2	8.45	8.43	69.6	8.33	8.52	71.4	7.15	70.7

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/26/23	16:30	160	8.00	3.00	67.5	8.40	8.27	71.3	8.29	8.48	72.1	7.13	70.9
07/26/23	17:30	NA	8.00	3.03	66.3	8.40	8.51	73.2	8.32	8.50	72.7	7.12	71.1
07/26/23	18:30	161	8.00	3.05	66.8	8.40	8.43	72.5	8.29	8.48	71.4	7.15	69.6
07/26/23	19:30	NA	8.00	3.10	65.6	8.40	8.48	72.0	8.26	8.18	76.4	7.09	70.5
07/26/23	20:30	161	8.00	3.04	67.2	8.40	8.49	72.7	8.32	8.45	69.3	7.24	71.2
07/26/23	21:30	NA	8.00	3.07	66.5	8.40	8.43	72.7	8.30	8.43	70.7	7.13	71.2
07/26/23	22:30	161	8.00	3.09	65.9	8.40	8.45	72.2	8.24	8.42	69.6	7.18	71.6
07/26/23	23:30	NA	8.00	3.05	65.8	8.40	8.53	71.1	8.26	8.45	69.3	7.12	71.2
07/27/23	0:30	161	8.00	3.07	66.0	8.40	8.48	70.3	8.30	8.41	70.2	7.10	70.7
07/27/23	1:30	NA	8.00	3.01	63.2	8.40	8.34	69.4	8.29	8.43	70.5	7.20	71.1
07/27/23	2:30	161	8.00	3.04	64.0	8.40	8.27	68.9	8.28	8.42	71.4	7.21	70.5
07/27/23	3:30	NA	8.00	3.05	61.3	8.40	8.32	67.7	8.31	8.44	70.7	7.18	70.7
07/27/23	4:30	161.17	8.00	3.02	59.9	8.40	8.35	66.1	8.35	8.43	70.7	7.20	70.9
07/27/23	5:30	NA	8.00	3.08	60.1	8.40	8.42	66.3	8.33	8.41	70.0	7.15	71.2
07/27/23	6:30	161.17	8.00	3.04	60.8	8.40	8.43	68.4	8.35	8.42	71.8	8.21	72.5
07/27/23	7:30	NA	8.00	3.00	59.8	8.40	8.33	65.1	8.41	8.30	65.4	7.70	67.2
07/27/23	8:30	161	8.00	2.99	58.7	8.40	8.24	64.9	8.36	8.30	65.4	6.70	67.3
07/27/23	9:30	NA	8.00	2.95	59.8	8.40	8.43	64.4	8.30	8.20	65.3	7.80	67.0
07/27/23	10:30	161	8.00	3.00	59.4	8.40	8.32	65.1	8.3	8.30	65.8	7.10	67.0
07/27/23	11:30	134	8.00	3.01	60.3	8.43	8.49	65.8	8.38	8.30	66.4	7.00	67.0
07/27/23	12:30	145	8.00	3.04	62.2	8.43	8.52	67.0	8.36	8.20	67.5	7.40	66.9
07/27/23	13:30	NA	8.00	3.01	62.5	8.43	8.47	67.7	8.42	8.30	68.4	7.60	67.8
07/27/23	14:30	145	8.00	3.05	64.9	8.43	8.49	68.9	8.37	8.10	69.8	7.70	69.5
07/27/23	15:30	NA	8.00	3.05	64.3	8.43	8.49	70.1	8.35	8.10	71.1	7.70	70.5
07/27/23	16:30	163	8.00	2.97	66.1	8.43	8.33	71.5	8.35	8.50	71.7	8.20	70.6
07/27/23	17:30	NA	8.00	2.98	66.5	8.43	8.38	72.0	8.33	8.30	72.6	8.20	71.7
07/27/23	18:30	163	8.00	3.03	66.8	8.43	8.42	72.5	8.42	8.30	72.4	7.50	70.6
07/27/23	19:30	NA	8.00	2.98	68.5	8.43	8.45	73.0	8.38	8.20	72.6	7.30	70.3
07/27/23	20:30	161	8.00	2.99	67.0	8.43	8.43	72.7	8.41	8.20	70.1	7.40	89.6
07/27/23	21:30	NA	8.00	2.95	66.5	8.43	8.40	72.5	8.40	8.20	70.7	7.40	69.1
07/27/23	22:30	143.73	8.00	2.98	65.3	8.43	8.45	71.8	8.45	8.20	71.1	7.30	70.2
07/27/23	23:30	NA	8.00	3.02	64.9	8.43	8.48	71.1	8.40	7.32	69.3	7.30	70.3
07/28/23	0:30	143.69	8.00	3.01	65.1	8.43	8.45	70.3	8.41	8.20	70.5	7.40	70.2
07/28/23	1:30	NA	8.00	3.00	63.0	8.43	8.38	69.4	8.38	8.30	71.2	7.50	71.3
07/28/23	2:30	143.72	8.00	3.01	62.7	8.43	8.28	69.4	8.40	8.20	66.4	7.70	66.4
07/28/23	3:30	NA	8.00	2.94	62.0	8.43	8.34	68.4	8.36	8.10	67.4	7.50	65.9
07/28/23	4:30	153.96	8.00	2.94	61.8	8.43	8.43	67.7	8.37	8.20	65.3	7.50	65.3
07/28/23	5:30	NA	8.00	2.95	60.8	8.43	8.39	67.0	8.36	8.20	66.4	7.80	66.5
07/28/23	6:30	157.86	8.00	3.01	63.5	8.43	8.38	70.1	8.37	8.20	65.5	7.40	65.5
07/28/23	7:30	159	8.00	2.94	59.6	8.43	8.40	65.8	8.38	8.40	65.4	8.20	64.2
07/28/23	8:30	137	8.00	2.99	58.7	8.43	8.41	65.3	8.35	8.20	65.8	6.60	66.5
07/28/23	9:30	NA	8.00	3.03	59.6	8.43	8.49	65.6	8.34	8.20	66.1	6.70	66.7
07/28/23	10:30	137	8.00	3.05	61.3	8.43	8.40	66.1	8.32	8.10	66.7	6.90	66.5
07/28/23	11:30	160	8.00	3.02	60.1	8.43	8.34	66.3	8.32	8.00	67.3	7.70	66.7
07/28/23	12:30	160	8.00	2.96	61.5	8.43	8.31	66.8	8.32	8.10	68.0	7.90	68.4
07/28/23	13:30	NA	8.00	2.97	64.4	8.43	8.57	68.4	8.34	8.10	69.2	7.60	69.7
07/28/23	14:30	139	8.00	2.94	6.6	8.43	8.49	70.1	8.34	8.20	70.6	7.80	70.3
07/28/23	15:30	NA	8.00	3.00	67.7	8.43	8.36	73.0	8.38	8.10	72.1	7.80	71.9
07/28/23	16:30	137	8.00	2.99	67.5	8.43	8.36	73.0	8.38	8.10	73.2	7.60	72.3
07/28/23	17:30	NA	8.00	3.04	68.20	8.43	8.55	73.2	8.38	8.40	73.3	8.30	72.1
07/28/23	18:30	137	8.00	3.10	67.7	8.43	8.46	73.0	8.41	8.60	73.2	8.10	72.0
07/28/23	19:30	NA	8.00	3.10	68.2	8.43	8.61	73.2	8.35	8.40	71.7	7.40	70.8
07/28/23	20:30	137.14	8.00	3.11	68.2	8.43	8.44	73.2	8.35	8.30	72.5	7.80	70.2
07/28/23	21:30	NA	8.00	3.12	67.5	8.43	8.47	73.5	8.38	8.30	71.8	7.50	69.8
07/28/23	22:30	162.46	8.00	3.03	65.6	8.43	8.55	72.2	8.34	7.70	67.4	7.10	69.6
07/28/23	23:30	NA	8.00	3.00	63.2	8.43	8.33	71.1	8.29	7.90	68.2	7.70	69.0
07/29/23	0:30	135.81	8.00	3.06	63.2	8.43	8.35	69.9	8.40	8.30	72.4	7.60	72.2
07/29/23	1:30	NA	8.00	3.00	63.4	8.43	8.50	69.4	8.41	8.10	68.0	7.30	67.9
07/29/23	2:30	135.88	8.00	3.08	62.0	8.43	8.52	68.0	8.38	8.30	72.3	7.60	70.2
07/29/23	3:30	NA	8.00	3.01	60.1	8.43	8.56	67.7	8.36	8.20	68.5	7.30	67.1
07/29/23	4:30	156.26	8.00	3.03	61.3	8.43	8.40	66.1	8.32	8.30	71.3	7.50	69.6
07/29/23	5:30	NA	8.00	3.04	60.2	8.43	8.40	66.1	8.32	8.20	70.1	7.40	67.4
07/29/23	6:30	131.69	8.00	3.07	60.1	8.43	8.38	65.8	8.37	8.20	65.7	7.50	65.7
07/29/23	7:30	NA	8.00	3.10	59.4	8.43	8.48	65.6	8.40	8.10	65.6	7.30	65.2
07/29/23	8:30	132	8.00	3.11	59.9	8.43	8.37	65.3	8.40	8.30	65.8	7.40	65.5
07/29/23	9:30	NA	8.00	3.11	59.6	8.43	8.43	65.6	8.33	8.00	65.6	7.40	65.5
07/29/23	10:30	132	8.00	3.15	60.6	8.43	8.33	65.6	8.32	8.10	65.8	7.40	65.8
07/29/23	11:30	NA	8.00	3.15	61.1	8.43	8.56	66.1	8.31	8.00	67.7	7.40	67.3
07/29/23	12:30	132	8.00	3.13	61.7	8.43	8.65	66.8	8.32	8.10	68.2	7.30	67.9
07/29/23	13:30	145	8.00	3.17	63.0	8.43	8.29	67.7	8.30	8.00	68.8	7.30	69.2
07/29/23	14:30	145	8.00	3.06	63.7	8.43	8.50	69.2	8.36	8.00	70.0	7.60	70.7
07/29/23	15:30	NA	8.00	3.05	64.1	8.43	8.22	70.1	8.36	8.20	70.6	7.80	70.6
07/29/23	16:30	135	8.00	3.04	65.1	8.43	8.47	71.1	8.34	8.10	71.2	7.90	71.1
07/29/23	17:30	NA	8.00	3.09	67.0	8.43	8.53	71.5	8.36	8.20	71.6	7.80	71.2
07/29/23	18:30	132	8.00	3.16	66.8	8.43	8.47	72.20	8.54	8.80	76.6	8.10	74.9

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
07/29/23	19:30	NA	8.00	3.11	68.0	8.43	8.48	72.7	8.26	8.20	76.1	7.60	74.4
07/29/23	20:30	131	8.00	3.05	67.3	8.43	7.32	73.4	8.25	8.10	75.8	7.50	75.3
07/29/23	21:30	NA	8.00	3.11	66.3	8.43	8.37	72.7	8.21	7.80	74.0	7.20	73.8
07/29/23	22:30	131.64	8.00	3.02	65.3	8.43	8.37	72.2	8.21	8.20	77.0	7.60	75.1
07/29/23	23:30	NA	8.00	3.15	64.6	8.43	8.36	71.1	8.23	7.10	72.6	7.20	71.6
07/30/23	0:30	130	8.00	3.09	64.2	8.43	8.38	70.1	8.29	7.50	69.8	7.10	72.0
07/30/23	1:30	NA	8.00	3.16	63.0	8.43	8.53	69.4	8.25	7.40	69.2	7.20	71.6
07/30/23	2:30	131	8.00	3.11	62.5	8.43	8.61	68.7	8.24	7.60	71.2	7.40	71.1
07/30/23	3:30	NA	8.00	3.12	61.3	8.43	8.33	67.2	8.24	7.80	75.2	7.30	73.8
07/30/23	4:30	131.21	8.00	3.10	61.7	8.43	8.30	67.6	8.25	7.60	7.5	7.40	73.2
07/30/23	5:30	NA	8.00	3.11	65.4	8.43	8.32	67.4	8.23	7.10	72.5	7.20	71.8
07/30/23	6:30	131.64	8.00	3.09	64.2	8.43	8.38	71.1	8.24	7.40	69.2	7.20	71.6
07/30/23	7:30	NA	8.00	3.15	57.7	8.43	8.31	65.3	8.21	8.26	65.1	7.53	64.6
07/30/23	8:30	131	8.00	3.11	58.1	8.43	8.36	65.1	8.23	8.23	65.3	6.98	65.8
07/30/23	9:30	NA	8.00	3.08	58.4	8.43	8.46	65.3	8.20	8.20	71.0	6.80	71.8
07/30/23	10:30	132	8.00	3.11	59.9	8.43	8.46	65.1	8.21	8.20	72.1	6.50	71.3
07/30/23	11:30	NA	8.00	3.10	60.1	8.43	8.60	65.6	8.20	8.10	72.3	6.40	71.9
07/30/23	12:30	131	8.00	3.16	61.8	8.45	8.47	66.5	8.20	8.20	72.2	6.50	72.0
07/30/23	13:30	NA	8.00	3.14	62.0	8.45	8.30	67.0	8.24	8.20	71.9	6.50	71.2
07/30/23	14:30	131	8.00	3.08	65.6	8.45	8.55	69.2	8.22	8.20	72.2	6.60	71.6
07/30/23	15:30	NA	8.00	3.10	66.1	8.45	8.60	70.0	8.22	8.20	73.5	7.50	76.0
07/30/23	16:30	131	8.00	3.12	65.1	8.45	8.29	71.5	8.20	8.10	76.6	7.30	76.5
07/30/23	17:30	NA	8.00	3.13	66.8	8.45	8.36	72.0	8.23	8.10	75.8	7.40	76.0
07/30/23	18:30	130	8.00	3.13	68.2	8.45	8.63	72.5	8.40	8.20	76.4	7.50	76.1
07/30/23	19:30	NA	8.00	3.32	67.2	8.45	8.45	73.0	8.38	8.20	76.2	7.20	75.3
07/30/23	20:30	130	8.00	3.17	68.0	8.45	8.52	73.0	8.35	8.50	73.4	7.50	74.8
07/30/23	21:30	NA	8.00	3.21	65.6	8.45	8.51	73.0	8.34	8.50	74.5	7.50	79.5
07/30/23	22:30	110	8.00	3.22	67.2	8.42	8.36	72.5	8.32	8.50	74.7	7.40	79.1
07/30/23	23:30	NA	8.00	3.37	66.1	8.42	8.39	72.0	8.31	8.40	74.6	7.50	73.6
07/31/23	0:30	131	8.00	3.41	64.1	8.40	8.48	71.5	8.40	8.40	73.6	7.40	73.0
07/31/23	1:30	NA	8.00	3.24	62.7	8.40	8.26	70.3	8.27	8.40	72.8	7.40	72.6
07/31/23	2:30	131	8.00	3.19	62.0	8.43	8.34	70.9	8.29	8.40	72.0	7.50	72.2
07/31/23	3:30	NA	8.00	3.18	62.1	8.45	8.43	68.7	8.30	8.40	71.6	7.50	71.0
07/31/23	4:30	131	8.00	3.19	61.8	8.45	8.35	68.0	8.30	8.50	70.7	7.90	71.4
07/31/23	5:30	NA	8.00	3.18	61.1	8.45	8.52	67.5	8.31	8.40	70.2	7.50	71.0
07/31/23	6:30	NR	8.00	3.20	61.3	8.45	8.26	66.5	8.29	8.60	71.6	7.60	70.6
07/31/23	7:30	NA	8.00	3.30	59.9	8.45	8.43	66.1	8.32	8.20	70.3	7.50	70.3
07/31/23	8:30	119	8.00	3.33	60.3	8.45	8.72	65.8	8.51	8.20	70.7	7.50	70.5
07/31/23	9:30	NA	8.00	3.35	60.1	8.45	8.31	66.1	8.31	8.20	70.7	7.50	70.7
07/31/23	10:30	119	8.00	3.32	61.1	8.45	8.34	66.5	8.31	8.20	71.2	7.50	71.5
07/31/23	11:30	NA	8.00	3.30	61.5	8.45	8.50	66.3	8.35	8.20	72.0	7.50	72.5
07/31/23	12:30	119	8.00	3.37	62.0	8.45	8.47	67.2	8.32	8.20	73.5	7.50	73.7
07/31/23	13:30	NA	8.00	3.56	64.3	8.45	8.53	68.0	8.34	8.20	73.2	7.50	73.8
07/31/23	14:30	128	8.00	3.18	68.4	8.45	8.41	71.3	8.36	8.20	76.1	7.50	76.2
07/31/23	15:30	NA	8.00	3.28	66.3	8.45	8.69	72.5	8.38	8.30	76.7	7.60	76.4
07/31/23	16:30	118	8.00	3.35	67.2	8.45	8.57	72.5	8.41	8.30	77.1	7.60	77.0
07/31/23	17:30	NA	8.00	3.30	67.9	8.45	8.66	72.7	8.43	8.40	75.9	7.40	76.6
07/31/23	18:30	118	8.00	3.38	68.0	8.45	8.63	73.4	8.74	8.40	75.5	7.40	75.9
07/31/23	19:30	NA	8.00	3.43	67.7	8.45	8.33	73.4	8.49	8.30	76.3	7.40	71.1
07/31/23	20:30	118	8.00	3.42	67.7	8.45	8.37	73.4	8.48	8.40	75.7	7.50	75.0
07/31/23	21:30	NA	8.00	3.40	68.0	8.45	8.56	73.0	8.48	8.40	75.4	7.50	74.4
07/31/23	22:30	118	8.00	3.34	65.3	8.35	8.34	71.5	8.48	8.60	73.9	7.60	73.6
07/31/23	23:30	NA	8.00	3.31	64.9	8.30	8.43	71.5	8.48	8.60	73.9	7.60	73.6
08/01/23	0:30	118	8.00	3.31	64.9	8.30	8.43	71.1	8.40	8.40	73.0	7.50	72.6
08/01/23	1:30	NA	8.00	3.35	63.2	8.30	8.23	70.1	8.32	8.30	72.2	7.60	72.0
08/01/23	2:30	136	8.00	3.16	60.8	8.30	8.47	68.9	8.31	8.20	71.3	7.30	71.3
08/01/23	3:30	NA	8.00	3.13	62.0	8.30	8.17	68.2	8.33	8.30	68.3	7.40	71.3
08/01/23	4:30	119	8.00	3.18	60.1	8.33	8.42	67.7	8.38	8.30	70.7	7.40	70.7
08/01/23	5:30	NA	8.00	3.27	60.1	8.33	8.20	66.5	8.38	8.30	69.5	7.20	70.0
08/01/23	6:30	120.3	8.00	3.33	59.9	8.33	8.31	66.5	8.40	8.30	68.4	7.40	70.6
08/01/23	7:30	NA	8.00	3.33	59.9	8.33	8.20	65.6	8.38	8.20	69.3	7.70	70.0
08/01/23	8:30	120	8.00	3.33	60.1	8.33	8.42	65.3	8.38	8.20	69.5	7.60	70.1
08/01/23	9:30	NA	8.00	3.32	59.6	8.33	8.35	65.3	8.22	8.20	70.5	7.60	71.5
08/01/23	10:30	118	8.00	3.34	59.9	8.33	8.55	65.6	8.22	8.00	71.1	7.00	71.6
08/01/23	11:30	NA	8.00	3.37	61.5	8.33	8.20	65.8	8.23	8.00	71.6	7.00	72.4
08/01/23	12:30	118	8.00	3.38	62.0	8.33	8.36	67.2	8.26	8.00	73.1	7.40	74.0
08/01/23	13:30	NA	8.00	3.29	63.0	8.33	8.34	67.7	8.28	8.00	73.7	7.30	74.2
08/01/23	14:30	118	8.00	3.36	63.0	8.33	8.54	68.2	8.26	8.00	73.9	7.40	74.6
08/01/23	15:30	NA	8.00	3.37	67.9	8.33	8.29	68.4	8.26	8.00	74.4	7.40	75.7
08/01/23	16:30	120	8.00	3.36	65.1	8.33	8.28	69.4	8.28	8.00	74.1	7.50	76.1
08/01/23	17:30	NA	8.00	3.36	65.4	8.33	8.23	70.1	8.28	8.00	75.0	7.50	76.5
08/01/23	18:30	120	8.00	3.37	64.9	8.33	8.31	70.6	8.32	8.10	74.0	7.40	76.0
08/01/23	19:30	NA	8.00	3.32	65.3	8.33	8.34	70.8	8.25	8.40	73.6	7.20	75.4
08/01/23	20:30	120	8.00	3.31	66.3	8.33	8.21	71.3	8.26	8.30	73.9	7.30	74.8
08/01/23	21:30	NA	8.00	3.35	67.0	8.35	8.23	72.0	8.27	8.30	74.4	7.30	74.2

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F	
08/01/23	22:30	120	8.00	3.28	66.1	8.35	8.58	72.0	8.32	8.30	74.3	7.30	73.5	
08/01/23	23:30	NA	8.00	3.22	65.3	8.35	8.38	71.8	8.30	8.30	74.0	7.30	73.0	
08/02/23	0:30	134	8.00	3.22	64.4	8.35	8.20	71.3	8.37	8.40	72.6	7.70	72.6	
08/02/23	1:30	NA	8.00	3.15	63.4	8.35	8.47	68.9	8.31	8.30	72.3	7.40	71.8	
08/02/23	2:30	109	8.00	3.30	62.5	8.35	8.64	68.9	8.34	8.30	71.0	7.40	71.4	
08/02/23	3:30	NA	8.00	3.42	61.3	8.35	8.52	67.7	8.36	8.30	70.5	7.40	71.1	
08/02/23	4:30	109	8.00	3.47	60.8	8.35	8.28	67.0	8.35	8.30	69.8	7.40	70.7	
08/02/23	5:30	NA	8.00	3.38	60.3	8.35	8.58	66.3	8.32	8.30	68.3	7.30	70.2	
08/02/23	6:30	NR	8.00	3.36	59.6	8.35	8.50	65.3	8.33	8.30	67.9	7.40	69.2	
08/02/23	7:30	NA	8.00	3.34	59.4	8.35	8.65	65.3	8.32	8.20	68.7	7.30	69.7	
08/02/23	8:30	118	8.00	3.32	59.2	8.35	8.36	64.9	8.35	8.36	64.9	8.35	69.9	
08/02/23	9:30	NA	8.00	3.33	58.7	8.35	8.42	65.1	8.10	8.10	69.0	7.40	70.2	
08/02/23	10:30	120	8.00	3.01	60.1	8.35	8.69	64.9	8.07	8.20	70.1	7.30	71.4	
08/02/23	11:30	NA	8.00	No Data			8.35	8.33	65.1	8.28	8.10	71.7	7.20	72.9
08/02/23	12:30	120	8.00	No Data			8.35	8.45	67.2	8.30	8.10	72.2	7.10	73.9
08/02/23	13:30	NA	8.00	No Data			8.35	8.55	67.2	8.26	8.20	72.9	7.40	75.2
08/02/23	14:30	121	8.00	2.40	21.2	8.35	8.62	68.4	8.29	8.00	73.5	7.50	75.6	
08/02/23	15:30	NA	8.00	2.90	70.2	8.35	8.61	69.4	8.31	8.10	73.4	7.10	75.8	
08/02/23	16:30	121	8.00	3.10	69.8	8.35	8.44	69.9	8.34	8.00	74.0	7.30	75.6	
08/02/23	17:30	NA	8.00	3.20	70.0	8.35	8.39	68.9	8.37	7.90	74.1	7.30	75.8	
08/02/23	18:30	120	8.00	3.30	71.2	8.35	8.62	69.3	8.38	8.10	72.1	7.10	75.4	
08/02/23	19:30	NA	8.00	3.30	71.2	8.50	8.49	70.1	8.40	8.30	72.6	7.30	74.3	
08/02/23	20:30	119.88	8.00	3.30	71.8	8.50	8.72	70.6	8.44	8.40	73.4	7.30	73.8	
08/02/23	21:30	NA	8.00	3.30	72.1	8.50	8.43	71.3	8.46	8.40	73.4	7.30	73.5	
08/02/23	22:30	120	8.00	3.30	72.1	8.50	8.52	71.1	8.47	8.50	73.3	7.40	72.4	
08/02/23	23:30	NA	8.00	3.30	71.4	8.50	8.72	70.8	8.47	8.50	72.6	7.30	72.1	
08/03/23	0:30	119.36	8.00	3.30	72.5	8.50	8.54	69.9	8.43	8.60	73.0	7.30	71.0	
08/03/23	1:30	NA	8.00	3.30	69.4	8.45	8.51	69.2	8.35	8.40	71.4	7.50	71.2	
08/03/23	2:30	125	8.00	3.20	68.5	8.45	8.36	68.4	8.32	8.40	70.5	7.60	70.7	
08/03/23	3:30	NA	8.00	3.20	67.8	8.45	8.53	67.5	8.34	8.50	70.1	7.80	70.6	
08/03/23	4:30	125	8.00	3.20	66.9	8.45	8.40	67.0	8.34	8.40	69.2	7.60	69.0	
08/03/23	5:30	NA	8.00	3.20	66.2	8.45	8.51	65.8	8.29	8.40	68.3	7.50	69.3	
08/03/23	6:30	125	8.00	3.20	65.7	8.45	8.54	65.3	8.31	8.40	68.4	7.50	68.8	
08/03/23	7:30	NA	8.00	3.20	65.0	8.45	8.30	64.9	8.31	7.80	69.6	7.70	69.8	
08/03/23	8:30	125.38	8.00	3.20	65.0	8.45	8.35	63.9	8.31	8.00	69.0	7.90	69.8	
08/03/23	9:30	NA	8.00	3.20	65.7	8.45	8.47	64.4	8.31	8.10	69.1	8.20	69.8	
08/03/23	10:30	163.44	8.00	3.00	66.5	8.45	8.54	65.6	8.31	8.20	70.7	8.20	72.4	
08/03/23	11:30	NA	8.00	3.00	66.4	8.45	8.51	65.6	8.31	8.00	72.3	8.00	73.8	
08/03/23	12:30	163.5	8.00	2.99	68.7	8.45	8.41	67.0	8.34	8.00	73.1	7.90	74.8	
08/03/23	13:30	NA	8.00	3.00	69.3	8.45	8.43	67.2	8.35	8.20	73.3	8.00	76.2	
08/03/23	14:30	162.5	8.00	2.97	69.8	8.45	8.47	67.7	8.40	8.20	73.8	8.00	77.1	
08/03/23	15:30	NA	8.00	2.97	70.7	8.45	8.48	69.4	8.41	8.00	74.7	8.00	76.5	
08/03/23	16:30	162.6	8.00	2.99	69.8	8.45	8.48	69.4	8.43	8.00	74.7	7.90	76.7	
08/03/23	17:30	NA	8.00	2.97	69.1	8.45	8.50	69.7	8.45	8.00	73.2	8.10	76.1	
08/03/23	18:30	162.6	8.00	2.97	69.3	8.45	8.54	68.2	8.66	8.10	73.0	8.00	75.2	
08/03/23	19:30	NA	8.00	2.97	69.3	8.45	8.38	68.4	8.36	8.40	74.0	7.00	74.4	
08/03/23	20:30	162	8.00	2.96	71.1	8.45	8.30	69.2	8.50	8.50	72.9	7.80	73.5	
08/03/23	21:30	NA	8.00	2.95	71.4	8.45	8.43	70.1	8.35	8.60	73.3	8.00	73.1	
08/03/23	22:30	162.92	8.00	2.95	70.9	8.45	8.43	70.3	8.26	8.70	72.4	7.70	71.5	
08/03/23	23:30	NA	8.00	2.94	70.5	8.45	8.43	70.6	8.26	8.60	74.0	7.60	71.4	
08/04/23	0:30	162.29	8.00	2.95	69.6	8.45	8.39	68.7	8.44	8.60	73.3	7.30	70.8	
08/04/23	1:30	NA	8.00	2.95	68.7	8.45	8.45	68.7	8.28	8.40	72.5	7.60	71.1	
08/04/23	2:30	163.24	8.00	2.98	67.8	8.45	8.41	67.5	8.28	8.50	72.1	7.70	71.5	
08/04/23	3:30	NA	8.00	2.97	67.3	8.45	8.50	67.0	8.38	8.30	70.4	8.00	70.0	
08/04/23	4:30	164.1	8.00	2.98	66.8	8.45	8.37	66.3	8.23	8.40	70.60	7.8	70.20	
08/04/23	5:30	NA	8.00	2.98	66.8	8.45	8.38	65.6	8.27	8.30	70.3	8.10	70.1	
08/04/23	6:30	164.1	8.00	2.98	66.0	8.45	8.38	68.4	8.28	8.50	73.9	7.80	73.5	
08/04/23	7:30	NA	8.00	2.98	64.4	8.45	8.42	63.7	8.30	7.80	69.1	8.00	68.8	
08/04/23	8:30	162.63	8.00	2.98	64.8	8.45	8.29	63.2	8.34	8.00	69.1	8.30	69.3	
08/04/23	9:30	NA	8.00	2.98	64.8	8.45	8.44	63.9	8.32	7.80	69.2	8.00	70.1	
08/04/23	10:30	162.03	8.00	2.98	66.2	8.45	8.36	64.2	8.37	7.60	69.9	7.90	71.3	
08/04/23	11:30	NA	8.00	3.01	68.0	8.45	8.49	66.5	8.41	8.00	72.4	8.20	73.7	
08/04/23	12:30	162.42	8.00	2.98	69.6	8.45	8.35	67.2	8.41	7.80	73.5	8.00	74.3	
08/04/23	13:30	NA	8.00	2.96	69.6	8.45	8.45	68.0	8.42	7.80	73.9	7.80	76.6	
08/04/23	14:30	162	8.00	2.96	70.0	8.45	8.40	68.2	8.44	7.80	75.1	8.10	75.9	
08/04/23	15:30	NA	8.00	2.96	71.1	8.45	8.29	70.1	8.34	7.80	74.8	8.00	76.8	
08/04/23	16:30	162.22	8.00	2.96	71.2	8.45	8.31	70.1	8.32	7.80	73.9	8.00	77.0	
08/04/23	17:30	NA	8.00	2.97	70.9	8.45	8.55	70.3	8.31	7.80	73.9	7.90	76.9	
08/04/23	18:30	161.58	8.00	2.97	71.2	8.45	8.31	69.9	8.44	8.00	74.0	8.00	76.0	
08/04/23	19:30	NA	8.00	2.95	71.2	8.45	8.42	70.1	8.43	7.90	71.6	7.10	74.4	
08/04/23	20:30	161.68	8.00	2.96	71.4	8.45	8.38	7.0	8.42	7.80	71.4	7.10	74.2	
08/04/23	21:30	NA	8.00	2.96	71.6	8.45	8.41	70.1	8.41	7.80	71.1	7.10	74.6	
08/04/23	22:30	162.19	8.00	2.95	71.2	8.45	8.34	70.6	8.39	8.40	70.6	7.80	72.4	
08/04/23	23:30	NA	8.00	2.95	70.2	8.45	8.52	69.6	8.38	8.40	72.4	8.00	71.9	
08/05/23	0:30	163	8.00	2.95	68.9	8.45	8.40	69.3	8.34	8.30	71.5	7.80	72.6	

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
08/05/23	1:30	NA	8.00	2.96	67.5	8.45	8.44	67.7	8.35	8.30	70.8	7.70	71.4
08/05/23	2:30	162.8	8.00	2.96	66.6	8.45	8.22	67.0	8.31	8.40	72.5	7.80	72.3
08/05/23	3:30	NA	8.00	2.96	71.6	7.45	8.38	71.1	8.43	8.20	71.5	7.70	72.6
08/05/23	4:30	163.01	8.00	2.96	71.4	8.45	8.41	70.2	8.38	8.40	70.7	7.80	72.4
08/05/23	5:30	NA	8.00	2.96	70.2	8.45	8.42	70.1	8.41	8.20	71.3	7.70	72.4
08/05/23	6:30	162.19	8.00	2.95	71.3	8.45	8.41	70.2	8.38	8.40	7.5	7.80	72.3
08/05/23	7:30	NA	8.00	2.97	63.0	8.45	8.27	62.3	8.31	7.70	66.6	8.10	66.8
08/05/23	8:30	162.7	8.00	2.97	63.1	8.45	8.24	62.3	8.31	7.80	66.7	8.20	67.6
08/05/23	9:30	NA	8.00	2.97	63.3	8.45	8.34	62.7	8.31	7.80	67.2	8.10	69.0
08/05/23	10:30	162.41	8.00	2.96	64.2	8.45	8.47	63.0	8.32	7.80	68.3	8.10	70.9
08/05/23	11:30	NA	8.00	2.95	64.9	8.45	8.43	63.2	8.32	8.00	69.3	8.10	72.0
08/05/23	12:30	162.47	8.00	2.93	67.1	8.45	8.48	65.1	8.35	7.90	70.6	8.10	73.9
08/05/23	13:30	NA	8.00	2.93	68.5	8.45	8.48	66.8	8.39	7.90	71.1	8.10	75.4
08/05/23	14:30	162.87	8.00	2.92	68.7	8.45	8.38	66.7	8.39	7.90	72.1	8.10	76.0
08/05/23	15:30	NA	8.00	2.92	68.7	8.45	8.41	68.0	8.38	7.90	72.1	7.90	76.2
08/05/23	16:30	161.36	8.00	2.92	70.2	8.45	8.56	68.2	8.40	7.90	72.8	8.00	76.1
08/05/23	17:30	NA	8.00	2.95	70.7	7.43	8.43	69.9	8.37	7.90	73.8	7.90	75.9
08/05/23	18:30	162.2	8.00	2.93	70.2	8.45	8.40	69.4	8.29	7.80	73.4	7.90	75.2
08/05/23	19:30	NA	8.00	2.93	69.6	8.45	8.49	68.4	8.26	8.10	71.2	7.60	74.0
08/05/23	20:30	161.85	8.00	2.94	70.0	8.45	8.41	67.7	8.25	8.20	71.6	7.50	73.4
08/05/23	21:30	NA	8.00	2.93	70.7	8.45	8.44	69.6	8.26	8.10	72.3	7.70	73.1
08/05/23	22:30	161.64	8.00	2.92	70.2	8.45	8.42	69.6	8.29	8.10	72.4	7.70	72.9
08/05/23	23:30	NA	8.00	2.92	69.6	8.45	8.39	69.2	8.30	8.30	72.3	7.80	74.1
08/06/23	0:30	162.37	8.00	2.92	68.9	8.45	8.45	68.7	8.28	8.10	70.5	7.60	73.4
08/06/23	1:30	NA	8.00	2.92	67.6	8.45	8.45	67.7	8.29	8.20	69.1	7.70	69.3
08/06/23	2:30	162.44	8.00	2.92	66.4	8.45	8.24	66.5	8.26	8.40	68.3	7.90	68.8
08/06/23	3:30	NA	8.00	2.93	65.3	8.45	8.44	66.5	8.24	8.30	64.8	7.70	65.8
08/06/23	4:30	162.84	8.00	2.94	64.6	8.45	8.42	64.5	8.28	8.20	71.6	7.50	73.3
08/06/23	5:30	NA	8.00	2.92	70.2	8.45	8.42	69.6	8.28	8.20	64.3	7.50	73.4
08/06/23	6:30	162.44	8.00	2.93	66.2	8.45	8.41	70.1	8.28	8.30	73.2	7.70	74.0
08/06/23	7:30	NA	8.00	2.95	63.0	8.45	8.41	61.3	8.26	8.20	65.8	7.70	65.9
08/06/23	8:30	162.84	8.00	2.95	63.0	8.50	8.48	61.8	8.26	8.20	66.7	7.70	66.5
08/06/23	9:30	NA	8.00	2.95	63.1	8.50	8.35	62.5	8.26	8.20	67.1	7.70	67.5
08/06/23	10:30	164.5	8.00	2.89	64.4	8.50	8.60	63.0	8.29	8.30	67.5	7.70	70.1
08/06/23	11:30	NA	8.00	2.93	64.4	8.50	8.37	63.2	8.23	8.20	69.0	7.70	71.5
08/06/23	12:30	163.5	8.00	2.92	65.7	8.50	8.45	64.2	8.27	8.30	69.9	7.80	74.8
08/06/23	13:30	NA	8.00	2.90	68.0	8.50	8.44	64.9	8.25	8.20	70.3	7.70	76.0
08/06/23	14:30	162.56	8.00	2.91	67.0	8.50	8.26	66.5	8.31	8.20	71.8	7.70	77.1
08/06/23	15:30	NA	8.00	2.92	67.5	8.50	8.55	67.2	8.28	8.20	72.5	7.60	78.8
08/06/23	16:30	162.51	8.00	2.91	68.5	8.50	8.46	67.5	8.31	8.20	72.2	7.60	79.6
08/06/23	17:30	NA	8.00	2.92	69.6	8.50	8.60	67.5	8.29	8.20	73.1	7.60	78.7
08/06/23	18:30	162.44	8.00	2.91	70.9	8.50	8.59	69.2	8.37	8.20	72.9	7.60	77.6
08/06/23	19:30	NA	8.00	2.90	70.2	8.50	8.39	69.6	8.35	8.40	73.1	7.30	76.0
08/06/23	20:30	162.03	8.00	2.89	70.9	8.50	8.59	70.1	8.39	8.30	72.8	7.30	74.6
08/06/23	21:30	NA	8.00	2.89	71.1	8.50	8.34	70.8	8.39	8.30	73.0	7.60	78.7
08/06/23	22:30	162.2	8.00	2.87	71.2	8.50	8.48	70.3	8.35	8.30	75.9	7.70	72.8
08/06/23	23:30	NA	8.00	2.88	71.5	8.50	8.54	70.3	8.30	8.30	72.0	7.60	71.8
08/07/23	0:30	162.2	8.00	2.88	69.1	8.50	8.53	69.2	8.30	8.30	72.5	7.60	71.0
08/07/23	1:30	NA	8.00	2.90	71.0	8.54	8.49	69.9	8.32	8.30	72.3	7.60	72.0
08/07/23	2:30	162.43	8.00	2.88	69.3	8.50	8.33	67.2	8.39	8.20	70.1	7.60	69.9
08/07/23	3:30	NA	8.00	2.88	67.2	8.50	8.39	66.1	8.30	8.20	68.0	7.30	68.3
08/07/23	4:30	162.34	8.00	2.90	66.9	8.80	8.40	65.5	8.29	8.30	64.3	7.40	68.0
08/07/23	5:30	NA	8.00	2.89	64.9	8.50	8.80	65.1	8.30	8.30	64.8	7.30	68.4
08/07/23	6:30	163.24	8.00	2.84	63.5	8.50	8.48	63.0	8.24	8.30	65.4	7.50	67.0
08/07/23	7:30	NA	8.00	2.90	63.1	8.40	8.42	62.7	8.24	8.20	66.0	7.90	66.5
08/07/23	8:30	162.87	8.00	2.90	63.1	8.50	8.42	63.0	8.55	8.20	67.2	7.80	67.1
08/07/23	9:30	NA	8.00	2.92	63.5	8.50	8.22	62.7	8.27	8.20	67.3	7.70	68.3
08/07/23	10:30	162.57	8.00	2.95	64.0	8.50	8.45	63.2	8.26	8.20	68.2	7.90	70.1
08/07/23	11:30	NA	8.00	2.92	64.8	8.50	8.45	63.2	8.25	8.20	68.6	7.90	72.0
08/07/23	12:30	162.32	8.00	2.92	65.5	8.50	8.48	64.2	8.27	8.20	70.1	7.80	73.5
08/07/23	13:30	NA	8.00	2.91	66.4	8.50	8.50	64.2	8.27	8.20	70.8	7.80	75.4
08/07/23	14:30	161.9	8.00	2.90	67.5	8.50	8.38	65.8	8.31	8.20	72.4	7.80	76.6
08/07/23	15:30	NA	8.00	2.91	68.7	8.50	8.24	67.2	8.31	8.30	72.7	7.80	77.1
08/07/23	16:30	162.41	8.00	2.90	70.0	8.50	8.47	68.9	8.29	8.30	73.5	7.90	77.5
08/07/23	17:30	NA	8.00	2.90	70.9	8.50	8.26	69.2	8.30	8.30	73.9	7.70	76.8
08/07/23	18:30	161.45	8.00	2.82	71.1	8.50	8.42	69.9	8.35	8.30	73.2	7.80	75.7
08/07/23	19:30	NA	8.00	2.84	71.4	8.59	8.35	70.5	8.34	8.20	73.0	7.30	73.2
08/07/23	20:30	162	8.00	2.81	72.0	8.50	8.55	70.5	8.36	8.30	73.1	7.30	72.9
08/07/23	21:30	NA	8.00	2.81	71.2	8.50	8.60	70.3	8.36	8.30	72.9	7.40	72.1
08/07/23	22:30	162.2	8.00	2.83	70.9	8.50	8.40	70.3	8.29	8.20	72.2	7.60	69.9
08/07/23	23:30	NA	8.00	2.83	70.2	8.50	8.42	69.9	8.31	8.20	71.8	7.50	70.1
08/08/23	0:30	162	8.00	2.82	69.1	8.50	8.28	69.8	8.28	8.20	71.0	7.50	68.1
08/08/23	1:30	NA	8.00	2.83	68.9	8.50	8.35	67.2	8.31	8.20	70.1	7.40	67.5
08/08/23	2:30	162	8.00	2.82	68.2	8.50	8.52	67.0	8.30	8.20	69.0	7.40	67.2
08/08/23	3:30	NA	8.00	2.81	67.8	8.50	8.33	66.8	8.30	8.20	68.9	7.40	66.9

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
08/08/23	4:30	162	8.00	2.80	67.4	8.50	8.22	64.6	8.28	8.30	68.8	7.50	66.4
08/08/23	5:30	NA	8.00	2.81	67.6	8.50	8.31	64.4	8.27	8.30	69.7	7.60	66.1
08/08/23	6:30	163.6	8.00	2.83	63.9	8.50	8.41	63.9	8.29	8.30	68.5	7.50	67.2
08/08/23	7:30	NA	8.00	2.83	63.3	8.50	8.54	62.9	8.26	8.20	66.3	7.00	70.3
08/08/23	8:30	162.66	8.00	2.85	63.1	8.50	8.36	62.4	8.29	8.20	66.9	7.20	70.6
08/08/23	9:30	NA	8.00	2.83	63.7	8.50	8.35	63.2	8.31	8.30	67.4	7.20	70.2
08/08/23	10:30	162.22	8.00	2.85	64.9	8.50	8.44	63.2	8.34	8.30	68.2	7.30	70.7
08/08/23	11:30	NA	8.00	2.84	65.3	8.50	8.67	63.9	8.34	8.30	69.4	7.30	71.0
08/08/23	12:30	162.44	8.00	2.84	65.8	8.50	8.51	64.6	8.30	8.20	70.4	7.20	71.2
08/08/23	13:30	NA	8.00	2.83	66.4	8.50	8.42	64.8	8.38	8.20	70.4	7.40	73.6
08/08/23	14:30	162.68	8.00	2.82	67.5	8.50	8.70	66.5	8.36	8.20	72.1	7.30	74.7
08/08/23	15:30	NA	8.00	2.81	68.0	8.50	8.55	66.7	8.39	8.30	72.3	7.30	77.2
08/08/23	16:30	162.49	8.00	2.81	70.3	8.50	8.30	68.2	8.43	8.30	73.8	7.30	79.7
08/08/23	17:30	NA	8.00	2.81	70.3	8.50	8.31	69.1	8.45	8.30	73.3	7.30	79.1
08/08/23	18:30	161.95	8.00	2.82	70.0	8.50	8.46	69.3	8.36	8.30	73.4	7.30	77.6
08/08/23	19:30	NA	8.00	2.80	72.0	8.45	8.38	71.2	8.35	8.00	73.3	7.00	72.1
08/08/23	20:30	161.42	8.00	2.79	71.4	8.45	8.21	70.3	8.37	8.00	72.9	7.00	71.2
08/08/23	21:30	NA	8.00	2.79	71.4	8.45	8.36	71.5	8.35	8.10	72.6	7.20	71.8
08/08/23	22:30	161.78	8.00	2.80	70.7	8.45	8.33	70.1	8.33	8.10	70.8	7.20	69.8
08/08/23	23:30	NA	8.00	2.80	70.0	8.45	8.24	69.5	8.31	8.10	71.0	7.20	69.0
08/09/23	0:30	162.32	8.00	2.80	68.9	8.45	8.54	67.9	8.28	8.20	69.9	7.10	69.3
08/09/23	1:30	NA	8.00	2.80	69.0	8.45	8.33	67.7	8.27	8.10	69.0	7.10	68.2
08/09/23	2:30	161.89	8.00	2.81	69.1	8.45	8.44	66.3	8.24	8.20	68.5	7.20	67.7
08/09/23	3:30	NA	8.00	2.79	68.0	8.45	8.45	66.4	8.28	8.10	67.4	7.20	66.6
08/09/23	4:30	162.23	8.00	2.80	67.1	8.45	8.39	65.1	8.30	8.00	66.9	7.30	65.4
08/09/23	5:30	NA	8.00	2.21	64.6	8.45	8.41	64.9	8.23	8.10	66.0	7.30	64.9
08/09/23	6:30	162.79	8.00	2.81	63.9	8.45	8.45	63.8	8.28	8.20	66.1	7.20	65.6
08/09/23	7:30	NA	8.00	2.82	62.8	8.45	8.51	61.5	8.28	8.30	65.6	7.50	64.0
08/09/23	8:30	162.48	8.00	2.81	62.4	8.45	8.56	62.0	8.31	8.30	66.2	7.50	64.8
08/09/23	9:30	NA	8.00	2.82	62.8	8.45	8.37	62.0	8.33	8.30	66.5	7.40	66.3
08/09/23	10:30	162.26	8.00	2.84	63.1	8.45	8.24	62.2	8.35	8.30	67.8	7.50	68.5
08/09/23	11:30	NA	8.00	2.76	64.0	8.45	8.49	63.2	8.38	8.30	68.5	7.50	71.6
08/09/23	12:30	162.41	8.00	2.47	65.3	8.45	8.37	64.1	OFF	8.30	70.4	7.50	73.8
08/09/23	13:30	NA	8.00	2.61	65.7	8.45	8.29	64.1	OFF	OFF	OFF	7.50	79.3
08/09/23	14:30	162.72	8.00	2.60	66.0	8.45	8.34	65.3	8.37	8.30	70.7	7.30	79.0
08/09/23	15:30	NA	8.00	2.62	67.1	8.45	8.41	63.9	8.40	8.30	70.4	7.30	79.4
08/09/23	16:30	162.23	8.00	2.63	67.6	8.45	8.48	66.7	8.46	7.90	71.7	7.20	78.2
08/09/23	17:30	NA	8.00	2.63	68.2	8.45	8.43	66.7	8.46	7.90	70.7	7.20	77.0
08/09/23	18:30	NA	8.00	2.62	69.1	8.42	8.27	67.9	8.41	7.80	69.6	7.30	74.7
08/09/23	19:30	NA	8.00	2.61	70.3	8.45	8.22	69.3	8.44	6.70	70.3	6.70	71.0
08/09/23	20:30	162.48	8.00	2.61	70.9	8.45	8.39	70.3	8.44	7.10	69.6	6.80	70.5
08/09/23	21:30	NA	8.00	2.61	70.5	8.45	8.43	71.0	8.48	7.60	72.2	7.30	69.7
08/09/23	22:30	162.26	8.00	2.61	69.8	8.45	8.35	69.6	8.49	7.40	71.3	7.40	68.3
08/09/23	23:30	NA	8.00	2.61	68.5	8.45	8.35	68.4	8.51	8.10	76.3	7.40	67.6
08/10/23	0:30	162.83	8.00	2.61	67.5	8.45	8.36	67.7	8.52	8.10	76.4	7.30	67.7
08/10/23	1:30	NA	8.00	2.62	66.6	8.45	8.35	67.0	8.43	7.90	69.6	7.40	67.3
08/10/23	2:30	163.19	8.00	2.62	65.7	8.45	8.26	65.3	8.46	7.80	69.8	7.30	65.5
08/10/23	3:30	NA	8.00	2.42	63.9	8.45	8.29	62.9	8.42	7.80	66.9	7.30	66.9
08/10/23	4:30	163.13	8.00	2.43	63.7	8.45	8.31	64.4	8.42	7.90	66.8	7.40	64.7
08/10/23	5:30	NA	8.00	2.33	62.4	8.45	7.09	63.2	8.21	7.20	65.8	7.30	64.2
08/10/23	6:30	163.16	8.00	2.31	61.9	8.45	7.38	62.9	8.09	7.00	65.6	7.40	63.4
08/10/23	7:30	163.34	8.00	2.30	60.8	8.37	7.48	61.5	8.07	OFF	OFF	6.90	69.2
08/10/23	8:30	NA	8.00	2.29	60.8	8.37	7.82	61.5	8.09	OFF	OFF	NA	NA
08/10/23	9:30	NA	8.00	2.29	61.5	8.37	8.29	62.0	8.13	7.60	65.7	7.80	66.3
08/10/23	10:30	163.37	8.00	2.29	62.1	8.42	8.29	62.2	8.25	OFF	OFF	6.80	68.5
08/10/23	11:30												
08/10/23	12:30												
08/10/23	13:30												
08/10/23	14:30												
08/10/23	15:30												
08/10/23	16:30												
08/10/23	17:30												
08/10/23	18:30												
08/14/23	7:30												
08/14/23	8:30												
08/14/23	9:30												
08/14/23	10:30	153	8.00	2.70	68.7	8.42	8.36	67.0	8.35	8.20	72.0	6.90	69.9
08/14/23	11:30	NA	8.00	2.73	70.7	8.42	8.53	68.9	8.40	8.10	73.1	6.30	69.5
08/14/23	12:30	148	8.00	2.72	71.2	8.42	8.28	69.8	8.31	8.10	73.2	6.10	69.6
08/14/23	13:30	NA	8.00	2.74	70.9	8.50	8.43	70.3	8.40	8.20	74.2	6.30	69.3
08/14/23	14:30	148.25	8.00	2.75	71.4	8.50	8.52	70.8	8.39	8.20	74.7	6.30	69.7
08/14/23	15:30	NA	8.00	2.75	73.4	8.50	8.37	72.0	8.39	8.20	74.7	6.30	69.3
08/14/23	16:30	164	8.00	2.75	72.5	8.50	8.59	71.7	8.41	8.20	76.9	6.40	69.6
08/14/23	17:30	NA	8.00	2.76	73.0	8.50	8.47	71.7	8.43	8.20	75.1	6.50	69.3
08/14/23	18:30	163.24	8.00	2.77	71.8	8.50	8.54	71.5	8.43	8.30	74.4	6.60	71.2

Plant Shutdown for Remainder of Day

Plant Startup

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
08/14/23	19:30	NA	8.00	2.77	72.5	8.50	8.51	71.5	8.43	8.00	74.5	7.20	73.4
08/14/23	20:30	163.6	8.00	2.77	72.7	8.50	8.32	71.7	8.42	8.10	75.1	7.10	72.5
08/14/23	21:30	NA	8.00	2.78	72.3	8.47	8.49	71.5	8.39	7.70	72.1	7.30	71.3
08/14/23	22:30	163.76	8.00	2.78	71.4	8.47	8.33	71.5	8.40	8.10	73.3	7.50	70.5
08/14/23	23:30	NA	8.00	2.78	70.30	8.47	8.44	70.3	8.41	8.10	72.3	7.50	69.5
08/15/23	0:30	163.83	8.00	2.78	69.60	8.47	8.41	69.6	8.41	8.10	71.7	7.30	68.4
08/15/23	1:30	NA	8.00	2.80	68.50	8.47	8.34	68.6	8.39	8.20	74.0	7.40	70.3
08/15/23	2:30	164	8.00	2.81	67.60	8.47	8.54	67.4	8.41	8.10	70.8	7.30	69.4
08/15/23	3:30	NA	8.00	2.80	66.90	8.47	8.42	68.7	8.39	8.20	68.9	7.40	66.4
08/15/23	4:30	163	8.00	2.81	66.00	8.47	8.50	65.8	8.39	8.10	67.8	7.40	65.7
08/15/23	5:30	NA	8.00	2.82	65.30	8.47	8.49	65.8	8.37	8.30	68.3	7.60	64.8
08/15/23	6:30	164	8.00	2.83	64.60	8.47	8.48	64.4	8.36	8.40	67.0	8.10	65.0
08/15/23	7:30	NA	8.00	2.82	64.2	8.47	8.54	63.6	8.37	8.20	67.3	7.70	65.3
08/15/23	8:30	170.12	8.00	2.81	63.9	8.47	8.30	63.2	8.33	8.20	68.4	7.70	65.0
08/15/23	9:30	NA	8.00	2.80	64.2	8.47	8.51	62.9	8.30	8.10	68.3	7.40	66.7
08/15/23	10:30	170.36	8.00	2.80	64.9	8.47	8.51	63.4	8.29	8.10	68.7	7.40	68.2
08/15/23	11:30	NA	8.00	2.80	66.4	8.47	8.27	64.1	8.27	8.10	69.2	7.00	70.3
08/15/23	12:30	169.86	8.00	2.78	66.4	8.47	8.37	64.8	8.34	8.10	70.2	7.40	72.8
08/15/23	13:30	NA	8.00	2.77	70.0	8.50	8.34	67.0	8.29	8.10	71.8	7.60	74.4
08/15/23	14:30	No Reads Bypass Due to High pH											
08/15/23	15:30	NA	8.00	2.78	71.2	8.50	8.66	70.5	8.23	8.00	72.7	7.30	76.5
08/15/23	16:30	169.9	8.00	2.76	69.8	8.55	8.52	70.1	8.27	8.20	71.9	7.40	76.4
08/15/23	17:30	NA	8.00	2.77	70.7	8.60	8.54	70.3	8.32	8.20	72.1	7.50	75.1
08/15/23	18:30	168.91	8.00	2.77	71.4	8.55	8.55	71.0	8.53	8.50	72.5	7.60	74.2
08/15/23	19:30	NA	8.00	2.78	71.4	8.55	8.51	72.3	8.49	8.10	72.8	7.20	73.0
08/15/23	20:30	169	8.00	2.78	71.1	8.55	8.67	71.3	8.48	8.20	73.5	7.20	71.6
08/15/23	21:30	NA	8.00	2.79	70.3	8.50	8.50	70.8	8.43	7.90	72.3	7.30	70.5
08/15/23	22:30	169	8.00	2.80	69.3	8.50	8.41	69.6	8.40	8.00	71.3	7.40	69.4
08/15/23	23:30	NA	8.00	2.80	68.4	8.50	8.52	68.6	8.39	8.10	70.1	7.50	68.8
08/16/23	0:30	169	8.00	2.80	67.6	8.50	8.36	67.9	8.39	8.10	69.5	7.40	67.9
08/16/23	1:30	NA	8.00	2.81	66.7	8.50	8.32	66.5	8.37	8.20	70.3	7.40	68.0
08/16/23	2:30	169	8.00	2.82	65.0	8.50	8.31	65.8	8.36	8.10	69.7	7.30	70.4
08/16/23	3:30	NA	8.00	2.81	64.9	8.50	8.48	65.5	8.34	8.10	69.2	7.30	69.8
08/16/23	4:30	170	8.00	2.80	64.4	8.50	8.63	64.6	8.32	8.10	68.6	7.30	69.1
08/16/23	5:30	Plant Recirc											
08/16/23	6:30	Plant Recirc											
08/16/23	7:30	NA	8.00	2.83	63.1	8.52	8.52	63.2	8.36	8.30	66.4	7.70	68.6
08/16/23	8:30	169.87	8.00	2.84	63.1	8.52	8.53	67.9	8.37	8.20	67.3	NA	NA
08/16/23	9:30	NA	8.00	2.82	63.5	8.52	8.39	63.6	8.38	8.20	67.8	7.30	68.9
08/16/23	10:30	169.92	8.00	2.82	64.4	8.52	8.38	63.9	8.36	8.20	68.7	7.10	69.7
08/16/23	11:30	NA	8.00	2.81	64.9	8.52	8.63	64.6	8.35	8.30	69.2	7.40	69.3
08/16/23	12:30	169.65	8.00	2.80	66.7	8.52	8.25	65.3	8.36	8.20	70.1	7.40	69.5
08/16/23	13:30	NA	8.00	2.80	67.5	8.52	8.32	67.9	8.34	8.20	70.9	7.40	69.4
08/16/23	14:30	170.16	8.00	2.79	67.6	8.52	8.46	67.4	8.34	8.20	71.6	7.20	69.7
08/16/23	15:30	NA	8.00	2.79	67.5	8.52	8.56	66.7	8.32	8.30	70.1	7.60	76.8
08/16/23	16:30	169.42	8.00	2.79	69.8	8.55	8.36	64.8	8.38	8.30	71.3	7.60	75.3
08/16/23	17:30	NA	8.00	2.78	69.1	8.55	8.44	68.6	8.34	8.30	71.8	7.70	73.5
08/16/23	18:30	168.78	8.00	2.78	69.6	8.55	8.43	68.4	8.65	8.50	71.7	7.70	72.5
08/16/23	19:30	NA	8.00	2.80	69.6	8.55	8.54	70.1	8.41	8.20	72.2	7.20	71.2
08/16/23	20:30	170	8.00	2.79	69.1	8.55	8.48	69.1	8.39	8.40	72.1	7.70	70.8
08/16/23	21:30	NA	8.00	2.78	68.7	8.55	8.53	68.9	8.34	8.40	71.0	7.60	69.9
08/16/23	22:30	170	8.00	2.78	68.2	8.55	8.58	68.4	8.30	8.50	70.0	7.70	69.5
08/16/23	23:30	NA	8.00	2.78	67.8	8.60	8.61	68.3	8.31	8.50	70.4	7.80	69.1
08/17/23	0:30	170	8.00	2.79	67.1	8.55	8.54	67.4	8.59	8.50	70.3	7.70	66.5
08/17/23	1:30	NA	8.00	2.79	66.6	8.45	8.24	66.3	8.44	8.30	69.7	7.80	68.2
08/17/23	2:30	168	8.00	2.80	66.4	8.45	8.42	66.5	8.43	8.30	69.4	7.80	67.9
08/17/23	3:30	NA	8.00	2.80	66.0	8.45	8.44	66.3	8.47	8.30	68.0	7.80	67.5
08/17/23	4:30	168.74	8.00	2.79	65.5	8.45	8.38	64.6	8.44	8.30	68.5	7.70	66.8
08/17/23	5:30	NA	8.00	2.78	64.9	8.45	8.32	65.1	8.47	8.30	68.1	7.80	66.5
08/17/23	6:30	168.95	8.00	2.80	64.8	8.45	8.35	65.5	8.46	8.30	69.7	7.70	68.7
08/17/23	7:30	NA	8.00	2.79	64.6	8.45	8.50	64.1	8.45	8.40	67.8	7.40	68.7
08/17/23	8:30	167.81	8.00	2.79	64.6	8.45	8.43	64.4	8.45	8.30	67.8	7.40	68.8
08/17/23	9:30	NA	8.00	2.79	64.9	8.45	8.50	64.6	8.46	8.20	68.5	7.20	68.9
08/17/23	10:30	Plant Shutdown											
08/17/23	11:30	Plant Shutdown											
08/17/23	12:30	Plant Shutdown											
08/17/23	13:30	Plant Shutdown											
08/17/23	14:30	Plant Shutdown											
08/17/23	15:30	Plant Shutdown											
08/17/23	16:30	Plant Shutdown											
08/17/23	17:30	Plant Shutdown											
08/17/23	18:30	Plant Shutdown											
08/21/23	7:30	Plant Startup											
08/21/23	8:30	Plant Startup											
08/21/23	9:30	Plant Startup											



**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F	
08/21/23	10:30	171	8.00	3.64	63.9	8.45	8.36	63.2	8.42	8.30	66.5	7.30	68.1	
08/21/23	11:30	NA	8.00	2.85	64.4	8.45	8.43	63.9	8.43	8.20	66.7	6.90	68.4	
08/21/23	12:30	170	8.00	2.87	64.8	8.45	8.34	63.4	8.43	8.30	66.6	6.90	68.3	
08/21/23	13:30	NA	8.00	2.85	65.1	8.45	8.25	64.8	8.41	8.20	68.2	6.90	68.6	
08/21/23	14:30	170	8.00	2.85	66.7	8.46	8.63	65.8	8.46	8.20	68.7	6.90	68.6	
08/21/23	15:30	NA	8.00	2.78	67.3	8.05	8.42	66.5	8.45	8.20	69.0	7.40	72.7	
08/21/23	16:30	170	8.00	2.85	67.6	8.45	8.23	67.0	8.45	8.20	69.9	7.40	73.5	
08/21/23	17:30	NA	8.00	2.85	68.4	8.45	8.42	67.4	8.45	8.20	70.0	7.40	72.6	
08/21/23	18:30	169	8.00	2.85	68.9	8.45	8.35	67.9	8.43	8.20	70.3	7.30	71.4	
08/21/23	19:30	NA	8.00	2.86	68.9	8.45	8.33	68.4	8.44	8.00	69.8	7.30	69.7	
08/21/23	20:30	170	8.00	2.85	68.7	8.45	8.29	68.2	8.43	8.10	69.6	7.40	69.6	
08/21/23	21:30	NA	8.00	2.85	67.8	8.45	8.40	69.7	8.40	8.00	69.2	7.50	67.5	
08/21/23	22:30	170	8.00	2.87	67.1	8.45	8.50	67.4	8.42	8.10	68.1	6.90	67.8	
08/21/23	23:30	NA	8.00	2.88	66.4	8.45	8.41	66.5	8.51	8.10	67.9	7.10	67.5	
08/22/23	0:30	122	8.00	2.96	66.0	8.50	8.59	66.0	8.57	8.10	67.2	7.20	65.8	
08/22/23	1:30	NA	8.00	2.99	65.5	8.04	8.41	65.3	8.41	8.00	66.7	7.30	65.0	
08/22/23	2:30	63	8.00	3.40	65.1	8.40	8.79	65.5	8.54	8.10	66.0	7.20	64.7	
08/22/23	3:30	NA	8.00	3.74	64.9	8.37	8.72	64.9	8.57	8.00	65.8	7.20	64.3	
08/22/23	4:30	63	8.00	3.76	64.6	8.37	8.51	65.5	8.52	8.00	65.9	7.30	64.1	
08/22/23	5:30	NA	8.00	3.27	64.2	8.37	8.30	64.5	8.51	8.10	64.2	7.10	63.9	
08/22/23	6:30	63	8.00	3.78	64.0	8.37	8.59	64.6	8.49	8.00	63.8	7.10	63.4	
08/22/23	7:30	NA	8.00	3.09	63.3	8.30	8.44	63.9	8.29	8.00	65.7	7.30	62.3	
08/22/23	8:30	171	8.00	2.90	63.0	8.42	8.46	63.4	8.41	8.00	65.4	7.20	61.5	
08/22/23	9:30	NA	8.00	2.86	63.0	8.42	8.39	63.6	8.39	8.00	65.8	7.20	62.4	
08/22/23	10:30	170	8.00	2.81	63.3	8.42	8.20	63.9	8.40	8.00	66.6	6.80	67.3	
08/22/23	11:30	NA	8.00	2.80	63.9	8.42	8.46	64.6	8.37	7.90	67.3	6.80	67.5	
08/22/23	12:30	170	8.00	2.79	64.6	8.46	8.46	64.6	8.43	7.90	67.3	6.80	67.7	
08/22/23	13:30	NA	8.00	2.78	64.9	8.48	8.50	65.5	8.33	7.80	68.4	6.80	67.8	
08/22/23	14:30	170	8.00	2.77	65.5	8.50	8.44	65.3	8.39	7.90	68.5	6.90	68.0	
08/22/23	15:30	NA	8.00	2.76	66.2	8.50	8.45	66.0	8.37	7.80	69.0	7.20	71.0	
08/22/23	16:30	170	8.00	2.77	66.6	8.50	8.44	66.5	8.39	7.80	69.5	7.20	73.3	
08/22/23	17:30	NA	8.00	2.79	67.3	8.50	8.46	66.2	8.39	7.80	69.8	7.10	74.3	
08/22/23	18:30	171	8.00	2.84	68.0	8.50	8.52	67.9	8.40	7.80	70.1	7.10	74.0	
08/22/23	19:30	NA	8.00	2.83	68.7	8.50	8.51	68.6	8.41	8.00	69.6	7.10	72.6	
08/22/23	20:30	170	8.00	2.82	68.5	8.00	8.47	68.9	8.42	8.10	69.4	7.20	70.0	
08/22/23	21:30	NA	8.00	2.82	68.0	8.50	8.51	68.6	8.41	8.00	68.9	7.30	69.4	
08/22/23	22:30	170.46	8.00	2.81	67.3	8.50	8.47	67.9	8.38	8.00	68.9	7.40	67.7	
08/22/23	23:30	NA	8.00	2.82	66.4	8.50	8.43	67.2	8.41	8.00	68.0	7.20	66.9	
08/23/23	0:30	171.05	8.00	2.83	65.7	8.50	8.46	67.2	8.40	8.00	67.0	7.20	65.7	
08/23/23	1:30	NA	8.00	2.82	64.6	8.50	8.53	65.5	8.42	7.90	66.4	7.20	64.7	
08/23/23	2:30	170	8.00	2.82	64.0	8.50	8.51	64.1	8.42	8.00	65.8	7.30	64.1	
08/23/23	3:30	NA	8.00	2.81	63.7	8.50	8.43	64.3	8.41	7.90	65.6	7.20	64.6	
08/23/23	4:30	171	8.00	2.82	63.0	8.50	8.42	63.4	8.42	7.90	65.0	7.10	64.1	
08/23/23	5:30	NA	8.00	2.82	62.2	8.50	8.37	63.4	8.44	7.90	64.5	7.10	64.6	
08/23/23	6:30	NA	8.00	No Data							7.00	63.9	7.30	63.5
08/23/23	7:30	NA	8.00	2.83	61.2	8.50	8.40	62.0	8.46	8.10	64.1	7.30	63.5	
08/23/23	8:30	170	8.00	2.82	61.0	8.50	8.35	61.7	8.45	8.10	64.8	7.30	62.4	
08/23/23	9:30	NA	8.00	2.82	61.5	8.50	8.21	64.1	8.39	8.10	64.7	6.90	66.9	
08/23/23	10:30	170	8.00	2.80	62.2	8.50	8.48	62.2	8.46	8.10	65.9	7.10	65.4	
08/23/23	11:30	NA	8.00	2.80	63.0	8.50	8.48	63.1	8.45	8.00	66.8	7.30	67.5	
08/23/23	12:30	170	8.00	2.79	65.1	8.50	8.47	64.6	8.43	8.00	67.8	7.20	70.6	
08/23/23	13:30	NA	8.00	2.78	67.3	8.50	8.49	66.5	8.45	8.00	68.8	7.10	73.6	
08/23/23	14:30	170	8.00	2.77	67.5	8.46	8.36	67.4	8.43	8.00	70.7	7.20	76.1	
08/23/23	15:30	NA	8.00	2.78	68.5	8.45	8.44	68.4	8.40	8.00	70.7	7.30	76.0	
08/23/23	16:30	170	8.00	2.77	68.2	8.45	8.38	68.6	8.38	8.00	71.3	7.20	75.9	
08/23/23	17:30	NA	8.00	2.76	68.5	8.45	8.29	68.9	8.37	8.00	71.4	7.00	76.1	
08/23/23	18:30	Plant Shutdown												
08/24/23	7:30	NA	8.00	3.73	66.4	8.45	8.24	67.4	8.31	7.90	68.0	6.80	66.9	
08/24/23	8:30	171	8.00	6.38	63.7	8.45	8.43	65.3	8.35	7.90	68.0	6.80	67.1	
08/24/23	9:30	NA	8.00	3.67	63.5	8.45	8.27	64.3	8.36	8.30	63.5	7.30	63.0	
08/24/23	10:30	170	8.00	2.91	64.6	8.45	8.53	64.6	8.34	8.30	63.3	7.30	63.1	
08/24/23	11:30	NA	8.00	2.89	65.5	8.45	8.50	65.1	8.35	8.30	64.6	7.30	63.3	
08/24/23	12:30	171	8.00	2.87	65.8	8.45	8.63	66.2	8.34	8.30	64.9	7.30	63.3	
08/24/23	13:30	NA	8.00	2.86	67.5	8.45	8.30	67.2	8.37	8.30	66.4	7.30	63.1	
08/24/23	14:30	170	8.00	2.85	69.5	8.45	8.42	69.3	8.36	8.20	66.9	7.20	63.5	
08/24/23	15:30	NA	8.00	2.83	69.8	8.45	8.25	69.6	8.39	8.30	67.6	7.30	63.5	
08/24/23	16:30	170	8.00	2.82	70.9	8.45	8.52	70.3	8.37	8.20	68.5	7.30	68.5	
08/24/23	17:30	NA	8.00	2.82	71.1	8.45	8.29	70.5	8.36	8.20	69.4	7.00	20.4	
08/24/23	18:30	Plant Shutdown												
08/28/23	7:30	NA	8.00	2.93	66.0	8.45	8.33	67.2	8.20	8.10	63.3	7.60	62.4	
08/28/23	8:30	171	8.00	2.95	63.0	8.40	8.38	64.8	8.37	8.40	63.5	7.60	62.8	
08/28/23	9:30	NA	8.00	2.95	62.6	8.45	8.49	63.6	8.32	8.30	63.1	7.50	63.0	
08/28/23	10:30	170	8.00	2.96	63.1	8.45	8.46	63.4	8.33	8.30	63.3	7.40	63.1	
08/28/23	11:30	NA	8.00	2.96	64.8	8.45	8.49	64.6	8.34	8.30	64.2	7.30	63.3	

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
08/28/23	12:30	170	8.00	2.95	66.4	8.45	8.41	65.1	8.36	8.20	65.1	7.20	63.5
08/28/23	13:30	NA	8.00	2.95	66.4	8.45	8.36	66.7	8.35	8.10	65.8	7.10	63.7
08/28/23	14:30	170	8.00	3.03	67.8	8.45	8.55	67.9	8.40	8.10	67.5	7.10	64.0
08/28/23	15:30	NA	8.00	2.94	68.2	8.42	8.44	68.1	8.34	8.10	68.2	7.10	66.7
08/28/23	16:30	170	8.00	2.94	68.9	8.42	8.35	68.9	8.35	8.10	67.1	7.20	64.2
08/28/23	17:30	NA	8.00	2.93	69.4	8.42	8.38	69.1	8.35	8.10	67.8	7.10	64.0
08/28/23	18:30	170	8.00	2.92	69.6	8.42	8.27	69.6	8.32	8.20	68.2	7.10	63.9
08/28/23	19:30	NA	8.00	2.92	71.2	8.48	8.39	71.0	8.32	8.50	68.7	7.50	63.0
08/28/23	20:30	169	8.00	2.90	71.1	8.42	8.34	71.2	8.31	8.40	67.5	7.80	67.5
08/28/23	21:30	NA	8.00	2.91	70.9	8.42	8.39	71.5	8.34	8.40	68.5	7.50	68.0
08/28/23	22:30	169	8.00	2.90	70.2	8.42	8.27	71.0	8.32	8.20	68.2	7.50	63.3
08/28/23	23:30	NA	8.00	2.90	69.3	8.42	8.27	70.3	8.32	8.20	67.3	7.50	63.5
08/29/23	0:30	169	8.00	2.90	68.0	8.42	8.26	69.3	8.32	8.20	67.5	7.60	62.1
08/29/23	1:30	NA	8.00	2.88	66.9	8.42	8.43	67.9	8.32	8.10	65.3	7.40	61.3
08/29/23	2:30	169	8.00	2.89	65.8	8.42	8.32	67.0	8.40	8.20	64.2	7.40	60.4
08/29/23	3:30	NA	8.00	2.88	65.1	8.42	8.41	66.7	8.29	8.20	63.3	7.50	59.9
08/29/23	4:30	169	8.00	2.93	64.4	8.42	8.36	66.5	8.31	8.10	62.6	7.40	59.4
08/29/23	5:30	NA	8.00	2.88	63.7	8.42	8.34	68.1	8.32	8.10	61.7	7.40	58.5
08/29/23	6:30	169	8.00	2.88	63.0	8.42	8.54	64.1	8.32	8.10	61.3	7.50	58.1
08/29/23	7:30	NA	8.00	2.88	62.2	8.42	8.40	63.6	8.31	NA	60.8	7.50	57.7
08/29/23	8:30	170	8.00	2.88	61.9	8.42	8.42	63.1	8.30	8.40	61.5	7.50	58.5
08/29/23	9:30	NA	8.00	2.88	62.2	8.45	8.34	62.7	8.25	8.20	61.5	7.40	58.5
08/29/23	10:30	169	8.00	2.88	63.1	8.45	8.36	63.6	8.27	8.20	61.7	7.30	60.4
08/29/23	11:30	NA	8.00	2.87	64.8	8.45	8.41	64.3	8.25	8.20	63.1	7.30	63.7
08/29/23	12:30	169	8.00	2.86	67.1	8.48	8.28	66.0	8.29	8.10	64.9	7.20	66.2
08/29/23	13:30	NA	8.00	2.85	68.4	8.48	8.25	68.1	8.31	8.10	67.3	7.20	68.4
08/29/23	14:30	168	8.00	2.83	69.8	8.46	8.30	69.6	8.30	8.10	68.4	7.20	70.5
08/29/23	15:30	NA	8.00	2.84	71.1	8.46	8.36	70.5	8.30	8.10	69.1	7.10	72.3
08/29/23	16:30	169	8.00	2.83	71.8	8.46	8.35	72.0	8.32	8.10	69.4	7.20	72.7
08/29/23	17:30	NA	8.00	2.83	72.3	8.46	8.44	72.7	8.33	8.10	70.3	7.20	72.0
08/29/23	18:30	169	8.00	2.83	72.5	8.46	8.33	72.2	7.38	8.10	69.8	7.20	70.5
08/29/23	19:30	NA	8.00	2.83	72.7	8.46	8.37	73.1	8.42	8.00	70.7	7.40	77.0
08/29/23	20:30	168	8.00	2.83	71.8	8.46	8.28	72.9	8.39	8.00	69.8	7.40	67.8
08/29/23	21:30	NA	8.00	2.83	70.5	8.46	8.33	72.0	8.38	8.40	72.1	7.90	70.7
08/29/23	22:30	168	8.00	2.83	69.3	8.45	8.41	70.5	8.41	8.20	71.3	7.60	69.7
08/29/23	23:30	NA	8.00	2.82	68.0	8.46	8.37	69.6	8.42	8.10	69.8	7.50	60.2
08/30/23	0:30	169	8.00	2.82	66.0	8.46	8.41	67.7	8.41	8.10	68.0	7.60	66.2
08/30/23	1:30	NA	8.00	2.82	65.7	8.46	8.46	66.7	8.40	8.00	67.4	7.60	65.7
08/30/23	2:30	169	8.00	2.82	64.4	8.46	8.47	66.5	8.34	8.00	66.2	7.60	65.0
08/30/23	3:30	NA	8.00	2.82	63.7	8.46	8.20	65.1	8.37	8.10	65.7	7.50	64.8
08/30/23	4:30	168	8.00	2.84	62.4	8.46	8.38	63.6	8.33	8.00	65.1	7.50	64.2
08/30/23	5:30	NA	8.00	2.84	61.9	8.40	8.49	63.9	8.34	8.00	65.4	7.50	64.3
08/30/23	6:30	169	8.00	NR	NR	8.46	8.42	62.4	8.34	7.90	62.9	7.50	62.2
08/30/23	7:30	NA	8.00	2.85	59.9	8.46	8.43	59.8	8.35	8.20	58.6	7.30	58.1
08/30/23	8:30	169	8.00	2.84	59.5	8.46	8.50	60.3	8.37	8.30	59.4	7.40	57.7
08/30/23	9:30	NA	8.00	2.84	59.9	8.46	8.22	60.5	8.37	8.30	59.2	7.40	59.0
08/30/23	10:30	169	8.00	2.83	60.6	8.46	8.26	60.8	8.33	8.30	60.1	7.60	60.6
08/30/23	11:30	NA	8.00	2.83	62.1	8.40	8.28	62.0	8.33	8.30	61.0	7.70	63.0
08/30/23	12:30	169	8.00	2.83	63.1	8.46	8.47	63.1	8.33	8.30	62.4	7.60	65.7
08/30/23	13:30	NA	8.00	2.81	64.6	8.46	8.35	64.6	8.37	8.30	63.7	7.10	66.7
08/30/23	14:30	169	8.00	2.80	68.0	8.46	8.45	66.7	8.35	8.10	65.7	7.10	70.9
08/30/23	15:30	NA	8.00	2.79	69.4	8.46	8.47	68.6	8.36	8.20	67.8	7.10	72.0
08/30/23	16:30	168	8.00	2.79	70.2	8.46	8.57	70.0	8.35	8.10	68.9	7.10	72.3
08/30/23	17:30	NA	8.00	2.78	71.1	8.46	8.41	71.0	8.33	8.10	69.6	7.20	73.2
08/30/23	18:30	168	8.00	2.80	70.9	8.46	8.41	71.0	8.34	8.10	70.0	7.20	72.1
08/30/23	19:30	NA	8.00	2.78	71.6	8.46	8.64	71.2	8.33	8.00	69.3	7.60	70.2
08/30/23	20:30	168	8.00	2.78	71.2	8.46	8.37	71.7	8.33	8.40	73.0	8.20	73.0
08/30/23	21:30	NA	8.00	2.77	70.3	8.46	8.46	71.8	8.29	8.30	72.6	7.70	71.2
08/30/23	22:30	168	8.00	2.77	69.1	8.46	8.39	70.8	8.27	8.20	70.9	7.70	69.5
08/30/23	23:30	NA	8.00	2.77	67.8	8.40	8.54	69.3	8.27	8.20	69.8	7.70	68.3
08/31/23	0:30	168	8.00	2.78	66.4	8.42	8.40	67.9	8.27	8.00	68.7	7.60	67.1
08/31/23	1:30	NA	8.00	2.79	65.3	8.40	8.42	67.8	8.23	8.00	67.6	7.60	67.0
08/31/23	2:30	168	8.00	2.79	64.2	8.40	8.42	65.5	8.22	8.10	66.7	7.50	66.4
08/31/23	3:30	NA	8.00	2.79	63.1	8.48	8.31	64.3	8.28	8.10	65.8	7.60	63.5
08/31/23	4:30	168	8.00	2.81	62.2	8.48	8.29	63.6	8.28	8.00	64.3	7.70	60.3
08/31/23	5:30	NA	8.00	2.81	61.3	8.48	8.34	62.7	8.29	8.00	63.4	7.60	62.5
08/31/23	6:30	168	8.00	2.81	60.3	8.48	8.40	61.5	8.32	8.00	62.4	7.50	61.4
08/31/23	7:30	NA	8.00	2.81	59.4	8.48	8.26	60.8	8.33	8.40	63.2	7.80	60.7
08/31/23	8:30	168	8.00	2.82	58.8	8.48	8.47	59.8	8.24	8.40	62.7	7.80	61.8
08/31/23	9:30	NA	8.00	2.81	58.8	8.48	8.41	59.6	8.36	8.30	62.5	7.80	62.6
08/31/23	10:30	168	8.00	2.81	59.7	8.48	8.46	59.8	8.32	8.20	63.4	7.70	63.6
08/31/23	11:30	NA	8.00	2.82	61.7	8.48	8.45	61.2	8.29	8.10	64.7	7.70	66.3
08/31/23	12:30	168	8.00	2.79	64.0	8.48	8.34	63.6	8.29	8.10	66.8	7.60	69.4
08/31/23	13:30	NA	8.00	2.78	65.5	8.50	8.41	64.8	8.31	8.10	68.3	7.50	72.0
08/31/23	14:30	168	8.00	2.77	66.9	8.50	8.45	66.7	8.32	8.10	70.0	7.50	74.3

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
08/31/23	15:30	NA	8.00	2.76	68.4	8.50	8.44	67.9	8.36	8.20	70.9	7.50	74.9
08/31/23	16:30	167	8.00	2.75	69.3	8.50	8.48	68.6	8.31	8.20	72.1	7.50	74.8
08/31/23	17:30	NA	8.00	2.75	70.2	8.50	8.46	71.5	8.33	8.10	72.3	7.50	74.1
08/31/23	18:30	Plant Shutdown											
09/05/23	7:30	Plant Startup											
09/05/23	8:30	170	8.00	3.67	57.4	8.5	8.49	59.1	8.37	8.10	61.7	7.30	65.2
09/05/23	9:30	NA	8.00	2.85	57.0	8.50	8.22	57.9	8.35	8.20	61.1	7.30	65.3
09/05/23	10:30	170	8.00	2.85	57.0	8.50	8.27	57.4	8.28	8.20	61.3	7.20	65.5
09/05/23	11:30	NA	8.00	2.84	58.3	8.50	8.31	58.6	8.31	8.10	62.0	7.20	65.7
09/05/23	12:30	169	8.00	2.83	58.8	8.50	8.55	59.6	8.33	8.10	62.8	7.30	65.7
09/05/23	13:30	NA	8.00	2.82	60.6	8.50	8.47	60.5	8.35	8.10	64.3	7.30	65.8
09/05/23	14:30	169	8.00	2.82	62.2	8.48	8.39	62.0	8.41	8.10	66.0	7.20	65.9
09/05/23	15:30	NA	8.00	2.81	63.3	8.48	8.26	63.2	8.39	8.20	66.2	7.20	65.7
09/05/23	16:30	169	8.00	2.80	65.7	8.48	8.23	64.1	8.42	8.20	67.9	7.30	65.6
09/05/23	17:30	NA	8.00	2.82	65.7	8.45	8.21	65.5	8.45	8.10	68.7	7.10	65.6
09/05/23	18:30	169	8.00	2.83	66.0	8.48	8.25	66.2	8.24	8.00	69.2	7.10	65.4
09/05/23	19:30	NA	8.00	2.84	66.9	8.48	8.48	67.4	8.26	7.40	68.9	7.00	65.4
09/05/23	20:30	168	8.00	2.84	63.7	8.48	8.41	68.4	8.30	8.30	69.0	7.70	65.2
09/05/23	21:30	NA	8.00	2.84	67.1	8.48	8.31	67.9	8.29	7.80	68.7	6.90	65.1
09/05/23	22:30	168.57	8.00	2.84	66.4	8.48	8.38	68.4	8.29	7.20	687.1	7.20	67.9
09/05/23	23:30	NA	8.00	2.83	65.8	8.48	8.49	67.6	8.27	7.90	67.1	7.30	66.3
09/06/23	0:30	168.57	8.00	2.83	64.9	8.48	8.39	68.7	8.33	8.00	66.7	7.30	65.1
09/06/23	1:30	NA	8.00	2.84	63.9	8.48	8.32	65.7	8.21	7.90	66.1	7.40	64.1
09/06/23	2:30	168	8.00	2.84	63.9	8.52	8.57	64.8	8.26	7.90	65.2	7.30	63.2
09/06/23	3:30	NA	8.00	2.84	62.7	8.52	8.57	64.5	8.22	7.80	64.8	7.20	63.0
09/06/23	4:30	168	8.00	2.84	61.5	8.52	8.50	63.6	8.21	7.90	64.5	7.20	62.7
09/06/23	5:30	NA	8.00	2.84	60.8	8.52	8.44	62.6	8.24	7.90	63.1	7.20	60.9
09/06/23	6:30	168	8.00	2.84	69.1	8.52	8.25	61.1	8.25	8.10	62.3	7.30	69.4
09/06/23	7:30	NA	8.00	2.84	59.5	8.52	8.50	61.7	8.28	8.30	63.0	7.40	59.4
09/06/23	8:30	169	8.00	2.84	59.2	8.55	8.45	61.0	8.18	8.20	62.9	7.40	59.5
09/06/23	9:30	NA	8.00	2.84	59.5	8.55	8.47	60.7	8.22	8.10	63.2	7.30	60.8
09/06/23	10:30	168	8.00	2.83	60.4	8.55	8.38	61.0	8.23	8.10	63.8	7.20	63.0
09/06/23	11:30	NA	8.00	2.83	61.7	8.55	8.36	61.9	8.26	8.10	65.0	7.30	65.9
09/06/23	12:30	168	8.00	2.82	63.0	8.55	8.40	63.8	8.27	8.00	66.0	7.20	68.6
09/06/23	13:30	NA	8.00	2.81	65.5	8.55	8.37	65.7	8.24	8.00	67.8	7.20	72.2
09/06/23	14:30	168	8.00	2.81	67.5	8.55	8.51	67.4	8.34	8.00	69.4	7.30	74.2
09/06/23	15:30	NA	8.00	2.80	68.0	8.55	8.38	68.6	8.29	8.10	71.0	7.30	75.4
09/06/23	16:30	168	8.00	2.80	69.3	8.55	8.53	69.1	8.29	8.00	71.2	7.30	75.9
09/06/23	17:30	NA	8.00	2.79	70.2	8.55	8.56	70.3	8.26	8.00	72.6	7.20	75.3
09/06/23	18:30	168	8.00	2.75	70.9	8.55	8.44	71.4	8.31	8.00	73.1	7.20	73.6
09/06/23	19:30	NA	8.00	2.74	71.1	8.55	8.51	72.9	8.27	7.40	72.7	7.10	70.9
09/06/23	20:30	168.14	8.00	2.75	70.9	8.55	8.44	71.4	8.31	8.00	73.1	7.20	73.6
09/06/23	21:30	NA	8.00	2.74	69.8	8.55	8.39	71.4	8.27	7.40	70.6	7.30	68.5
09/06/23	22:30	168.37	8.00	2.73	68.4	8.55	8.44	70.5	8.29	8.20	70.6	7.90	66.5
09/06/23	23:30	NA	8.00	2.73	67.5	8.55	8.43	69.5	8.24	8.00	69.8	7.40	65.8
09/07/23	0:30	168	8.00	2.73	66.7	8.55	8.46	68.8	8.24	8.00	69.0	7.60	64.9
09/07/23	1:30	NA	8.00	2.73	65.7	8.55	8.41	62.4	8.21	8.00	67.6	7.40	64.0
09/07/23	2:30	168	8.00	2.74	64.2	8.55	8.44	66.0	8.22	7.80	66.5	7.40	63.2
09/07/23	3:30	NA	8.00	2.74	63.0	8.55	8.45	64.8	8.17	8.00	65.2	7.40	62.3
09/07/23	4:30	168	8.00	2.74	62.2	8.55	8.39	63.9	8.16	7.90	64.7	7.40	62.2
09/07/23	5:30	NA	8.00	2.74	60.6	8.60	8.38	62.6	8.20	7.90	64.2	7.50	61.8
09/07/23	6:30	168.84	8.00	2.75	59.7	8.60	8.31	61.9	8.21	8.10	63.1	7.60	60.0
09/07/23	7:30	NA	8.00	2.75	58.6	8.60	8.47	60.7	8.21	8.10	61.8	7.30	59.0
09/07/23	8:30	169	8.00	2.76	58.1	8.60	8.41	59.1	8.23	8.20	62.0	7.50	59.4
09/07/23	9:30	NA	8.00	2.76	58.1	8.60	8.56	59.5	8.23	8.10	62.2	7.30	60.8
09/07/23	10:30	169	8.00	2.76	59.2	8.60	8.63	60.0	8.19	8.00	62.6	7.20	61.6
09/07/23	11:30	A	8.00	2.76	59.9	8.63	8.51	61.0	8.26	8.00	64.1	7.30	64.7
09/07/23	12:30	169	8.00	2.79	61.7	8.63	8.31	61.9	8.28	8.00	65.1	7.20	67.4
09/07/23	13:30	NA	8.00	2.79	64.6	8.63	8.42	63.8	8.32	8.00	66.8	7.10	69.5
09/07/23	14:30	168	8.00	2.75	66.0	8.63	8.55	65.7	8.29	8.10	68.4	7.30	71.2
09/07/23	15:30	NA	8.00	2.53	67.3	8.63	8.44	68.4	8.11	8.00	70.3	7.30	75.8
09/07/23	16:30	168	8.00	2.67	65.8	8.63	8.51	69.1	8.31	8.20	70.7	7.30	76.1
09/07/23	17:30	NA	8.00	2.69	69.3	8.63	8.38	70.5	8.37	8.10	72.0	7.20	75.3
09/07/23	18:30	169	8.00	2.74	69.4	8.63	8.49	70.3	8.43	8.20	71.9	7.30	72.6
09/07/23	19:30	NA	8.00	2.74	73.4	8.60	8.41	71.3	8.39	8.10	71.3	7.30	69.5
09/07/23	20:30	159	8.00	2.73	69.3	8.60	8.69	70.7	8.37	8.10	71.0	7.40	68.4
09/07/23	21:30	NA	8.00	2.74	60.5	8.60	8.34	70.5	8.35	8.00	70.3	7.50	67.1
09/07/23	22:30	159.61	8.00	2.74	67.6	8.60	8.43	69.3	8.32	8.00	69.8	7.50	65.5
09/07/23	23:30	NA	8.00	2.74	66.9	8.60	8.44	69.1	8.26	7.90	69.1	7.40	63.8
09/08/23	0:30	159	8.00	2.74	65.7	8.60	8.51	67.6	8.33	8.10	67.0	7.50	64.0
09/08/23	1:30	NA	8.00	2.74	64.8	8.60	8.48	66.7	8.23	8.10	65.5	7.60	63.5
09/08/23	2:30	159	8.00	2.74	63.9	8.60	8.39	66.1	8.24	8.10	64.7	7.60	63.1
09/08/23	3:30	Plant Shutdown due to broken generator											
09/13/23	7:30	Plant Shutdown due to broken generator											
09/13/23	8:30	157	8.00	2.90	61.5	8.60	8.52	63.8	8.50	8.10	65.7	7.10	64.6

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
09/13/23	9:30	NA	8.00	2.95	61.0	8.60	8.61	61.9	8.49	8.30	65.5	7.30	64.8
09/13/23	10:30	142	8.00	2.97	62.2	8.60	8.54	62.6	8.37	8.10	66.5	7.70	65.4
09/13/23	11:30	NA	8.00	2.98	63.0	8.60	8.76	63.1	8.31	8.40	66.2	7.70	66.2
09/13/23	12:30	134	8.00	3.00	62.6	8.60	8.44	63.4	8.29	8.20	67.1	7.40	65.5
09/13/23	13:30	NA	8.00	3.01	64.2	8.60	8.56	64.8	8.28	8.20	66.9	7.50	66.1
09/13/23	14:30	171	8.00	2.98	65.7	8.60	8.58	65.3	8.40	8.20	67.7	7.30	64.8
09/13/23	15:30	NA	8.00	2.90	66.2	8.60	8.51	66.4	8.40	8.40	67.4	7.70	65.9
09/13/23	16:30	171	8.00	2.90	65.7	8.60	8.44	66.9	8.37	8.10	69.2	7.00	65.2
09/13/23	17:30	NA	8.00	2.89	67.1	8.60	8.38	67.9	8.38	8.10	69.6	6.80	65.3
09/13/23	18:30	171	8.00	2.89	67.3	8.60	8.41	68.1	8.48	NR		6.90	65.1
09/13/23	19:30	NA	8.00	2.88	66.9	8.56	8.46	68.6	8.52	8.30	69.3	7.10	64.9
09/13/23	20:30	171	8.00	2.87	66.4	8.54	8.45	67.9	8.45	8.20	68.2	7.00	64.9
09/13/23	21:30	NA	8.00	2.87	65.5	8.54	8.66	71.0	8.45	8.20	67.4	7.10	64.9
09/13/23	22:30	171	8.00	2.90	64.6	8.54	8.53	66.0	8.44	8.10	67.1	7.00	64.7
09/13/23	23:30	NA	8.00	2.86	63.7	8.52	8.38	65.3	8.40	8.20	66.1	7.00	64.7
09/14/23	0:30	171	8.00	2.86	63.0	8.52	8.62	64.5	8.38	8.10	65.1	7.00	64.6
09/14/23	1:30	NA	8.00	2.87	62.2	8.52	8.58	63.8	8.39	8.10	64.7	7.10	64.5
09/14/23	2:30	171	8.00	2.86	61.5	8.52	8.38	63.1	8.38	8.10	63.7	7.40	64.9
09/14/23	3:30	NA	8.00	2.87	61.0	8.52	8.40	62.6	8.39	8.10	63.0	7.40	63.0
09/14/23	4:30	171	8.00	2.87	60.3	8.52	8.37	62.2	8.40	8.10	62.4	7.30	59.3
09/14/23	5:30	NA	8.00	2.87	59.5	8.52	8.44	60.7	8.41	8.10	61.7	7.50	58.9
09/14/23	6:30	171	8.00	2.87	59.2	8.52	8.37	60.5	8.41	8.10	61.4	7.40	58.3
09/14/23	7:30	NA	8.00	2.87	58.6	8.52	8.54	60.5	8.43	8.20	61.6	7.60	58.0
09/14/23	8:30	171	8.00	2.87	58.3	8.52	8.55	59.5	8.42	8.20	61.8	7.50	58.4
09/14/23	9:30	NA	8.00	2.86	58.6	8.52	8.37	59.3	8.43	8.20	62.6	7.50	60.4
09/14/23	10:30	171	8.00	2.78	58.8	8.52	8.57	59.8	8.34	8.20	63.5	7.40	65.4
09/14/23	11:30	NA	8.00	2.83	62.1	8.52	8.50	61.7	8.37	8.10	64.8	7.30	66.5
09/14/23	12:30	171	8.00	2.84	63.4	8.52	8.47	62.4	8.38	8.10	65.2	7.30	67.1
09/14/23	13:30	NA	8.00	2.83	64.8	8.52	8.44	65.0	8.37	8.10	67.7	7.50	69.7
09/14/23	14:30	170	8.00	2.84	66.2	8.52	8.63	67.4	8.53	8.00	68.2	7.40	68.8
09/14/23	15:30	NA	8.00	2.83	66.9	8.52	8.55	68.4	8.41	8.20	70.5	7.40	74.3
09/14/23	16:30	169	8.00	2.82	67.1	8.52	8.42	67.9	8.38	8.00	70.4	7.20	75.6
09/14/23	17:30	NA	8.00	2.82	67.6	8.52	8.64	68.1	8.36	8.10	70.1	7.30	74.8
09/14/23	18:30	170	8.00	2.83	67.1	8.52	8.57	67.9	8.45	8.00	69.8	7.30	74.1
09/14/23	19:30	NA	8.00	2.84	67.8	8.52	8.61	68.4	8.46	8.10	69.4	7.20	71.2
09/14/23	20:30	170	8.00	2.84	66.9	8.52	8.57	68.7	8.47	8.10	69.2	7.20	69.3
09/14/23	21:30	NA	8.00	2.83	66.0	8.50	8.30	68.1	8.46	8.10	68.2	7.20	67.7
09/14/23	22:30	170	8.00	2.83	65.7	8.50	8.39	67.4	8.45	8.10	67.4	7.20	66.3
09/14/23	23:30	NA	8.00	2.84	64.6	8.50	8.56	67.6	8.44	8.10	66.9	7.20	65.1
09/15/23	0:30	170	8.00	2.84	62.8	8.50	8.57	64.8	8.45	8.10	65.2	7.30	64.2
09/15/23	1:30	NA	8.00	2.70	61.9	8.50	8.46	64.3	8.42	8.10	65.1	7.30	62.8
09/15/23	2:30	170	8.00	2.72	60.8	8.50	8.44	63.6	8.43	8.00	64.3	7.20	61.8
09/15/23	3:30	NA	8.00	2.80	60.1	8.50	8.30	62.2	8.45	8.00	63.1	7.20	60.6
09/15/23	4:30	170	8.00	2.84	59.4	8.50	8.45	61.0	8.44	8.00	61.4	7.20	60.1
09/15/23	5:30	NA	8.00	2.84	58.6	8.50	8.36	60.5	8.43	8.00	61.2	7.00	59.2
09/15/23	6:30	170	8.00	2.86	58.1	8.50	8.51	61.2	8.43	8.00	61.5	7.20	58.4
09/15/23	7:30	NA	8.00	2.86	57.0	8.50	8.42	57.4	8.54	8.00	60.4	7.20	58.0
09/15/23	8:30	170	8.00	2.86	56.5	8.50	8.24	57.6	8.42	8.10	60.3	7.10	58.6
09/15/23	9:30	NA	8.00	2.86	56.5	8.50	8.49	57.7	8.41	7.90	60.5	7.30	59.5
09/15/23	10:30	170	8.00	2.86	57.2	8.50	8.55	57.9	8.41	7.80	61.1	7.30	61.0
09/15/23	11:30	NA	8.00	2.87	58.6	8.50	8.32	58.8	8.41	7.80	61.8	7.20	61.5
09/15/23	12:30	170	8.00	2.86	59.7	8.50	8.56	59.8	8.42	7.90	63.1	7.40	69.0
09/15/23	13:30	Shutdown at 1300											
09/20/23	7:30	Shutdown at 1300											
09/20/23	8:30	134	8.00	3.09	56.1	8.50	8.45	58.6	8.44	8.30	60.4	7.10	63.5
09/20/23	9:30	NA	8.00	3.08	55.8	8.50	8.32	57.4	8.31	8.10	60.1	7.00	64.1
09/20/23	10:30	131	8.00	2.90	55.8	8.50	8.34	57.9	8.28	8.00	60.9	7.00	64.5
09/20/23	11:30	NA	8.00	2.99	56.8	8.50	8.41	57.6	8.41	NR			
09/20/23	12:30	131	8.00	3.04	57.6	8.50	8.40	57.8	8.42	8.10	61.1	7.00	65.4
09/20/23	13:30	NA	8.00	3.09	58.6	8.50	8.41	58.6	8.50	8.20	62.1	7.00	64.9
09/20/23	14:30	140	8.00	3.10	60.3	8.50	8.45	60.0	8.53	8.20	63.2	6.90	64.7
09/20/23	15:30	NA	8.00	3.11	61.2	8.50	8.54	61.7	8.49	8.20	63.8	7.00	65.3
09/20/23	16:30	140	8.00	3.10	61.8	8.50	8.43	62.2	8.51	8.10	64.1	7.00	65.2
09/20/23	17:30	NA	8.00	3.09	62.1	8.50	8.50	62.6	8.52	8.20	65.0	6.80	65.1
09/20/23	18:30	140	8.00	3.11	62.8	8.50	8.47	62.7	8.42	8.10	65.3	6.90	64.7
09/20/23	19:30	NA	8.00	3.08	62.6	8.50	8.44	63.3	8.50	8.10	65.1	7.00	64.2
09/20/23	20:30	139	8.00	3.09	62.2	8.50	8.51	63.1	8.50	8.00	64.9	7.00	63.8
09/20/23	21:30	NA	8.00	3.09	62.4	8.50	8.42	63.6	8.50	8.00	64.8	7.00	63.5
09/20/23	22:30	139	8.00	3.10	62.1	8.50	8.41	63.1	8.51	8.10	64.0	7.10	63.3
09/20/23	23:30	NA	8.00	3.08	61.0	8.50	8.34	62.6	8.51	8.00	62.4	7.00	63.0
09/21/23	0:30	139	8.00	3.08	60.4	8.30	8.45	62.6	8.51	8.00	61.4	7.00	58.3
09/21/23	1:30	NA	8.00	3.09	59.7	8.50	8.49	61.0	8.51	8.00	61.2	7.00	58.1
09/21/23	2:30	139	8.00	3.09	59.2	8.50	8.44	60.5	8.52	8.00	62.0	7.00	57.0
09/21/23	3:30	NA	8.00	3.08	58.6	8.50	8.43	60.0	8.54	8.10	61.8	7.10	56.9
09/21/23	4:30	139	8.00	3.08	58.0	8.50	8.45	60.0	8.50	8.00	60.0	7.00	54.7

**TABLE 13  
SUMMARY OF 2023 SUMMER  
POND WATER TREATMENT PLANT OPERATOR'S LOGS**

Date	Time	Influent Flowrate (gpm)	R-1 pH set point	R-1 pH	R-1 temp °F	R-2 pH set point	R-2 pH	R-2 temp °F	FF-2 pH	Pit Clarifier pH	Pit Clarifier temp °F	Discharge Weir pH	Discharge Weir temp °F
09/21/23	5:30	NA	8.00	3.09	57.6	8.50	8.52	59.5	8.53	8.00	60.0	7.00	54.6
09/21/23	6:30	139	8.00	3.09	57.0	8.50	8.45	58.1	8.52	8.00	60.0	7.00	54.4
09/21/23	7:30	Plant Shutdown											
09/25/23	6:30												
09/25/23	7:30	NA	8.00	3.12	53.1	8.50	8.15	55.0	8.36	8.10	56.3	7.20	61.2
09/25/23	8:30	130	8.00	3.10	53.2	8.50	8.37	54.8	8.21	8.00	57.0	7.00	62.6
09/25/23	9:30	NA	8.00	3.10	53.2	8.50	8.48	53.8	8.17	8.00	57.3	7.30	62.6
09/25/23	10:30	130	8.00	3.11	53.4	8.50	8.49	54.6	8.27	8.00	57.8	7.20	62.7
09/25/23	11:30	NA	8.00	3.14	54.9	8.50	8.26	55.3	8.28	8.00	58.3	7.20	63.0
09/25/23	12:30	130	8.00	3.15	57.6	8.50	8.45	56.9	8.21	8.00	59.7	7.10	63.0
09/25/23	13:30	NA	8.00	3.12	60.1	8.50	8.43	58.6	8.20	8.00	57.3	7.10	58.1
09/25/23	14:30	130	8.00	3.14	61.0	8.50	8.51	60.7	8.21	8.10	58.8	7.00	58.1
09/25/23	15:30	NA	8.00	3.11	60.8	8.50	8.42	61.5	8.16	8.00	59.7	7.10	58.0
09/25/23	16:30	121	8.00	3.11	60.4	8.50	8.40	61.7	8.21	8.00	59.0	7.00	57.9
09/25/23	17:30	Plant Offline For Season											
09/25/23	18:30												

NA= Not Applicable

NR = Not Recorded



**TABLE 15  
2023 FLOW AND STAGE MONITORING LOCATIONS**

Station ID (USGS Number)	Station Description	Equipment	Installation of Gaging Station	Hyperlink For Access To Online USGS Data
<b>Continuous Stage Measurement and Calculated Flow</b>				
Station 1 (10308783)	Leviathan Creek above the mine	Continuous flow recorder and appurtenances, solar power supply.	October 1998	<a href="#">Leviathan C AB Mine NR Markleeville CA - USGS Water Data for the Nation</a>
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	<a href="#">Leviathan Mine Pit Flow NR Markleeville CA - USGS Water Data for the Nation</a>
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	<a href="#">Leviathan Mine Adit Drain NR Markleeville CA - USGS Water Data for the Nation</a>
4L Creek (103087889)	4L Creek just above confluence with Leviathan Creek	Continuous flow recorder and appurtenances, solar power supply.	October 2003	<a href="#">4L C NR Markleeville CA - USGS Water Data for the Nation</a>
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	<a href="#">Leviathan C AB Aspen C NR Markleeville CA - USGS Water Data for the Nation</a>
Station 22 (103087891)	Aspen Creek above mine	Continuous flow recorder and appurtenances, solar power supply.	October 2003	<a href="#">Aspen C Abv Leviathan Mine NR Markleeville CA - USGS Water Data for the Nation</a>
Station 23 (10308792)	Leviathan Creek above the confluence of Leviathan and Mountaineer creeks	Continuous flow recorder and appurtenances, solar power supply	November 1999	<a href="#">Leviathan C AB Mountaineer C NR Markleeville CA - USGS Water Data for the Nation</a>
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	<a href="#">Bryant C BL Mountaineer C NR Markleeville CA - USGS Water Data for the Nation</a>
Pit Junction Box (103087855)	Storm water collection vault in open pit	Continuous flow recorder and appurtenances, solar power supply.	October 2009	<a href="#">Leviathan Mine Pit Junction Box NR Markleeville CA - USGS Water Data for the Nation</a>
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	<a href="#">Unnamed Trib 2 to Leviathan C at Leviathan Mine CA - USGS Water Data for the Nation</a>
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	<a href="#">Unnamed Trib 1 to Leviathan C at Leviathan Mine CA - USGS Water Data for the Nation</a>
<b>Continuous Stage Measurement</b>				
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	<a href="#">Leviathan Mine Pond 1 NR Markleeville CA - USGS Water Data for the Nation</a>
<b>Other Flow Data</b>				
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	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	not applicable

## PHOTOS

- Photo 1 – January 26, 2023, Initial snow removal activities approaching the Pond 1 area. Snow depth approximately 4-5 feet in this area.
- Photo 2 – February 13, 2023, TKT setting up Early-Season Pond Water Treatment system at Pond 3.
- Photo 3 – February 20, 2023, TKT discharging neutralized pond water from below the ice and snow at Pond3.
- Photo 4 – February 23, 2023, TKT personnel monitoring the progress of Early-Season Pond Water Treatment under the snow and ice at Pond 3.
- Photo 5 – April 3, 2023, TKT continuing Early-Season Pond Water Treatment efforts at Pond 3 during challenging conditions. Pond 3 still mostly ice and snow covered at this time.
- Photo 6 – April 17, 2023, Continuing Early-Season Pond Water Treatment at Pond 3. Pond ice and snow cover beginning to melt.
- Photo 7 – June 8, 2023, TKT utilizing two turbidity curtains in Pond 3 to improve sludge management and discharge quality.
- Photo 8 – March 7, 2023, Snow removal a short distance from the Nevada access gate. Snow depth in excess of six feet.
- Photo 9 – March 17, 2023, Nearly unpassable road conditions on the Nevada access road near the residential area.
- Photo 10 – July 13, 2023, The Pit Clarifier a short time after the startup of Summer Pond Water Treatment.
- Photo 11 – August 31, 2023, Sludge buildup in the Pit Clarifier. Note the installation of two turbidity curtains around the piccolo structure.
- Photo 12 – September 27, 2023, The Pit Clarifier full of sludge shortly after Summer Pond Water Treatment was shut down for the 2023 season.
- Photo 13 – September 27, 2023, Sludge stockpile activities at Pond 3. Much of the sludge was too wet to effectively stockpile at this time.
- Photo 14 – October 11, 2023, Sludge haul at Pond 3. The white material is Apromud P100XL, a highly absorbent non-hazardous polymer powder used to absorb water and solidify the sludge for shipment.



## PHOTOS (CONTINUED)

Photo 15 – November 30, 2023, Pond 3 after the completion of sludge haul activities. A small quantity of sludge (less than half a truck) was left following haul activities and will be hauled next season.

Photo 16 – September 21, 2023, Removal of accumulated sediment from the stormwater conveyances on the Pond 2 North berm.

Photo 17 – September 7, 2023, Final Pond 1 liner patch on holes discovered in the fall of 2022.

Photo 18 – April 17, 2023, Early observation of the Pit Slump. Debris flow had not yet occurred when this photo was taken.

Photo 19 – April 24, 2023, Further development of the Pit Slump. Debris flow and slump seepage entering the Pit Clarifier at the time of this photo.

Photo 20 – April 24, 2023, Debris flow in Pit Clarifier.

Photo 21 – June 5, 2023, AECOM beginning removal of Pit Slump debris from the Pit Clarifier.

Photo 22 – June 20, 2023, Sludge haul activities at the Pit Clarifier.

Photo 23 – August 30, 2023, Stabilization work being performed on the Pit Slump.

Photo 24 – September 14, 2023, Installation of rock filled gabion baskets to buttress the toe of the Pit Slump.

Photo 25 – September 15, 2023, Installation of a gravel drain behind the gabion baskets at the Pit Slump.



Photo 1 – January 26, 2023, Initial snow removal activities approaching the Pond 1 area. Snow depth approximately 4-5 feet in this area.



Photo 2 – February 13, 2023, TKT setting up Early-Season Pond Water Treatment system at Pond 3.

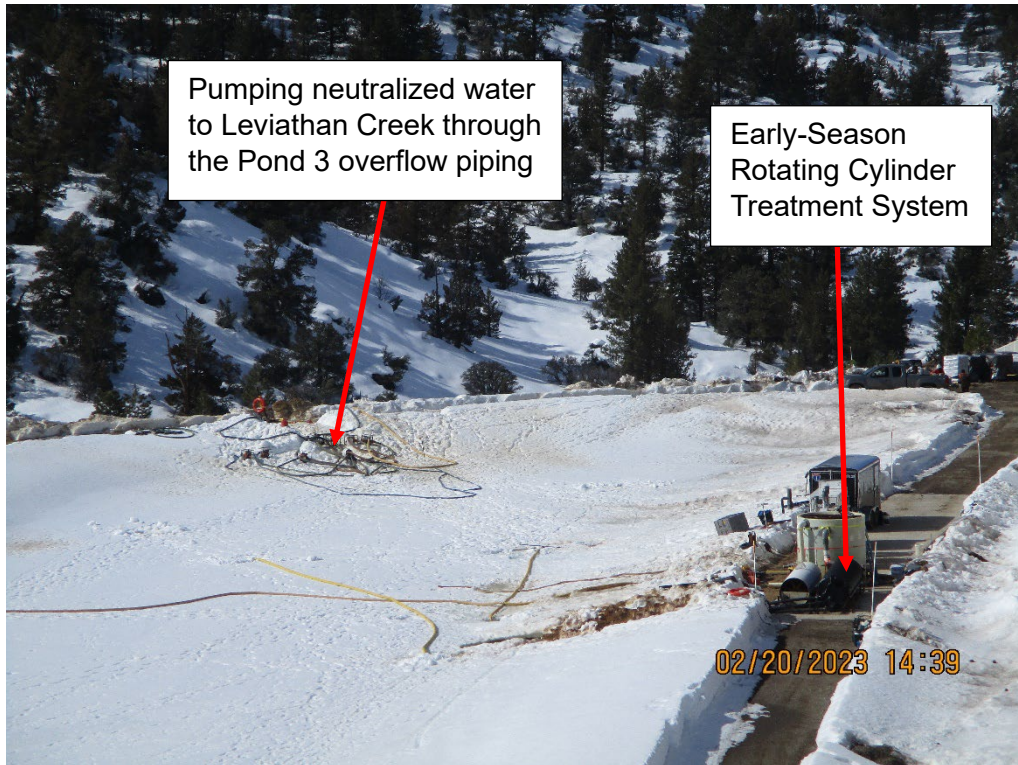


Photo 3 – February 20, 2023, TKT discharging neutralized pond water from below the ice and snow at Pond 3.



Photo 4 – February 23, 2023, TKT personnel monitoring the progress of Early-Season Pond Water Treatment under the snow and ice at Pond 3.

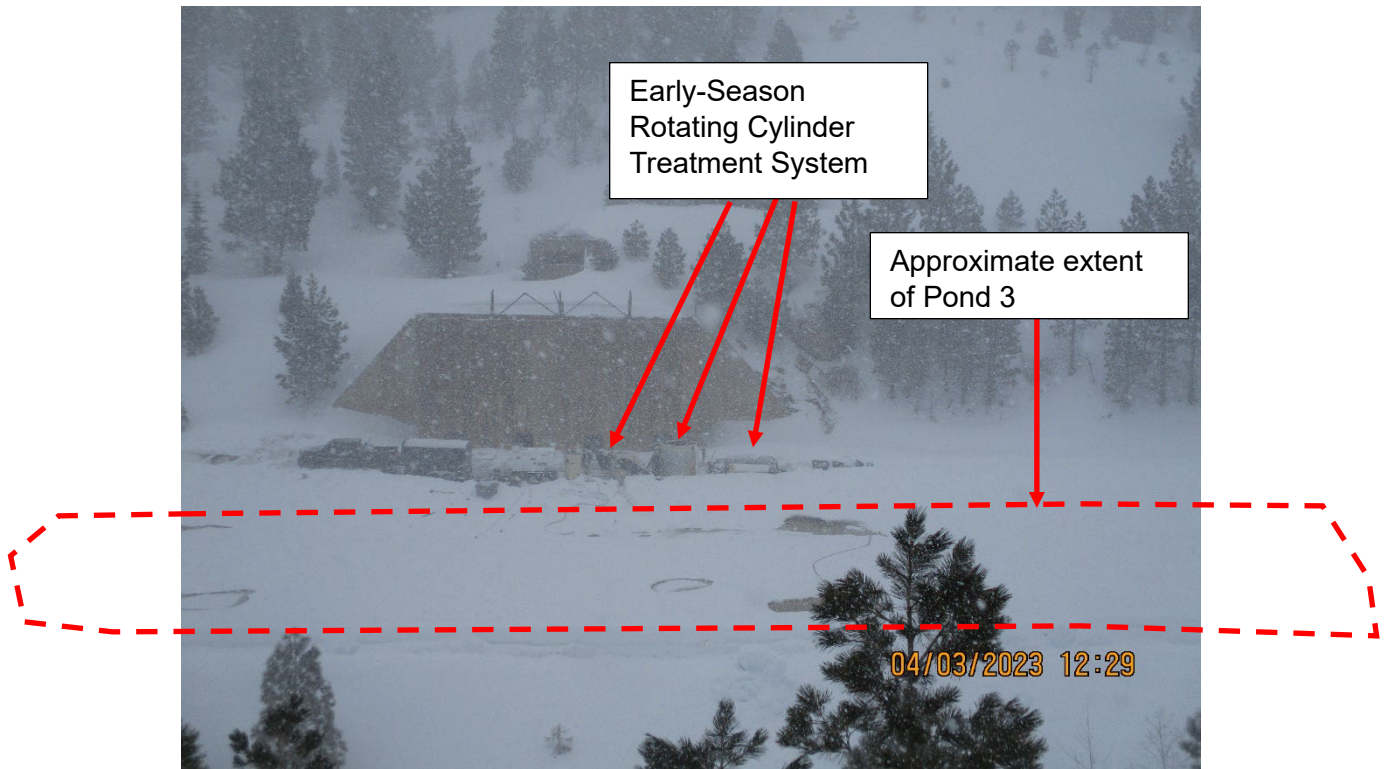


Photo 5 – April 3, 2023, TKT continuing Early-Season Pond Water Treatment efforts at Pond 3 during challenging conditions. Pond 3 still mostly ice and snow covered at this time.



Photo 6 – April 17, 2023, Continuing Early-Season Pond Water Treatment at Pond 3. Pond ice and snow cover beginning to melt.



Photo 7 – June 8, 2023, TKT utilizing two turbidity curtains in Pond 3 to improve sludge management and discharge quality.



Photo 8 – March 7, 2023, Snow removal a short distance from the Nevada access gate. Snow depth in excess of six feet.



Photo 9 – March 17, 2023, Nearly unpassable road conditions on the Nevada access road near the residential area.



Photo 10 – July 13, 2023, The Pit Clarifier a short time after the startup of Summer Pond Water Treatment.



Photo 11 – August 31, 2023, Sludge buildup in the Pit Clarifier. Note the installation of two turbidity curtains around the piccolo structure.



Photo 12 – September 27, 2023, The Pit Clarifier full of sludge shortly after Summer Pond Water Treatment was shut down for the 2023 season.



Photo 13 – September 27, 2023, Sludge stockpile activities at Pond 3. Much of the sludge was too wet to effectively stockpile at this time.



Photo 14 – October 11, 2023, Sludge haul at Pond 3. The white material is Aprumud P100XL, a highly absorbent non-hazardous polymer powder used to absorb water and solidify the sludge for shipment.





Photo 15 – November 30, 2023, Pond 3 after the completion of sludge haul activities. A small quantity of sludge (less than half a truck) was left following haul activities and will be hauled next season.



Photo 16 – September 21, 2023, Removal of accumulated sediment from the stormwater conveyances on the Pond 2 North berm.



Photo 17 – September 7, 2023, Final Pond 1 liner patch on holes discovered in the fall of 2022.

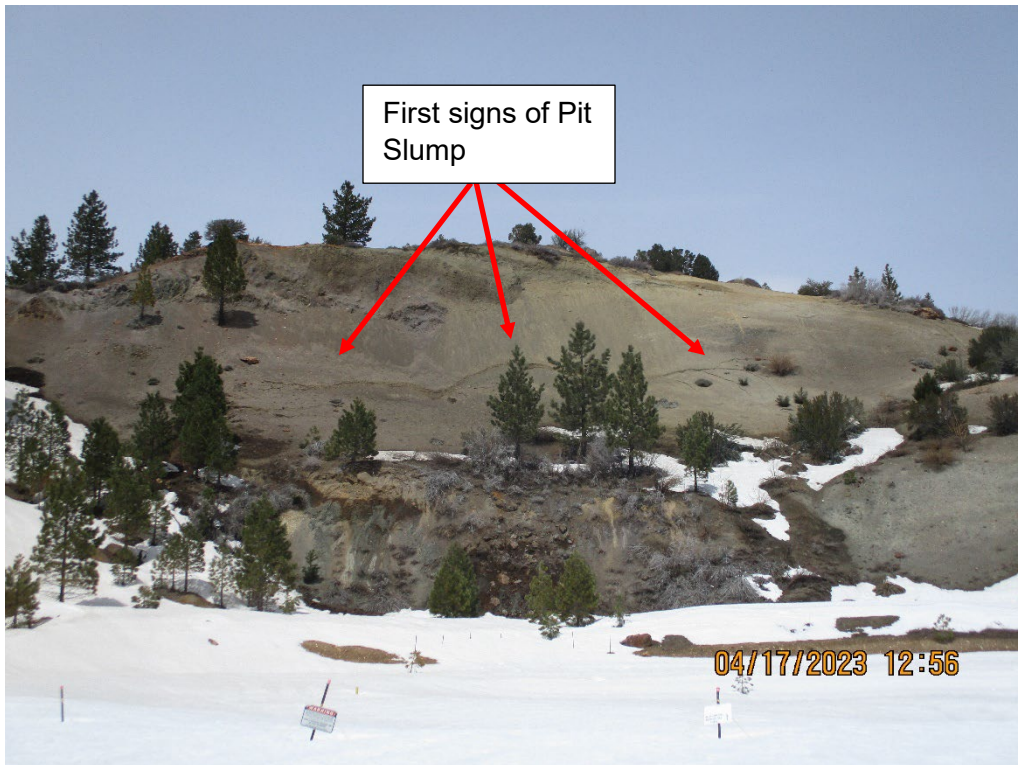


Photo 18 – April 17, 2023, Early observation of the Pit Slump. Debris flow had not yet occurred when this photo was taken.

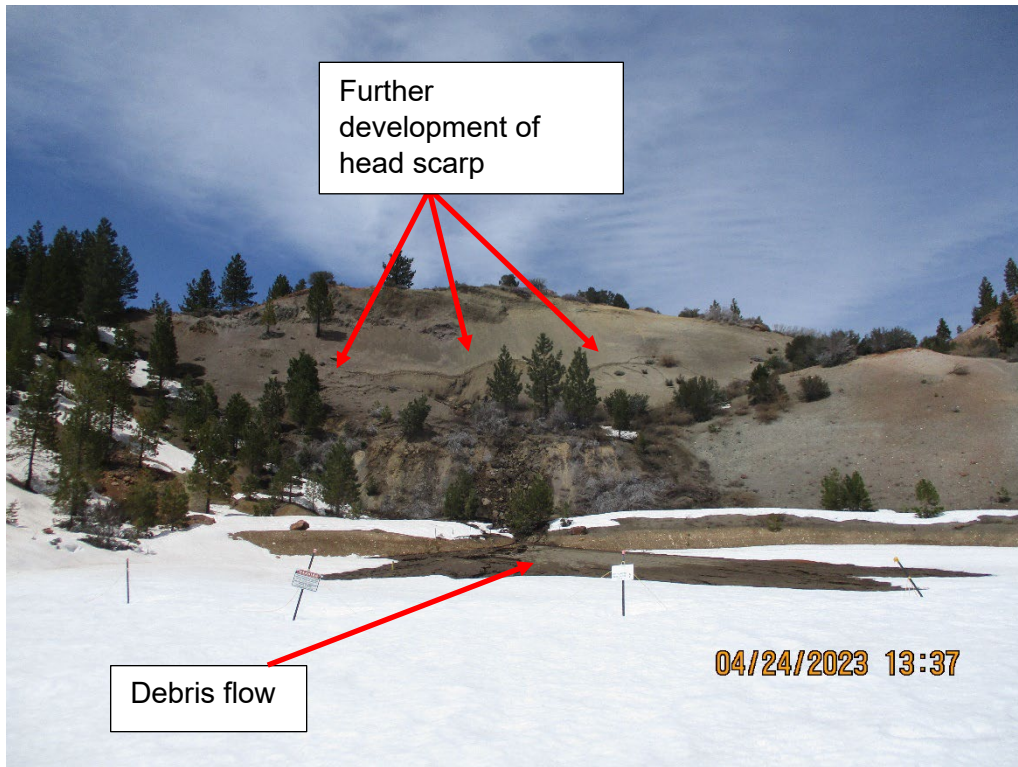


Photo 19 – April 24, 2023, Further development of the Pit Slump. Debris flow and slump seepage entering the Pit Clarifier at the time of this photo.

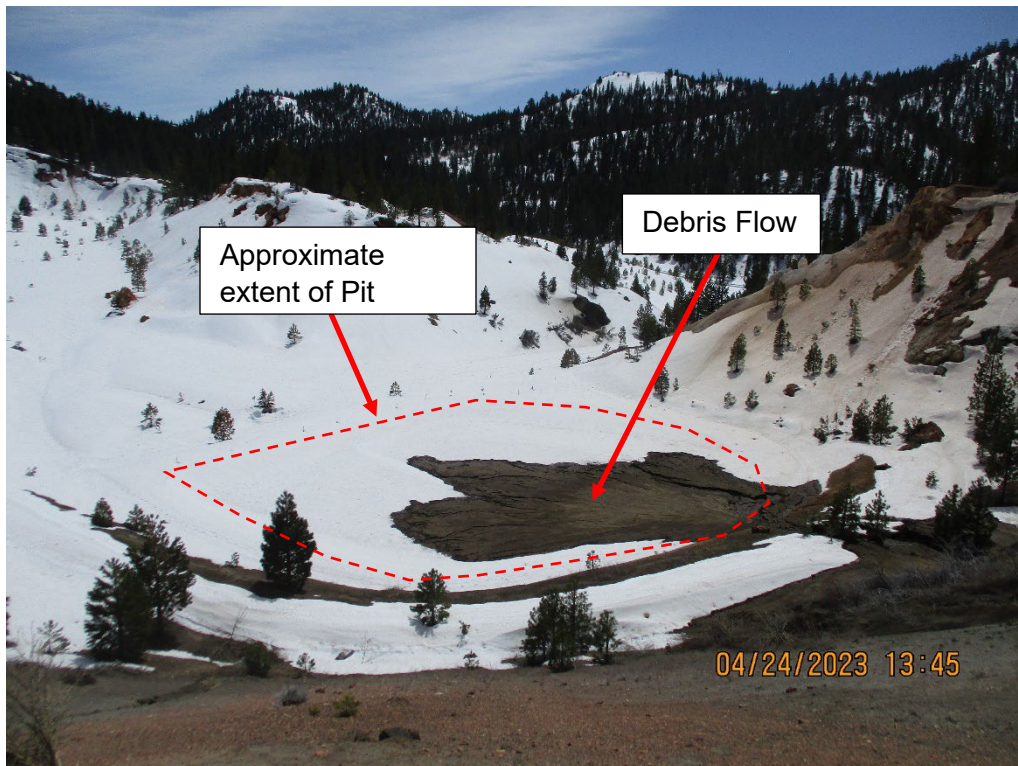


Photo 20 – April 24, 2023, Debris flow in Pit Clarifier.



Photo 21 – June 5, 2023, AECOM beginning removal of Pit Slump debris from the Pit Clarifier.



Photo 22 – June 20, 2023, Sludge haul activities at the Pit Clarifier.

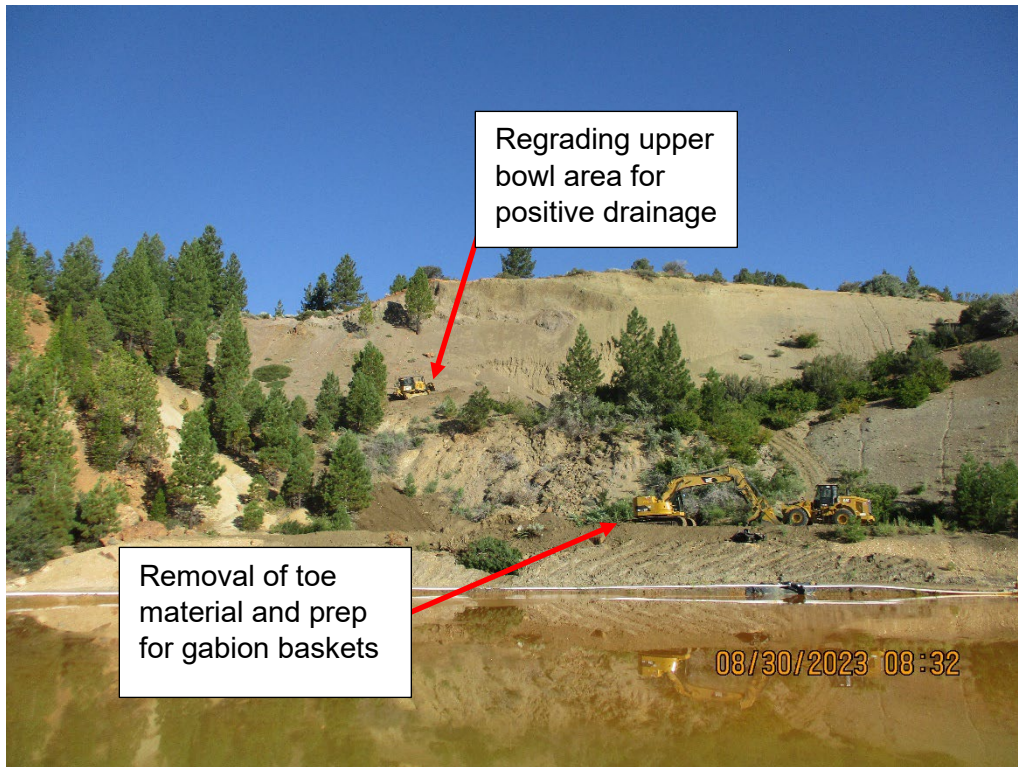


Photo 23 – August 30, 2023, Stabilization work being performed on the Pit Slump.



Photo 24 – September 14, 2023, Installation of rock filled gabion baskets to buttress the toe of the Pit Slump.

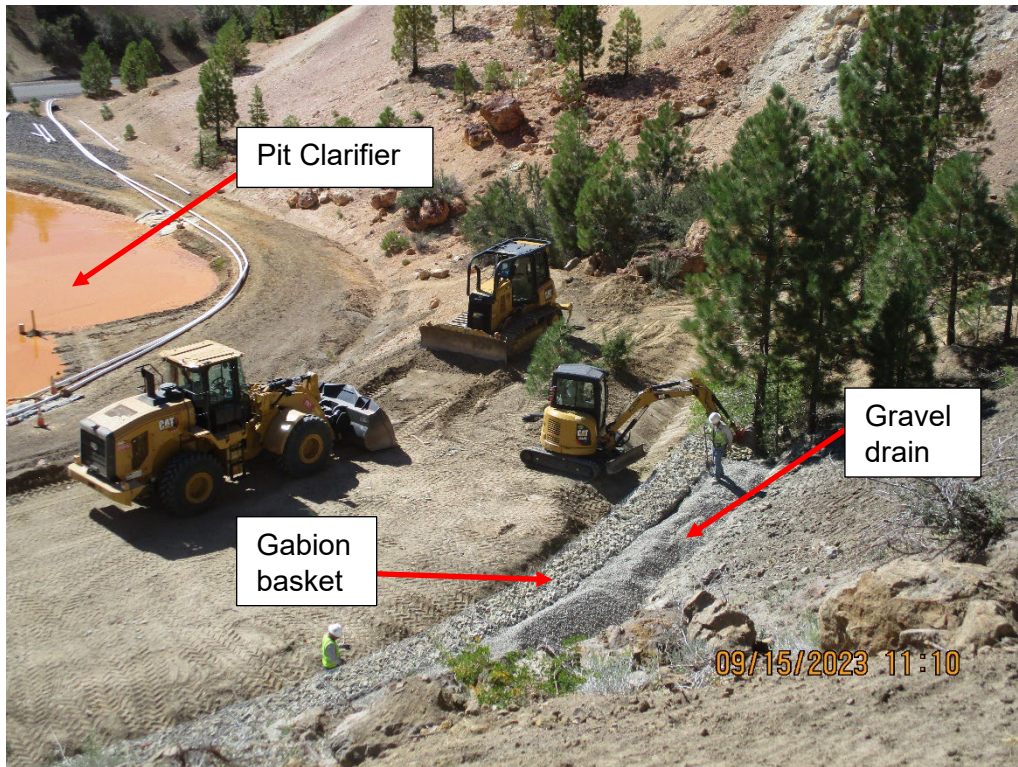


Photo 25 – September 15, 2023, Installation of a gravel drain behind the gabion baskets at the Pit Slump.

## **APPENDICES**

## **Appendix A – 2023 Early-Season Pond Water Treatment Data**

AECOM's Early-Season Pond Water Treatment Data Quality Summary (PDF format)

Early-Season Pond Water Treatment Laboratory Reports (PDF format)

Early-Season Pond Water Treatment Analytical Laboratory Electronic Data Deliverable Files (Microsoft Excel format)



## **Appendix B – 2023 Summer Pond Water Treatment Data**

AECOM's Summer Pond Water Treatment Data Quality Summary (PDF format)

Summer Pond Water Treatment Laboratory Reports (PDF format)

Summer Pond Water Treatment Analytical Laboratory Electronic Data Deliverable Files (Microsoft Excel format)

## **Appendix C – 2023 Water Year USGS Flow and Stage Annual Data Reports**

Annual USGS Flow and Stage Data Reports for 12 Stations (Microsoft Excel format)