Water Quality Monitoring Report—2023

Sacramento Municipal Utility District

Hydro License Implementation • June 2024

Upper American River Project

FERC Project No. 2101

Powering forward. Together.

SMUD®

This Page Intentionally Left Blank

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
ºC	degrees Celsius
%	percent
COLD	cold freshwater habitat
EPA	United States Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
m	meter
MDL	Method Detection Limit
mg/L	milligram per liter
mL	milliliter
MPN	Most Probable Number
MRL	Method Reporting Limit
MQO	measurement quality objective
NTU	Nephelometric Turbidity Unit
QA/QC	quality assurance and quality control
RWQCB	Regional Water Quality Control Board
SFAR	South Fork American River
SM	standard method
SMUD	Sacramento Municipal Utility District
SPWN	spawning, reproduction, and/or early development
s.u.	standard unit of pH
SWRCB	State Water Resources Control Board
UARP	Upper American River Project
uS/cm	microsiemens per centimeter
USFS	United States Forest Service
YSI	Yellow Springs Instruments

1.0 INTRODUCTION AND BACKGROUND

This Water Quality Monitoring Report (Report) addresses monitoring requirements set forth in Sacramento Municipal Utility District's (SMUD) Water Quality Monitoring Plan Revision 3 (Plan) (SMUD 2021a). The requirements for the Plan are found in State Water Resources Control Board (SWRCB) Condition 8.J, and U.S. Forest Service (USFS) 4(e) Condition 31.10, located in Appendices A and B, respectively, of the Federal Energy Regulatory Commission's (FERC) Order Issuing New License for the Upper American River Project (UARP), dated July 23, 2014. The Plan was developed by SMUD (SMUD 2015) in coordination with the Consultation Group and Resource Agencies stipulated in the license (FERC 2014). The Plan was revised in 2015 (Revision 1) (SMUD 2015), 2016 (Revision 2) (SMUD 2016), and 2021 (Revision 3) (SMUD 2021a) to update the referenced analytical methods for various sub-programs within the Plan. Revision 3 of the Plan reduced the bacterial monitoring frequency at several sites to occur only during even years (i.e., 2022, 2024, 2026…) since no exceedances of the 2018 Basin Plan (CRWQCB 2018) or the 2019 Revised Basin Plan (CRWQCB 2019) objectives for the recreational water contact (REC-1) designated beneficial use were identified at these sites during the 2015–2020 monitoring period (SMUD 2020, 2021b, CRWQCB 2018).

This Report describes the results of the ninth year (2023) of water quality monitoring of basic *in situ* parameters and bacteria for the UARP.

SMUD owns and operates the UARP, which is licensed by FERC. The UARP (FERC Project No. 2101) lies within El Dorado and Sacramento counties, primarily within lands of the Eldorado National Forest. The UARP consists of three major storage reservoirs (Loon Lake, Union Valley, and Ice House) with a combined capacity of approximately 379,000 acre-feet, eight smaller regulating or diversion reservoirs, and eight powerhouses. The UARP also includes recreation facilities containing over 700 campsites, five boat ramps, hiking paths, and bicycle trails at the reservoirs.

2.0 MONITORING OBJECTIVE

The objective of the 2023 monitoring program was to perform *in situ* water quality and bacteria monitoring in UARP reservoirs and stream reaches to meet the objectives and rationale of SWRCB Water Quality Certification Condition 8.J.

The rationale for water quality monitoring, as described by the SWRCB Water Quality Certification, is as follows:

> *Water quality monitoring is important for determining compliance with state and federal water quality standards and examining long-term trends in water quality. The frequency of monitoring for any compound can be*

reduced if shown to be at background or non-detect levels for a statistically significant period of time.

3.0 STUDY AREA

The study area included UARP reservoirs and diverted stream reaches. Nine UARP reservoirs (Rubicon, Buck Island, Loon Lake, Gerle Creek, Ice House, Union Valley, Junction, Camino, and Slab Creek) were included in the 2023 monitoring program; Brush Creek Reservoir and the relatively small Robbs Peak Forebay (30 acre-feet) were not included. Note that Rockbound Lake, although hydraulically associated with the UARP, is not a UARP reservoir and is not included within the FERC-defined UARP boundary. The diverted stream reaches included in the monitoring program represent all streams and rivers downstream of UARP reservoirs (Figure 3-1).

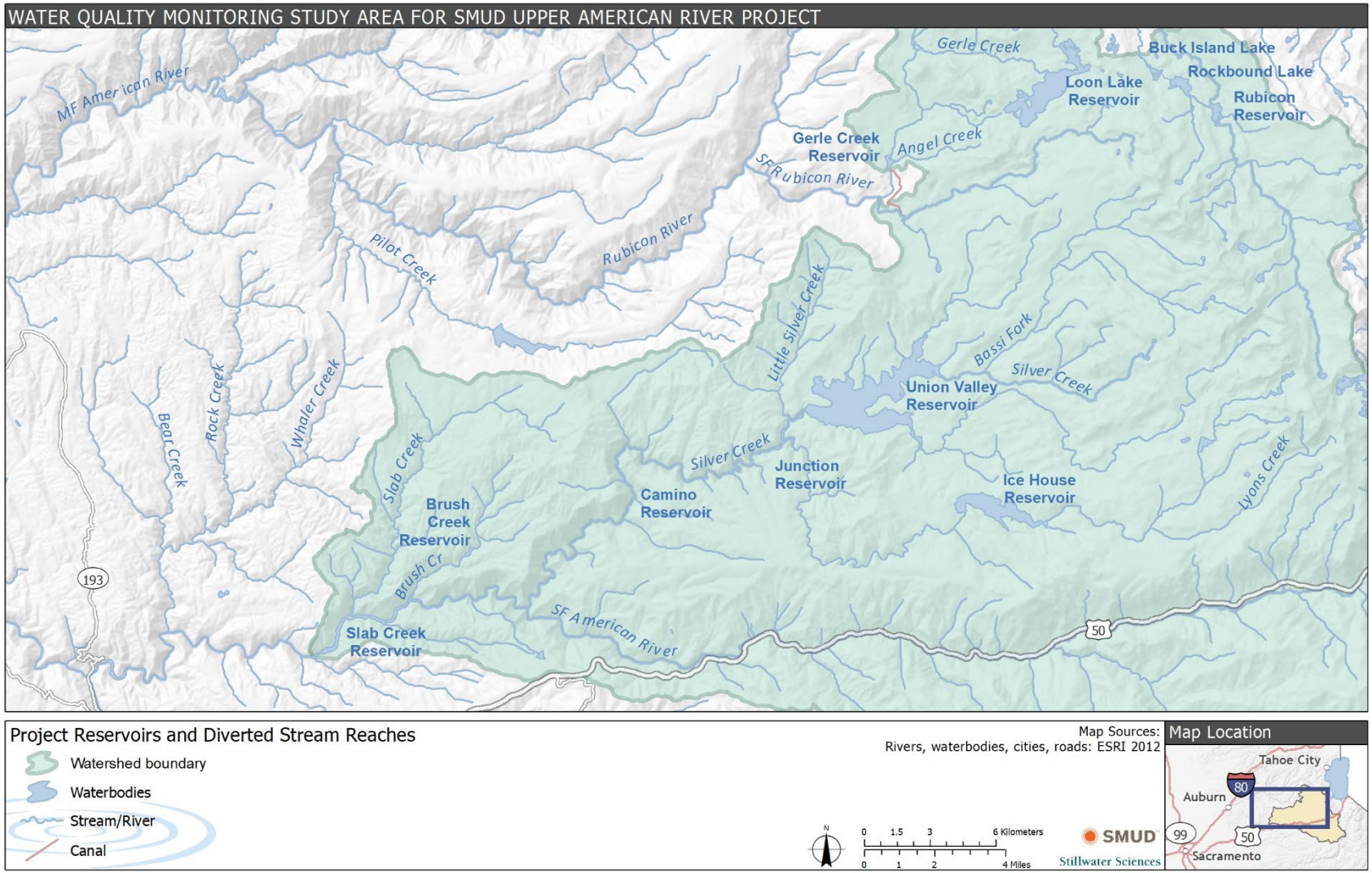

Figure 3-1. Study area for SMUD Upper American River Project *in situ* and bacteria monitoring.

4.0 SAMPLING FREQUENCY AND LOCATIONS

Year 9 (2023) sampling frequency for *in situ* water quality was consistent with winter, spring, summer, and fall monitoring periods designated in the Plan (SMUD 2021a) (Table 4-1). Required bacteria monitoring in 2023 was conducted by sampling the middle elevation UARP reservoir sites (Union Valley, Junction, Ice House, and Slab Creek) during the 30-day period surrounding Independence Day.

Table 4-1. Year 9 (2023) Sampling Frequency for *In Situ* Parameters and Bacteria.

Type	Frequency
In situ reservoir	Once in spring – May Once in fall – October
In situ riverine	Once in winter – February Once in spring – April Once in summer – August Once in fall – November
Bacteria	Five samples within 30 days – around Independence Day (July 4)

Specific sampling locations within reservoirs and diverted stream reaches varied depending on the water quality parameter or constituent of interest. As specified in the Plan, *in situ* monitoring occurred at 15 representative reservoir locations (Figure 4-1 and Figure 4-2, Table 4-2) and 19 representative stream reaches (Figure 4-1 and Figure 4-2, Table 4-3). Five reservoir sites could not be safely sampled during the spring survey because the reservoirs were spilling or the water surface at the site was frozen, and nine riverine sites could not be safely sampled during the winter, spring, and/or fall surveys due to snow accumulation or storms (Table 4-4). Bacteria sampling occurred at five locations in 2023, following the updated bacterial monitoring schedule in Revision 3 of the Plan (Figure 4-2, Table 4-5; SMUD 2021a). All bacterial monitoring locations (i.e., 15 sites in 8 reservoirs) are planned for survey in 2024.

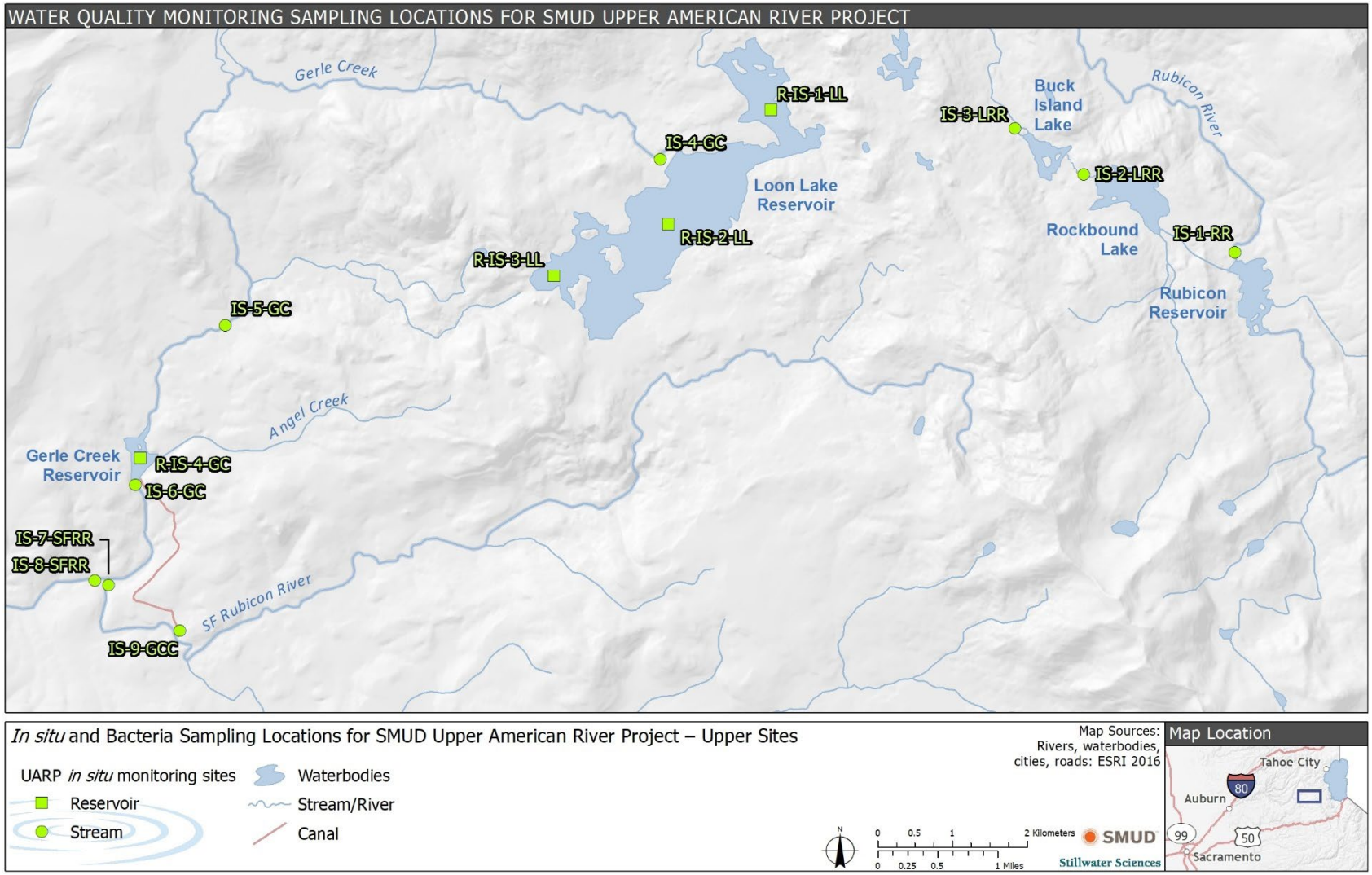

Figure 4-1. *In situ* water quality sampling locations for SMUD Upper American River Project – upper sites, 2023. No upper bacteria sites were sampled in 2023.

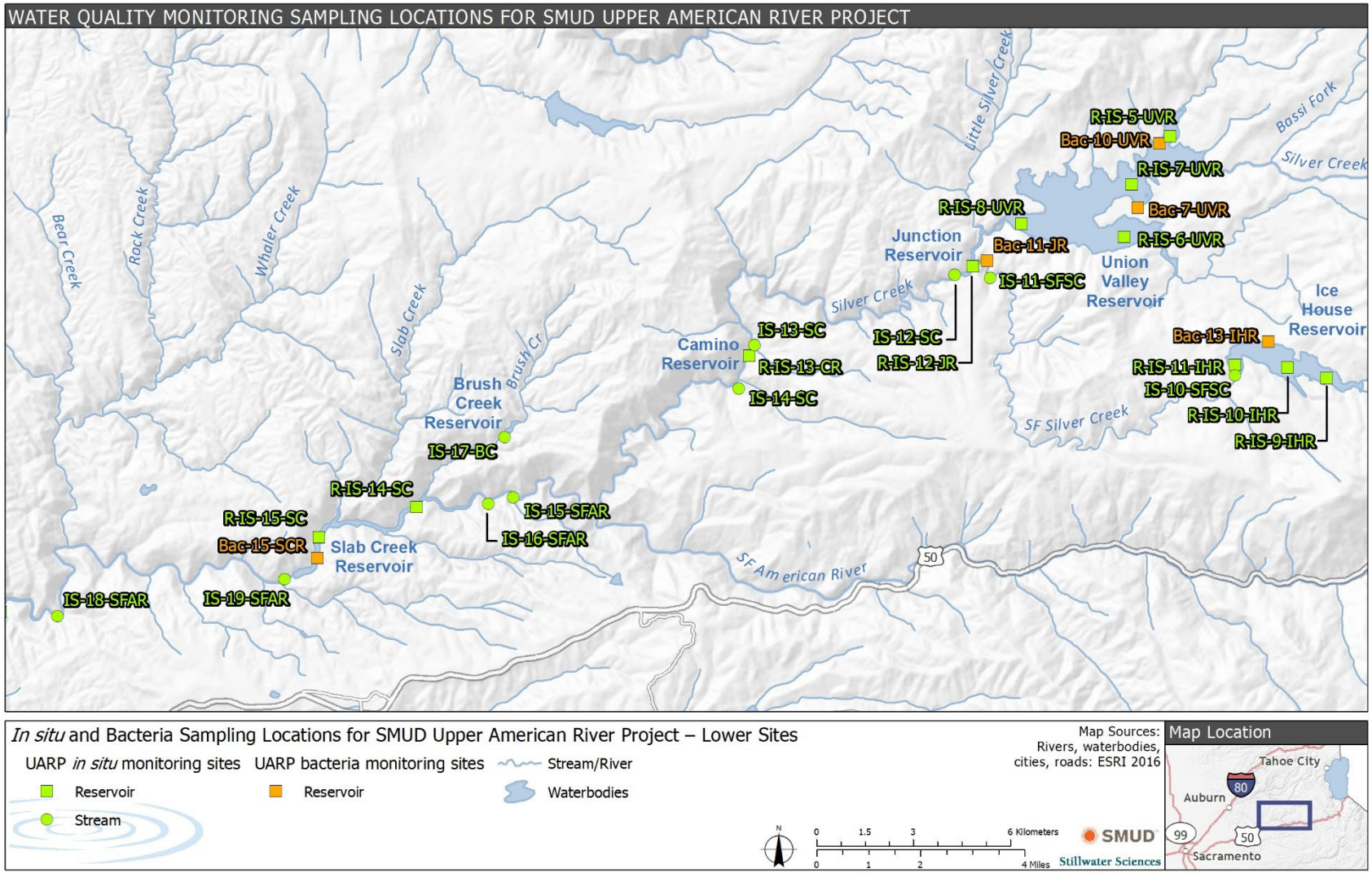

Figure 4-2. *In situ* water quality and bacteria sampling locations for SMUD Upper American River Project – lower sites, 2023.

Table 4-2. *In Situ* Water Quality Sampling Locations and Dates for SMUD Upper American River Project Reservoir Sites, 2023.

SMUD Site Name	Site ID	Location	Sample Date
R-4C	R-IS-1-LL	Loon Lake Reservoir, upper reservoir (northeast body)	10/17
R-4B	R-IS-2-LL	Loon Lake Reservoir, mid-reservoir (west body)	5/25, 10/17
R-4A	R-IS-3-LL	Loon Lake Reservoir, near dam	5/25, 10/17
R-5	R-IS-4-GC	Gerle Creek Reservoir, mid-reservoir	5/25, 10/17
R-6C	R-IS-5-UVR	Union Valley Reservoir, Robbs Powerhouse tailrace zone	5/19, 10/18
R-6D	R-IS-6-UVR	Union Valley Reservoir, Jones Fork Silver Creek arm	5/19, 10/18
R-6B	R-IS-7-UVR	Union Valley Reservoir, mid-reservoir	5/19, 10/18
R-6A	R-IS-8-UVR	Union Valley Reservoir, near dam	5/19, 10/18
R-7C	R-IS-9-IHR	Ice House Reservoir, upper lake body	5/18, 10/16
R-7B	R-IS-10-IHR	Ice House Reservoir, mid-reservoir	5/18, 10/16
R-7A	R-IS-11-IHR	Ice House Reservoir, near dam	5/18, 10/16
R-8	R-IS-12-JR	Junction Reservoir, mid-reservoir between arms	10/24
R-9	R-IS-13-CR	Camino Reservoir, mid-reservoir	10/16
R-11B	R-IS-14-SC	Slab Creek Reservoir, upper reservoir	10/24
R-11A	R-IS-15-SC	Slab Creek Reservoir, mid-reservoir	10/24

Table 4-3. ***In Situ*** **Water Quality Sampling Locations and Dates for SMUD Upper American River Project Riverine Sites, 2023.**

SMUD Site Name	Site ID	Location	Sample Date
2	IS-1-RR	Rubicon River outflow from Rubicon Reservoir	8/2
5	IS-2-LRR	Little Rubicon River outflow from Rockbound Lake	8/2
6	IS-3-LRR	Little Rubicon River outflow from Buck Island Reservoir	8/2
7	IS-4-GC	Gerle Creek outflow from Loon Lake Reservoir	5/25, 8/1, 11/14
14	IS-5-GC	Gerle Creek inflow to Gerle Creek Reservoir	5/25, 8/1, 11/14
15	IS-6-GC	Gerle Creek outflow from Gerle Creek Reservoir	5/25, 8/1, 11/14
18	IS-7-SFRR	S.F. Rubicon upstream of Gerle Creek confluence	5/25, 8/1, 11/14
19	IS-8-SFRR	S.F. Rubicon downstream of Gerle Creek confluence	5/25, 8/1, 11/14
16	IS-9-GCC	Gerle Creek Canal inflow to Robbs Forebay	5/25, 8/1, 11/14
25	IS-10-SFSC	S.F. Silver Creek outflow from Ice House Reservoir	2/6, 5/18, 8/1, 11/14
27	IS-11-SFSC	S.F. Silver Creek inflow to Junction Reservoir	2/6, 5/17, 8/3, 11/14
29	IS-12-SC	Silver Creek outflow from Junction Reservoir	2/6, 5/17, 8/3, 11/14
32	IS-13-SC	Silver Creek inflow to Camino Reservoir	2/6, 5/17, 8/3,11/14
34	IS-14-SC	Silver Creek outflow from Camino Reservoir	2/6, 5/17, 8/3, 11/14
38	IS-15-SFAR	South Fork American River (SFAR) upstream of Camino Powerhouse	2/6, 5/16, 8/3, 11/14
41	IS-16-SFAR	SFAR downstream of Camino Powerhouse	2/6, 5/16, 8/3,11/14
40	IS-17-BC	Brush Creek outflow from Brush Creek Reservoir	2/6, 5/16, 8/3, 11/14
60	IS-18-SFAR	SFAR upstream of White Rock Powerhouse	2/7, 5/16, 8/4, 11/15
43	IS-19-SFAR	SFAR downstream of Slab Creek Reservoir	2/7, 5/16, 8/4, 11/15

Table 4-4. *In Situ* Water Quality Sampling Locations Not Sampled for SMUD Upper American River Project Riverine and Reservoir Sites, 2023.

SMUD Site Name	Site ID	Location	Reason Not Sampled
Winter			
2	IS-1-RR	Rubicon River outflow from Rubicon Reservoir	Snow accumulation
5	IS-2-LRR	Little Rubicon River outflow from Rockbound Lake	Snow accumulation
6	IS-3-LRR	Little Rubicon outflow from Buck Island Reservoir	Snow accumulation
7	IS-4-GC	Gerle Creek outflow from Loon Lake Reservoir	Snow accumulation
14	IS-5-GC	Gerle Creek inflow to Gerle Creek Reservoir	Snow accumulation
15	IS-6-GC	Gerle Creek outflow from Gerle Creek Reservoir	Snow accumulation
18	IS-7-SFRR	S.F. Rubicon upstream of Gerle Creek confluence	Snow accumulation
19	IS-8-SFRR	S.F. Rubicon downstream of Gerle Creek confluence	Snow accumulation
16	IS-9-GCC	Gerle Creek Canal inflow to Robbs Forebay	Snow accumulation
Spring			
2	IS-1-RR	Rubicon River outflow from Rubicon Reservoir	Snow accumulation
5	IS-2-LRR	Little Rubicon River outflow from Rockbound Lake	Snow accumulation
6	IS-3-LRR	Little Rubicon outflow from Buck Island Reservoir	Snow accumulation
R-4C	R-IS-1-LL	Loon Lake Reservoir, upper reservoir (northeast body)	Water surface frozen
R-8	R-IS-12-JR	Junction Reservoir, mid-reservoir between arms	Spilling
R-9	R-IS-13-CR	Camino Reservoir, mid-reservoir	Spilling
R-11B	R-IS-14-SC	Slab Creek Reservoir, upper reservoir	Spilling
R-11A	R-IS-15-SC	Slab Creek Reservoir, mid-reservoir	Spilling
Fall			
2	IS-1-RR	Rubicon River outflow from Rubicon Reservoir	Winter storm
5	IS-2-LRR	Little Rubicon River outflow from Rockbound Lake	Winter storm
6	IS-3-LRR	Little Rubicon outflow from Buck Island Reservoir	Winter storm

Table 4-5. Bacteria Sampling Locations and Dates for SMUD Upper American River Project Sites, 2023.

Reservoir	SMUD Site Name	Site ID	Location	Sample Dates
Union Valley Reservoir (swim areas)	R-6H	Bac-7-UVR	At Fashoda Beach	6/21, 6/28, 7/5, 7/12, 7/19
	R-6F	Bac-10-UVR	Near Yellowjacket Campground	6/21, 6/28, 7/5, 7/12, 7/19
Junction Reservoir	R-8B	Bac-11-JR	Near boat launch	6/21, 6/28, 7/5, 7/12, 7/19
Ice House Reservoir (beach locations)	69	Bac-13-IHR	East of boat launch and picnic area	6/21, 6/28, 7/5, 7/12, 7/19
Slab Creek Reservoir	R-11C	Bac-15-SCR	Near boat launch	6/21, 6/28, 7/5, 7/12, 7/19

5.0 METHODS

5.1 IN SITU PARAMETERS

A multi-probe sonde (Yellow Springs Instruments [YSI] EXO2 [winter, spring, and summer sampling events] or YSI EXO2S [fall sampling event]) was used for measurement of *in situ* water quality parameters, including water temperature, conductivity, dissolved oxygen, pH, and turbidity (Table 5-1). Data were recorded on a field tablet using ArcGIS Survey123.

Table 5-1. *In Situ* Water Quality Parameters and Measurement Methods.

Parameter	Method	Units	MDL
Water temperature	EPA 170.1	degrees Celsius (ºC)	0.1
Conductivity	SM 2510-B	microsiemens per centimeter (uS/cm)	1.0
Dissolved oxygen	SM 4500-O(G)	milligrams per liter (mg/L)	0.1
pH	SM 4500-H	standard unit of pH (s.u.)	0.1
Turbidity	SM 2130B	Nephelometric Turbidity Unit (NTU)	0.1
Secchi depth (Secchi disk)	USGS	meter (m)	0.1

EPA = U.S. Environmental Protection Agency
MDL = Method Detection Limit
SM = Standard Method
USGS = United States Geological Survey

Reservoir *in situ* water quality monitoring was conducted by watercraft to access mid-reservoir areas (Figure 5-1). At each reservoir site, a vertical water column profile was collected for all *in situ* water quality parameters at 1-meter-depth intervals. For bottom water samples, the sonde was drawn back 0.5 meter (m) from the sediment layer before taking a reading. Prior to taking each reading, the sonde was allowed to stabilize (typically requiring no more than 90 seconds to 2 minutes, as needed). Water transparency was measured at reservoir stations with a standard 7.9-inch-diameter Secchi disk.

Figure 5-1. Example of mid-reservoir *in situ* water quality sampling site (R-IS-2-LL) at Loon Lake Reservoir during the fall 2023 sampling event.

At riverine sites, sonde readings were obtained where sufficient stream turbulence provided good lateral and vertical mixing of the water, and as near as possible to the stream thalweg (Figure 5-2). Prior to taking each reading, the sonde was allowed to stabilize (typically requiring no more than 90 seconds to 2 minutes, as needed) such that there was little variability in parameter readings at each location.

Figure 5-2. Example of an *in situ* riverine water quality sampling site (IS-12-SC) at the Silver Creek outflow from Junction Reservoir during the winter 2023 sampling event.

For both reservoir and riverine *in situ* monitoring, sonde calibration was conducted prior to the start of each sampling day. Dissolved oxygen % saturation calibrations were checked on site, and dissolved oxygen % saturation was recalibrated to account for barometric pressure variation with changes in altitude or local weather if the instrument reading differed from the standard by more than one percentage point. A post-sampling calibration check was conducted following each sampling day using standard solutions and recorded on a field tablet using ArcGIS Survey123 (Appendix A). Comparisons between post-sampling and post-calibration values were made, and data were designated “accepted,” “qualified,” or “rejected” based on the measurement quality objective (MQO) criteria for each *in situ* parameter (Table 5-2).

Table 5-2. Measurement Quality Objectives Criteria for *In Situ* Parameters.

Parameter	Units	Accept	Qualify	Reject
Dissolved oxygen	% saturation	≤ 5%	> 5% and ≤ 10%	> 10%
Conductivity	uS/cm	≤ 5%	> 5% and ≤ 15%	> 15%
pH	s.u.	≤ 0.2	> 0.2 and ≤ 0.5	> 0.5
Turbidity	NTU	≤ 5%[1]	> 5% and ≤ 10%	> 10%

uS/cm = microsiemens per centimeter s.u. = standard units
NTU = Nephelometric Turbidity Unit
[1] Due to the inherent variation in deionized water turbidity, ±1 NTU on the deionized water post-sampling calibration check is considered acceptable. See also Appendix A.

Other data collected at each monitoring site included date, time, site name, sampling location, collector's name, weather conditions, and any other pertinent observations. Following each field event, data were added to a database template provided by SMUD for eventual transfer into SMUD's master database.

5.2 BACTERIA

Bacteria grab samples were collected near reservoir shorelines in shallow water, particularly at swim areas/beach locations (Table 4-5, Figure 5-3). Samples were collected in sterilized bottles supplied by the analytical laboratory. Field sampling personnel wearing sterile gloves filled each sample bottle by direct immersion in the reservoir. Immediately after collection, samples were placed on ice for transport to the analytical laboratory within the required field hold time for fecal coliform and *Escherichia coli* (*E. coli*) analysis (Table 5-3).

Figure 5-3. Example of a bacteria sampling site at Slab Creek Reservoir (Bac-15-SC).

Table 5-3. Bacteria Analytical Methods and Field Hold Times.

Analyte	Method	Units	MDL	Hold Time
Escherichia coli	SM9223B (Quantitray)	MPN/100 mL	1.0	8 hours
Fecal coliform	SM9221E (MPN 15 or 25)	MPN/100 mL	1.8	8 hours

MDL = method detection limit
mL = milliliter
MPN = most probable number
SM = standard method

Field-based quality assurance/quality control (QA/QC) for bacterial samples was assured by accurate and thoroughly completed sample labels and chain of custody forms (Appendix B). Sample labels included sample identification code, date, time, preservative, client name, collector's name, reservoir name, sampling location, and analysis type.

6.0 RESULTS

6.1 *IN SITU* PARAMETERS

6.1.1 Reservoir Sites

In situ water quality data for selected UARP reservoir sites are presented in Figures 6-1 and 6-2 as representative of vertical profiles at similar sites. Field data records are

provided in Appendix C, and tabular and graphical profile data for all reservoirs are presented in Appendices D and E, respectively. The water surface at upper Loon Lake Reservoir was frozen during the spring *in situ* sampling event, and Site R-IS-1-LL could not be sampled. Junction, Camino, and Slab Creek reservoirs also could not be sampled during spring due to uncontrolled spilling (Table 4-4).

6.1.1.1 Water Temperature

During the spring sampling event, reservoir surface water temperatures ranged from approximately 3 to 14 degrees Celsius (°C) and bottom water temperatures from approximately 3 to 5°C (Figure 6-1; Appendix D, Table D-1; and Appendix E, Figures E-1 through E-6). The two Loon Lake Reservoir sites sampled exhibited little to no variation in water temperature with depth, indicating that the reservoir was generally well mixed (Appendix E, Figure E-1). All Union Valley and Ice House reservoir sites exhibited a thermocline, defined as a temperature change of more than 1°C per 1.0 m of depth (Figure 6-1 and Appendix E, Figures E-3 through E-6). In Union Valley Reservoir, the thermocline was typically located within 5 m of the water surface. Ice House Reservoir sites R-IS-9-IHR and R-IS-11-IHR exhibited a thermocline within 10 m of the water surface (Appendix E, Figures E-5 and E-6). At R-IS-10-IHR, the thermocline extended to 14 m depth. The onset of thermal stratification was also evident in Gerle Creek Reservoir (Appendix E, Figure E-2).

During the fall sampling event, reservoir surface water temperatures ranged from approximately 11 to 17°C and bottom water temperatures from approximately 6 to 17°C (Figure 6-2; Appendix D, Table D-2; and Appendix E, Figures E-7 through E-14). Four sites exhibited a thermocline: Site R-IS-8-UVR (60 to 64 m depth; Appendix E, Figure E-10) and all three Ice House Reservoir sites (15 m depth to bottom of profile at Sites R-IS-9-IHR and R-IS-10-IHR and 15 to 20 m depth at Site R-IS-11-IHR, Appendix E, Figures E-11 and E-12). Though water temperature generally decreased with depth at most other sites, no profiles met the 1°C change per 1.0 m of depth criterion for thermal stratification (e.g., Site R-IS-12-JR; Figure 6-2 and Appendix E, Figure E-13, and Site R-IS-8-UVR above 60 m depth; Appendix E, Figure E-10). Sites R-IS-1-LL, R-IS-2-LL, R-IS-3-LL, and R-IS-5-UVR exhibited little to no variation in water temperature with depth (Appendix E, Figures E-7 to E-9).

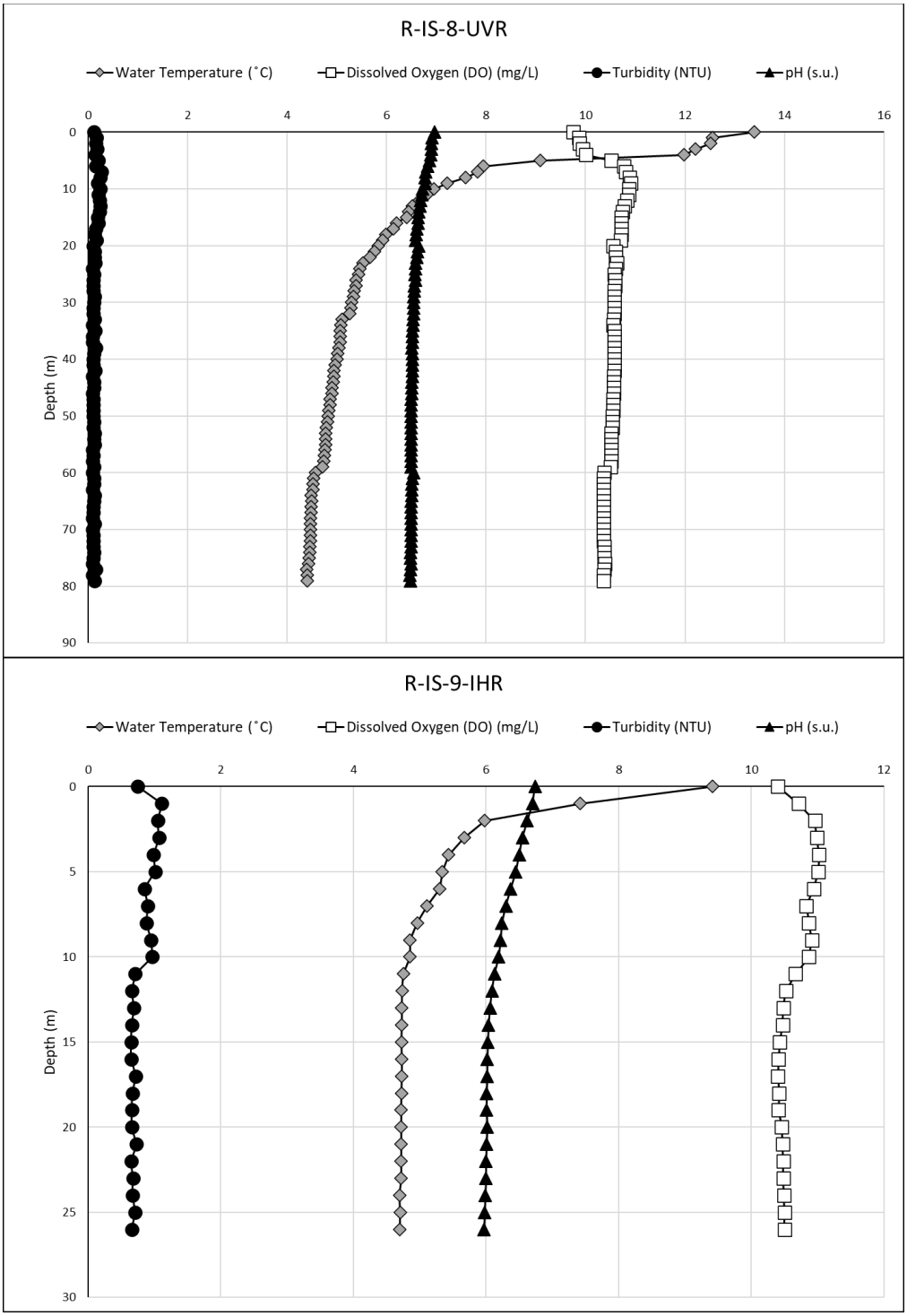

Figure 6-1. ***In situ*** **water temperature, dissolved oxygen, turbidity, and pH at Union Valley Reservoir Site R-IS-8-UVR and Ice House Reservoir Site R-IS-9-IHR, spring 2023.**

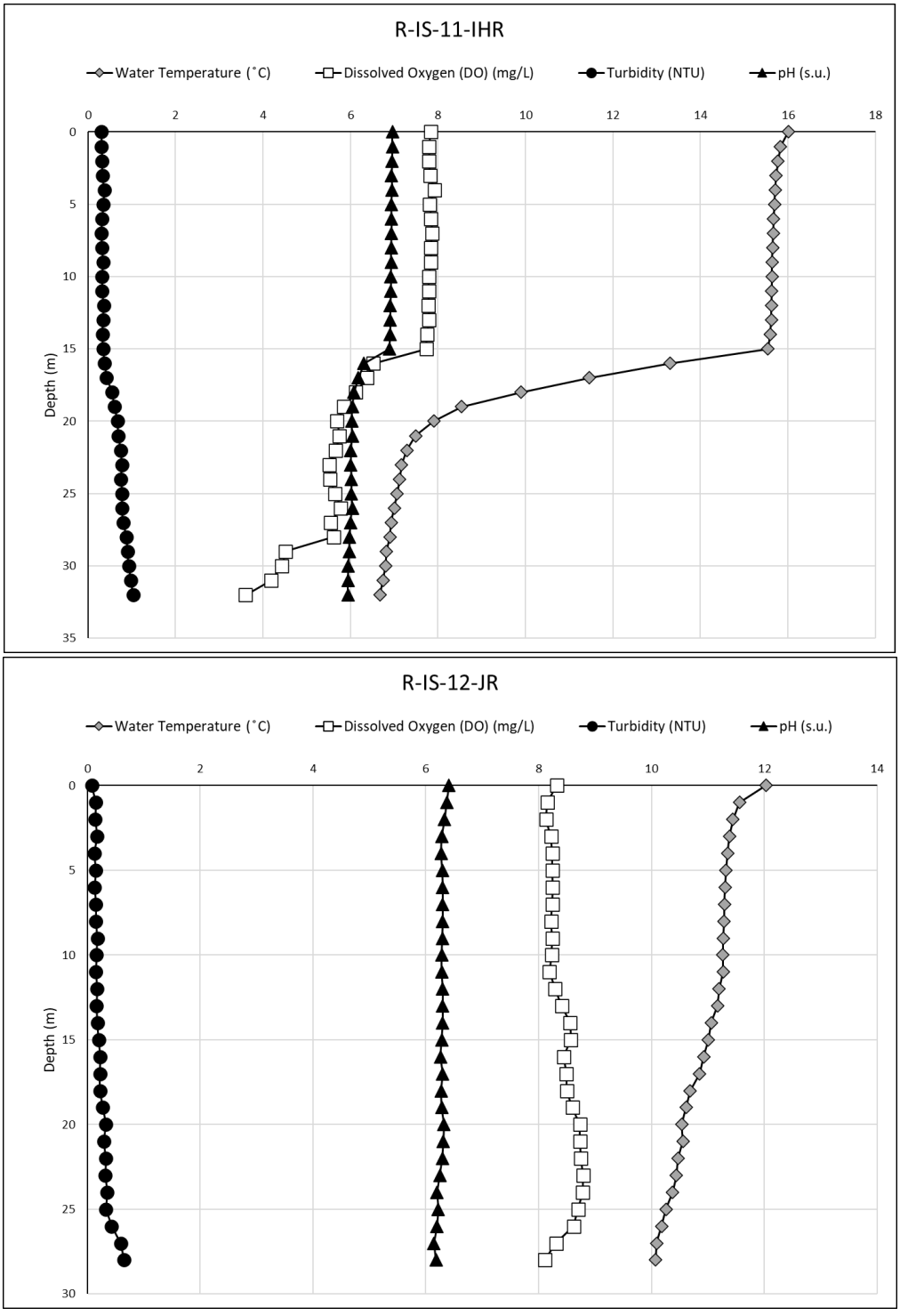

Figure 6-2. *In situ* water temperature, dissolved oxygen, turbidity and pH at Ice House Reservoir Site R-IS-11-IHR and Junction Reservoir Site R-IS-12-JR, fall 2023.

6.1.1.2 pH

At all reservoir sites, pH was generally consistent with depth, though slight decreases in pH with depth coincided with thermoclines at Union Valley and Ice House reservoirs in both spring and fall (Figure 6-2; Appendix D, Table D-1; and Appendix E, Figures E-3 to E-6 and E-9 to E-12). Reservoir pH ranged from 6.0 to 7.0 standard units (s.u.) in spring and 5.8 to 7.2 s.u. in fall (Appendix D, Tables D-1 and D-2). pH was below the Basin Plan (CRWQCB 2019) instantaneous minimum pH objective (6.5 s.u.) throughout most or all of the water column at Sites R-IS-2-LL, R-IS-3-LL, R-IS-6-UVR, R-IS-8-UVR, R-IS-9-IHR, and in the lower half of the water column at Sites R-IS-10-IHR and R-IS-11-IHR during the spring *in situ* sampling event. pH was below 6.5 s.u. in the middle to bottom of the water column at Sites R-IS-6-UVR, R-IS-7-UVR, R-IS-8-UVR, R-IS-9-IHR, R-IS-10-IHR, and R-IS-11-IHR and throughout the water column at Site R-IS-12-JR during the fall *in situ* sampling event. No measurements exceeded the Basin Plan instantaneous maximum pH objective (8.5 s.u.) (Appendix D, Tables D-1 and D-2; Appendix E, Figures E-1 to E-14).

6.1.1.3 Dissolved Oxygen

Dissolved oxygen concentrations were above the Basin Plan (CRWQCB 2019) instantaneous minimum objective of 7.0 milligrams per liter (mg/L) for cold freshwater habitat (COLD) and spawning, reproduction, and/or early development (SPAWN) designated beneficial uses throughout the water column at all reservoir sites during the spring *in situ* sampling event, ranging from approximately 10 mg/L in bottom waters to 11 mg/L in surface waters (Appendix D, Table D-1; and Appendix E, Figures E-1 to E-6). Dissolved oxygen concentrations in Loon Lake and Gerle Creek reservoirs were generally constant with depth (Appendix E, Figures E-1 to E-2). In Union Valley and Ice House reservoirs, dissolved oxygen concentrations generally increased slightly (by approximately 1 mg/L) within the thermoclines before decreasing gradually with depth (Figure 6-1; Appendix E, Figures E-3 to E-6).

Dissolved oxygen concentrations at reservoir sites were lower during the fall *in situ* sampling event, ranging from approximately 4 mg/L in bottom waters to 10 mg/L in surface waters. Dissolved oxygen concentrations showed little to no variation in the top 15 to 20 feet of all reservoirs, which represented most or all of the water column in the relatively shallow reservoirs (e.g., Junction Reservoir, Figure 6-2). In the deeper Union Valley and Ice House water columns, dissolved oxygen decreased through the thermocline, with sites in the shallow arms exhibiting a slight dip near the bottom sediments (Sites R-IS-6-UVR, R-IS-7-UVR, R-IS-9-IHR, R-IS-10-IHR; Exhibit E, Figures E-9 through E-11) and deep sites near the dam exhibiting larger decreases through the thermocline and continuing to the reservoir bottom (Sites R-IS-11-IHR; Figure 6-2; Exhibit E, Figure E-12 and Site R-IS-8-UVR; Exhibit E, Figure E-10) At these deep sites, dissolved oxygen fell below the Basin Plan (CRWQCB 2019) instantaneous minimum objective of 7.0 mg/L for COLD and SPAWN designated beneficial uses below 22 m in

Union Valley Reservoir and at or below 16 m in Ice House Reservoir (Figure 6-1; Appendix D, Table D-2; and Appendix E, Figures E-10 and E-12, respectively).

6.1.1.4 Conductivity

Typical of granitic watersheds, conductivity at all reservoir sites was low throughout the year. Conductivity was generally higher during the fall *in situ* sampling event (6 to 25 microsiemens per centimeter [uS/cm]) than during the spring *in situ* sampling event (5 to 11 uS/cm) (Appendix D). Conductivity was highest in Slab Creek Reservoir in fall (18 and 21 uS/cm compared with 10 uS/cm or less at other reservoir sites).

6.1.1.5 Turbidity

Reservoir turbidity was very low (less than or equal to 1.2 Nephelometric Turbidity Units [NTU]) during both sampling events and generally consistent with depth across all sites (Figures 6-1 and 6-2, Appendices D and E).

6.1.2 Riverine Sites

In situ water quality data for UARP riverine sites are shown in Table 6-1. Field data records are provided in Appendix C. Several riverine sites were inaccessible during at least one sampling event in 2023 (Table 4-4).

6.1.2.1 Water Temperature

Instantaneous water temperature measurements varied seasonally, with the highest temperatures occurring during the summer *in situ* sampling event (6.6 to 19.8°C) and the lowest temperatures occurring during the winter *in situ* sampling event (0.1 to 5.6°C) (Table 6-1).

6.1.2.2 pH

Riverine pH levels were similar across all four sampling events, ranging from 6.5 to 7.6 s.u., except for five measurements that fell below the Basin Plan instantaneous minimum pH objective (6.5 s.u.). pH was below 6.5 s.u. at Sites IS-1-RR and IS-3-LRR in summer (6.1 and 6.4 s.u., respectively), at Site IS-4-GC in spring (6.1 s.u.), and at Site IS-10-SFSC in summer and fall (5.3 and 6.4 s.u., respectively). No pH measurements exceeded the instantaneous maximum pH objective (8.5 s.u.) (Table 6-1).

6.1.2.3 Dissolved Oxygen

Riverine dissolved oxygen was highest during the winter *in situ* sampling event, ranging from 10.8 to 13.2 mg/L (82 to 100% saturation). Riverine dissolved oxygen was lower during the spring *in situ* sampling event, ranging from 9.8 to 11.3 mg/L (80 to 100% saturation), and lower still during the summer *in situ* sampling event, ranging from 7.2 to

10.5 mg/L (75 to 98% saturation). In fall, riverine *in situ* dissolved oxygen was generally higher than in spring or summer, ranging from 9.4 to 11.5 mg/L (80 to 96% saturation) (Table 6-1). All dissolved oxygen measurements exceeded the Basin Plan instantaneous minimum concentration objective of 7.0 mg/L for COLD (Table 6-1).

6.1.2.4 Conductivity

Typical of granitic watersheds, conductivity at all riverine sites was low throughout the year, ranging from 5 to 46 uS/cm. In general, conductivity was higher at downstream sites (i.e., Silver Creek, Brush Creek, and South Fork American River [SFAR] sites) relative to sites farther upstream (i.e., Rubicon River, Little Rubicon River, and Gerle Creek sites).

6.1.2.5 Turbidity

Turbidity was generally low (less than 2.0 NTU) at riverine sites throughout the year. Turbidity was elevated at sites farther downstream (i.e., Brush Creek and SFAR sites) during the spring *in situ* sampling event, ranging from 2.4 to 5.1 NTU. Higher-than-normal runoff and upstream reservoir spills following precipitation events and snowmelt likely contributed to elevated riverine turbidity during spring. Turbidity also was elevated at Site IS-12-SC during the fall *in situ* sampling event (10.4 NTU). On this date, residual water column turbidity in Junction Reservoir related to SWRCB-approved drawdown of the reservoir for maintenance of the Jaybird tunnel intake structure (SMUD 2023b) may have caused a temporary increase in turbidity in Silver Creek downstream of Junction Reservoir. The effect was attenuated farther downstream and below Camino Reservoir; turbidity at sites IS-13-SC and IS-14-SC was 2.1 and 1.7 NTU, respectively.

Table 6-1. *In Situ* Water Quality for Upper American River Project Riverine Sites, 2023.

Site ID	Sample Date	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)
Winter							
IS-1-RR	–	–	–	–	–	–	–
IS-2-LRR	–	–	–	–	–	–	–
IS-3-LRR	–	–	–	–	–	–	–
IS-4-GC	–	–	–	–	–	–	–
IS-5-GC	–	–	–	–	–	–	–
IS-6-GC	–	–	–	–	–	–	–
IS-7-SFRR	–	–	–	–	–	–	–
IS-8-SFRR	–	–	–	–	–	–	–
IS-9-GCC	–	–	–	–	–	–	–
IS-10-SFSC	2/6	3.7	6.6	10.8	82	10	1.5
IS-11-SFSC	2/6	0.1	7.0	12.7	87	10	0.4
IS-12-SC	2/6	0.1	6.5	12.4	86	9	0.9
IS-13-SC	2/6	3.8	7.0	12.2	93	11	0.5
IS-14-SC	2/6	4.3	7.2	12.0	92	15	0.2
IS-15-SFAR	2/6	3.3	7.5	12.8	96	34	1.2
IS-16-SFAR	2/6	3.7	7.3	13.2	100	19	0.8
IS-17-BC	2/6	5.6	7.1	11.5	92	14	2.0
IS-18-SFAR	2/7	5.2	7.3	12.6	99	34	1.5
IS-19-SFAR	2/7	4.1	7.1	12.3	94	21	0.8
Spring							
IS-1-RR	–	–	–	–	–	–	–
IS-2-LRR	–	–	–	–	–	–	–
IS-3-LRR	–	–	–	–	–	–	–
IS-4-GC	5/25	3.8	6.1	10.5	80	5	1.4
IS-5-GC	5/25	6.5	6.7	10.0	82	6	0.4
IS-6-GC	5/25	5.7	6.6	10.3	82	6	0.2
IS-7-SFRR	5/25	6.2	6.8	10.3	83	7	0.4
IS-8-SFRR	5/25	6.8	6.8	10.2	84	7	0.3
IS-9-GCC	5/25	6.2	6.5	10.4	84	6	0.3
IS-10-SFSC	5/18	5.0	6.9	10.3	81	9	0.9
IS-11-SFSC	5/17	5.7	6.9	10.6	85	12	0.7
IS-12-SC	5/17	8.4	6.7	10.5	89	10	0.6
IS-13-SC	5/17	9.3	6.8	9.8	94	10	1.9
IS-14-SC	5/17	8.9	6.8	11.0	95	10	1.6
IS-15-SFAR	5/16	9.7	7.2	11.1	98	18	5.1
IS-16-SFAR	5/16	9.6	7.2	11.0	97	16	4.3
IS-17-BC	5/16	11.2	7.1	9.8	90	19	2.4
IS-18-SFAR	5/16	11.6	7.2	10.7	99	19	3.2
IS-19-SFAR	5/16	9.8	7.1	11.3	100	17	4.5

Site ID	Sample Date	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)
Summer							
IS-1-RR	8/2	16.0	6.1	7.4	75	9	0.1
IS-2-LRR	8/2	19.0	6.9	7.4	80	8	0.0
IS-3-LRR	8/2	19.8	6.4	7.2	79	8	0.0
IS-4-GC	8/1	9.6	6.7	9.5	83	6	0.6
IS-5-GC	8/1	13.4	7.0	8.9	86	8	0.3
IS-6-GC	8/1	12.7	6.8	9.1	86	7	0.3
IS-7-SFRR	8/1	13.2	6.9	9.1	87	8	0.3
IS-8-SFRR	8/1	13.0	6.9	9.3	88	8	0.2
IS-9-GCC	8/1	14.4	6.8	9.1	89	7	0.3
IS-10-SFSC	8/1	6.6	5.3	10.5	86	8	1.8
IS-11-SFSC	8/3	12.5	7.1	9.2	86	13	0.3
IS-12-SC	8/3	8.5	7.1	9.9	85	9	0.3
IS-13-SC	8/3	15.0	6.8	9.2	91	13	0.2
IS-14-SC	8/3	10.0	7.1	10.3	91	11	0.3
IS-15-SFAR	8/3	19.7	7.6	8.8	97	46	0.4
IS-16-SFAR	8/3	13.2	7.3	10.3	98	22	0.4
IS-17-BC	8/3	16.5	7.4	8.9	91	29	3.6
IS-18-SFAR	8/4	16.5	7.0	9.5	98	28	0.2
IS-19-SFAR	8/4	12.7	6.7	9.6	91	17	1.0
Fall							
IS-1-RR	–	–	–	–	–	–	–
IS-2-LRR	–	–	–	–	–	–	–
IS-3-LRR	–	–	–	–	–	–	–
IS-4-GC	11/14	8.5	6.6	9.4	80	6	0.4
IS-5-GC	11/14	5.0	6.7	10.2	80	6	0.8
IS-6-GC	11/14	7.2	6.7	10.3	85	7	0.3
IS-7-SFRR	11/14	4.6	6.8	11.1	86	8	0.4
IS-8-SFRR	11/14	4.8	6.8	10.9	85	8	0.4
IS-9-GCC	11/14	7.7	6.8	10.1	84	7	0.3
IS-10-SFSC	11/14	7.1	6.4	10.1	83	9	0.9
IS-11-SFSC	11/14	3.5	6.9	10.9	82	10	0.5
IS-12-SC	11/14	6.4	6.8	10.2	82	13	10.4
IS-13-SC	11/14	6.3	7.0	11.1	90	15	2.1
IS-14-SC	11/14	7.1	7.0	10.7	89	16	1.7
IS-15-SFAR	11/14	6.9	7.3	11.1	90	29	0.6
IS-16-SFAR	11/14	6.9	7.3	11.5	95	24	1.2
IS-17-BC	11/14	11.7	7.2	9.6	88	22	4.0
IS-18-SFAR	11/15	8.1	7.1	11.3	96	29	0.7
IS-19-SFAR	11/15	8.5	6.8	10.8	92	24	0.9

°C = degrees Celsius
s.u. = standard unit of pH
mg/L = milligrams per liter
% sat = percent saturation
uS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Unit
"–" Indicates that data were not collected due to site inaccessibility. See also Table 4-4.

6.2 BACTERIA

Instantaneous fecal coliform counts ranged from less than the MDL (i.e., 1.8 most probable number per 100 milliliters [MPN/100 mL]) to greater than 1,600 MPN/100 mL during the 2023 Independence Day sampling event (Appendix F, Table F-1). Only one sample exceeded the Basin Plan instantaneous maximum objective of 400 MPN/100 mL for the REC-1 designated beneficial use (CRWQCB 2019): the third of five samples at Site Bac-11-JR exhibited an instantaneous fecal coliform count greater than the maximum allowable count for a 15-tube laboratory analytical test (1,600 MPN/100 mL). The instantaneous fecal coliform count for the third sample at Site Bac-11-JR was treated as double the maximum allowable count (3,200 MPN/100 mL) for calculation of the geometric mean at this site; instantaneous fecal coliform counts less than the MDL were treated as half the MDL (i.e., 0.9 MPN/100 mL) for geometric mean calculations.

The geometric means of fecal coliform counts at all sites in 2023 were well below the Basin Plan objective of 200 MPN/100 mL for REC-1 designated beneficial use (CRWQCB 2019). The lowest fecal coliform geometric mean count (3.4 MPN/100 mL) occurred in Slab Creek Reservoir (Site Bac-15-SCR), and the highest fecal coliform geometric mean count (56.2 MPN/100 mL) occurred in Union Valley Reservoir (Site Bac-7-UVR) (Table 6-2). The relatively high instantaneous fecal coliform count in the third sample at Site Bac-11-JR is unlikely to have resulted in a geometric mean value above the Basin Plan objective for this site even if the actual instantaneous fecal coliform count was greater than the estimated 3,200 MPN/100 mL because the required instantaneous result for a geometric mean of 200 MPN/100 mL would be at least five orders of magnitude greater than any other fecal coliform sample reported at a UARP site in 2023. The geometric mean of fecal coliform counts at Site Bac-11-JR in 2023 was lower than the geometric mean counts at that site in 2020, 2021, and 2022 (SMUD 2021b, 2022, 2023a).

Instantaneous *E. coli* counts ranged from less than the MDL (i.e., <1.0 MPN/100 mL) to 1,299.7 MPN/100 mL during the 2023 Independence Day sampling event (Appendix F, Table F-1). The third of five samples at Site Bac-11-JR during the Independence Day sampling event, which exhibited an elevated instantaneous fecal coliform count (>1,600 MPN/100 mL), also exhibited an elevated instantaneous *E. coli* count (1,299.7 MPN/100mL) (Appendix F, Table F-1). There is no Basin Plan instantaneous objective for *E. coli*.

The lowest geometric mean of *E. coli* counts (1.8 MPN/100 mL) occurred in Ice House Reservoir (Site Bac-13-IHR), and the highest geometric mean of *E. coli* counts

(29.2 MPN/100 mL) occurred in Union Valley Reservoir (Site Bac-7-UVR) (Table 6-2). There is no Basin Plan geometric mean objective for *E. coli*.[1]

Table 6-2. Bacteria Counts for Upper American River Project Reservoir Sites, Independence Day Sampling Event 2023.

Site ID	Fecal Coliform Geometric Mean[1,2] (MPN/100 mL)	*E. coli* Geometric Mean[1] (MPN/100 mL)
Bac-7-UVR	56.2	29.2
Bac-10-UVR	37.8	22.7
Bac-11-JR	32.6	28.6
Bac-13-IHR	6.4	1.8
Bac-15-SCR	3.4	6.4

MPN/100 mL = most probable number per 100 milliliters

[1] Method detection limit (MDL for fecal coliform = 1.8 MPN/100 mL. MDL for *E. coli* = 1.0 MPN/100 mL). Individual results less than the MDL were treated as 0.5 x MDL for the geometric mean calculations. Individual results greater than 1,600 MPN/100 mL (maximum allowable count for a 15-tube laboratory analytical test) were treated as 2.0 x 1,600 for the geometric mean calculations.

[2] The Basin Plan REC-1 water quality objectives for fecal coliform are 200 MPN/100 mL expressed as the geometric mean of five samples collected over 30 days, and no more than ten percent of the total number of samples collected during any 30-day period shall exceed 400 MPN/100 mL (CRWQCB).

6.3 CONCLUSIONS

Based on 2023 *in situ* monitoring results, reservoir water quality was generally good, with occasional values measured below the Basin Plan instantaneous minimum objectives for dissolved oxygen (7.0 mg/L) in the bottom waters of stratified reservoirs during fall (i.e., Ice House Reservoir, Union Valley Reservoir), which is not uncommon for deep waterbodies that have been thermally stratified for several months. Reservoir pH was below the Basin Plan instantaneous minimum pH objective at all sites sampled in spring and in bottom waters at sites sampled in fall.

Riverine water quality in the UARP study area generally met Basin Plan water quality objectives for dissolved oxygen and turbidity. Dissolved oxygen measurements consistently exceeded the Basin Plan instantaneous minimum objective (7.0 mg/L) for COLD and SPWN. There was one instance of elevated turbidity (>10 NTU) on Silver

[1] While there is no Basin Plan instantaneous objective for *E. coli*, the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Water Quality Control Plan) (SWRCB 2019) has replaced the Basin Plan instantaneous fecal coliform objective of 200 MPN/100 mL (reported above) with an instantaneous *E. coli* objective that is based on colony forming units (CFUs) (i.e., 320 CFU/100 mL). The Water Quality Control Plan has also replaced the geometric mean fecal coliform objective with a geometric mean *E. coli* objective of 100 CFU/100 mL for no fewer than five samples distributed over a six-week period. Although the geometric mean periods for the Basin Plan and Water Quality Control Plan are similar, and MPN and CFU counts are approximately equivalent, future comparisons of *E. coli* results to the Water Quality Control Plan instantaneous objective of 320 CFU/100 mL or the geometric mean objective of 100 CFU/100 mL would require use of a heterotrophic plate count method (Standard Method 9215b) for *E. coli* analysis, rather than Standard Method 9223B (Quantitray) that is specified in the Plan (SMUD 2021a).

Creek below Junction Reservoir related to approved maintenance activities. There were five instances of pH measured below the Basin Plan instantaneous minimum objective (6.5 s.u.).

Low pH values are likely due to the low buffering capacity characteristic of headwater reaches in predominantly granitic watersheds, whereby the relatively low weathering rates of granitic rocks result in low alkalinity (<17 mg/L across all sites in 2017 and 2022; SMUD 2018, 2023a) and low hardness (<20 mg/L across all sites in 2017 and 2022; SMUD 2018, 2023a). Low alkalinity and hardness make the waters susceptible to pH decreases when naturally acidic inputs occur, such as snowmelt, rainfall, and tannins from surrounding vegetation. Water Year 2023 saw record snowpack in the Sierra Nevada; the snow water equivalent for the Central Sierra region was 235% of normal on April 1, 2023 (CDEC 2023). Higher-than-normal runoff following precipitation events and snowmelt did not appear to contribute to substantially lower pH in spring or fall 2023 when compared with prior years of monitoring.

There was one exceedance of the Basin Plan instantaneous maximum objective for fecal coliform (400 MPN/100 mL) for REC-1 designated beneficial use at Site Bac-11-JR during the 2023 Independence Day sampling event. Refuse from recreational use was observed at Site Bac-11-JR throughout the Independence Day sampling event, including human waste on two of the five sampling days. There were no exceedances of the geometric mean objective for fecal coliform.

Despite low pH measurements, 2023 monitoring results indicate that overall, surface waters of the UARP study area support designated beneficial uses, including COLD, SPWN, and REC-1.

7.0 LITERATURE CITED

CDEC (California Data Exchange Center). 2023. Snow Pack Conditions – Snow Water Equivalents for 01-Apr-2023. Provided by the California Cooperative Snow Surveys.

CRWQCB (California Regional Water Quality Control Board). 2018. The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region. The Sacramento River Basin and The San Joaquin River Basin. Fifth Edition.

CRWQCB. 2019. The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region. Fifth Edition.

FERC (Federal Energy Regulatory Commission). 2014. Federal Energy Regulatory Commission Order 148 FERC 62,070 Issuing New License for the Sacramento Municipal Utility District Upper American River Hydroelectric Project No. 2101. Issued July 23.

SMUD (Sacramento Municipal Utility District). 2015. Water Quality Monitoring Plan. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. May.

SMUD. 2015. Water Quality Monitoring Plan. Revision 1. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. August.

SMUD. 2016. Water Quality Monitoring Plan. Revision 2. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. August.

SMUD. 2018. Water Quality Monitoring Report—2017. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. June.

SMUD. 2020. Water Quality Monitoring Report—2019 and Five-Year Water Quality Summary—2015–2019. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. June.

SMUD. 2021a. Water Quality Monitoring Plan. Revision 3. Hydro License Implementation. Upper American River Project, FERC Project No. 2101. March.

SMUD. 2021b. Water Quality Monitoring Report (2020). Hydro License Implementation. Upper American River Project, FERC Project No. 2101. May.

SMUD. 2022. Water Quality Monitoring Report (2021). Hydro License Implementation. Upper American River Project, FERC Project No. 2101. June.

SMUD. 2023a. Water Quality Monitoring Report (2022). Hydro License Implementation. Upper American River Project, FERC Project No. 2101. June.

SMUD. 2023b. Supplemental Filing on SMUD's Proposal for Interim Modification of Junction Reservoir Level for the Upper American River Project, FERC Project No. 2101 – CA. DPG 23-141. October.

SWRCB (State Water Resources Control Board). 2019. California Environmental Protection Agency. Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Bacteria Provisions and a Water Quality Standards Variance Policy. February.

This Page Intentionally Left Blank

APPENDIX A
In Situ Field Calibration Records

This Page Intentionally Left Blank

Table A-1. *In situ* Field Pre-Sampling Calibration Records.

Date & Time (Local)	Instrument Used	Survey Recorded By	Weather	Standard Values									Barometric Pressure (mmHg)	Notes
				Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (%)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)		
2/6/2023 5:19	YSI EXO2	Esther Adelstein	Clear, cool	1000	1413	95	9.6	4.00	7.00	10.00	0.0	12.4	719.5	—
2/7/2023 6:46	YSI EXO2	Esther Adelstein	Clear, cool	1000	1413	95	9.7	4.00	7.00	10.00	0.0	12.4	720.1	—
5/16/2023 6:13	YSI EXO2	Esther Adelstein	Clear and warm	1000	1413	94	8.5	4.00	7.00	10.00	0.0	12.4	713.7	—
5/16/2023 13:26	YSI EXO2	Esther Adelstein	Sunny, hot	-	-	90	-	-	-	-	-	-	679.4	DO % saturation onsite recalibration
5/17/2023 6:08	YSI EXO2	Esther Adelstein	Clear	1000	1413	94	8.8	4.00	7.00	10.00	0.0	12.4	711.5	—
5/17/2023 13:21	YSI EXO2	Esther Adelstein	Clear	-	-	89	-	-	-	-	-	-	710.4	DO % saturation onsite recalibration
5/18/2023 5:50	YSI EXO2	Esther Adelstein	Clear and warm	1000	1413	93	8.4	4.00	7.00	10.00	0.0	12.4	709.5	—
5/19/2023 5:41	YSI EXO2	Esther Adelstein	Clear, cool	1000	1413	94	8.6	4.00	7.00	10.00	0.0	12.4	711.4	—
5/25/2023 6:39	YSI EXO2	Annabelle Howe	Sunny, clear	1000	1413	93	8.6	4.00	7.00	10.00	0.0	12.4	701.8	—
8/1/2023 7:43	YSI EXO2	Esther Adelstein	Clear and warm	1000	1413	94	8.1	4.00	7.00	10.00	0.0	12.4	712.1	—
8/1/2023 14:05	YSI EXO2	Esther Adelstein	Hot and sunny at Loon Lake CG	1000	1413	80	6.5	4.00	7.00	10.00	0.0	12.4	605.4	Calibration for 8/2 backcountry sampling
8/3/2023 6:58	YSI EXO2	Esther Adelstein	Sunny warm	1000	1413	94	8.2	4.00	7.00	10.00	0.0	12.4	713.4	—
8/4/2023 6:56	YSI EXO2	Camille Hymes	Sunny, clear	1000	1413	94	8.2	4.00	7.00	10.00	0.0	12.4	712.9	—
10/16/2023 5:42	YSI EXO2S	Esther Adelstein	Cool and clear	1000	1413	94	8.6	4.00	7.00	10.00	0.0	12.4	715.3	—
10/16/2023 8:58	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	91	-	-	-	-	-	-	690.3	DO % saturation onsite recalibration
10/16/2023 10:53	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	84	-	-	-	-	-	-	630.1	DO % saturation onsite recalibration
10/17/2023 6:10	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1413	94	9.3	4.00	7.00	10.00	0.0	12.4	714.2	—
10/17/2023 9:26	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	80	-	-	-	-	-	-	607.6	DO % saturation onsite recalibration
10/17/2023 12:02	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	83	-	-	-	-	-	-	633.0	DO % saturation onsite recalibration
10/18/2023 6:32	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1413	94	8.3	4.00	7.00	10.00	0.0	12.4	712.8	—
10/18/2023 9:19	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	85	-	-	-	-	-	-	643.2	DO % saturation onsite recalibration
10/19/2023 7:35	YSI EXO2S	Esther Adelstein	Warm, hazy	1000	1413	94	8.7	4.00	7.00	10.00	0.0	12.4	713.8	—
10/19/2023 9:51	YSI EXO2S	Esther Adelstein	Warm, hazy	-	-	97	-	-	-	-	-	-	736.1	DO % saturation onsite recalibration
10/24/2023 5:56	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1413	93	9.4	4.00	7.00	10.00	0.0	12.4	709.3	—
10/24/2023 12:51	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	85	-	-	-	-	-	-	645.4	DO % saturation onsite recalibration
11/14/2023 6:11	YSI EXO2S	Esther Adelstein	Cold and clear	1000	1413	94	9.4	4.00	7.00	10.00	0.0	12.4	712.0	—
11/14/2023 8:37	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	80	-	-	-	-	-	-	605.2	DO % saturation onsite recalibration
11/14/2023 9:09	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	83	-	-	-	-	-	-	627.1	DO % saturation onsite recalibration
11/14/2023 9:30	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	83	-	-	-	-	-	-	631.4	DO % saturation onsite recalibration
11/14/2023 11:47	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	85	-	-	-	-	-	-	647.9	DO % saturation onsite recalibration
11/14/2023 12:51	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	90	-	-	-	-	-	-	685.7	DO % saturation onsite recalibration
11/14/2023 13:14	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	91	-	-	-	-	-	-	688.7	DO % saturation onsite recalibration
11/15/2023 6:17	YSI EXO2S	Esther Adelstein	Cool and clear	1000	1413	93	9.2	4.00	7.00	10.00	0.0	12.4	709.4	—

Table A-1, continued. *In situ* Field Pre-Sampling Calibration Records.

Date & Time (Local)	Instrument Used	Survey Recorded By	Weather	Temperature of Standard during Calibration (°C)									Barometric Pressure (mmHg)	Notes
				Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)		
2/6/2023 5:19	YSI EXO2	Esther Adelstein	Clear, cool	15.6	15.3	14.9	14.9	15.5	15.4	15.5	13.9		719.5	—
2/7/2023 6:46	YSI EXO2	Esther Adelstein	Clear, cool	14.6	14.5	14.3	14.3	14.6	6.8	14.1	14.5	13.9	720.1	—
5/16/2023 6:13	YSI EXO2	Esther Adelstein	Clear and warm	22.1	21.5	20.6	20.5	22.3	21.6	21.9	18.9	20.1	713.7	—
5/16/2023 13:26	YSI EXO2	Esther Adelstein	Sunny, hot	-	-	20.9	-	-	-	-	-	-	679.4	DO % saturation onsite recalibration
5/17/2023 6:08	YSI EXO2	Esther Adelstein	Clear	22.9	22.1	18.5	18.4	22.8	21.9	21.1	21.4	19.9	711.5	—
5/17/2023 13:21	YSI EXO2	Esther Adelstein	Clear	-	-	20.9	-	-	-	-	-	-	710.4	DO % saturation onsite recalibration
5/18/2023 5:50	YSI EXO2	Esther Adelstein	Clear and warm	23.8	23.6	20.7	20.7	24.2	25.4	24.8	21.3	19.7	709.5	—
5/19/2023 5:41	YSI EXO2	Esther Adelstein	Clear, cool	21.9	21.8	19.4	19.4	22.2	20.4	21.2	20.8	19.9	711.4	—
5/25/2023 6:39	YSI EXO2	Annabelle Howe	Sunny, clear	17.7	17.6	19.4	19.3	17.4	17.0	17.0	17.0	14.5	701.8	—
8/1/2023 7:43	YSI EXO2	Esther Adelstein	Clear and warm	22.7	23.5	22.8	22.7	24.3	23.7	23.3	23.0	21.0	712.1	—
8/1/2023 14:05	YSI EXO2	Esther Adelstein	Hot and sunny at Loon Lake CG	25.9	25.5	25.4	25.7	25.6	25.0	25.3	25.6	25.7	605.4	Calibration for 8/2 backcountry sampling
8/3/2023 6:58	YSI EXO2	Esther Adelstein	Sunny warm	19.6	19.9	22.0	22.0	22.4	20.1	19.5	18.6	19.0	713.4	—
8/4/2023 6:56	YSI EXO2	Camille Hymes	Sunny, clear	18.6	18.3	22.2	22.0	19.8	20.0	19.9	18.1	18.0	712.9	—
10/16/2023 5:42	YSI EXO2S	Esther Adelstein	Cool and clear	17.4	18.4	20.0	19.9	18.3	18.0	18.8	18.7	17.9	715.3	—
10/16/2023 8:58	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	16.6	-	-	-	-	-	-	690.3	DO % saturation onsite recalibration
10/16/2023 10:53	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	15.4	-	-	-	-	-	-	630.1	DO % saturation onsite recalibration
10/17/2023 6:10	YSI EXO2S	Esther Adelstein	Cool and calm	15.9	15.4	16.1	16.1	17.4	16.6	16.7	15.8	16.1	714.2	—
10/17/2023 9:26	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	13.5	-	-	-	-	-	-	607.6	DO % saturation onsite recalibration
10/17/2023 12:02	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	19.0	-	-	-	-	-	-	633.0	DO % saturation onsite recalibration
10/18/2023 6:32	YSI EXO2S	Esther Adelstein	Cool and calm	16.4	15.8	21.3	21.2	18.0	16.9	16.3	16.0	15.9	712.8	—
10/18/2023 9:19	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	14.3	-	-	-	-	-	-	643.2	DO % saturation onsite recalibration
10/19/2023 7:35	YSI EXO2S	Esther Adelstein	Warm, hazy	16.5	16.5	19.2	19.2	17.8	17.6	10.0	16.3	16.0	713.8	—
10/19/2023 9:51	YSI EXO2S	Esther Adelstein	Warm, hazy	-	-	16.5	-	-	-	-	-	-	736.1	DO % saturation onsite recalibration
10/24/2023 5:56	YSI EXO2S	Esther Adelstein	Cool and calm	15.8	15.5	15.3	15.3	16.1	16.6	15.2	14.7	14.5	709.3	—
10/24/2023 12:51	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	16.6	-	-	-	-	-	-	645.4	DO % saturation onsite recalibration
11/14/2023 6:11	YSI EXO2S	Esther Adelstein	Cold and clear	11.4	10.3	15.4	15.3	11.8	10.9	11.4	10.7	10.6	712.0	—
11/14/2023 8:37	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	11.5	-	-	-	-	-	-	605.2	DO % saturation onsite recalibration
11/14/2023 9:09	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	10.0	-	-	-	-	-	-	627.1	DO % saturation onsite recalibration
11/14/2023 9:30	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	6.6	-	-	-	-	-	-	631.4	DO % saturation onsite recalibration
11/14/2023 11:47	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	5.7	-	-	-	-	-	-	647.9	DO % saturation onsite recalibration
11/14/2023 12:51	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	11.3	-	-	-	-	-	-	685.7	DO % saturation onsite recalibration
11/14/2023 13:14	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	11.3	-	-	-	-	-	-	688.7	DO % saturation onsite recalibration
11/15/2023 6:17	YSI EXO2S	Esther Adelstein	Cool and clear	8.8	9.4	15.8	15.8	9.4	8.7	7.8	9.3	9.2	709.4	—

Table A-1, continued. *In situ* Field Pre-Sampling Calibration Records.

Date & Time (Local)	Instrument Used	Survey Recorded By	Weather	Pre-Calibration Value									Barometric Pressure (mmHg)	Notes
				Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)		
2/6/2023 5:19	YSI EXO2	Esther Adelstein	Clear, cool	978	-	95	9.6	3.70	6.80	10.05	0.0	12.5	719.5	—
2/7/2023 6:46	YSI EXO2	Esther Adelstein	Clear, cool	1022	-	95	9.7	4.25	7.11	10.12	0.0	12.4	720.1	—
5/16/2023 6:13	YSI EXO2	Esther Adelstein	Clear and warm	984	-	78	8.5	3.98	6.96	10.02	0.2	12.3	713.7	—
5/16/2023 13:26	YSI EXO2	Esther Adelstein	Sunny, hot	-	-	108	-	-	-	-	-	-	679.4	DO % saturation onsite recalibration
5/17/2023 6:08	YSI EXO2	Esther Adelstein	Clear	1002	-	92	8.8	4.14	7.05	10.05	-0.3	12.3	711.5	—
5/17/2023 13:21	YSI EXO2	Esther Adelstein	Clear	-	-	96	-	-	-	-	-	-	710.4	DO % saturation onsite recalibration
5/18/2023 5:50	YSI EXO2	Esther Adelstein	Clear and warm	993	-	91	8.4	4.02	6.96	9.94	0.0	12.6	709.5	—
5/19/2023 5:41	YSI EXO2	Esther Adelstein	Clear, cool	1003	-	93	8.6	3.96	6.98	10.08	0.2	12.3	711.4	—
5/25/2023 6:39	YSI EXO2	Annabelle Howe	Sunny, clear	997	-	94	8.6	3.96	6.94	10.01	-0.2	12.9	701.8	—
8/1/2023 7:43	YSI EXO2	Esther Adelstein	Clear and warm	992	-	91	8.1	3.93	6.95	10.01	-0.1	12.3	712.1	—
8/1/2023 14:05	YSI EXO2	Esther Adelstein	Hot and sunny at Loon Lake CG	1000	-	83	6.5	4.08	6.98	10.02	0.2	12.4	605.4	Calibration for 8/2 backcountry sampling
8/3/2023 6:58	YSI EXO2	Esther Adelstein	Sunny warm	999	-	93	8.2	3.84	6.86	10.02	0.0	12.4	713.4	—
8/4/2023 6:56	YSI EXO2	Camille Hymes	Sunny, clear	988	-	94	8.2	4.22	7.12	10.07	0.0	12.4	712.9	—
10/16/2023 5:42	YSI EXO2S	Esther Adelstein	Cool and clear	1006	-	90	8.6	4.21	7.03	9.84	-0.1	12.6	715.3	—
10/16/2023 8:58	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	91	-	-	-	-	-	-	690.3	DO % saturation onsite recalibration
10/16/2023 10:53	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	83	-	-	-	-	-	-	630.1	DO % saturation onsite recalibration
10/17/2023 6:10	YSI EXO2S	Esther Adelstein	Cool and calm	1001	-	92	9.3	3.94	7.06	10.14	0.2	12.3	714.2	—
10/17/2023 9:26	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	81	-	-	-	-	-	-	607.6	DO % saturation onsite recalibration
10/17/2023 12:02	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	84	-	-	-	-	-	-	633.0	DO % saturation onsite recalibration
10/18/2023 6:32	YSI EXO2S	Esther Adelstein	Cool and calm	999	-	92	8.3	4.08	7.05	9.96	0.0	12.3	712.8	—
10/18/2023 9:19	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	89	-	-	-	-	-	-	643.2	DO % saturation onsite recalibration
10/19/2023 7:35	YSI EXO2S	Esther Adelstein	Warm, hazy	1001	-	89	8.7	3.86	6.96	9.99	0.0	12.0	713.8	—
10/19/2023 9:51	YSI EXO2S	Esther Adelstein	Warm, hazy	-	-	100	-	-	-	-	-	-	736.1	DO % saturation onsite recalibration
10/24/2023 5:56	YSI EXO2S	Esther Adelstein	Cool and calm	1004	-	93	9.4	3.97	7.02	10.00	0.2	12.6	709.3	—
10/24/2023 12:51	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	86	-	-	-	-	-	-	645.4	DO % saturation onsite recalibration
11/14/2023 6:11	YSI EXO2S	Esther Adelstein	Cold and clear	1008	-	94	9.4	4.19	7.26	9.94	0.4	12.8	712.0	—
11/14/2023 8:37	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	81	-	-	-	-	-	-	605.2	DO % saturation onsite recalibration
11/14/2023 9:09	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	84	-	-	-	-	-	-	627.1	DO % saturation onsite recalibration
11/14/2023 9:30	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	81	-	-	-	-	-	-	631.4	DO % saturation onsite recalibration
11/14/2023 11:47	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	90	-	-	-	-	-	-	647.9	DO % saturation onsite recalibration
11/14/2023 12:51	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	87	-	-	-	-	-	-	685.7	DO % saturation onsite recalibration
11/14/2023 13:14	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	92	-	-	-	-	-	-	688.7	DO % saturation onsite recalibration
11/15/2023 6:17	YSI EXO2S	Esther Adelstein	Cool and clear	1016	-	92	9.3	3.83	6.95	10.32	0.2	12.4	709.4	—

Table A-1, continued. *In situ* Field Pre-Sampling Calibration Records.

Date & Time (Local)	Instrument Used	Survey Recorded By	Weather	Post-Calibration Value									Barometric Pressure (mmHg)	Notes
				Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)		
2/6/2023 5:19	YSI EXO2	Esther Adelstein	Clear, cool	1000	1438	95	9.6	4.00	7.00	10.00	0.0	12.4	719.5	—
2/7/2023 6:46	YSI EXO2	Esther Adelstein	Clear, cool	1000	1409	95	9.7	4.00	7.00	10.00	0.0	12.4	720.1	—
5/16/2023 6:13	YSI EXO2	Esther Adelstein	Clear and warm	1000	1399	94	8.5	4.00	7.00	10.00	0.0	12.4	713.7	—
5/16/2023 13:26	YSI EXO2	Esther Adelstein	Sunny hot	-	-	89	-	-	-	-	-	-	679.4	DO % saturation onsite recalibration
5/17/2023 6:08	YSI EXO2	Esther Adelstein	Clear	1000	1399	94	8.8	4.00	7.00	10.00	0.0	12.4	711.5	—
5/17/2023 13:21	YSI EXO2	Esther Adelstein	Clear	-	-	94	-	-	-	-	-	-	710.4	DO % saturation onsite recalibration
5/18/2023 5:50	YSI EXO2	Esther Adelstein	Clear and warm	1000	1404	93	8.4	4.00	7.00	10.00	0.0	12.4	709.5	—
5/19/2023 5:41	YSI EXO2	Esther Adelstein	Clear, cool	1000	1402	94	8.6	4.00	7.00	10.00	0.0	12.4	711.4	—
5/25/2023 6:39	YSI EXO2	Annabelle Howe	Sunny, clear	1000	1404	93	8.6	4.00	7.00	10.00	0.0	12.4	701.8	—
8/1/2023 7:43	YSI EXO2	Esther Adelstein	Clear and warm	1000	1399	94	8.1	4.00	7.00	10.00	0.0	12.4	712.1	—
8/1/2023 14:05	YSI EXO2	Esther Adelstein	Hot and sunny at Loon Lake CG	1000	1400	80	6.5	4.00	7.00	10.00	0.0	12.4	605.4	Calibration for 8/2 backcountry sampling
8/3/2023 6:58	YSI EXO2	Esther Adelstein	Sunny warm	1000	1380	94	8.2	4.00	7.00	10.00	0.0	12.4	713.4	—
8/4/2023 6:56	YSI EXO2	Camille Hymes	Sunny, clear	1000	1382	94	8.2	4.00	7.00	10.00	0.0	12.4	712.9	—
10/16/2023 5:42	YSI EXO2S	Esther Adelstein	Cool and clear	1000	1346	94	8.6	4.00	7.00	10.00	0.0	12.4	715.3	—
10/16/2023 8:58	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	91	-	-	-	-	-	-	690.3	DO % saturation onsite recalibration
10/16/2023 10:53	YSI EXO2S	Esther Adelstein	Cool and clear	-	-	84	-	-	-	-	-	-	630.1	DO % saturation onsite recalibration
10/17/2023 6:10	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1384	94	9.3	4.00	7.00	10.00	0.0	12.4	714.2	—
10/17/2023 9:26	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	80	-	-	-	-	-	-	607.6	DO % saturation onsite recalibration
10/17/2023 12:02	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	83	-	-	-	-	-	-	633.0	DO % saturation onsite recalibration
10/18/2023 6:32	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1382	94	8.3	4.00	7.00	10.00	0.0	12.4	712.8	—
10/18/2023 9:19	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	85	-	-	-	-	-	-	643.2	DO % saturation onsite recalibration
10/19/2023 7:35	YSI EXO2S	Esther Adelstein	Warm, hazy	1000	1385	94	8.7	4.00	7.00	10.00	0.0	12.4	713.8	—
10/19/2023 9:51	YSI EXO2S	Esther Adelstein	Warm, hazy	-	-	97	-	-	-	-	-	-	736.1	DO % saturation onsite recalibration
10/24/2023 5:56	YSI EXO2S	Esther Adelstein	Cool and calm	1000	1387	93	9.4	4.00	7.00	10.00	0.0	12.4	709.3	—
10/24/2023 12:51	YSI EXO2S	Esther Adelstein	Cool and calm	-	-	85	-	-	-	-	-	-	645.4	DO % saturation onsite recalibration
11/14/2023 6:11	YSI EXO2S	Esther Adelstein	Cold and clear	1000	1398	94	9.4	4.00	7.00	10.00	0.0	12.4	712.0	—
11/14/2023 8:37	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	80	-	-	-	-	-	-	605.2	DO % saturation onsite recalibration
11/14/2023 9:09	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	83	-	-	-	-	-	-	627.1	DO % saturation onsite recalibration
11/14/2023 9:30	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	83	-	-	-	-	-	-	631.4	DO % saturation onsite recalibration
11/14/2023 11:47	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	85	-	-	-	-	-	-	647.9	DO % saturation onsite recalibration
11/14/2023 12:51	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	90	-	-	-	-	-	-	685.7	DO % saturation onsite recalibration
11/14/2023 13:14	YSI EXO2S	Esther Adelstein	Cold and clear	-	-	91	-	-	-	-	-	-	688.7	DO % saturation onsite recalibration
11/15/2023 6:17	YSI EXO2S	Esther Adelstein	Cool and clear	1000	1393	93	9.2	4.00	7.00	10.00	0.0	12.4	709.4	—

Table A-2. Post-Sampling Calibration Standard Checks.

	Standard									Measured								
Date	Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)	Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)
2/6/2023	1000	1413	95	10.9	4.00	7.00	10.00	0.0	12.4	1009	1428	96	11.0	4.18	7.13	10.15	0.3	12.5
2/7/2023	1000	1413	101	9.9	4.00	7.00	10.00	0.0	12.4	999	1403	101	9.9	4.03	6.97	10.07	0.0	12.8
5/16/2023	1000	1413	94	8.1	4.00	7.00	10.00	0.0	12.4	1041	1406	94	8.2	4.15	7.05	10.01	-0.2	12.3
5/17/2023	1000	1413	94	7.7	4.00	7.00	10.00	0.0	12.4	1008	1402	96	7.7	3.99	6.89	9.89	0.1	12.3
5/18/2023	1000	1413	83	7.4	4.00	7.00	10.00	0.0	12.4	1007	1408	83	7.4	3.91	6.94	9.98	-0.1	12.6
5/19/2023	1000	1413	84	6.8	4.00	7.00	10.00	0.0	12.4	1050	1409	84	6.8	4.10	7.01	9.99	0.2	12.6
5/25/2023	1000	1413	82	8.7	4.00	7.00	10.00	0.0	12.4	1009	1411	82	8.7	4.17	7.11	10.14	0.1	12.4
8/1/2023	1000	1413	80	6.8	4.00	7.00	10.00	0.0	12.4	1047	1377	84	7.1	4.04	7.01	10.03	0.0	12.4
8/2/2023	1000	1413	80	6.1	4.00	7.00	10.00	0.0	12.4	1050	1442	80	6.1	4.09	7.06	10.06	-0.1	12.6
8/3/2023	1000	1413	94	7.8	4.00	7.00	10.00	0.0	12.4	1048	1382	94	7.8	4.19	7.12	10.04	0.4	12.6
8/4/2023	1000	1413	100	8.3	4.00	7.00	10.00	0.0	12.4	1010	1406	101	8.3	4.19	7.00	10.04	0.0	12.6
10/16/2023	1000	1413	83	7.2	4.00	7.00	10.00	0.0	12.4	1002	1376	83	7.2	3.89	7.06	10.06	0.1	12.0
10/17/2023	1000	1413	83	7.4	4.00	7.00	10.00	0.0	12.4	1006	1369	84	7.4	4.00	7.02	9.99	0.0	12.0
10/18/2023	1000	1413	84	7.1	4.00	7.00	10.00	0.0	12.4	1006	1384	84	7.1	3.84	6.94	9.97	-0.1	12.0
10/19/2023	1000	1413	100	7.8	4.00	7.00	10.00	0.0	12.4	1004	1375	102	7.8	4.07	7.10	9.94	0.3	12.1
10/24/2023	1000	1413	93	8.5	4.00	7.00	10.00	0.0	12.4	998	1383	90	8.5	4.14	7.18	10.04	0.0	12.3
11/14/2023	1000	1413	94	10.1	4.00	7.00	10.00	0.0	12.4	1007	1397	93	10.1	3.98	6.93	9.86	-0.3	12.2
11/15/2023	1000	1413	99	9.5	4.00	7.00	10.00	0.0	12.4	1016	1379	100	9.5	4.10	7.00	9.99	-0.1	12.3
	Error[1]									Qualification Code								
Date:	Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)	Turbidity (NTU)	Specific Conductance (uS/cm @ 25°C)	Specific Conductance (uS/cm @ 25°C)	Dissolved Oxygen (% sat)	Dissolved Oxygen (mg/L)	pH 4 (s.u.)	pH 7 (s.u.)	pH 10 (s.u.)	Turbidity (NTU)[2]	Turbidity (NTU)
2/6/2023	1%	1%	1%	1%	0.18	0.13	0.15	0.3	1%	A	A	A	A	A	A	A	A	A
2/7/2023	0%	1%	0%	0%	0.03	0.03	0.07	0.0	3%	A	A	A	A	A	A	A	A	A
5/16/2023	4%	0%	0%	1%	0.15	0.05	0.01	0.2	1%	A	A	A	A	A	A	A	A	A
5/17/2023	1%	1%	2%	0%	0.01	0.11	0.11	0.1	1%	A	A	A	A	A	A	A	A	A
5/18/2023	1%	0%	0%	0%	0.09	0.06	0.02	0.1	2%	A	A	A	A	A	A	A	A	A
5/19/2023	5%	0%	0%	1%	0.10	0.01	0.01	0.2	2%	A	A	A	A	A	A	A	A	A
5/25/2023	1%	0%	0%	0%	0.17	0.11	0.14	0.1	0%	A	A	A	A	A	A	A	A	A
8/1/2023	5%	3%	5%	4%	0.04	0.01	0.03	0.0	0%	A	A	A	A	A	A	A	A	A
8/2/2023	5%	2%	0%	1%	0.09	0.06	0.06	0.1	2%	A	A	A	A	A	A	A	A	A
8/3/2023	5%	2%	0%	0%	0.19	0.12	0.04	0.4	1%	A	A	A	A	A	A	A	A	A
8/4/2023	1%	0%	1%	0%	0.19	0.00	0.04	0.0	1%	A	A	A	A	A	A	A	A	A
10/16/2023	0%	3%	0%	0%	0.11	0.06	0.06	0.1	3%	A	A	A	A	A	A	A	A	A
10/17/2023	1%	3%	1%	1%	0.00	0.02	0.01	0.0	4%	A	A	A	A	A	A	A	A	A
10/18/2023	1%	2%	0%	0%	0.16	0.06	0.03	0.1	3%	A	A	A	A	A	A	A	A	A
10/19/2023	0%	3%	2%	0%	0.07	0.10	0.06	0.3	2%	A	A	A	A	A	A	A	A	A
10/24/2023	0%	2%	3%	0%	0.14	0.18	0.04	0.0	1%	A	A	A	A	A	A	A	A	A
11/14/2023	1%	1%	1%	0%	0.02	0.07	0.14	0.3	2%	A	A	A	A	A	A	A	A	A
11/15/2023	2%	2%	1%	0%	0.10	0.00	0.01	0.1	1%	A	A	A	A	A	A	A	A	A

[1] Error calculated as the absolute value of (Measured - Standard)/Standard for specific conductance, dissolved oxygen, and turbidity (where standard = 12.4 NTU). Error calculated as the absolute value of Measured - Standard for pH and turbidity (where standard = 0.0 NTU).

[2] Due to the inherent variation in deionized water turbidity, ±1 NTU on the deionized water post-sampling calibration check is considered acceptable.

This Page Intentionally Left Blank

APPENDIX B
Analytical Laboratory Bacteria Reports

This Page Intentionally Left Blank

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

June 28, 2023

CLS Work Order #: 23F1035
COC #:

Emily Applequist
Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project Name: SMUD In situ, Bac-T, & Chemistry Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 06/21/23 14:25. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and exceptions are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

Daniel Johnson
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 23#1035 (of)

Report To:

Stillwater Sciences
279 Cousteau Place Suite 400
Davis, CA 95618

Project Manager
Emily Applequist eapplequist@stillwatersci.com

Project Name
SMUD In situ, Bac-T, & Chemistry Monitoring

Sampled By
BRL, CSH

Job Description
Monitor seasonal bacteria levels in UARP reaches.

Site Location UARP

Client Job Number
750.10 Task 0700.01

Destination Laboratory
Rancho Cordova

[x] **CLS** (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

[ ] **OTHER**

ANALYSIS REQUESTED

PRESERVATIVES ▼

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	Fecal coliform-15 Tube	E. coli Quanti-tray	TURNAROUND TIME IN DAYS 1	2	3	5	SPECIAL INSTRUCTIONS
6/21	9:30	Bac-11-JR	Junction BL	Surface water	2		6					X	
6/21	10:30	Bac-10-UVR	Yellow Jacket BL	Surface water			6					X	
6/21	11:06	Bac-7-UVR	Fashoda BL	Surface water			6					X	
6/21	11:32	Bac-13-1HR	1HR BL	Surface water			6					X	
6/21	12:43	Bac-15-SCR	SLAB BL	Surface water			6					X	
				Surface water			6					X	
				Surface water			6					X	INVOICE TO:
				Surface water			6					X	Stillwater Sciences
				Surface water			6					X	Same as above
				Surface water			6					X	
				Surface water			6					X	**Project No. 750.10 Task 0700.01**
				Surface water			6					X	QUOTE#

GEOTRACKER

EDF REPORT YES [x] [ ] NO

GLOBAL ID

FIELD CONDITIONS:

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCl (3) = COLD (2) HNO_3 (4)= H_2SO_4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
	Bethany Leach Stillwater Sciences	6/21,	14:25	
RECEIVED AT LAB BY:	DATE/TIME: 6/21/15 1425		CONDITIONS/COMMENTS: 3.2/3.1	

SHIPPED BY: [ ] FED EX [ ] UPS [ ] OTHER AIR BILL #

06/28/23 14:07

Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project: SMUD In situ, Bac-T, & Chemistry Monitoring
Project Number: 750.10 Task 0700.01
Project Manager: Emily Applequist

CLS Work Order #: 23F1035
COC #:

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bac-11-JR (23F1035-01) Surface water Sampled: 06/21/23 09:30 Received: 06/21/23 14:25									
Fecal Coliforms	<1.8	1.8	MPN/100 mL	1	2305178	06/21/23 15:00	06/24/23	SM 9221	
E. Coli	<1	1.0	"	"	2305182	06/21/23 17:35	06/22/23	SM9223	
Bac-10-UVR (23F1035-02) Surface water Sampled: 06/21/23 10:30 Received: 06/21/23 14:25									
Fecal Coliforms	**13**	1.8	MPN/100 mL	1	2305178	06/21/23 15:00	06/24/23	SM 9221	
E. Coli	**14.4**	1.0	"	"	2305182	06/21/23 17:35	06/22/23	SM9223	
Bac-7-UVR (23F1035-03) Surface water Sampled: 06/21/23 11:06 Received: 06/21/23 14:25									
Fecal Coliforms	**130**	1.8	MPN/100 mL	1	2305178	06/21/23 15:00	06/24/23	SM 9221	
E. Coli	**91.0**	1.0	"	"	2305182	06/21/23 17:35	06/22/23	SM9223	
Bac-13-IHR (23F1035-04) Surface water Sampled: 06/21/23 11:32 Received: 06/21/23 14:25									
Fecal Coliforms	**2.0**	1.8	MPN/100 mL	1	2305178	06/21/23 15:00	06/24/23	SM 9221	
E. Coli	<1	1.0	"	"	2305182	06/21/23 17:35	06/22/23	SM9223	
Bac-15-SCR (23F1035-05) Surface water Sampled: 06/21/23 12:43 Received: 06/21/23 14:25									
Fecal Coliforms	**2.0**	1.8	MPN/100 mL	1	2305178	06/21/23 15:00	06/24/23	SM 9221	
E. Coli	**19.0**	1.0	"	"	2305182	06/21/23 17:35	06/22/23	SM9223	

Stillwater Sciences	Project: SMUD In situ, Bac-T, & Chemistry Monitoring	
2855 Telegraph Ave., Suite 400	Project Number: 750.10 Task 0700.01	**CLS Work Order #: 23F1035**
Berkeley, CA 94705	Project Manager: Emily Applequist	COC #:

Notes and Definitions

BT-4a	<1.8
BT-4	<1
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
*	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

July 07, 2023

CLS Work Order #: 23F1323
COC #:

Emily Applequist
Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project Name: SMUD In situ, Bac-T, & Chemistry Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 06/28/23 13:23. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and exceptions are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

Daniel Johnson
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 23F1323 (of)

Report To:

Stillwater Sciences
279 Cousteau Place Suite 400
Davis, CA 95618

Project Manager
Emily Applequist eapplequist@stillwatersci.com

Project Name
SMUD In situ, Bac-T, & Chemistry Monitoring

Sampled By BRL, AFH

Job Description
Monitor seasonal bacteria levels in UARP reaches

Site Location UARP

Client Job Number
750.10 Task 0700.01

Destination Laboratory
Rancho Cordova

[x] **CLS** (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

[ ] **OTHER**

GEOTRACKER

EDF REPORT YES [x] [ ] NO

GLOBAL ID

FIELD CONDITIONS

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Fecal coliform-15 Tube	E. coli Quanti-tray	TURNAROUND TIME IN DAYS 1	2	3	5	SPECIAL INSTRUCTIONS
6/28	9:40	Bac-11-JR		Surface water	2		6	X	X				X	
6/28	10.15	Bac-10-UVR		Surface water	2		6						X	
6/28	10:35	Bac-7-UVR		Surface water	2		6						X	
6/28	11:10	Bac-13-1HR		Surface water	2		6						X	
6/28	12:10	Bac-15-SCR		Surface water	2		6						X	
				Surface water			6						X	
				Surface water			6						X	INVOICE TO:
				Surface water			6						X	Stillwater Sciences
				Surface water			6						X	Same as above
				Surface water			6						X	
				Surface water			6						X	**Project No. 750.10 Task 0700.01**
				Surface water			6						X	QUOTE#

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) HNO3 (4)= H2SO4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
Stillwater Sciences	Bethany Leach	6/29/23		
	SYS	13:23		

RECEIVED AT LAB BY: **DATE/TIME** 6/29/23 1323 **CONDITIONS/COMMENTS:** 1.9 / 1.8

SHIPPED BY: [ ] **FED EX** [ ] **UPS** [ ] **OTHER** _____ **AIR BILL #** _____

07/07/23 15:33

Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project: SMUD In situ, Bac-T, & Chemistry Monitoring
Project Number: 750.10 Task 0700.01
Project Manager: Emily Applequist

CLS Work Order #: 23F1323
COC #:

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bac-11-JR (23F1323-01) Surface water Sampled: 06/28/23 09:40 Received: 06/28/23 13:23									
Fecal Coliforms	**2.0**	1.8	MPN/100 mL	1	2305383	06/28/23 14:00	07/01/23	SM 9221	
Total Coliforms	**488.4**	1.0	"	"	2305387	06/28/23 16:45	06/29/23	SM9223	
E. Coli	**1.0**	1.0	"	"	"	"	"	"	
Bac-10-UVR (23F1323-02) Surface water Sampled: 06/28/23 10:15 Received: 06/28/23 13:23									
Fecal Coliforms	**170**	1.8	MPN/100 mL	1	2305383	06/28/23 14:00	07/01/23	SM 9221	
Total Coliforms	**88.3**	1.0	"	"	2305387	06/28/23 16:45	06/29/23	SM9223	
E. Coli	**54.8**	1.0	"	"	"	"	"	"	
Bac-7-UVR (23F1323-03) Surface water Sampled: 06/28/23 10:35 Received: 06/28/23 13:23									
Fecal Coliforms	**46**	1.8	MPN/100 mL	1	2305383	06/28/23 14:00	07/01/23	SM 9221	
Total Coliforms	**547.5**	1.0	"	"	2305387	06/28/23 16:45	06/29/23	SM9223	
E. Coli	**8.6**	1.0	"	"	"	"	"	"	
Bac-13-IHR (23F1323-04) Surface water Sampled: 06/28/23 11:10 Received: 06/28/23 13:23									
Fecal Coliforms	**11**	1.8	MPN/100 mL	1	2305383	06/28/23 14:00	07/01/23	SM 9221	
Total Coliforms	**517.2**	1.0	"	"	2305387	06/28/23 16:45	06/29/23	SM9223	
E. Coli	**5.2**	1.0	"	"	"	"	"	"	
Bac-15-SCR (23F1323-05) Surface water Sampled: 06/28/23 12:10 Received: 06/28/23 13:23									
Fecal Coliforms	<1.8	1.8	MPN/100 mL	1	2305383	06/28/23 14:00	07/01/23	SM 9221	
Total Coliforms	**67.0**	1.0	"	"	2305387	06/28/23 16:45	06/29/23	SM9223	
E. Coli	**1.0**	1.0	"	"	"	"	"	"	

Stillwater Sciences	Project: SMUD In situ, Bac-T, & Chemistry Monitoring	
2855 Telegraph Ave., Suite 400	Project Number: 750.10 Task 0700.01	**CLS Work Order #: 23F1323**
Berkeley, CA 94705	Project Manager: Emily Applequist	COC #:

Notes and Definitions

BT-4	<1.8
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
*	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

July 12, 2023

CLS Work Order #: 23G0141
COC #:

Emily Applequist
Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project Name: SMUD In situ, Bac-T, & Chemistry Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 07/05/23 14:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

Daniel johnson
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233

07/12/23 16:56

Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project: SMUD In situ, Bac-T, & Chemistry Monitoring
Project Number: 750.10 Task 0700.01
Project Manager: Emily Applequist

CLS Work Order #: 23G0141
COC #:

Microbiological Parameters by APHA Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bac-11-JR (23G0141-01) Surface water	**Sampled: 07/05/23 09:45**		**Received: 07/05/23 14:00**							
E. Coli	**1299.7**	1.0	1.0	MPN/100 mL	1	2305539	07/05/23	07/06/23	SM9223	
Fecal Coliforms	**>1600**	1.8	1.8	"	"	2305537	07/05/23	07/08/23	SM 9221	
Bac-10-UVR (23G0141-02) Surface water	**Sampled: 07/05/23 10:14**		**Received: 07/05/23 14:00**							
E. Coli	**74.9**	1.0	1.0	MPN/100 mL	1	2305539	07/05/23	07/06/23	SM9223	
Fecal Coliforms	**220**	1.8	1.8	"	"	2305537	07/05/23	07/08/23	SM 9221	
Bac-7-UVR (23G0141-03) Surface water	**Sampled: 07/05/23 10:40**		**Received: 07/05/23 14:00**							
E. Coli	**60.2**	1.0	1.0	MPN/100 mL	1	2305539	07/05/23	07/06/23	SM9223	
Fecal Coliforms	**70**	1.8	1.8	"	"	2305537	07/05/23	07/08/23	SM 9221	
Bac-13-IHR (23G0141-04) Surface water	**Sampled: 07/05/23 11:10**		**Received: 07/05/23 14:00**							
E. Coli	**5.1**	1.0	1.0	MPN/100 mL	1	2305539	07/05/23	07/06/23	SM9223	
Fecal Coliforms	**11**	1.8	1.8	"	"	2305537	07/05/23	07/08/23	SM 9221	
Bac-15-SCR (23G0141-05) Surface water	**Sampled: 07/05/23 12:35**		**Received: 07/05/23 14:00**							
E. Coli	**6.3**	1.0	1.0	MPN/100 mL	1	2305539	07/05/23	07/06/23	SM9223	
Fecal Coliforms	**21**	1.8	1.8	"	"	2305537	07/05/23	07/08/23	SM 9221	

07/12/23 16:56

Stillwater Sciences	Project: SMUD In situ, Bac-T, & Chemistry Monitoring	
2855 Telegraph Ave., Suite 400	Project Number: 750.10 Task 0700.01	**CLS Work Order #: 23G0141**
Berkeley, CA 94705	Project Manager: Emily Applequist	COC #:

Notes and Definitions

BT-5	>1600
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
*	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.

This is a "MDL Report", thus if the report denotes an "ND" for a particular analyte, it should be noted that the analyte was not detected at or above the MDL.

CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. BG0141 (of)

Report To:

Stillwater Sciences
279 Cousteau Place Suite 400
Davis, CA 95618

Project Manager
Emily Applequist eapplequist@stillwatersci.com

Project Name
SMUD In situ, Bac-T, & Chemistry Monitoring

Sampled By BRL, IPL

Job Description
Monitor seasonal bacteria levels in UARP reaches

Site Location UARP

Client Job Number
750.10 Task 0700.01

Destination Laboratory
Rancho Cordova

[x] CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

[ ] OTHER

GEOTRACKER

EDF REPORT YES [x] NO [ ]

GLOBAL ID

FIELD CONDITIONS:

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Fecal coliform-15 Tube	E. coli Quanti-tray	TURNAROUND TIME IN DAYS 1	2	3	5	SPECIAL INSTRUCTIONS
7/5	9:45	Bac-11-JR	Junction	Surface water	2		6	X	X				X	
7/5	10:14	Bac-10-WR	Yellow Jacket	Surface water	2		6						X	
7/5	10:40	Bac-7-WR	Pashoda	Surface water	2		6						X	
7/5	11:10	Bac-13-1HR	Ice House	Surface water	2		6						X	
7/5	12:35	Bac-15-SCR	Slab creek	Surface water	2		6	✓	✓				X	
				Surface water			6						X	
				Surface water			6						X	INVOICE TO:
				Surface water			6						X	Stillwater Sciences
				Surface water			6						X	Same as above
				Surface water			6						X	
				Surface water			6						X	Project No. 750.10 Task 0700.01
				Surface water			6						X	QUOTE#

ANALYSIS REQUESTED

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) HNO_3 (4)= H_2SO_4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
	Bethany Leach	7/5/23		
	Stillwater Sciences	14:00		

RECEIVED AT LAB BY: DATE/TIME: 7/6/23 14:10

CONDITIONS/COMMENTS: 4.4/4.3

SHIPPED BY: [ ] FED EX [ ] UPS [ ] OTHER AIR BILL #

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

July 19, 2023

CLS Work Order #: 23G0634
COC #:

Emily Applequist
Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project Name: SMUD In situ, Bac-T, & Chemistry Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 07/12/23 12:47. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and exceptions are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

Daniel Johnson
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 736284 (of)

Report To:

Stillwater Sciences
279 Cousteau Place Suite 400
Davis, CA 95618

Project Manager
Emily Applequist eapplequist@stillwatersci.com

Project Name
SMUD In situ, Bac-T, & Chemistry Monitoring

Sampled By Bethany Leach, SxR

Job Description
Monitor seasonal bacteria levels in UARP reaches

Site Location UARP

Client Job Number
750.10 Task 0700.01

Destination Laboratory
Rancho Cordova

[X] **CLS** (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

[ ] OTHER

ANALYSIS REQUESTED

PRESERVATIVES ▼

GEOTRACKER

EDF REPORT YES [X] NO [ ]

GLOBAL ID

FIELD CONDITIONS

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Fecal coliform-15 Tube	E. coli Quanti-tray	TURNAROUND TIME IN DAYS 1	2	3	5	SPECIAL INSTRUCTIONS
7/12	10:55	Bac-11-JR	Junction	Surface water	2		6	X	X				X	
7/12	11:25	Bac-10-UVR	Yellow Jacket	Surface water	2		6						X	
7/12	11:50	Bac-7-UVR	Fashoda	Surface water	2		6						X	
7/12	12:15	Bac-13-IHR	Ice House	Surface water	2		6						X	
7/12	13:25	Bac-15-SCR	Slab c.	Surface water	2		6						X	
				Surface water			6						X	
				Surface water			6						X	INVOICE TO:
				Surface water			6						X	Stillwater Sciences
				Surface water			6						X	Same as above
				Surface water			6						X	
				Surface water			6						X	**Project No. 750.10 Task 0700.01**
				Surface water			6						X	QUOTE#

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) HNO_3 (4) = H_2SO_4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME	RECEIVED BY (Signature)	PRINT NAME/COMPANY
	Bethany Leach Stillwater Sciences	7/12 14:47		

RECEIVED AT LAB BY: **DATE/TIME:** 7/12/23 1247 **CONDITIONS/COMMENTS:** 9.9/8.8

SHIPPED BY: [ ] FED EX [ ] UPS [ ] OTHER **AIR BILL #**

Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project: SMUD In situ, Bac-T, & Chemistry Monitoring
Project Number: 750.10 Task 0700.01
Project Manager: Emily Applequist

CLS Work Order #: 23G0634
COC #:

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bac-11-JR (23G0634-01) Surface water Sampled: 07/12/23 10:55 Received: 07/12/23 12:47									
Fecal Coliforms	**130**	1.8	MPN/100 mL	1	2305769	07/12/23 16:30	07/15/23	SM 9221	
Total Coliforms	**>2419.6**	1.0	"	"	2305764	07/12/23 17:40	07/13/23	SM9223	
E. Coli	**178.2**	1.0	"	"	"	"	"	"	
Bac-10-UVR (23G0634-02) Surface water Sampled: 07/12/23 11:25 Received: 07/12/23 12:47									
Fecal Coliforms	**79**	1.8	MPN/100 mL	1	2305769	07/12/23 16:30	07/15/23	SM 9221	
Total Coliforms	**1203.3**	1.0	"	"	2305764	07/12/23 17:40	07/13/23	SM9223	
E. Coli	**33.1**	1.0	"	"	"	"	"	"	
Bac-7-UVR (23G0634-03) Surface water Sampled: 07/12/23 11:50 Received: 07/12/23 12:47									
Fecal Coliforms	**79**	1.8	MPN/100 mL	1	2305769	07/12/23 16:30	07/15/23	SM 9221	
Total Coliforms	**920.8**	1.0	"	"	2305764	07/12/23 17:40	07/13/23	SM9223	
E. Coli	**33.6**	1.0	"	"	"	"	"	"	
Bac-13-IHR (23G0634-04) Surface water Sampled: 07/12/23 12:15 Received: 07/12/23 12:47									
Fecal Coliforms	**22**	1.8	MPN/100 mL	1	2305769	07/12/23 16:30	07/15/23	SM 9221	
Total Coliforms	**913.9**	1.0	"	"	2305764	07/12/23 17:40	07/13/23	SM9223	
E. Coli	**3.0**	1.0	"	"	"	"	"	"	
Bac-15-SCR (23G0634-05) Surface water Sampled: 07/12/23 13:25 Received: 07/12/23 12:47									
Fecal Coliforms	**13**	1.8	MPN/100 mL	1	2305769	07/12/23 16:30	07/15/23	SM 9221	
Total Coliforms	**1046.2**	1.0	"	"	2305764	07/12/23 17:40	07/13/23	SM9223	
E. Coli	**44.3**	1.0	"	"	"	"	"	"	

Stillwater Sciences	Project: SMUD In situ, Bac-T, & Chemistry Monitoring	
2855 Telegraph Ave., Suite 400	Project Number: 750.10 Task 0700.01	**CLS Work Order #: 23G0634**
Berkeley, CA 94705	Project Manager: Emily Applequist	COC #:

Notes and Definitions

BT-5	>2419.6
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
*	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

July 26, 2023

CLS Work Order #: 23G0976
COC #:

Emily Applequist
Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project Name: SMUD In situ, Bac-T, & Chemistry Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 07/19/23 13:48. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness. Any comments and exceptions are addressed under the Notes and Definitions section.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

Daniel Johnson
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES CHAIN OF CUSTODY

CLS ID. NO. 1360976 (of)

Report To:

Stillwater Sciences
279 Cousteau Place Suite 400
Davis, CA 95618

Project Manager
Emily Applequist eapplequist@stillwatersci.com

Project Name
SMUD In situ, Bac-T, & Chemistry Monitoring

Sampled By Bethany Leach, IPL

Job Description
Monitor seasonal bacteria levels in UARP reaches

Site Location UARP

Client Job Number
750.10 Task 0700.01

Destination Laboratory
Rancho Cordova

[X] CLS (916) 638-7301
3249 Fitzgerald Road
Rancho Cordova, CA
95742
www.californialab.com

[ ] OTHER

ANALYSIS REQUESTED

PRESERVATIVES ▼

DATE	TIME	SAMPLE IDENTIFICATION	FIELD ID.	MATRIX	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	Fecal coliform-15 Tube	E. coli Quanti-tray	TURNAROUND TIME IN DAYS 1	2	3	5	SPECIAL INSTRUCTIONS
7/19	10:11	Bac-11-JR	Junction	Surface water	2		6	X	X				X	
7/19	10:41	Bac-10-UVR	Vetlon Jacket	Surface water	2		6						X	
7/19	11:09	Bac-7-UVR	Fashoda	Surface water	2		6						X	
7/19	11:35	Bac-13-1HR	Ice House	Surface water	2		6						X	
7/19	12:36	Bac-15-SCR	Slab Cr.	Surface water	2		6						X	
				Surface water			6						X	
				Surface water			6						X	INVOICE TO
				Surface water			6						X	Stillwater Sciences
				Surface water			6						X	Same as above
				Surface water			6						X	
				Surface water			6						X	Project No. 750.10 Task 0700.01
				Surface water			6						X	QUOTE#

GEOTRACKER

EDF REPORT YES [X] NO [ ]

GLOBAL ID

FIELD CONDITIONS

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES (1) HCL (3) = COLD (2) HNO3 (4)= H2SO4

RELINQUISHED BY (Signature)	PRINT NAME/COMPANY	DATE/TIME
	Bethany Leach Stillwater Sciences	7/19 13:48

RECEIVED BY (Signature)	PRINT NAME/COMPANY

RECEIVED AT LAB BY: DBO DATE/TIME: 7/19/13 1348 CONDITIONS/COMMENTS: 4.0/3.9

SHIPPED BY: [ ] FED EX [ ] UPS [ ] OTHER _____ AIR BILL # _____

Stillwater Sciences
2855 Telegraph Ave., Suite 400
Berkeley, CA 94705

Project: SMUD In situ, Bac-T, & Chemistry Monitoring
Project Number: 750.10 Task 0700.01
Project Manager: Emily Applequist

CLS Work Order #: 23G0976
COC #:

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bac-11-JR (23G0976-01) Surface water Sampled: 07/19/23 10:11 Received: 07/19/23 13:48									
Fecal Coliforms	**49**	1.8	MPN/100 mL	1	2305999	07/19/23 16:30	07/22/23	SM 9221	
E. Coli	**165.8**	1.0	"	"	2305996	07/19/23 16:55	07/20/23	SM9223	
Bac-10-UVR (23G0976-02) Surface water Sampled: 07/19/23 10:41 Received: 07/19/23 13:48									
Fecal Coliforms	**2.0**	1.8	MPN/100 mL	1	2305999	07/19/23 16:30	07/22/23	SM 9221	
E. Coli	**3.1**	1.0	"	"	2305996	07/19/23 16:55	07/20/23	SM9223	
Bac-7-UVR (23G0976-03) Surface water Sampled: 07/19/23 11:09 Received: 07/19/23 13:48									
Fecal Coliforms	**17**	1.8	MPN/100 mL	1	2305999	07/19/23 16:30	07/22/23	SM 9221	
E. Coli	**13.4**	1.0	"	"	2305996	07/19/23 16:55	07/20/23	SM9223	
Bac-13-IHR (23G0976-04) Surface water Sampled: 07/19/23 11:35 Received: 07/19/23 13:48									
Fecal Coliforms	**2.0**	1.8	MPN/100 mL	1	2305999	07/19/23 16:30	07/22/23	SM 9221	
E. Coli	<1	1.0	"	"	2305996	07/19/23 16:55	07/20/23	SM9223	
Bac-15-SCR (23G0976-05) Surface water Sampled: 07/19/23 12:36 Received: 07/19/23 13:48									
Fecal Coliforms	<1.8	1.8	MPN/100 mL	1	2305999	07/19/23 16:30	07/22/23	SM 9221	
E. Coli	**2.0**	1.0	"	"	2305996	07/19/23 16:55	07/20/23	SM9223	

07/26/23 14:44

Stillwater Sciences	Project: SMUD In situ, Bac-T, & Chemistry Monitoring	
2855 Telegraph Ave., Suite 400	Project Number: 750.10 Task 0700.01	**CLS Work Order #: 23G0976**
Berkeley, CA 94705	Project Manager: Emily Applequist	COC #:

Notes and Definitions

BT-4a	<1.8
BT-4	<1
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
*	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.

This Page Intentionally Left Blank

APPENDIX C
In Situ Field Data

This Page Intentionally Left Blank

Table C-1. *In situ* Tablet Raw Data, UARP Riverine Sites.

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Barometric Pressure (mm Hg)[1]	Notes
2/6/2023 8:34	YSI EXO2	Annabelle Howe	Sunny, clear	IS-11-SFSC	0.055	12.73	87.3	10.1	0.019	7.01	0.39	653.8	—
2/6/2023 9:16	YSI EXO2	Annabelle Howe	Sunny, clear	IS-12-SC	0.077	12.36	86.4	8.9	0.017	6.52	0.89	658.0	—
2/6/2023 11:21	YSI EXO2	Annabelle Howe	Sunny, clear	IS-10-SFSC	3.723	10.82	81.9	9.8	0.017	6.63	1.49	633.5	—
2/6/2023 12:37	YSI EXO2	Annabelle Howe	Sunny, clear	IS-13-SC	3.832	12.20	92.6	11.0	0.018	7.00	0.47	692.4	—
2/6/2023 13:08	YSI EXO2	Annabelle Howe	Sunny, cool	IS-14-SC	4.281	12.01	92.3	14.8	0.024	7.22	0.22	696.2	—
2/6/2023 15:10	YSI EXO2	Annabelle Howe	Sunny, clear	IS-17-BC	5.632	11.54	91.8	13.5	0.022	7.10	1.98	696.5	—
2/6/2023 15:44	YSI EXO2	Annabelle Howe	Sunny, clear	IS-15-SFAR	3.345	12.84	96.3	33.6	0.057	7.50	1.15	718.9	—
2/6/2023 17:01	YSI EXO2	Esther Adelstein	Sunny, clear	IS-16-SFAR	3.739	13.21	100.1	19.4	0.033	7.25	0.76	719.0	—
2/7/2023 9:17	YSI EXO2	Esther Adelstein	Cold, clear	IS-19-SFAR	4.125	12.26	93.9	21.0	0.035	7.09	0.80	726.8	Landslide on access road. Debris mostly immediately d/s of site
2/7/2023 10:13	YSI EXO2	Esther Adelstein	Cold, clear	IS-18-SFAR	5.165	12.56	98.8	33.6	0.054	7.34	1.50	744.3	—
5/16/2023 20:44	YSI EXO2	Bethany Leach	Sunny, hot	IS-16-SFAR	9.570	10.99	96.7	15.5	0.020	7.21	4.26	712.4	—
5/16/2023 20:59	YSI EXO2	Bethany Leach	Sunny, hot	IS-15-SFAR	9.658	11.08	97.5	17.5	0.025	7.23	5.05	712.1	Sampling behind willows, high flow
5/16/2023 21:29	YSI EXO2	Bethany Leach	Sunny, hot	IS-17-BC	11.163	9.83	89.5	18.7	0.025	7.08	2.42	690.9	—
5/16/2023 22:56	YSI EXO2	Bethany Leach	Sunny, hot	IS-18-SFAR	11.600	10.70	98.5	19.1	0.026	7.24	3.17	732.8	Very high flow, sampling behind willows
5/16/2023 23:41	YSI EXO2	Bethany Leach	Sunny, hot	IS-19-SFAR	9.842	11.31	99.9	17.2	0.024	7.08	4.53	716.3	High flow
5/17/2023 14:51	YSI EXO2	Bethany Leach	Sunny, chilly	IS-11-SFSC	5.705	10.55	84.9	11.5	0.018	6.94	0.70	649.7	—
5/17/2023 15:10	YSI EXO2	Bethany Leach	Sunny, chilly	IS-12-SC	8.424	10.47	89.4	9.8	0.014	6.73	0.62	653.3	—
5/17/2023 16:06	YSI EXO2	Bethany Leach	Sunny, chilly	IS-14-SC	8.926	10.98	94.8	10.0	0.014	6.76	1.55	689.3	—
5/17/2023 16:30	YSI EXO2	Bethany Leach	Sunny, warm	IS-13-SC	9.277	9.81	94.1	10.1	0.014	6.81	1.86	685.5	—
5/18/2023 20:00	YSI EXO2	Bethany Leach	Sunny, hot	IS-10-SFSC	5.023	10.30	81.0	9.4	0.015	6.92	0.92	628.9	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Sunny, clear	IS-4-GC	3.799	10.46	79.6	4.8	0.008	6.08	1.41	602.5	Turbulent flow
5/25/2023 19:43	YSI EXO2	Esther Adelstein	Sunny and cool	IS-5-GC	6.480	10.03	81.6	6.0	0.009	6.69	0.36	623.0	Sampling in submerged vegetation
5/25/2023 20:28	YSI EXO2	Annabelle Howe	Partly cloudy, cool	IS-6-GC	5.684	10.32	82.2	5.9	0.009	6.62	0.24	627.4	—
5/25/2023 20:48	YSI EXO2	Esther Adelstein	Overcast and cool	IS-9-GCC	6.166	10.44	84.3	6.1	0.010	6.48	0.29	626.0	—
5/25/2023 21:09	YSI EXO2	Annabelle Howe	Cloudy, cool	IS-7-SFRR	6.191	10.31	83.3	6.7	0.010	6.82	0.37	631.3	—
5/25/2023 21:20	YSI EXO2	Annabelle Howe	Partly cloudy, cool	IS-8-SFRR	6.784	10.22	83.8	6.7	0.010	6.82	0.32	632.2	—
8/1/2023 16:48	YSI EXO2	Camille Hymes	Sunny, some clouds	IS-10-SFSC	6.582	10.46	85.5	8.2	0.013	5.29	1.76	631.1	Turbulent. Sampled in vegetation
8/1/2023 17:36	YSI EXO2	Camille Hymes	cloudy	IS-7-SFRR	13.196	9.13	87.0	7.7	0.010	6.93	0.28	638.2	—
8/1/2023 17:47	YSI EXO2	Camille Hymes	Sunny, some cloud cover	IS-8-SFRR	13.005	9.31	88.4	7.6	0.010	6.94	0.24	639.1	—
8/1/2023 18:16	YSI EXO2	Camille Hymes	Sunny some cloud cover	IS-5-GC	13.406	8.92	85.5	7.7	0.010	6.97	0.30	629.9	—
8/1/2023 18:37	YSI EXO2	Camille Hymes	Sunny, cloud cover	IS-6-GC	12.693	9.12	86.0	7.2	0.009	6.79	0.31	634.1	—
8/1/2023 18:54	YSI EXO2	Camille Hymes	Sunny, some clouds	IS-9-GCC	14.435	9.08	89.0	7.4	0.009	6.77	0.25	633.0	—
8/1/2023 19:31	YSI EXO2	Camille Hymes	Sunny, some clouds	IS-4-GC	9.589	9.46	83.0	5.9	0.008	6.67	0.61	609.3	—
8/2/2023 15:58	YSI EXO2	Esther Adelstein	Sunny and warm	IS-1-RR	16.022	7.40	75.0	8.7	0.010	6.1	0.13	603.9	—
8/2/2023 17:54	YSI EXO2	Camille Hymes	Clear	IS-2-LRR	18.960	7.39	79.6	7.8	0.009	6.91	0.02	604.3	—
8/2/2023 18:58	YSI EXO2	Esther Adelstein	Sunny and warm	IS-3-LRR	19.790	7.18	78.7	8.3	0.009	6.41	0.04	606.0	—
8/3/2023 15:59	YSI EXO2	Esther Adelstein	Sunny and warm	IS-11-SFSC	12.483	9.18	86.1	12.8	0.017	7.09	0.27	650.6	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Barometric Pressure (mm Hg)[1]	Notes
8/3/2023 16:29	YSI EXO2	Camille Hymes	Sunny, clear	IS-12-SC	8.533	9.88	84.6	9.1	0.013	7.12	0.25	654.0	Construction on road going into site
8/3/2023 17:36	YSI EXO2	Esther Adelstein	Sunny, light smoke	IS-14-SC	10.001	10.26	90.9	10.7	0.015	7.13	0.27	690.7	—
8/3/2023 18:00	YSI EXO2	Camille Hymes	Sunny, clear	IS-13-SC	15.040	9.20	91.3	13.4	0.017	6.81	0.21	687.2	—
8/3/2023 20:27	YSI EXO2	Camille Hymes	Sunny, clear	IS-15-SFAR	19.740	8.84	96.7	46.4	0.052	7.63	0.41	712.7	—
8/3/2023 20:40	YSI EXO2	Camille Hymes	Sunny, clear	IS-16-SFAR	13.244	10.25	98.1	21.6	0.028	7.29	0.37	713.0	—
8/3/2023 21:43	YSI EXO2	Esther Adelstein	Sunny and hot	IS-17-BC	16.470	8.86	90.6	29.1	0.035	7.40	3.60	691.7	Downed trees and fine sediment (silt) in stream
8/4/2023 15:14	YSI EXO2	Camille Hymes	Sunny, clear	IS-19-SFAR	12.665	9.64	90.8	16.8	0.022	6.73	1.03	718.1	—
8/4/2023 16:05	YSI EXO2	Esther Adelstein	Sunny and warm	IS-18-SFAR	16.502	9.53	97.6	27.7	0.033	6.97	0.20	734.7	—
11/14/2023 16:35	YSI EXO2S	Elliott Allen	Sunny, cool	IS-4-GC	8.484	9.36	80.1	5.6	0.008	6.63	0.44	605.9	—
11/14/2023 17:06	YSI EXO2S	Elliott Allen	Sunny, cool	IS-5-GC	4.980	10.21	80.1	6.3	0.010	6.69	0.75	627.4	—
11/14/2023 17:28	YSI EXO2S	Elliott Allen	Sunny, cool	IS-6-GC	7.216	10.29	85.2	7.0	0.011	6.74	0.34	631.5	—
11/14/2023 17:45	YSI EXO2S	Elliott Allen	Sunny, cool	IS-9-GCC	7.650	10.08	84.3	6.7	0.010	6.75	0.32	630.4	—
11/14/2023 18:01	YSI EXO2S	Elliott Allen	Sunny, cool	IS-7-SFRR	4.556	11.11	86.0	8.0	0.013	6.83	0.39	635.6	—
11/14/2023 18:17	YSI EXO2S	Elliott Allen	Sunny, cool	IS-8-SFRR	4.838	10.92	85.2	7.6	0.012	6.80	0.44	636.7	—
11/14/2023 19:02	YSI EXO2S	Elliott Allen	Sunny, cool	IS-10-SFSC	7.091	10.10	83.3	9.3	0.014	6.44	0.85	628.4	Lots of algae growth in stream near shore
11/14/2023 19:41	YSI EXO2S	Elliott Allen	Sunny, cool	IS-11-SFSC	3.508	10.87	82.0	10.3	0.018	6.88	0.52	647.9	Brown algae on rocks and stream bed
11/14/2023 20:02	YSI EXO2S	Elliott Allen	Suny, cool	IS-12-SC	6.376	10.15	82.1	13.4	0.021	6.82	10.43	651.8	Water is greenish and turbid. Post-drawdown
11/14/2023 20:49	YSI EXO2S	Elliott Allen	Sunny, cool	IS-13-SC	6.250	11.11	90.1	14.7	0.023	7.02	2.08	684.8	—
11/14/2023 21:12	YSI EXO2S	Elliott Allen	Sunny, cool	IS-14-SC	7.060	10.68	88.6	16.4	0.025	7.01	1.66	688.7	Green and brown algae present in stream bed
11/14/2023 23:19	YSI EXO2S	Elliott Allen	Sunny, cool	IS-17-BC	11.686	9.57	88.2	21.8	0.029	7.22	3.96	689.1	—
11/14/2023 23:50	YSI EXO2S	Elliott Allen	Sunny, cool	IS-15-SFAR	6.900	11.08	90.1	29.0	0.045	7.27	0.64	711.0	—
11/15/2023 0:02	YSI EXO2S	Elliott Allen	Sunny, cool	IS-16-SFAR	6.901	11.51	94.7	24.0	0.037	7.30	1.21	711.5	—
11/15/2023 15:42	YSI EXO2S	Elliott Allen	Sunny, cool	IS-19-SFAR	8.526	10.80	92.3	23.9	0.035	6.78	0.94	715.2	Brown algae in river bed
11/15/2023 16:33	YSI EXO2S	Elliott Allen	Cloudy, cool	IS-18-SFAR	8.090	11.33	96.0	28.6	0.042	7.07	0.69	731.9	Brown algae on rocks

[1] Data were transcribed from the YSI EXO2 or EXO2S to a tablet, including additional digits beyond the parameter method detection limit (MDL).

Table C-2. *In situ* Tablet Raw Data, UARP Reservoir Sites.

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	0	9.412	10.40	90.9	10.2	0.015	6.74	0.75	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	1	7.421	10.71	89.3	9.1	0.014	6.70	1.11	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	2	5.981	10.96	88.0	8.6	0.013	6.62	1.05	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	3	5.669	10.99	87.6	8.4	0.013	6.55	1.07	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	4	5.438	11.02	87.3	8.3	0.013	6.50	0.99	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	5	5.342	11.01	86.9	8.4	0.013	6.45	1.01	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	6	5.303	10.94	86.3	8.5	0.014	6.37	0.85	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	7	5.111	10.83	84.9	8.7	0.014	6.30	0.90	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	8	4.962	10.87	85.0	8.5	0.014	6.24	0.88	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	9	4.856	10.91	85.1	8.4	0.014	6.22	0.95	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	10	4.856	10.87	84.8	8.5	0.014	6.19	0.97	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	11	4.755	10.67	82.0	9.0	0.015	6.13	0.71	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	12	4.733	10.52	81.7	9.0	0.015	6.09	0.66	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	13	4.729	10.48	81.5	9.0	0.015	6.06	0.69	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	14	4.728	10.47	81.4	9.0	0.015	6.04	0.66	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	15	4.727	10.43	81.1	9.0	0.015	6.03	0.65	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	16	4.730	10.41	80.9	9.0	0.015	6.02	0.65	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	17	4.728	10.40	80.8	9.0	0.015	6.02	0.72	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	18	4.727	10.42	81.0	9.0	0.015	6.01	0.67	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	19	4.720	10.41	81.0	9.0	0.015	6.01	0.66	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	20	4.721	10.46	81.3	9.0	0.015	6.02	0.66	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	21	4.720	10.47	81.4	8.9	0.015	6.01	0.73	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	22	4.719	10.48	81.5	8.9	0.015	6.00	0.65	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	23	4.721	10.48	81.5	8.9	0.015	6.00	0.68	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	24	4.695	10.49	81.5	8.9	0.015	5.99	0.67	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	25	4.704	10.50	81.6	8.9	0.015	5.98	0.71	11.0	625.8	—
5/18/2023 9:29	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-9-IHR	26	4.703	10.50	81.6	8.9	0.015	5.97	0.66	11.0	625.8	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	0	10.830	10.30	93.1	11.0	0.015	6.90	0.64	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	1	9.771	10.40	91.8	10.7	0.015	6.92	0.75	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	2	9.682	10.42	91.7	10.6	0.015	6.91	0.67	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	3	9.525	10.45	91.5	10.6	0.015	6.90	0.77	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	4	9.399	10.45	91.3	10.5	0.015	6.89	0.75	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	5	8.832	10.51	90.6	10.2	0.015	6.87	0.81	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	6	8.549	10.57	90.5	10.1	0.015	6.82	0.83	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	7	8.062	10.63	89.8	9.9	0.015	6.81	0.80	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	8	7.676	10.70	89.6	9.7	0.014	6.79	0.80	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	9	7.664	10.72	89.8	9.6	0.014	6.78	0.80	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	10	6.485	10.68	86.8	9.3	0.014	6.66	0.88	11.0	625.5	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	11	6.425	10.72	87.2	9.2	0.014	6.65	0.9	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	12	6.385	10.72	86.7	9.2	0.014	6.64	0.85	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	13	6.166	10.57	85.2	9.5	0.015	6.60	0.70	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	14	4.868	10.41	81.2	9.1	0.015	6.52	0.63	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	15	4.829	10.38	80.9	9.1	0.015	6.48	0.6	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	16	4.804	10.36	80.7	9.1	0.015	6.47	0.58	11.0	625.5	—
5/18/2023 10:12	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-10-IHR	17	4.787	10.35	80.6	9.1	0.015	6.46	0.64	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	18	4.734	10.31	80.2	9.1	0.015	6.44	0.65	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	19	4.761	10.37	80.8	9.1	0.015	6.44	0.63	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	20	4.758	10.42	81.1	9.0	0.015	6.45	0.67	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	21	4.781	10.44	81.3	9.0	0.015	6.46	0.64	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	22	4.738	10.46	81.3	9.1	0.015	6.45	0.67	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	23	4.740	10.44	81.2	8.9	0.015	6.45	0.67	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	24	4.719	10.46	81.2	9.0	0.015	6.45	0.65	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	25	4.660	10.26	79.5	9.2	0.015	6.42	0.55	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	26	4.605	10.16	78.7	9.3	0.015	6.39	0.58	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	27	4.598	10.13	78.5	9.3	0.015	6.38	0.59	11.0	625.5	—
5/18/2023 10:12	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-10-IHR	28	4.605	10.14	78.6	9.2	0.015	6.38	0.56	11.0	625.5	—
5/18/2023 11:09	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-11-IHR	0	11.215	10.30	93.9	11.3	0.015	6.95	0.67	12.0	625.7	—
5/18/2023 11:09	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-11-IHR	1	10.425	10.38	92.8	11.0	0.015	6.94	0.75	12.0	625.7	—
5/18/2023 11:09	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-11-IHR	2	10.250	10.40	92.7	10.9	0.015	6.93	0.73	12.0	625.7	—
5/18/2023 11:09	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-11-IHR	3	10.015	10.48	92.9	10.9	0.015	6.93	0.71	12.0	625.7	—
5/18/2023 11:09	YSI EXO2S	Bethany Leach	Sunny, warm	R-IS-11-IHR	4	9.901	10.51	92.8	10.9	0.015	6.93	0.71	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	5	9.365	10.62	92.7	10.7	0.015	6.90	0.68	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	6	8.272	10.66	90.6	10.4	0.015	6.86	0.74	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	7	7.476	10.68	89.0	10.2	0.015	6.77	0.69	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	8	5.917	10.46	83.9	9.8	0.015	6.64	0.62	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	9	5.433	10.29	81.3	9.6	0.015	6.55	0.56	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	10	5.300	10.21	80.5	9.6	0.015	6.49	0.55	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	11	5.205	10.18	80.2	9.5	0.015	6.44	0.55	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	12	5.092	10.17	79.8	9.5	0.015	6.42	0.56	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	13	5.075	10.16	79.7	9.5	0.015	6.42	0.53	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	14	4.981	10.12	79.2	9.5	0.015	6.41	0.55	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	15	4.951	10.08	78.8	9.5	0.015	6.40	0.54	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	16	4.895	10.07	78.6	9.4	0.015	6.39	0.47	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	17	4.844	10.03	78.2	9.4	0.015	6.38	0.55	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	18	4.800	10.00	77.9	9.4	0.015	6.37	0.50	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	19	4.775	9.98	77.6	9.4	0.015	6.36	0.51	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	20	4.702	9.91	77.0	9.4	0.015	6.35	0.75	12.0	625.7	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	21	4.68	9.90	76.9	9.4	0.015	6.35	0.54	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	22	4.667	9.89	76.7	9.4	0.015	6.34	0.55	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	23	4.657	9.88	76.6	9.4	0.015	6.34	0.54	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	24	4.655	9.87	76.6	9.4	0.015	6.34	0.57	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	25	4.625	9.85	76.4	9.4	0.015	6.34	0.53	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	26	4.627	9.84	76.3	9.4	0.15	6.33	0.59	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	27	4.625	9.85	76.4	9.4	0.015	6.33	0.58	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	28	4.613	9.83	76.2	9.4	0.015	6.33	0.60	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	29	4.608	9.82	76.1	9.4	0.015	6.32	0.56	12.0	625.7	—
5/18/2023 11:09	YSI EXO2	Bethany Leach	Sunny, warm	R-IS-11-IHR	30	4.608	9.82	76.1	9.4	0.015	6.32	0.57	12.0	625.7	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	0	13.667	9.74	93.7	11.0	0.014	6.68	0.18	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	1	11.652	10.07	92.7	10.3	0.014	6.54	0.18	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	2	9.941	10.33	91.5	9.9	0.014	6.48	0.28	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	3	9.326	10.34	90.1	9.3	0.013	6.40	0.30	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	4	8.694	10.53	90.6	9.3	0.014	6.34	0.22	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	5	8.271	10.62	90.2	9.1	0.013	6.29	0.30	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	6	7.290	10.91	90.6	9.1	0.014	6.28	0.31	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	7	6.774	10.86	88.9	8.9	0.014	6.26	0.22	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	8	6.586	10.79	88.0	8.9	0.014	6.21	0.24	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	9	6.367	10.75	87.1	8.8	0.014	6.18	0.20	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	10	6.187	10.74	86.7	8.8	0.014	6.15	0.22	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	11	6.084	10.74	86.5	8.9	0.014	6.14	0.15	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	12	6.054	10.74	86.4	8.9	0.014	6.13	0.16	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	13	6.040	10.74	86.4	8.9	0.014	6.13	0.13	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	14	6.030	10.73	86.2	8.9	0.014	6.13	0.26	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	15	5.985	10.72	86.1	8.9	0.014	6.13	0.19	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	16	5.930	10.70	85.8	8.9	0.014	6.13	0.23	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	17	5.785	10.69	85.4	8.6	0.014	6.12	0.32	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	18	5.739	10.67	85.2	8.7	0.014	6.11	0.22	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	19	5.716	10.66	85.1	8.7	0.014	6.10	0.20	17.0	640.3	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	20	5.617	10.66	84.8	8.7	0.014	6.09	0.20	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	21	5.588	10.65	84.7	8.7	0.014	6.09	0.19	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	22	5.484	10.64	84.4	8.9	0.014	6.07	0.14	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	23	5.282	10.62	83.7	9.1	0.015	6.07	0.15	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	24	5.143	10.58	83.1	9.1	0.015	6.05	0.12	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	25	5.113	10.56	82.9	9.1	0.015	6.04	0.14	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	26	5.088	10.55	82.8	9.1	0.015	6.02	0.11	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	27	5.043	10.53	82.6	9.1	0.015	6.01	0.14	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	28	5.012	10.52	82.4	9.1	0.015	6.00	0.13	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	29	4.969	10.50	82.1	9.1	0.015	5.99	0.12	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	30	4.938	10.49	82.0	9.1	0.015	5.98	0.15	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	31	4.904	10.48	81.8	9.1	0.015	5.98	0.07	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	32	4.897	10.47	81.8	9.1	0.015	5.97	0.11	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	33	4.863	10.46	81.6	9.1	0.015	5.96	0.14	17.0	640.3	—
5/19/2023 9:26	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-6-UVR	34	4.824	10.45	81.4	9.1	0.015	5.96	0.11	17.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	0	13.986	9.70	94.1	10.9	0.014	6.87	0.08	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	1	13.341	9.76	93.3	10.7	0.014	6.88	0.06	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	2	12.084	9.95	92.5	10.0	0.013	6.80	0.08	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	3	9.886	10.24	90.5	9.1	0.013	6.77	0.10	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	4	9.262	10.35	90.1	8.8	0.013	6.74	0.14	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	5	8.71	10.44	89.7	8.6	0.013	6.72	0.15	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	6	8.145	10.51	89.0	8.4	0.012	6.70	0.17	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	7	7.804	10.55	88.7	8.3	0.012	6.68	0.2	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	8	7.538	10.59	88.4	8.2	0.012	6.66	0.18	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	9	7.223	10.65	88.2	8.1	0.012	6.65	0.18	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	10	6.938	10.68	87.9	7.9	0.012	6.64	0.14	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	11	6.548	10.71	87.2	7.7	0.012	6.61	0.20	19.0	640.3	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	12	6.276	10.75	87.0	7.5	0.012	6.6	0.18	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	13	5.739	10.83	86.4	7.2	0.011	6.59	0.16	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	14	5.510	10.8	85.7	7.4	0.012	6.55	0.2	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	15	5.475	10.78	85.4	7.4	0.012	6.53	0.23	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	16	5.436	10.76	85.3	7.4	0.012	6.51	0.22	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	17	5.414	10.76	85.2	7.4	0.012	6.50	0.22	19.0	640.3	—
5/19/2023 10:20	YSI EXO2	Bethany Leach	Sunny, warm, calm	R-IS-5-UVR	18	5.398	10.74	85.0	7.4	0.012	6.50	0.21	19.0	640.3	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	0	13.635	9.78	92.3	10.9	0.014	6.85	0.70	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	1	13.214	9.84	93.7	10.6	0.014	6.84	0.13	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	2	12.072	10.03	93.1	10.1	0.013	6.83	0.12	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	3	9.955	10.39	92.0	9.2	0.013	6.80	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	4	9.191	10.53	91.6	8.8	0.013	6.77	0.20	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	5	8.670	10.62	91.1	8.7	0.013	6.76	0.22	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	6	7.940	10.64	89.7	8.2	0.012	6.73	0.19	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	7	7.654	10.65	89.2	8.1	0.012	6.69	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	8	7.465	10.69	89.1	8.1	0.012	6.68	0.18	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	9	7.083	10.75	88.7	8.1	0.012	6.66	0.18	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	10	6.751	10.77	88.0	8.2	0.013	6.65	0.20	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	11	6.624	10.76	87.8	8.1	0.013	6.64	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	12	6.338	10.75	87.1	8.3	0.013	6.62	0.16	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	13	6.030	10.74	86.4	8.3	0.013	6.61	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	14	5.909	10.73	86.0	8.3	0.013	6.60	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	15	5.806	10.72	85.7	8.4	0.013	6.59	0.10	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	16	5.686	10.69	85.2	8.4	0.013	6.58	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	17	5.650	10.68	85.0	8.4	0.13	6.57	0.16	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	18	5.595	10.67	84.8	8.4	0.013	6.56	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	19	5.565	10.66	84.7	8.4	0.013	6.56	0.13	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	20	5.552	10.66	84.7	8.4	0.013	6.55	0.12	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	21	5.550	10.66	84.7	8.4	0.013	6.54	0.12	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	22	5.538	10.66	84.6	8.4	0.013	6.54	0.16	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	23	5.410	10.64	84.2	8.5	0.014	6.53	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	24	5.386	10.63	84.0	8.5	0.014	6.52	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	25	5.367	10.62	83.9	8.5	0.014	6.52	0.13	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	26	5.223	10.59	83.4	8.6	0.014	6.51	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	27	5.175	10.57	83.1	8.6	0.014	6.51	0.09	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	28	5.117	10.55	82.9	8.6	0.014	6.49	0.13	20.0	640.4	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	29	5.089	10.54	82.7	8.6	0.014	6.49	0.17	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	30	5.061	10.53	82.5	8.7	0.014	6.48	0.12	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	31	5.057	10.52	82.5	8.7	0.014	6.48	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	32	5.053	10.52	82.5	8.7	0.014	6.48	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	33	5.049	10.52	82.4	8.7	0.014	6.48	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	34	5.045	10.51	82.4	8.7	0.014	6.48	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	35	5.039	10.51	82.4	8.7	0.014	6.47	0.11	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	36	5.014	10.51	82.3	8.7	0.014	6.47	0.12	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	37	5.001	10.50	82.2	8.7	0.014	6.47	0.13	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	38	4.996	10.50	82.2	8.7	0.014	6.47	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	39	4.982	10.49	82.1	8.7	0.014	6.47	0.13	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	40	4.974	10.49	82.1	8.7	0.014	6.46	0.15	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	41	4.966	10.49	82.1	8.7	0.014	6.46	0.14	20.0	640.4	—
5/19/2023 10:54	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-7-UVR	42	4.960	10.49	82.1	8.7	0.014	6.46	0.11	20.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	0	13.390	9.75	93.4	10.9	0.014	6.96	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	1	12.550	9.87	92.7	10.7	0.014	6.92	0.17	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	2	12.514	9.88	92.8	10.7	0.014	6.90	0.15	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	3	12.214	9.95	92.9	10.6	0.014	6.90	0.18	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	4	11.976	10.01	93.1	10.5	0.014	6.89	0.14	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	5	9.089	10.52	91.2	9.4	0.014	6.86	0.21	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	6	7.952	10.77	90.8	8.8	0.013	6.83	0.16	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	7	7.833	10.81	90.9	8.9	0.013	6.79	0.27	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	8	7.585	10.89	91.1	9.0	0.013	6.78	0.24	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	9	7.215	10.91	90.3	8.9	0.014	6.77	0.19	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	10	6.955	10.87	89.4	8.8	0.013	6.72	0.24	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	11	6.808	10.87	89.1	8.8	0.013	6.71	0.21	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	12	6.658	10.84	88.5	8.9	0.014	6.69	0.23	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	13	6.520	10.78	87.6	8.8	0.014	6.67	0.24	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	14	6.444	10.74	87.3	8.8	0.014	6.65	0.23	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	15	6.401	10.72	87.0	8.8	0.014	6.64	0.20	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	16	6.207	10.72	86.6	8.8	0.014	6.63	0.21	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	17	6.135	10.72	86.4	8.8	0.014	6.61	0.15	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	18	5.985	10.72	86.1	8.8	0.014	6.60	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	19	5.921	10.71	85.8	8.8	0.014	6.58	0.17	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	20	5.839	10.55	84.5	8.9	0.014	6.65	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	21	5.754	10.60	84.7	8.9	0.014	6.62	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	22	5.666	10.61	84.5	9.0	0.014	6.61	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	23	5.526	10.63	84.3	9.0	0.014	6.59	0.14	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	24	5.466	10.61	84.0	9.0	0.014	6.59	0.09	18.0	640.4	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	25	5.435	10.58	83.7	9.1	0.014	6.57	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	26	5.389	10.59	83.7	9.1	0.014	6.58	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	27	5.381	10.59	83.8	9.0	0.014	6.56	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	28	5.346	10.58	83.6	9.1	0.015	6.56	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	29	5.334	10.58	83.5	9.1	0.015	6.55	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	30	5.295	10.58	83.5	9.1	0.015	6.55	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	31	5.282	10.58	83.5	9.1	0.015	6.54	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	32	5.260	10.58	83.4	9.1	0.015	6.54	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	33	5.106	10.57	83.0	9.1	0.015	6.53	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	34	5.081	10.56	82.9	9.1	0.015	6.53	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	35	5.072	10.58	83.0	9.1	0.015	6.52	0.14	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	36	5.068	10.58	83.0	9.1	0.015	6.52	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	37	5.063	10.58	82.9	9.1	0.015	6.52	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	38	5.044	10.58	82.9	9.1	0.015	6.51	0.16	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	39	5.023	10.58	82.9	9.1	0.015	6.52	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	40	5.009	10.58	82.9	9.1	0.015	6.52	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	41	4.965	10.58	82.8	9.1	0.015	6.52	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	42	4.944	10.58	82.7	9.1	0.015	6.52	0.14	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	43	4.941	10.57	82.7	9.1	0.015	6.52	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	44	4.930	10.57	82.6	9.1	0.015	6.51	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	45	4.905	10.57	82.6	9.1	0.015	6.51	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	46	4.907	10.57	82.5	9.1	0.015	6.51	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	47	4.869	10.56	82.4	9.1	0.015	6.50	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	48	4.861	10.56	82.4	9.1	0.015	6.50	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	49	4.843	10.55	82.3	9.1	0.015	6.50	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	50	4.826	10.54	82.2	9.1	0.015	6.50	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	51	4.810	10.54	82.1	9.1	0.015	6.50	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	52	4.793	10.54	82.1	9.1	0.015	6.49	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	53	4.775	10.52	81.9	9.1	0.015	6.49	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	54	4.775	10.52	81.9	9.1	0.015	6.50	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	55	4.775	10.52	81.9	9.1	0.015	6.49	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	56	4.765	10.52	81.8	9.1	0.015	6.49	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	57	4.754	10.52	81.8	9.1	0.015	6.49	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	58	4.739	10.52	81.8	9.1	0.015	6.49	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	59	4.717	10.51	81.7	9.1	0.015	6.49	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	60	4.570	10.38	80.3	9.1	0.015	6.54	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	61	4.537	10.37	80.2	9.1	0.015	6.52	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	62	4.524	10.37	80.2	9.1	0.015	6.51	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	63	4.517	10.37	80.1	9.1	0.015	6.51	0.09	18.0	640.4	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	64	4.484	10.37	80.1	9.1	0.015	6.51	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	65	4.495	10.36	80.1	9.1	0.015	6.50	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	66	4.489	10.36	80.0	9.1	0.015	6.49	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	67	4.480	10.36	80.0	9.1	0.015	6.5	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	68	4.472	10.36	80.1	9.1	0.015	6.49	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	69	4.475	10.36	80.0	9.1	0.015	6.49	0.13	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	70	4.471	10.36	80.0	9.1	0.015	6.49	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	71	4.466	10.36	80.0	9.1	0.015	6.49	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	72	4.470	10.37	80.1	9.1	0.015	6.49	0.10	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	73	4.464	10.38	80.2	9.1	0.015	6.49	0.100	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	74	4.454	10.38	80.1	9.1	0.015	6.48	0.12	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	75	4.448	10.38	80.1	9.1	0.015	6.48	0.11	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	76	4.437	10.39	80.1	9.1	0.015	6.49	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	77	4.400	10.38	79.9	9.1	0.015	6.48	0.15	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	78	4.403	10.36	79.9	9.1	0.015	6.47	0.09	18.0	640.4	—
5/19/2023 11:53	YSI EXO2	Bethany Leach	Sunny, hot, calm	R-IS-8-UVR	79	4.401	10.36	79.8	9.1	0.015	6.48	0.13	18.0	640.4	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	0	4.142	10.70	82.0	5.1	0.008	6.36	0.24	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	1	4.121	10.70	81.9	5.1	0.008	6.25	0.26	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	2	4.071	10.70	81.8	5.1	0.008	6.19	0.29	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	3	4.053	10.70	81.8	5.1	0.008	6.14	0.26	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	4	3.923	10.70	81.5	5.0	0.008	6.11	0.27	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	5	3.889	10.73	81.6	5.0	0.008	6.09	0.22	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	6	3.876	10.68	81.2	5.0	0.008	6.07	0.29	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	7	3.887	10.62	80.7	5.0	0.008	6.05	0.27	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	8	3.902	10.53	80.1	5.0	0.008	6.05	0.34	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	9	3.906	10.46	79.6	5.0	0.008	6.05	0.32	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	10	3.915	10.39	79.1	5.0	0.008	6.07	0.30	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	11	3.910	10.38	79.0	5.0	0.008	6.08	0.31	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	12	3.906	10.38	79.0	5.0	0.008	6.09	0.26	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	13	3.909	10.38	79.0	5.0	0.008	6.09	0.29	29.5	600.3	—
5/25/2023 10:39	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-2-LL	14	3.903	10.38	79.0	5.0	0.008	6.10	0.25	29.5	600.3	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	0	3.125	9.77	72.9	5.4	0.009	6.16	0.34	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	1	3.395	9.76	73.3	5.5	0.009	6.13	0.33	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	2	3.396	9.76	73.3	5.5	0.009	6.13	0.32	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	3	3.385	9.76	73.2	5.5	0.009	6.11	0.29	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	4	3.390	9.75	73.2	5.5	0.008	6.10	0.28	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	5	3.386	9.75	73.2	5.5	0.009	6.08	0.33	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	6	3.382	9.74	73.1	5.5	0.009	6.07	0.32	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	7	3.388	9.71	72.9	5.6	0.009	6.05	0.32	21.8	600.2	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	8	3.376	9.70	72.8	5.6	0.009	6.02	0.27	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	9	3.398	9.69	72.7	5.6	0.009	5.99	0.33	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	10	3.401	9.66	72.5	5.6	0.009	5.98	0.28	21.8	600.2	—
5/25/2023 11:05	YSI EXO2	Annabelle Howe	Sunny, clear	R-IS-3-LL	11	3.406	9.65	72.5	5.6	0.009	5.95	0.34	21.8	600.2	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	0	8.110	10.15	85.9	6.8	0.010	6.51	0.22	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	1	7.650	10.19	85.4	6.8	0.010	6.51	0.24	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	2	6.665	10.28	83.9	6.6	0.010	6.47	0.28	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	3	6.284	10.33	83.6	6.1	0.009	6.47	0.28	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	4	6.138	10.37	83.6	6.0	0.009	6.47	0.25	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	5	5.788	10.42	83.3	6.0	0.009	6.47	0.24	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	6	5.776	10.44	83.4	5.9	0.009	6.45	0.26	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Howe	Stormy	R-IS-4-GC	7	5.583	10.47	83.2	5.9	0.009	6.47	0.28	24.5	626.6	—
5/25/2023 15:51	YSI EXO2	Annabelle Hower	Stormy	R-IS-4-GC	8	5.355	10.49	82.9	5.9	0.009	6.49	0.25	24.5	626.6	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	0	11.465	10.09	92.5	8.9	0.012	6.94	0.49	18.9	690.2	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	1	11.277	10.08	92.1	8.9	0.012	6.95	0.53	18.9	690.2	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	2	11.199	10.01	91.2	8.9	0.012	6.88	0.54	18.9	690.2	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	3	11.031	10.03	91.0	8.8	0.012	6.85	0.54	18.9	690.2	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	4	10.999	10.23	92.7	8.8	0.012	6.8	0.57	18.9	690.2	—
10/16/2023 9:04	YSI EXO2S	Michael Schweiker	Clear, light wind, cold	R-IS-13-CR	5	10.956	10.27	93.1	8.8	0.012	6.77	0.58	18.9	690.2	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	0	16.228	7.40	79.8	9.2	0.011	6.95	0.3	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	1	15.940	7.85	79.4	9.1	0.011	6.92	0.38	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	2	15.869	7.82	79.0	9.1	0.011	6.92	0.34	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	3	15.825	7.84	79.2	9.1	0.011	6.91	0.32	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	4	15.794	7.84	79.1	9.1	0.011	6.92	0.37	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	5	15.765	7.78	78.4	9.1	0.011	6.91	0.38	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	6	15.722	7.75	78.1	9.1	0.011	6.88	0.35	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	7	15.712	7.71	77.6	9.1	0.011	6.79	0.37	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	8	15.709	7.84	78.9	9.1	0.011	6.81	0.35	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	9	15.701	7.75	78.1	9.1	0.011	6.75	0.39	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	10	15.694	7.69	77.4	9.0	0.011	6.72	0.38	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	11	15.684	7.82	78.8	9.0	0.011	6.64	0.32	17.9	629.9	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	12	15.666	7.67	77.1	9.0	0.011	6.63	0.38	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	13	15.653	7.82	78.7	9.0	0.011	6.60	0.42	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	14	15.525	7.59	76.1	9.1	0.011	6.54	0.35	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	15	15.075	7.28	72.2	9.2	0.011	6.4	0.41	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	16	13.635	6.47	62.1	8.5	0.011	5.93	0.36	17.9	629.9	—
10/16/2023 11:14	YSI EXO2S	Michael Schweiker	Sunny, clear, warm	R-IS-9-IHR	17	12.225	5.60	51.8	8.9	0.012	5.78	0.55	17.9	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	0	16.124	7.83	79.5	9.2	0.011	6.98	0.3	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	1	15.845	7.81	78.8	9.1	0.011	6.91	0.33	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	2	15.778	7.78	78.5	9.0	0.011	6.88	0.37	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	3	15.76	7.89	79.5	9.0	0.011	6.92	0.38	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	4	15.742	7.91	79.7	9.0.	0.011	6.91	0.32	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	5	15.733	7.90	79.5	90	0.011	6.93	0.36	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	6	15.727	7.89	79.4	9.0	0.011	6.90	0.31	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	7	15.721	7.87	79.2	9.0	0.011	6.91	0.32	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	8	15.717	7.83	78.9	9.0	0.011	6.96	0.34	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	9	15.711	7.83	78.8	9.0	0.011	6.92	0.35	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	10	15.707	7.80	78.5	9.0	0.011	6.91	0.35	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	11	15.691	7.79	78.4	9.0	0.011	6.92	0.31	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	12	15.666	7.82	78.6	8.9	0.011	6.92	0.32	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	13	15.647	7.77	78.1	8.9	0.011	6.90	0.33	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	14	15.634	7.79	78.3	8.9	0.011	6.86	0.33	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	15	15.585	7.74	77.6	8.9	0.011	6.87	0.32	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	16	13.650	6.69	64.0	8.5	0.011	6.32	0.32	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	17	11.975	6.19	57.3	8.9	0.011	6.12	0.42	17.2	629.9	—
10/16/2023 11:49	YSI EXO2S	Michael Schweiker	Warm, sunny, clear	R-IS-10-IHR	18	10.897	5.78	52.3	8.3	0.011	5.99	0.53	17.2	629.9	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	0	16.012	7.83	79.3	9.0	0.011	6.96	0.31	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	1	15.833	7.80	78.8	8.9	0.011	6.96	0.31	18.7	629.8	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	2	15.775	7.80	78.6	9.0	0.011	6.95	0.32	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	3	15.73	7.82	78.8	8.9	0.011	6.94	0.33	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	4	15.712	7.92	79.8	8.9	0.011	6.95	0.37	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	5	15.692	7.81	78.7	8.9	0.011	6.93	0.35	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	6	15.676	7.84	78.9	8.9	0.011	6.94	0.32	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	7	15.664	7.87	79.1	8.9	0.011	6.94	0.30	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	8	15.648	7.83	78.7	8.9	0.011	6.93	0.32	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	9	15.637	7.84	78.8	8.9	0.011	6.93	0.34	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	10	15.635	7.79	78.3	8.9	0.011	6.92	0.32	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	11	15.627	7.79	78.3	8.9	0.011	6.92	0.32	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	12	15.626	7.78	78.2	8.9	0.011	6.91	0.36	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	13	15.624	7.80	78.3	8.9	0.011	6.91	0.34	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	14	15.597	7.75	77.9	8.9	0.011	6.91	0.33	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	15	15.541	7.73	77.5	8.9	0.011	6.89	0.34	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	16	13.300	6.52	62.0	8.9	0.011	6.31	0.38	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	17	11.466	6.38	58.4	8.1	0.011	6.18	0.42	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	18	9.900	6.12	54.0	8.1	0.011	6.08	0.55	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	19	8.539	5.85	49.9	8.2	0.012	6.04	0.6	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	20	7.907	5.69	47.9	8.2	0.012	6.03	0.68	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	21	7.492	5.75	48.0	8.1	0.012	6.04	0.69	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	22	7.286	5.66	46.8	8.1	0.012	6.01	0.75	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	23	7.167	5.52	45.7	8.1	0.012	6.01	0.77	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	24	7.125	5.53	45.8	8.1	0.012	6.02	0.75	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	25	7.070	5.65	46.7	8.0	0.012	6.02	0.78	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	26	7.003	5.78	47.7	8.0	0.012	6.04	0.77	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	27	6.933	5.54	45.3	8.2	0.012	6.00	0.80	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	28	6.900	5.62	40.7	8.3	0.013	5.98	0.88	18.7	629.8	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	29	6.826	4.52	37.1	8.3	0.013	5.97	0.90	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	30	6.799	4.43	36.2	8.4	0.013	5.95	0.93	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	31	6.744	4.18	34.1	8.5	0.013	5.94	0.98	18.7	629.8	—
10/16/2023 12:32	YSI EXO2S	Michael Schweiker	Sunny, clear, light wind	R-IS-11-IHR	32	6.675	3.60	29.5	8.6	0.013	5.94	1.03	18.7	629.8	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	0	13.677	8.06	77.7	6.2	0.008	6.82	0.29	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	1	13.680	7.95	76.6	6.2	0.008	6.83	0.29	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	2	13.674	7.96	76.6	6.2	0.008	6.83	0.33	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	3	13.667	8.07	77.8	6.2	0.008	6.82	0.29	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	4	13.662	8.07	77.8	6.2	0.008	6.82	0.32	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	5	13.660	7.94	76.5	6.2	0.008	6.80	0.30	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	6	13.654	7.88	75.8	6.2	0.008	6.78	0.27	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	7	13.650	8.04	77.4	6.2	0.008	6.78	0.28	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	8	13.646	7.94	76.5	6.2	0.008	6.77	0.30	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	9	13.639	7.95	76.4	6.2	0.008	6.83	0.27	16.8	607.5	—
10/17/2023 9:26	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-1-LL	10	13.632	7.97	76.7	6.2	0.008	6.80	0.29	16.8	607.5	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	0	13.660	7.85	75.6	6.2	0.008	6.86	0.29	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	1	13.727	7.92	76.2	6.2	0.008	6.82	0.27	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	2	13.618	7.96	76.5	6.2	0.008	6.80	0.31	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	3	13.599	7.99	76.8	6.2	0.008	6.81	0.28	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	4	13.588	7.94	76.5	6.2	0.008	6.80	0.31	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	5	13.577	7.87	75.8	6.2	0.008	6.80	0.27	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	6	13.570	7.92	76.2	6.2	0.008	6.81	0.30	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	7	13.559	7.89	75.8	6.2	0.008	6.79	0.27	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	8	13.542	7.90	75.9	6.2	0.008	6.78	0.29	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	9	13.520	7.82	75.1	6.2	0.008	6.78	0.33	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	10	13.515	7.86	75.4	6.2	0.008	6.77	0.29	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	11	13.505	7.84	75.2	6.2	0.008	6.78	0.33	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	12	13.495	7.79	74.8	6.2	0.008	6.76	0.31	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	13	13.491	7.82	75.1	6.2	0.008	6.75	0.31	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	14	13.488	7.79	74.7	6.2	0.008	6.75	0.29	17.7	607.3	—
10/17/2023 9:53	YSI EXO2S	Michael Schweiker	Sunny, cool	R-IS-2-LL	15	13.488	7.78	74.7	6.2	0.008	6.75	0.31	17.7	607.3	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	0	13.494	7.89	75.7	6.2	0.008	6.79	0.28	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	1	13.487	7.94	76.1	6.2	0.008	6.77	0.30	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	2	13.465	8.03	77.0	6.2	0.008	6.77	0.31	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	3	13.440	7.98	76.5	6.2	0.008	6.77	0.35	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	4	13.423	7.85	75.3	6.2	0.008	6.76	0.33	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	5	13.420	7.90	75.7	6.2	0.008	6.72	0.30	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	6	13.412	7.95	76.2	6.2	0.008	6.73	0.29	21.1	607.2	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	7	13.407	7.91	75.8	6.1	0.008	6.73	0.34	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	8	13.385	7.89	75.6	6.1	0.008	6.74	0.29	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	9	13.371	7.90	75.5	6.1	0.008	6.77	0.46	21.1	607.2	—
10/17/2023 10:15	YSI EXO2S	Michael Schweiker	Sunny and cool	R-IS-3-LL	10	13.365	7.92	75.8	6.1	0.008	6.76	0.39	21.1	607.2	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	0	13.321	8.20	78.3	9.1	0.012	6.71	0.34	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	1	12.745	8.42	79.5	9.3	0.012	6.72	0.35	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	2	12.640	8.35	78.7	9.1	0.012	6.70	0.38	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	3	12.547	8.20	77.1	8.8	0.012	6.71	0.38	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	4	12.385	8.14	76.2	8.8	0.012	6.66	0.45	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	5	12.110	8.20	76.2	8.1	0.011	6.65	0.44	17.2	630.3	—
10/17/2023 12:06	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-4-GC	6	11.825	8.24	76.0	8.0	0.011	6.63	0.44	17.2	630.3	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	0	16.720	7.57	77.9	9.3	0.011	6.68	0.13	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	1	16.734	7.56	77.8	9.3	0.011	6.73	0.16	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	2	16.733	7.57	77.9	9.3	0.011	6.74	0.19	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	3	16.729	7.60	78.1	9.3	0.011	6.73	0.15	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	4	16.724	7.61	78.3	9.3	0.011	6.72	0.14	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	5	16.718	7.62	78.4	9.3	0.011	6.75	0.18	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	6	16.713	7.60	78.2	9.3	0.011	6.75	0.16	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	7	16.713	7.49	77.0	9.3	0.011	6.73	0.12	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	8	16.712	7.55	77.6	9.3	0.011	6.74	0.13	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	9	16.712	7.52	77.4	9.3	0.011	6.73	0.20	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	10	16.712	7.54	77.5	9.3	0.011	6.71	0.41	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	11	16.712	7.54	77.5	9.3	0.011	6.71	0.12	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	12	16.712	7.54	77.5	9.3	0.011	6.73	0.14	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	13	16.711	7.55	77.6	9.3	0.011	6.73	0.14	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	14	16.711	7.53	77.4	9.3	0.011	6.71	0.15	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	15	16.708	7.53	77.4	9.3	0.011	6.72	0.15	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	16	16.707	7.54	77.5	9.3	0.011	6.72	0.10	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	17	16.705	7.54	77.6	9.3	0.011	6.72	0.13	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	18	16.705	7.54	77.5	9.3	0.011	6.72	0.11	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	19	16.702	7.54	77.5	9.3	0.011	6.73	0.08	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	20	16.700	7.54	77.5	9.3	0.011	6.72	0.12	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	21	16.699	7.54	77.5	9.3	0.011	6.72	0.16	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	22	16.696	7.53	77.4	9.3	0.011	6.72	0.13	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	23	16.430	7.45	76.1	9.5	0.011	6.67	0.16	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	24	16.018	7.19	72.8	9.6	0.012	6.55	0.19	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	25	15.888	7.10	70.7	9.6	0.012	6.47	0.18	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	26	15.773	6.76	68.0	9.5	0.012	6.39	0.16	15.9	643.2	—
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	27	15.328	6.28	62.4	9.4	0.012	6.24	0.15	15.9	643.2	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/18/2023 9:27	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-6-UVR	28	15.158	6.04	60	9.3	0.011	6.18	0.12	15.9	643.2	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	0	16.965	7.67	79.3	9.7	0.011	6.78	0.17	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	1	16.935	7.65	79.0	9.7	0.011	6.73	0.18	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	2	16.939	7.62	78.8	9.6	0.011	6.72	0.19	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	3	16.897	7.62	78.7	9.6	0.011	6.75	0.16	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	4	16.884	7.65	79.0	9.6	0.011	6.74	0.18	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	5	16.852	7.61	78.5	9.6	0.011	6.75	0.19	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	6	16.832	7.60	78.4	9.6	0.011	6.75	0.2	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	7	16.823	7.60	78.4	9.7	0.011	6.75	0.18	17.2	643.1	—
10/18/2023 10:16	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-5-UVR	8	16.769	7.61	78.5	9.7	0.011	6.76	0.21	17.2	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	0	17.109	7.55	78.3	9.5	0.011	6.82	0.12	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	1	16.998	7.45	77.1	9.4	0.011	6.72	0.15	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	2	16.929	7.43	76.7	9.4	0.011	6.72	0.15	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	3	16.905	7.40	76.3	9.4	0.011	6.71	0.16	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	4	16.882	7.42	76.6	9.4	0.011	6.70	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	5	16.878	7.44	76.8	9.4	0.011	6.71	0.10	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	6	16.868	7.44	76.7	9.4	0.011	6.69	0.17	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	7	16.861	7.44	76.7	9.4	0.011	6.68	0.16	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	8	16.851	7.42	76.5	9.4	0.011	6.68	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	9	16.839	7.38	76.1	9.4	0.011	6.67	0.13	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	10	16.827	7.37	75.9	9.4	0.011	6.66	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	11	16.815	7.32	75.5	9.4	0.011	6.63	0.15	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	12	16.815	7.31	75.3	9.4	0.011	6.63	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	13	16.810	7.31	75.3	9.4	0.011	6.63	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	14	16.797	7.31	75.3	9.5	0.011	6.62	0.15	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	15	16.780	7.26	74.8	9.4	0.011	6.60	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	16	16.756	7.17	73.8	9.4	0.011	6.57	0.11	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	17	16.740	7.12	73.2	9.5	0.011	6.53	0.15	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	18	16.724	7.15	73.5	9.5	0.011	6.54	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	19	16.683	7.13	73.2	9.5	0.011	6.53	0.24	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	20	16.647	7.06	72.5	9.5	0.011	6.49	0.14	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	21	16.642	7.02	72.1	9.5	0.011	6.49	0.12	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	22	16.555	6.97	71.4	9.6	0.011	6.44	0.19	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	23	16.486	6.88	70.4	9.6	0.011	6.39	0.18	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	24	16.155	6.27	63.6	9.5	0.011	6.24	0.17	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	25	15.876	6.00	60.5	9.5	0.011	6.11	0.12	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	26	15.619	5.76	57.8	9.4	0.011	5.94	0.21	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	27	15.242	5.47	54.4	9.4	0.012	5.87	0.23	19.3	643.1	—
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	28	15.024	5.22	51.7	9.5	0.012	5.81	0.35	19.3	643.1	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/18/2023 10:34	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-7-UVR	29	14.948	5.07	50.2	9.4	0.012	5.79	0.36	19.3	643.1	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	0	17.006	7.55	77.9	9.3	0.011	6.85	0.09	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	1	16.875	7.45	76.9	9.3	0.011	6.76	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	2	16.815	7.44	76.6	9.3	0.011	6.66	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	3	16.800	7.49	77.1	9.2	0.011	6.65	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	4	16.776	7.50	77.2	9.2	0.011	6.69	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	5	16.759	7.48	77.0	9.2	0.011	6.71	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	6	16.750	7.47	76.9	9.2	0.011	6.69	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	7	16.746	7.47	76.9	9.2	0.011	6.68	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	8	16.742	7.48	77.0	9.2	0.011	6.69	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	9	16.737	7.48	77.0	9.2	0.011	6.70	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	10	16.733	7.46	76.8	9.2	0.011	6.69	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	11	16.731	7.45	76.6	9.2	0.011	6.68	0.14	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	12	16.73	7.44	76.5	9.2	0.011	6.67	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	13	16.726	7.44	76.5	9.2	0.011	6.67	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	14	16.725	7.44	76.5	9.2	0.011	6.68	0.14	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	15	16.725	7.44	76.5	9.2	0.011	6.68	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	16	16.725	7.44	76.5	9.2	0.011	6.66	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	17	16.724	7.44	76.5	9.2	0.011	6.67	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	18	16.724	7.44	76.6	9.2	0.011	6.66	0.09	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	19	16.721	7.45	76.6	9.2	0.011	6.66	0.09	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	20	16.717	7.45	76.6	9.2	0.011	6.66	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	21	16.715	7.45	76.7	9.2	0.011	6.64	0.08	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	22	16.716	7.46	76.7	9.2	0.011	6.65	0.16	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	23	16.707	7.46	76.7	9.2	0.011	6.65	0.10	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	24	16.204	6.87	69.9	9.2	0.011	6.33	0.11	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	25	16.013	6.32	63.9	9.2	0.011	6.18	0.02	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	26	15.736	6.17	62.1	9.2	0.011	6.12	0.05	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	27	15.487	6.11	61.2	9.1	0.011	6.08	0.07	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	28	15.123	6.12	60.9	9.0	0.011	6.11	0.01	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	29	14.978	6.19	61.4	8.9	0.011	6.10	0.01	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	30	14.805	6.24	61.6	8.8	0.011	6.09	0.04	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	31	14.342	6.12	59.8	9.0	0.011	6.08	0.06	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	32	14.226	6.24	61.0	8.6	0.011	6.09	0.08	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	33	14.09	6.19	60.2	8.7	0.011	6.07	0.10	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	34	13.866	6.35	61.7	8.5	0.011	6.08	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	35	13.665	6.44	62.0	8.6	0.011	6.09	0.06	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	36	13.468	6.56	63.1	8.3	0.011	6.09	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	37	13.292	6.64	63.5	8.3	0.011	6.12	0.07	20.5	643.0	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	38	13.070	6.72	63.9	8.2	0.011	6.09	0.07	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	39	12.973	6.77	64.2	8.2	0.011	6.11	0.08	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	40	12.859	6.78	64.1	8.2	0.011	6.11	0.09	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	41	12.734	6.82	64.4	8.1	0.011	6.11	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	42	12.609	6.87	64.7	8.1	0.011	6.12	0.10	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	43	12.48	6.91	64.9	8.1	0.011	6.11	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	44	12.354	6.95	65.0	8.1	0.011	6.10	0.09	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	45	12.264	7.01	65.4	8.0	0.011	6.12	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	46	12.161	7.04	65.6	8.0	0.011	6.12	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	47	12.055	7.04	65.4	8.0	0.011	6.13	0.17	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	48	12.002	7.03	65.3	8.0	0.011	6.13	0.14	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	49	11.940	7.07	65.6	8.0	0.011	6.14	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	50	11.865	7.12	65.9	8.0	0.011	6.13	0.13	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	51	11.805	7.15	66.1	8.0	0.011	6.13	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	52	11.710	7.14	65.8	8.0	0.011	6.13	0.16	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	53	11.641	7.08	65.1	8.0	0.011	6.11	0.15	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	54	11.594	7.03	64.6	8.0	0.011	6.10	0.14	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	55	11.553	7.03	64.6	8.0	0.011	6.10	0.20	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	56	11.440	7.00	64.1	8.0	0.011	6.08	0.16	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	57	11.367	6.92	63.2	8.1	0.011	6.08	0.22	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	58	11.262	6.76	61.6	8.1	0.011	6.07	0.19	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	59	11.120	6.63	60.2	8.3	0.011	6.07	0.25	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	60	10.922	6.54	59.1	8.2	0.011	6.06	0.23	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	61	10.495	6.49	59.2	8.1	0.011	6.07	0.25	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	62	9.400	6.60	57.6	8.0	0.011	6.06	0.12	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	63	8.465	6.69	57.1	8.3	0.012	6.05	0.37	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	64	7.523	6.85	57.2	8.5	0.013	6.05	0.36	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	65	7.181	7.09	58.7	8.3	0.013	6.06	0.52	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	66	7.005	7.21	59.5	8.2	0.013	6.06	0.35	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	67	6.895	7.32	60.2	8.2	0.013	6.06	0.40	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	68	6.776	7.25	59.3	8.5	0.013	6.05	0.38	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	69	6.649	7.17	58.5	8.6	0.013	6.05	0.39	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	70	6.575	7.18	58.5	8.6	0.013	6.04	0.41	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	71	6.513	7.22	58.7	8.5	0.013	6.06	0.47	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	72	6.465	7.26	59.0	8.5	0.013	6.06	0.44	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	73	6.424	7.31	59.4	8.4	0.013	6.07	0.44	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	74	6.387	7.37	59.8	8.4	0.013	6.08	0.38	20.5	643.0	—
10/18/2023 11:22	YSI EXO2S	Michael Schweiker	Warm, sunny	R-IS-8-UVR	75	6.355	7.43	60.3	8.3	0.013	6.07	0.44	20.5	643.0	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	0	14.105	9.75	94.4	19.4	0.025	7.08	0.21	13.1	710.5	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	1	14.100	9.69	94.2	19.4	0.025	7.11	0.21	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	2	14.101	9.80	95.2	19.5	0.025	7.11	0.19	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	3	13.572	10.02	96.4	19.7	0.025	7.09	0.40	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	4	12.617	10.07	94.8	21.2	0.028	7.06	0.67	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	5	12.474	10.44	97.9	21.2	0.028	7.04	0.73	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	6	12.327	10.26	96.2	21.1	0.028	7.03	0.85	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	7	12.305	10.25	95.6	21.0	0.028	7.02	0.91	13.1	710.5	—
10/24/2023 8:48	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-14-SC	8	12.299	10.26	95.9	21.0	0.028	7.00	0.90	13.1	710.5	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	0	13.853	9.81	94.9	19.3	0.025	7.15	0.26	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	1	13.854	9.71	93.9	19.3	0.025	7.14	0.23	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	2	13.808	9.67	93.3	19.5	0.025	7.15	0.25	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	3	13.720	9.80	94.4	19.7	0.025	7.13	0.26	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	4	13.607	9.60	92.4	19.8	0.025	7.08	0.31	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	5	13.244	9.35	88.6	20.5	0.026	6.98	0.35	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	6	13.044	9.37	89.1	20.6	0.027	6.90	0.34	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	7	12.980	9.03	85.6	20.3	0.026	6.87	0.21	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	8	12.879	9.24	87.3	19.7	0.026	6.82	0.24	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	9	12.852	9.01	85.3	19.1	0.025	6.79	0.22	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	10	12.828	9.22	87.1	18.2	0.024	6.76	0.25	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	11	12.808	9.07	85.6	18.1	0.024	6.73	0.22	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	12	12.790	9.22	87.2	18.7	0.024	6.71	0.33	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	13	12.767	9.20	86.9	18.8	0.025	6.72	0.22	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	14	12.745	9.21	86.9	19.5	0.025	6.72	0.28	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	15	12.731	9.20	86.8	20.2	0.026	6.73	0.25	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	16	12.730	9.18	86.6	20.3	0.027	6.75	0.27	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	17	12.720	9.18	86.5	20.5	0.027	6.76	0.24	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	18	12.726	9.17	86.5	20.7	0.027	6.77	0.31	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	19	12.716	9.17	86.5	20.9	0.027	6.77	0.29	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	20	12.711	9.17	86.5	20.9	0.027	6.78	0.34	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	21	12.708	9.16	86.4	21.0	0.027	6.79	0.29	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	22	12.686	9.18	86.5	21.2	0.028	6.79	0.44	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	23	12.645	9.26	87.4	21.2	0.028	6.82	0.55	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	24	12.645	9.35	88.1	20.9	0.027	6.82	0.73	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	25	12.639	9.41	88.6	20.9	0.027	6.83	0.77	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	26	12.634	9.44	88.8	20.8	0.027	6.81	0.82	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	27	12.631	9.46	89.1	20.8	0.027	6.80	0.75	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	28	12.630	9.47	89.2	20.7	0.027	6.82	0.79	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	29	12.563	9.66	90.8	19.4	0.025	6.84	0.83	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	30	12.507	9.78	91.8	18.7	0.025	6.82	0.71	14.0	710.0	—

Date & Time	Instrument Used	Survey Recorded By	Weather	SWS Site ID	Depth (m)	Temperature (°C)[1]	Dissolved Oxygen (mg/L)[1]	Dissolved Oxygen (% sat)[1]	Conductivity (uS/cm)[1]	Specific Conductance (mS/cm)[1]	pH (s.u.)[1]	Turbidity (NTU)[1]	Secchi Depth (ft)[1]	Barometric Pressure (mm Hg)[1]	Notes
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	31	12.470	9.87	92.6	18.4	0.024	6.80	0.83	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	32	12.457	9.91	92.9	18.4	0.024	6.80	1.04	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	33	12.420	9.90	92.7	18.1	0.024	6.78	1.15	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	34	12.402	9.90	92.7	18.1	0.024	6.78	1.22	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	35	12.399	9.91	92.8	18.0	0.024	6.79	1.16	14.0	710.0	—
10/24/2023 10:22	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-15-SC	36	12.353	9.85	92.1	18.0	0.024	6.80	1.91	14.0	710.0	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	0	12.030	8.32	77.3	8.4	0.011	6.41	0.08	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	1	11.563	8.15	74.9	8.2	0.011	6.37	0.15	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	2	11.441	8.13	74.5	8.2	0.011	6.33	0.14	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	3	11.380	8.22	75.2	8.2	0.011	6.28	0.17	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	4	11.347	8.24	75.5	8.2	0.011	6.27	0.12	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	5	11.320	8.24	75.3	8.2	0.011	6.29	0.15	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	6	11.306	8.25	75.3	8.2	0.011	6.30	0.13	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	7	11.295	8.24	75.3	8.2	0.011	6.30	0.15	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	8	11.290	8.22	75.1	8.2	0.011	6.30	0.15	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	9	11.270	8.24	75.2	8.2	0.011	6.29	0.18	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	10	11.267	8.23	75.1	8.2	0.011	6.28	0.16	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	11	11.269	8.19	74.8	8.2	0.011	6.28	0.15	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	12	11.197	8.29	75.5	8.4	0.011	6.30	0.17	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	13	11.172	8.41	76.8	8.4	0.011	6.30	0.16	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	14	11.059	8.56	77.7	8.4	0.011	6.30	0.18	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	15	11.011	8.57	77.7	8.4	0.012	6.28	0.20	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	16	10.925	8.44	76.2	8.5	0.012	6.26	0.23	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	17	10.854	8.49	76.7	9.3	0.013	6.30	0.22	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	18	10.685	8.50	76.5	8.8	0.012	6.27	0.22	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	19	10.615	8.60	77.3	9.3	0.013	6.28	0.27	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	20	10.536	8.73	78.3	9.5	0.013	6.32	0.33	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	21	10.558	8.73	78.4	9.5	0.013	6.31	0.29	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	22	10.468	8.75	78.4	9.4	0.013	6.29	0.33	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	23	10.442	8.79	78.7	9.4	0.013	6.25	0.32	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	24	10.376	8.78	78.4	9.2	0.013	6.20	0.35	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	25	10.257	8.70	77.5	9.4	0.013	6.22	0.33	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	26	10.178	8.62	76.4	9.7	0.014	6.20	0.43	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	27	10.090	8.31	73.8	10.0	0.014	6.14	0.59	34.6	645.4	—
10/24/2023 12:57	YSI EXO2S	Camille Hymes	Sunny, clear	R-IS-12-JR	28	10.073	8.11	71.7	10.2	0.014	6.18	0.65	34.6	645.4	—

[1] Data were transcribed from the YSI EXO2 or EXO2S to a tablet, including additional digits beyond the parameter method detection limit (MDL).

This Page Intentionally Left Blank

APPENDIX D
In Situ Vertical Profile Data for UARP Reservoir Sites

This Page Intentionally Left Blank

Table D-1. Vertical Profile Data for UARP Reservoir Sites—Spring (May) *In Situ* Surveys.

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
Loon Lake Reservoir									
R-IS-2-LL	5/25	surface	4.1	6.4	10.7	82	5	0.2	9.0
		1	4.1	6.3	10.7	82	5	0.3	
		2	4.1	6.2	10.7	82	5	0.3	
		3	4.1	6.1	10.7	82	5	0.3	
		4	3.9	6.1	10.7	82	5	0.3	
		5	3.9	6.1	10.7	82	5	0.2	
		6	3.9	6.1	10.7	81	5	0.3	
		7	3.9	6.1	10.6	81	5	0.3	
		8	3.9	6.1	10.5	80	5	0.3	
		9	3.9	6.1	10.5	80	5	0.3	
		10	3.9	6.1	10.4	79	5	0.3	
		11	3.9	6.1	10.4	79	5	0.3	
		12	3.9	6.1	10.4	79	5	0.3	
		13	3.9	6.1	10.4	79	5	0.3	
		14	3.9	6.1	10.4	79	5	0.3	
R-IS-3-LL	5/25	surface	3.1	6.2	9.8	73	5	0.3	6.6
		1	3.4	6.1	9.8	73	6	0.3	
		2	3.4	6.1	9.8	73	6	0.3	
		3	3.4	6.1	9.8	73	6	0.3	
		4	3.4	6.1	9.8	73	6	0.3	
		5	3.4	6.1	9.8	73	6	0.3	
		6	3.4	6.1	9.7	73	6	0.3	
		7	3.4	6.1	9.7	73	6	0.3	
		8	3.4	6.0	9.7	73	6	0.3	
		9	3.4	6.0	9.7	73	6	0.3	
		10	3.4	6.0	9.7	73	6	0.3	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-3-LL	5/25	11	3.4	6.0	9.7	73	6	0.3	6.6
Gerle Creek Reservoir									
R-IS-4-GC	5/25	surface	8.1	6.5	10.2	86	7	0.2	7.5
		1	7.7	6.5	10.2	85	7	0.2	
		2	6.7	6.5	10.3	84	7	0.3	
		3	6.3	6.5	10.3	84	6	0.3	
		4	6.1	6.5	10.4	84	6	0.3	
		5	5.8	6.5	10.4	83	6	0.2	
		6	5.8	6.5	10.4	83	6	0.3	
		7	5.6	6.5	10.5	83	6	0.3	
		8	5.4	6.5	10.5	83	6	0.3	
Union Valley Reservoir									
R-IS-5-UVR	5/19	surface	14.0	6.9	9.7	94	11	0.1	5.8
		1	13.3	6.9	9.8	93	11	0.1	
		2	12.1	6.8	10.0	93	10	0.1	
		3	9.9	6.8	10.2	91	9	0.1	
		4	9.3	6.7	10.4	90	9	0.1	
		5	8.7	6.7	10.4	90	9	0.2	
		6	8.1	6.7	10.5	89	8	0.2	
		7	7.8	6.7	10.6	89	8	0.2	
		8	7.5	6.7	10.6	88	8	0.2	
		9	7.2	6.7	10.7	88	8	0.2	
		10	6.9	6.6	10.7	88	8	0.1	
		11	6.5	6.6	10.7	87	8	0.2	
		12	6.3	6.6	10.8	87	8	0.2	
		13	5.7	6.6	10.8	86	7	0.2	
		14	5.5	6.6	10.8	86	7	0.2	
		15	5.5	6.5	10.8	85	7	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-5-UVR	5/19	16	5.4	6.5	10.8	85	7	0.2	5.8
		17	5.4	6.5	10.8	85	7	0.2	
		18	5.4	6.5	10.7	85	7	0.2	
R-IS-6-UVR	5/19	surface	13.7	6.7	9.7	94	11	0.2	5.2
		1	11.7	6.5	10.1	93	10	0.2	
		2	9.9	6.5	10.3	92	10	0.3	
		3	9.3	6.4	10.3	90	9	0.3	
		4	8.7	6.3	10.5	91	9	0.2	
		5	8.3	6.3	10.6	90	9	0.3	
		6	7.3	6.3	10.9	91	9	0.3	
		7	6.8	6.3	10.9	89	9	0.2	
		8	6.6	6.2	10.8	88	9	0.2	
		9	6.4	6.2	10.8	87	9	0.2	
		10	6.2	6.2	10.7	87	9	0.2	
		11	6.1	6.1	10.7	87	9	0.2	
		12	6.1	6.1	10.7	86	9	0.2	
		13	6.0	6.1	10.7	86	9	0.1	
		14	6.0	6.1	10.7	86	9	0.3	
		15	6.0	6.1	10.7	86	9	0.2	
		16	5.9	6.1	10.7	86	9	0.2	
		17	5.8	6.1	10.7	85	9	0.3	
		18	5.7	6.1	10.7	85	9	0.2	
		19	5.7	6.1	10.7	85	9	0.2	
		20	5.6	6.1	10.7	85	9	0.2	
		21	5.6	6.1	10.7	85	9	0.2	
		22	5.5	6.1	10.6	84	9	0.1	
		23	5.3	6.1	10.6	84	9	0.2	
		24	5.1	6.1	10.6	83	9	0.1	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-6-UVR	5/19	25	5.1	6.0	10.6	83	9	0.1	5.2
		26	5.1	6.0	10.6	83	9	0.1	
		27	5.0	6.0	10.5	83	9	0.1	
		28	5.0	6.0	10.5	82	9	0.1	
		29	5.0	6.0	10.5	82	9	0.1	
		30	4.9	6.0	10.5	82	9	0.2	
		31	4.9	6.0	10.5	82	9	0.1	
		32	4.9	6.0	10.5	82	9	0.1	
		33	4.9	6.0	10.5	82	9	0.1	
		34	4.8	6.0	10.5	81	9	0.1	
R-IS-7-UVR	5/19	surface	13.6	6.9	9.8	92	11	0.7	6.1
		1	13.2	6.8	9.8	94	11	0.1	
		2	12.1	6.8	10.0	93	10	0.1	
		3	10.0	6.8	10.4	92	9	0.1	
		4	9.2	6.8	10.5	92	9	0.2	
		5	8.7	6.8	10.6	91	9	0.2	
		6	7.9	6.7	10.6	90	8	0.2	
		7	7.7	6.7	10.7	89	8	0.2	
		8	7.5	6.7	10.7	89	8	0.2	
		9	7.1	6.7	10.8	89	8	0.2	
		10	6.8	6.7	10.8	88	8	0.2	
		11	6.6	6.6	10.8	88	8	0.2	
		12	6.3	6.6	10.8	87	8	0.2	
		13	6.0	6.6	10.7	86	8	0.1	
		14	5.9	6.6	10.7	86	8	0.2	
		15	5.8	6.6	10.7	86	8	0.1	
		16	5.7	6.6	10.7	85	8	0.1	
		17	5.7	6.6	10.7	85	8	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-7-UVR	5/19	18	5.6	6.6	10.7	85	8	0.2	6.1
		19	5.6	6.6	10.7	85	8	0.1	
		20	5.6	6.6	10.7	85	8	0.1	
		21	5.6	6.5	10.7	85	8	0.1	
		22	5.5	6.5	10.7	85	8	0.2	
		23	5.4	6.5	10.6	84	9	0.1	
		24	5.4	6.5	10.6	84	9	0.2	
		25	5.4	6.5	10.6	84	9	0.1	
		26	5.2	6.5	10.6	83	9	0.1	
		27	5.2	6.5	10.6	83	9	0.1	
		28	5.1	6.5	10.6	83	9	0.1	
		29	5.1	6.5	10.5	83	9	0.2	
		30	5.1	6.5	10.5	83	9	0.1	
		31	5.1	6.5	10.5	83	9	0.1	
		32	5.1	6.5	10.5	83	9	0.1	
		33	5.0	6.5	10.5	82	9	0.1	
		34	5.0	6.5	10.5	82	9	0.1	
		35	5.0	6.5	10.5	82	9	0.1	
		36	5.0	6.5	10.5	82	9	0.1	
		37	5.0	6.5	10.5	82	9	0.1	
		38	5.0	6.5	10.5	82	9	0.1	
		39	5.0	6.5	10.5	82	9	0.1	
		40	5.0	6.5	10.5	82	9	0.2	
		41	5.0	6.5	10.5	82	9	0.1	
		42	5.0	6.5	10.5	82	9	0.1	
R-IS-8-UVR	5/19	surface	13.4	7.0	9.8	93	11	0.1	5.5
		1	12.6	6.9	9.9	93	11	0.2	
		2	12.5	6.9	9.9	93	11	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-8-UVR	5/19	3	12.2	6.9	10.0	93	11	0.2	5.5
		4	12.0	6.9	10.0	93	11	0.1	
		5	9.1	6.9	10.5	91	9	0.2	
		6	8.0	6.8	10.8	91	9	0.2	
		7	7.8	6.8	10.8	91	9	0.3	
		8	7.6	6.8	10.9	91	9	0.2	
		9	7.2	6.8	10.9	90	9	0.2	
		10	7.0	6.7	10.9	89	9	0.2	
		11	6.8	6.7	10.9	89	9	0.2	
		12	6.7	6.7	10.8	89	9	0.2	
		13	6.5	6.7	10.8	88	9	0.2	
		14	6.4	6.7	10.7	87	9	0.2	
		15	6.4	6.6	10.7	87	9	0.2	
		16	6.2	6.6	10.7	87	9	0.2	
		17	6.1	6.6	10.7	86	9	0.2	
		18	6.0	6.6	10.7	86	9	0.1	
		19	5.9	6.6	10.7	86	9	0.2	
		20	5.8	6.7	10.6	85	9	0.1	
		21	5.8	6.6	10.6	85	9	0.1	
		22	5.7	6.6	10.6	85	9	0.1	
		23	5.5	6.6	10.6	84	9	0.1	
		24	5.5	6.6	10.6	84	9	0.1	
		25	5.4	6.6	10.6	84	9	0.1	
		26	5.4	6.6	10.6	84	9	0.1	
		27	5.4	6.6	10.6	84	9	0.1	
		28	5.3	6.6	10.6	84	9	0.1	
		29	5.3	6.6	10.6	84	9	0.1	
		30	5.3	6.6	10.6	84	9	0.1	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-8-UVR	5/19	31	5.3	6.5	10.6	84	9	0.1	5.5
		32	5.3	6.5	10.6	83	9	0.1	
		33	5.1	6.5	10.6	83	9	0.1	
		34	5.1	6.5	10.6	83	9	0.1	
		35	5.1	6.5	10.6	83	9	0.1	
		36	5.1	6.5	10.6	83	9	0.1	
		37	5.1	6.5	10.6	83	9	0.1	
		38	5.0	6.5	10.6	83	9	0.2	
		39	5.0	6.5	10.6	83	9	0.1	
		40	5.0	6.5	10.6	83	9	0.1	
		41	5.0	6.5	10.6	83	9	0.1	
		42	4.9	6.5	10.6	83	9	0.1	
		43	4.9	6.5	10.6	83	9	0.1	
		44	4.9	6.5	10.6	83	9	0.1	
		45	4.9	6.5	10.6	83	9	0.1	
		46	4.9	6.5	10.6	83	9	0.1	
		47	4.9	6.5	10.6	82	9	0.1	
		48	4.9	6.5	10.6	82	9	0.1	
		49	4.8	6.5	10.6	82	9	0.1	
		50	4.8	6.5	10.5	82	9	0.1	
		51	4.8	6.5	10.5	82	9	0.1	
		52	4.8	6.5	10.5	82	9	0.1	
		53	4.8	6.5	10.5	82	9	0.1	
		54	4.8	6.5	10.5	82	9	0.1	
		55	4.8	6.5	10.5	82	9	0.1	
		56	4.8	6.5	10.5	82	9	0.1	
		57	4.8	6.5	10.5	82	9	0.1	
		58	4.7	6.5	10.5	82	9	0.1	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-8-UVR	5/19	59	4.7	6.5	10.5	82	9	0.1	5.5
		60	4.6	6.5	10.4	80	9	0.1	
		61	4.5	6.5	10.4	80	9	0.1	
		62	4.5	6.5	10.4	80	9	0.1	
		63	4.5	6.5	10.4	80	9	0.1	
		64	4.5	6.5	10.4	80	9	0.1	
		65	4.5	6.5	10.4	80	9	0.1	
		66	4.5	6.5	10.4	80	9	0.1	
		67	4.5	6.5	10.4	80	9	0.1	
		68	4.5	6.5	10.4	80	9	0.1	
		69	4.5	6.5	10.4	80	9	0.1	
		70	4.5	6.5	10.4	80	9	0.1	
		71	4.5	6.5	10.4	80	9	0.1	
		72	4.5	6.5	10.4	80	9	0.1	
		73	4.5	6.5	10.4	80	9	0.1	
		74	4.5	6.5	10.4	80	9	0.1	
		75	4.4	6.5	10.4	80	9	0.1	
		76	4.4	6.5	10.4	80	9	0.1	
		77	4.4	6.5	10.4	80	9	0.2	
		78	4.4	6.5	10.4	80	9	0.1	
		79	4.4	6.5	10.4	80	9	0.1	
Ice House Reservoir									
R-IS-9-IHR	5/18	surface	9.4	6.7	10.4	91	10	0.8	3.4
		1	7.4	6.7	10.7	89	9	1.1	
		2	6.0	6.6	11.0	88	9	1.1	
		3	5.7	6.6	11.0	88	8	1.1	
		4	5.4	6.5	11.0	87	8	1.0	
		5	5.3	6.5	11.0	87	8	1.0	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-9-IHR	5/18	6	5.3	6.4	10.9	86	9	0.9	3.4
		7	5.1	6.3	10.8	85	9	0.9	
		8	5.0	6.2	10.9	85	9	0.9	
		9	4.9	6.2	10.9	85	8	1.0	
		10	4.9	6.2	10.9	85	9	1.0	
		11	4.8	6.1	10.7	82	9	0.7	
		12	4.7	6.1	10.5	82	9	0.7	
		13	4.7	6.1	10.5	82	9	0.7	
		14	4.7	6.0	10.5	81	9	0.7	
		15	4.7	6.0	10.4	81	9	0.7	
		16	4.7	6.0	10.4	81	9	0.7	
		17	4.7	6.0	10.4	81	9	0.7	
		18	4.7	6.0	10.4	81	9	0.7	
		19	4.7	6.0	10.4	81	9	0.7	
		20	4.7	6.0	10.5	81	9	0.7	
		21	4.7	6.0	10.5	81	9	0.7	
		22	4.7	6.0	10.5	82	9	0.7	
		23	4.7	6.0	10.5	82	9	0.7	
		24	4.7	6.0	10.5	82	9	0.7	
		25	4.7	6.0	10.5	82	9	0.7	
		26	4.7	6.0	10.5	82	9	0.7	
R-IS-10-IHR	5/18	surface	10.8	6.9	10.3	93	11	0.6	3.4
		1	9.8	6.9	10.4	92	11	0.8	
		2	9.7	6.9	10.4	92	11	0.7	
		3	9.5	6.9	10.5	92	11	0.8	
		4	9.4	6.9	10.5	91	11	0.8	
		5	8.8	6.9	10.5	91	10	0.8	
		6	8.5	6.8	10.6	91	10	0.8	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-10-IHR	5/18	7	8.1	6.8	10.6	90	10	0.8	3.4
		8	7.7	6.8	10.7	90	10	0.8	
		9	7.7	6.8	10.7	90	10	0.8	
		10	6.5	6.7	10.7	87	9	0.9	
		11	6.4	6.7	10.7	87	9	0.9	
		12	6.4	6.6	10.7	87	9	0.9	
		13	6.2	6.6	10.6	85	10	0.7	
		14	4.9	6.5	10.4	81	9	0.6	
		15	4.8	6.5	10.4	81	9	0.6	
		16	4.8	6.5	10.4	81	9	0.6	
		17	4.8	6.5	10.4	81	9	0.6	
		18	4.7	6.4	10.3	80	9	0.7	
		19	4.8	6.4	10.4	81	9	0.6	
		20	4.8	6.5	10.4	81	9	0.7	
		21	4.8	6.5	10.4	81	9	0.6	
		22	4.7	6.5	10.5	81	9	0.7	
		23	4.7	6.5	10.4	81	9	0.7	
		24	4.7	6.5	10.5	81	9	0.7	
		25	4.7	6.4	10.3	80	9	0.6	
		26	4.6	6.4	10.2	79	9	0.6	
		27	4.6	6.4	10.1	79	9	0.6	
		28	4.6	6.4	10.1	79	9	0.6	
R-IS-11-IHR	5/18	surface	11.2	7.0	10.3	94	11	0.7	3.7
		1	10.4	6.9	10.4	93	11	0.8	
		2	10.3	6.9	10.4	93	11	0.7	
		3	10.0	6.9	10.5	93	11	0.7	
		4	9.9	6.9	10.5	93	11	0.7	
		5	9.4	6.9	10.6	93	11	0.7	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-11-IHR	5/18	6	8.3	6.9	10.7	91	10	0.7	3.7
		7	7.5	6.8	10.7	89	10	0.7	
		8	5.9	6.6	10.5	84	10	0.6	
		9	5.4	6.6	10.3	81	10	0.6	
		10	5.3	6.5	10.2	81	10	0.6	
		11	5.2	6.4	10.2	80	10	0.6	
		12	5.1	6.4	10.2	80	10	0.6	
		13	5.1	6.4	10.2	80	10	0.5	
		14	5.0	6.4	10.1	79	10	0.6	
		15	5.0	6.4	10.1	79	10	0.5	
		16	4.9	6.4	10.1	79	9	0.5	
		17	4.8	6.4	10.0	78	9	0.6	
		18	4.8	6.4	10.0	78	9	0.5	
		19	4.8	6.4	10.0	78	9	0.5	
		20	4.7	6.4	9.9	77	9	0.8	
		21	4.7	6.4	9.9	77	9	0.5	
		22	4.7	6.3	9.9	77	9	0.6	
		23	4.7	6.3	9.9	77	9	0.5	
		24	4.7	6.3	9.9	77	9	0.6	
		25	4.6	6.3	9.9	76	9	0.5	
		26	4.6	6.3	9.8	76	9	0.6	
		27	4.6	6.3	9.9	76	9	0.6	
		28	4.6	6.3	9.8	76	9	0.6	
		29	4.6	6.3	9.8	76	9	0.6	
		30	4.6	6.3	9.8	76	9	0.6	

°C = degrees Celsius
m = meter(s)
mg/L = milligrams per liter
% sat = percent saturation
s.u. = standard unit
uS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Unit

Table D-2. Vertical Profile Data for UARP Reservoir Sites—Fall (October) *In Situ* Surveys.

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
Loon Lake Reservoir									
R-IS-1-LL	10/17	surface	13.7	6.8	8.1	78	6	0.3	5.1
		1	13.7	6.8	8.0	77	6	0.3	
		2	13.7	6.8	8.0	77	6	0.3	
		3	13.7	6.8	8.1	78	6	0.3	
		4	13.7	6.8	8.1	78	6	0.3	
		5	13.7	6.8	7.9	77	6	0.3	
		6	13.7	6.8	7.9	76	6	0.3	
		7	13.7	6.8	8.0	77	6	0.3	
		8	13.6	6.8	7.9	77	6	0.3	
		9	13.6	6.8	8.0	76	6	0.3	
		10	13.6	6.8	8.0	77	6	0.3	
R-IS-2-LL	10/17	surface	13.7	6.9	7.9	76	6	0.3	5.4
		1	13.7	6.8	7.9	76	6	0.3	
		2	13.6	6.8	8.0	77	6	0.3	
		3	13.6	6.8	8.0	77	6	0.3	
		4	13.6	6.8	7.9	77	6	0.3	
		5	13.6	6.8	7.9	76	6	0.3	
		6	13.6	6.8	7.9	76	6	0.3	
		7	13.6	6.8	7.9	76	6	0.3	
		8	13.5	6.8	7.9	76	6	0.3	
		9	13.5	6.8	7.8	75	6	0.3	
		10	13.5	6.8	7.9	75	6	0.3	
		11	13.5	6.8	7.8	75	6	0.3	
		12	13.5	6.8	7.8	75	6	0.3	
		13	13.5	6.8	7.8	75	6	0.3	
		14	13.5	6.8	7.8	75	6	0.3	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-2-LL	10/17	15	13.5	6.8	7.8	75	6	0.3	5.4
R-IS-3-LL	10/17	surface	13.5	6.8	7.9	76	6	0.3	6.4
		1	13.5	6.8	7.9	76	6	0.3	
		2	13.5	6.8	8.0	77	6	0.3	
		3	13.4	6.8	8.0	77	6	0.4	
		4	13.4	6.8	7.9	75	6	0.3	
		5	13.4	6.7	7.9	76	6	0.3	
		6	13.4	6.7	8.0	76	6	0.3	
		7	13.4	6.7	7.9	76	6	0.3	
		8	13.4	6.7	7.9	76	6	0.3	
		9	13.4	6.8	7.9	76	6	0.5	
		10	13.4	6.8	7.9	76	6	0.4	
Gerle Creek Reservoir									
R-IS-4-GC	10/17	surface	13.3	6.7	8.2	78	9	0.3	5.2
		1	12.7	6.7	8.4	80	9	0.4	
		2	12.6	6.7	8.4	79	9	0.4	
		3	12.5	6.7	8.2	77	9	0.4	
		4	12.4	6.7	8.1	76	9	0.5	
		5	12.1	6.7	8.2	76	8	0.4	
		6	11.8	6.6	8.2	76	8	0.4	
Union Valley Reservoir									
R-IS-5-UVR	10/18	0	17.0	6.8	7.7	79	10	0.2	5.2
		1	16.9	6.7	7.7	79	10	0.2	
		2	16.9	6.7	7.6	79	10	0.2	
		3	16.9	6.8	7.6	79	10	0.2	
		4	16.9	6.7	7.7	79	10	0.2	
		5	16.9	6.8	7.6	79	10	0.2	
		6	16.8	6.8	7.6	78	10	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-5-UVR	10/18	7	16.8	6.8	7.6	78	10	0.2	5.2
		8	16.8	6.8	7.6	79	10	0.2	
R-IS-6-UVR	10/18	0	16.7	6.7	7.6	78	9	0.1	4.8
		1	16.7	6.7	7.6	78	9	0.2	
		2	16.7	6.7	7.6	78	9	0.2	
		3	16.7	6.7	7.6	78	9	0.2	
		4	16.7	6.7	7.6	78	9	0.1	
		5	16.7	6.8	7.6	78	9	0.2	
		6	16.7	6.8	7.6	78	9	0.2	
		7	16.7	6.7	7.5	77	9	0.1	
		8	16.7	6.7	7.6	78	9	0.1	
		9	16.7	6.7	7.5	77	9	0.2	
		10	16.7	6.7	7.5	78	9	0.4	
		11	16.7	6.7	7.5	78	9	0.1	
		12	16.7	6.7	7.5	78	9	0.1	
		13	16.7	6.7	7.6	78	9	0.1	
		14	16.7	6.7	7.5	77	9	0.2	
		15	16.7	6.7	7.5	77	9	0.2	
		16	16.7	6.7	7.5	78	9	0.1	
		17	16.7	6.7	7.5	78	9	0.1	
		18	16.7	6.7	7.5	78	9	0.1	
		19	16.7	6.7	7.5	78	9	0.1	
		20	16.7	6.7	7.5	78	9	0.1	
		21	16.7	6.7	7.5	78	9	0.2	
		22	16.7	6.7	7.5	77	9	0.1	
		23	16.4	6.7	7.5	76	10	0.2	
		24	16.0	6.6	7.2	73	10	0.2	
		25	15.9	6.5	7.1	71	10	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-6-UVR	10/18	26	15.8	6.4	6.8	68	10	0.2	4.8
		27	15.3	6.2	6.3	62	9	0.2	
		28	15.2	6.2	6.0	60	9	0.1	
R-IS-7-UVR	10/18	surface	17.1	6.8	7.6	78	10	0.1	5.9
		1	17.0	6.7	7.5	77	9	0.2	
		2	16.9	6.7	7.4	77	9	0.2	
		3	16.9	6.7	7.4	76	9	0.2	
		4	16.9	6.7	7.4	77	9	0.1	
		5	16.9	6.7	7.4	77	9	0.1	
		6	16.9	6.7	7.4	77	9	0.2	
		7	16.9	6.7	7.4	77	9	0.2	
		8	16.9	6.7	7.4	77	9	0.1	
		9	16.8	6.7	7.4	76	9	0.1	
		10	16.8	6.7	7.4	76	9	0.1	
		11	16.8	6.6	7.3	76	9	0.2	
		12	16.8	6.6	7.3	75	9	0.1	
		13	16.8	6.6	7.3	75	9	0.1	
		14	16.8	6.6	7.3	75	10	0.2	
		15	16.8	6.6	7.3	75	9	0.1	
		16	16.8	6.6	7.2	74	9	0.1	
		17	16.7	6.5	7.1	73	10	0.2	
		18	16.7	6.5	7.2	74	10	0.1	
		19	16.7	6.5	7.1	73	10	0.2	
		20	16.6	6.5	7.1	73	10	0.1	
		21	16.6	6.5	7.0	72	10	0.1	
		22	16.6	6.4	7.0	71	10	0.2	
		23	16.5	6.4	6.9	70	10	0.2	
		24	16.2	6.2	6.3	64	10	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-7-UVR	10/18	25	15.9	6.1	6.0	61	10	0.1	5.9
		26	15.6	5.9	5.8	58	9	0.2	
		27	15.2	5.9	5.5	54	9	0.2	
		28	15.0	5.8	5.2	52	10	0.4	
		29	14.9	5.8	5.1	50	9	0.4	
R-IS-8-UVR	10/18	surface	17.0	6.9	7.6	78	9	0.1	6.2
		1	16.9	6.8	7.5	77	9	0.1	
		2	16.8	6.7	7.4	77	9	0.1	
		3	16.8	6.7	7.5	77	9	0.2	
		4	16.8	6.7	7.5	77	9	0.1	
		5	16.8	6.7	7.5	77	9	0.1	
		6	16.8	6.7	7.5	77	9	0.1	
		7	16.7	6.7	7.5	77	9	0.2	
		8	16.7	6.7	7.5	77	9	0.1	
		9	16.7	6.7	7.5	77	9	0.1	
		10	16.7	6.7	7.5	77	9	0.2	
		11	16.7	6.7	7.5	77	9	0.1	
		12	16.7	6.7	7.4	77	9	0.1	
		13	16.7	6.7	7.4	77	9	0.1	
		14	16.7	6.7	7.4	77	9	0.1	
		15	16.7	6.7	7.4	77	9	0.2	
		16	16.7	6.7	7.4	77	9	0.1	
		17	16.7	6.7	7.4	77	9	0.1	
		18	16.7	6.7	7.4	77	9	0.1	
		19	16.7	6.7	7.5	77	9	0.1	
		20	16.7	6.7	7.5	77	9	0.1	
		21	16.7	6.6	7.5	77	9	0.1	
		22	16.7	6.7	7.5	77	9	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-8-UVR	10/18	23	16.7	6.7	7.5	77	9	0.1	6.2
		24	16.2	6.3	6.9	70	9	0.1	
		25	16.0	6.2	6.3	64	9	0.0	
		26	15.7	6.1	6.2	62	9	0.1	
		27	15.5	6.1	6.1	61	9	0.1	
		28	15.1	6.1	6.1	61	9	0.0	
		29	15.0	6.1	6.2	61	9	0.0	
		30	14.8	6.1	6.2	62	9	0.0	
		31	14.3	6.1	6.1	60	9	0.1	
		32	14.2	6.1	6.2	61	9	0.1	
		33	14.1	6.1	6.2	60	9	0.1	
		34	13.9	6.1	6.4	62	9	0.2	
		35	13.7	6.1	6.4	62	9	0.1	
		36	13.5	6.1	6.6	63	8	0.1	
		37	13.3	6.1	6.6	64	8	0.1	
		38	13.1	6.1	6.7	64	8	0.1	
		39	13.0	6.1	6.8	64	8	0.1	
		40	12.9	6.1	6.8	64	8	0.1	
		41	12.7	6.1	6.8	64	8	0.1	
		42	12.6	6.1	6.9	65	8	0.1	
		43	12.5	6.1	6.9	65	8	0.1	
		44	12.4	6.1	7.0	65	8	0.1	
		45	12.3	6.1	7.0	65	8	0.1	
		46	12.2	6.1	7.0	66	8	0.1	
		47	12.1	6.1	7.0	65	8	0.2	
		48	12.0	6.1	7.0	65	8	0.1	
		49	11.9	6.1	7.1	66	8	0.2	
		50	11.9	6.1	7.1	66	8	0.1	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-8-UVR	10/18	51	11.8	6.1	7.2	66	8	0.1	6.2
		52	11.7	6.1	7.1	66	8	0.2	
		53	11.6	6.1	7.1	65	8	0.2	
		54	11.6	6.1	7.0	65	8	0.1	
		55	11.6	6.1	7.0	65	8	0.2	
		56	11.4	6.1	7.0	64	8	0.2	
		57	11.4	6.1	6.9	63	8	0.2	
		58	11.3	6.1	6.8	62	8	0.2	
		59	11.1	6.1	6.6	60	8	0.3	
		60	10.9	6.1	6.5	59	8	0.2	
		61	10.5	6.1	6.5	59	8	0.3	
		62	9.4	6.1	6.6	58	8	0.1	
		63	8.5	6.1	6.7	57	8	0.4	
		64	7.5	6.1	6.9	57	9	0.4	
		65	7.2	6.1	7.1	59	8	0.5	
		66	7.0	6.1	7.2	60	8	0.4	
		67	6.9	6.1	7.3	60	8	0.4	
		68	6.8	6.1	7.3	59	9	0.4	
		69	6.6	6.1	7.2	59	9	0.4	
		70	6.6	6.0	7.2	59	9	0.4	
		71	6.5	6.1	7.2	59	9	0.5	
		72	6.5	6.1	7.3	59	9	0.4	
		73	6.4	6.1	7.3	59	8	0.4	
		74	6.4	6.1	7.4	60	8	0.4	
		75	6.4	6.1	7.4	60	8	0.4	
Ice House Reservoir									
R-IS-9-IHR	10/16	surface	16.2	7.0	7.4	80	9	0.3	5.5
		1	15.9	6.9	7.9	79	9	0.4	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-9-IHR	10/16	2	15.9	6.9	7.8	79	9	0.3	5.5
		3	15.8	6.9	7.8	79	9	0.3	
		4	15.8	6.9	7.8	79	9	0.4	
		5	15.8	6.9	7.8	78	9	0.4	
		6	15.7	6.9	7.8	78	9	0.4	
		7	15.7	6.8	7.7	78	9	0.4	
		8	15.7	6.8	7.8	79	9	0.4	
		9	15.7	6.8	7.8	78	9	0.4	
		10	15.7	6.7	7.7	77	9	0.4	
		11	15.7	6.6	7.8	79	9	0.3	
		12	15.7	6.6	7.7	77	9	0.4	
		13	15.7	6.6	7.8	79	9	0.4	
		14	15.5	6.5	7.6	76	9	0.4	
		15	15.1	6.4	7.3	72	9	0.4	
		16	13.6	5.9	6.5	62	9	0.4	
		17	12.2	5.8	5.6	52	9	0.6	
R-IS-10-IHR	10/16	surface	16.1	7.0	7.8	80	9	0.3	5.2
		1	15.8	6.9	7.8	79	9	0.3	
		2	15.8	6.9	7.8	79	9	0.4	
		3	15.8	6.9	7.9	80	9	0.4	
		4	15.7	6.9	7.9	80	9	0.3	
		5	15.7	6.9	7.9	80	9	0.4	
		6	15.7	6.9	7.9	79	9	0.3	
		7	15.7	6.9	7.9	79	9	0.3	
		8	15.7	7.0	7.8	79	9	0.3	
		9	15.7	6.9	7.8	79	9	0.4	
		10	15.7	6.9	7.8	79	9	0.4	
		11	15.7	6.9	7.8	78	9	0.3	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-10-IHR	10/16	12	15.7	6.9	7.8	79	9	0.3	5.2
		13	15.6	6.9	7.8	78	9	0.3	
		14	15.6	6.9	7.8	78	9	0.3	
		15	15.6	6.9	7.7	78	9	0.3	
		16	13.7	6.3	6.7	64	9	0.3	
		17	12.0	6.1	6.2	57	9	0.4	
		18	10.9	6.0	5.8	52	8	0.5	
R-IS-11-IHR	10/16	surface	16.0	7.0	7.8	79	9	0.3	5.7
		1	15.8	7.0	7.8	79	9	0.3	
		2	15.8	7.0	7.8	79	9	0.3	
		3	15.7	6.9	7.8	79	9	0.3	
		4	15.7	7.0	7.9	80	9	0.4	
		5	15.7	6.9	7.8	79	9	0.4	
		6	15.7	6.9	7.8	79	9	0.3	
		7	15.7	6.9	7.9	79	9	0.3	
		8	15.6	6.9	7.8	79	9	0.3	
		9	15.6	6.9	7.8	79	9	0.3	
		10	15.6	6.9	7.8	78	9	0.3	
		11	15.6	6.9	7.8	78	9	0.3	
		12	15.6	6.9	7.8	78	9	0.4	
		13	15.6	6.9	7.8	78	9	0.3	
		14	15.6	6.9	7.8	78	9	0.3	
		15	15.5	6.9	7.7	78	9	0.3	
		16	13.3	6.3	6.5	62	9	0.4	
		17	11.5	6.2	6.4	58	8	0.4	
		18	9.9	6.1	6.1	54	8	0.6	
		19	8.5	6.0	5.9	50	8	0.6	
		20	7.9	6.0	5.7	48	8	0.7	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-11-IHR	10/16	21	7.5	6.0	5.8	48	8	0.7	5.7
		22	7.3	6.0	5.7	47	8	0.8	
		23	7.2	6.0	5.5	46	8	0.8	
		24	7.1	6.0	5.5	46	8	0.8	
		25	7.1	6.0	5.7	47	8	0.8	
		26	7.0	6.0	5.8	48	8	0.8	
		27	6.9	6.0	5.5	45	8	0.8	
		28	6.9	6.0	5.6	41	8	0.9	
		29	6.8	6.0	4.5	37	8	0.9	
		30	6.8	6.0	4.4	36	8	0.9	
		31	6.7	5.9	4.2	34	9	1.0	
		32	6.7	5.9	3.6	30	9	1.0	
Junction Reservoir									
R-IS-12-JR	10/24	surface	12.0	6.4	8.3	77	8	0.1	10.5
		1	11.6	6.4	8.2	75	8	0.2	
		2	11.4	6.3	8.1	75	8	0.1	
		3	11.4	6.3	8.2	75	8	0.2	
		4	11.3	6.3	8.2	76	8	0.1	
		5	11.3	6.3	8.2	75	8	0.2	
		6	11.3	6.3	8.3	75	8	0.1	
		7	11.3	6.3	8.2	75	8	0.2	
		8	11.3	6.3	8.2	75	8	0.2	
		9	11.3	6.3	8.2	75	8	0.2	
		10	11.3	6.3	8.2	75	8	0.2	
		11	11.3	6.3	8.2	75	8	0.2	
		12	11.2	6.3	8.3	76	8	0.2	
		13	11.2	6.3	8.4	77	8	0.2	
		14	11.1	6.3	8.6	78	8	0.2	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-12-JR	10/24	15	11.0	6.3	8.6	78	8	0.2	10.5
		16	10.9	6.3	8.4	76	9	0.2	
		17	10.9	6.3	8.5	77	9	0.2	
		18	10.7	6.3	8.5	77	9	0.2	
		19	10.6	6.3	8.6	77	9	0.3	
		20	10.5	6.3	8.7	78	10	0.3	
		21	10.6	6.3	8.7	78	10	0.3	
		22	10.5	6.3	8.8	78	9	0.3	
		23	10.4	6.3	8.8	79	9	0.3	
		24	10.4	6.2	8.8	78	9	0.4	
		25	10.3	6.2	8.7	78	9	0.3	
		26	10.2	6.2	8.6	76	10	0.4	
		27	10.1	6.1	8.3	74	10	0.6	
		28	10.1	6.2	8.1	72	10	0.7	
Camino Reservoir									
R-IS-13-CB	10/16	surface	11.5	6.9	10.1	93	9	0.5	5.8
		1	11.3	7.0	10.1	92	9	0.5	
		2	11.2	6.9	10.0	91	9	0.5	
		3	11.0	6.9	10.0	91	9	0.5	
		4	11.0	6.8	10.2	93	9	0.6	
		5	11.0	6.8	10.3	93	9	0.6	
Slab Creek Reservoir									
R-IS-14-SC	10/24	surface	14.1	7.1	9.8	94	19	0.2	4.0
		1	14.1	7.1	9.7	94	19	0.2	
		2	14.1	7.1	9.8	95	20	0.2	
		3	13.6	7.1	10.0	96	20	0.4	
		4	12.6	7.1	10.1	95	21	0.7	
		5	12.5	7.0	10.4	98	21	0.7	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-14-SC	10/24	6	12.3	7.0	10.3	96	21	0.9	4.0
		7	12.3	7.0	10.3	96	21	0.9	
		8	12.3	7.0	10.3	96	21	0.9	
R-IS-15-SC	10/24	surface	13.9	7.2	9.8	95	19	0.3	4.3
		1	13.9	7.1	9.7	94	19	0.2	
		2	13.8	7.2	9.7	93	20	0.3	
		3	13.7	7.1	9.8	94	20	0.3	
		4	13.6	7.1	9.6	92	20	0.3	
		5	13.2	7.0	9.4	89	21	0.4	
		6	13.0	6.9	9.4	89	21	0.3	
		7	13.0	6.9	9.0	86	20	0.2	
		8	12.9	6.8	9.2	87	20	0.2	
		9	12.9	6.8	9.0	85	19	0.2	
		10	12.8	6.8	9.2	87	18	0.3	
		11	12.8	6.7	9.1	86	18	0.2	
		12	12.8	6.7	9.2	87	19	0.3	
		13	12.8	6.7	9.2	87	19	0.2	
		14	12.7	6.7	9.2	87	20	0.3	
		15	12.7	6.7	9.2	87	20	0.3	
		16	12.7	6.8	9.2	87	20	0.3	
		17	12.7	6.8	9.2	87	21	0.2	
		18	12.7	6.8	9.2	87	21	0.3	
		19	12.7	6.8	9.2	87	21	0.3	
		20	12.7	6.8	9.2	87	21	0.3	
		21	12.7	6.8	9.2	86	21	0.3	
		22	12.7	6.8	9.2	87	21	0.4	
		23	12.6	6.8	9.3	87	21	0.6	
		24	12.6	6.8	9.4	88	21	0.7	

Site ID	2023 Sample Date	Sample Depth (m)	Water Temperature (ºC)	pH (s.u.)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% sat)	Conductivity (uS/cm)	Turbidity (NTU)	Secchi Disk (m)
R-IS-15-SC	10/24	25	12.6	6.8	9.4	89	21	0.8	4.3
		26	12.6	6.8	9.4	89	21	0.8	
		27	12.6	6.8	9.5	89	21	0.8	
		28	12.6	6.8	9.5	89	21	0.8	
		29	12.6	6.8	9.7	91	19	0.8	
		30	12.5	6.8	9.8	92	19	0.7	
		31	12.5	6.8	9.9	93	18	0.8	
		32	12.5	6.8	9.9	93	18	1.0	
		33	12.4	6.8	9.9	93	18	1.2	
		34	12.4	6.8	9.9	93	18	1.2	
		35	12.4	6.8	9.9	93	18	1.2	

ºC = degrees Celsius
m = meter(s)
mg/L = milligrams per liter
% sat = percent saturation
s.u. = standard unit of pH
uS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Unit

This Page Intentionally Left Blank

APPENDIX E
In Situ Vertical Profiles for UARP Reservoir Sites

This Page Intentionally Left Blank

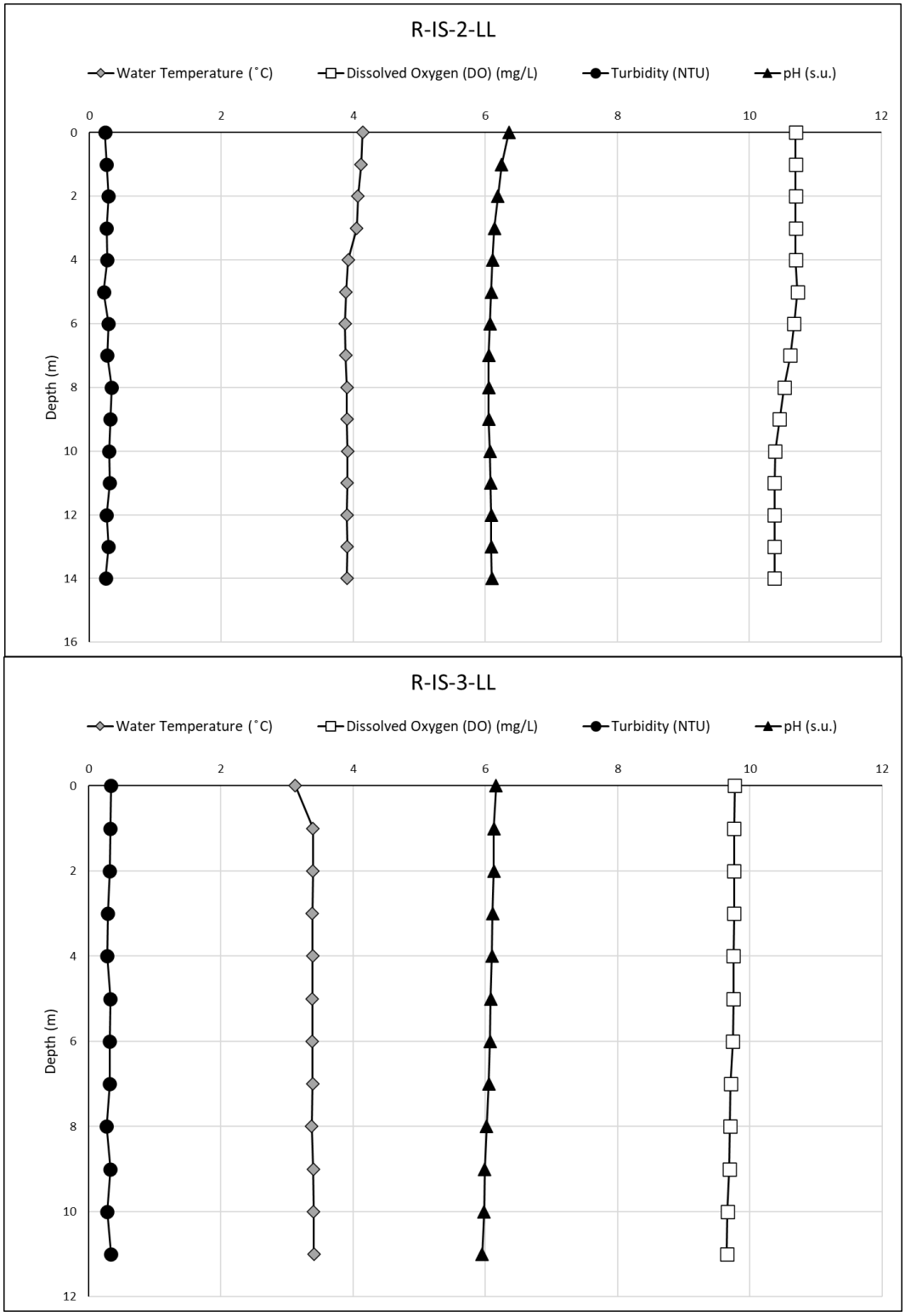

Figure E-1. *In situ* water temperature, dissolved oxygen, turbidity and pH at Loon Lake Reservoir Sites R-IS-2-LL and R-IS-3-LL, spring 2023.

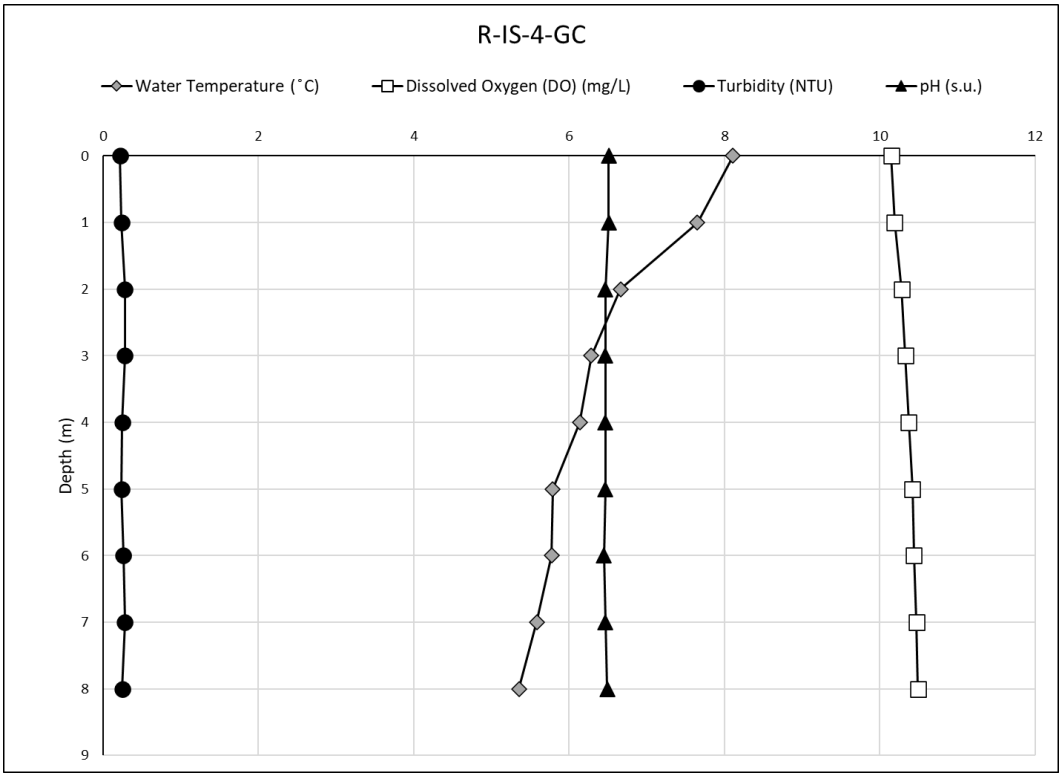

Figure E-2. *In situ* water temperature, dissolved oxygen, turbidity and pH at Gerle Creek Reservoir Site R-IS-4-GC, spring 2023.

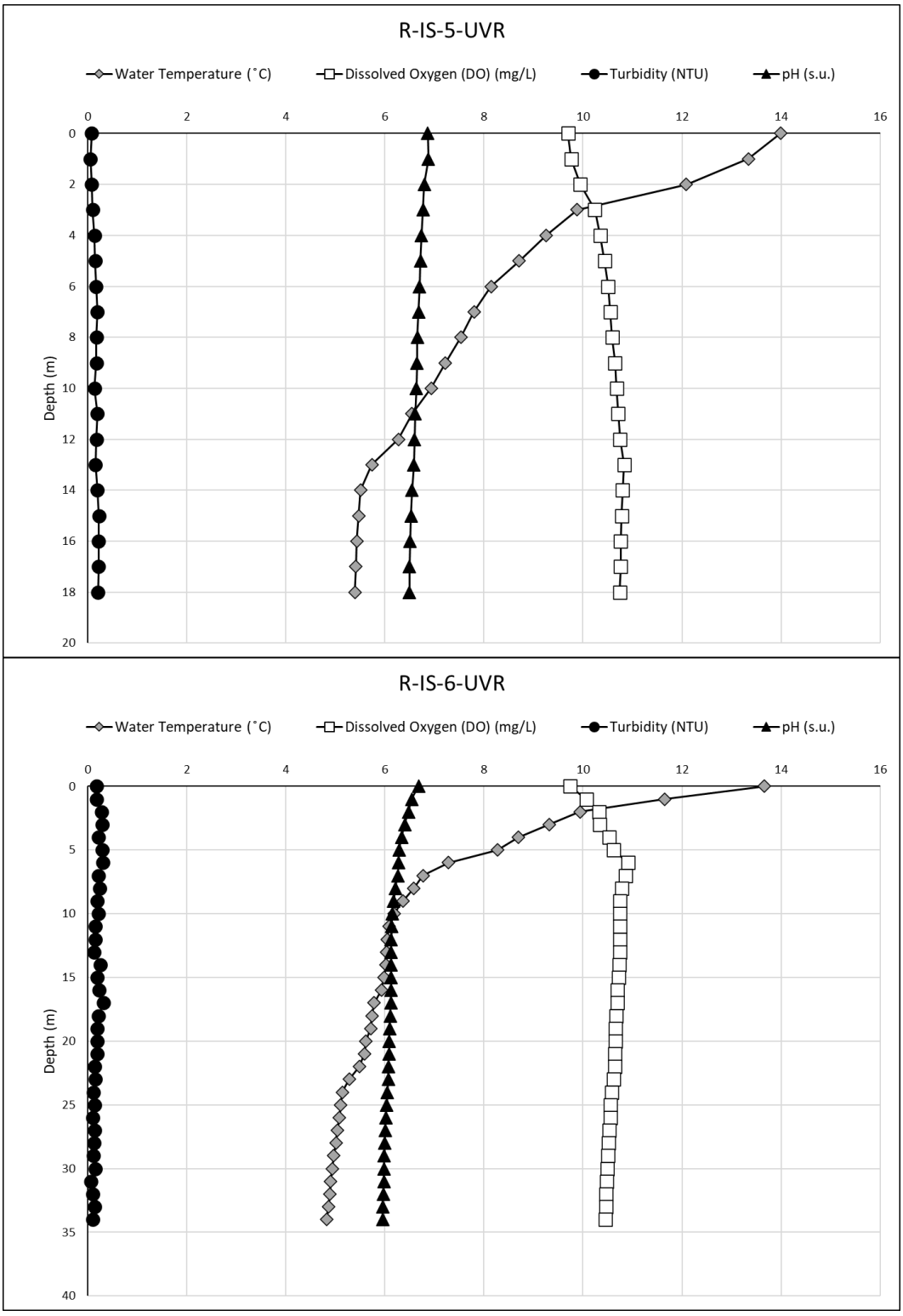

Figure E-3. *In situ* water temperature, dissolved oxygen, turbidity and pH at Union Valley Reservoir Sites R-IS-5-UVR and R-IS-6-UVR, spring 2023.

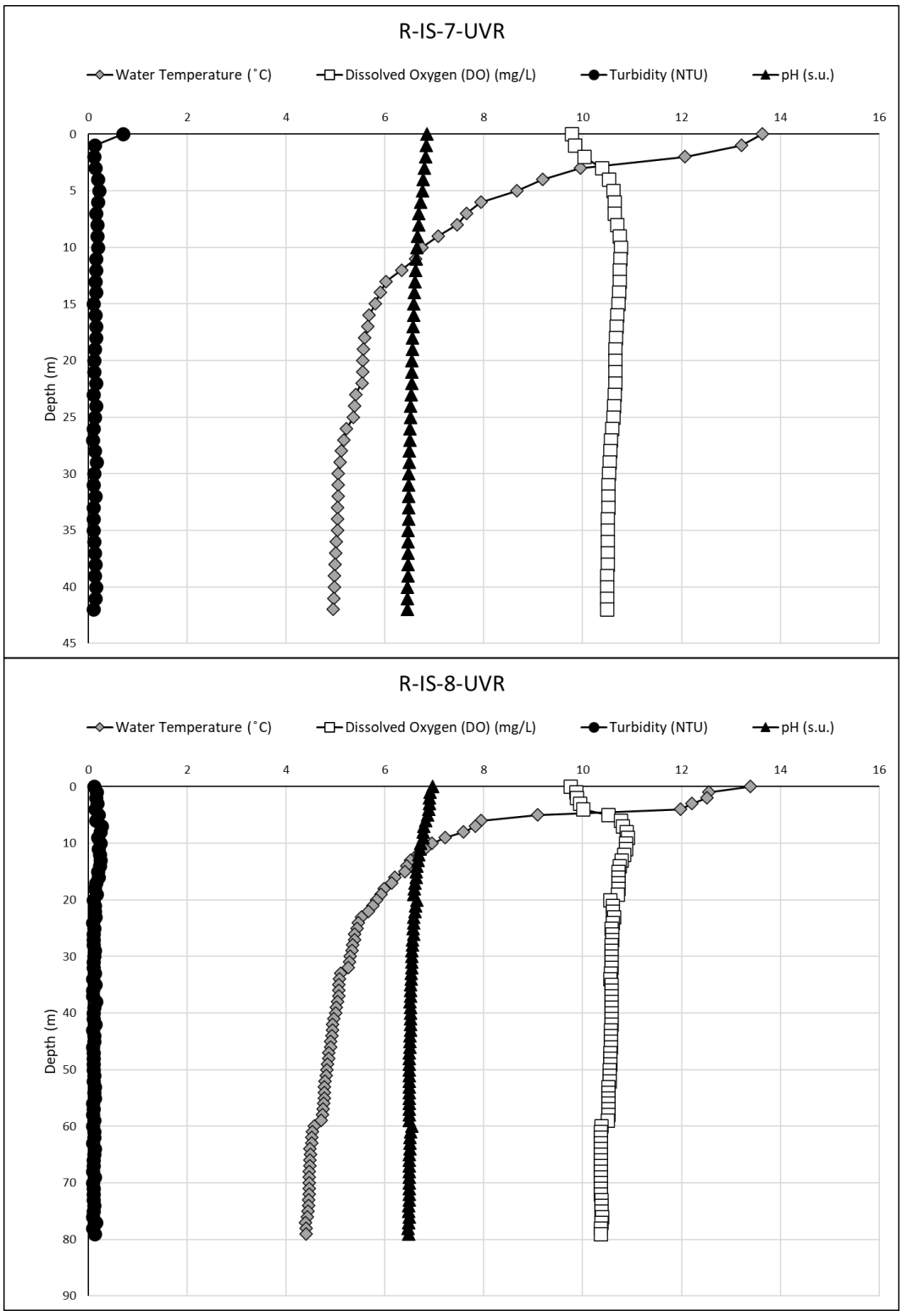

Figure E-4. *In situ* water temperature, dissolved oxygen, turbidity and pH at Union Valley Reservoir Sites R-IS-7-UVR and R-IS-8-UVR, spring 2023.

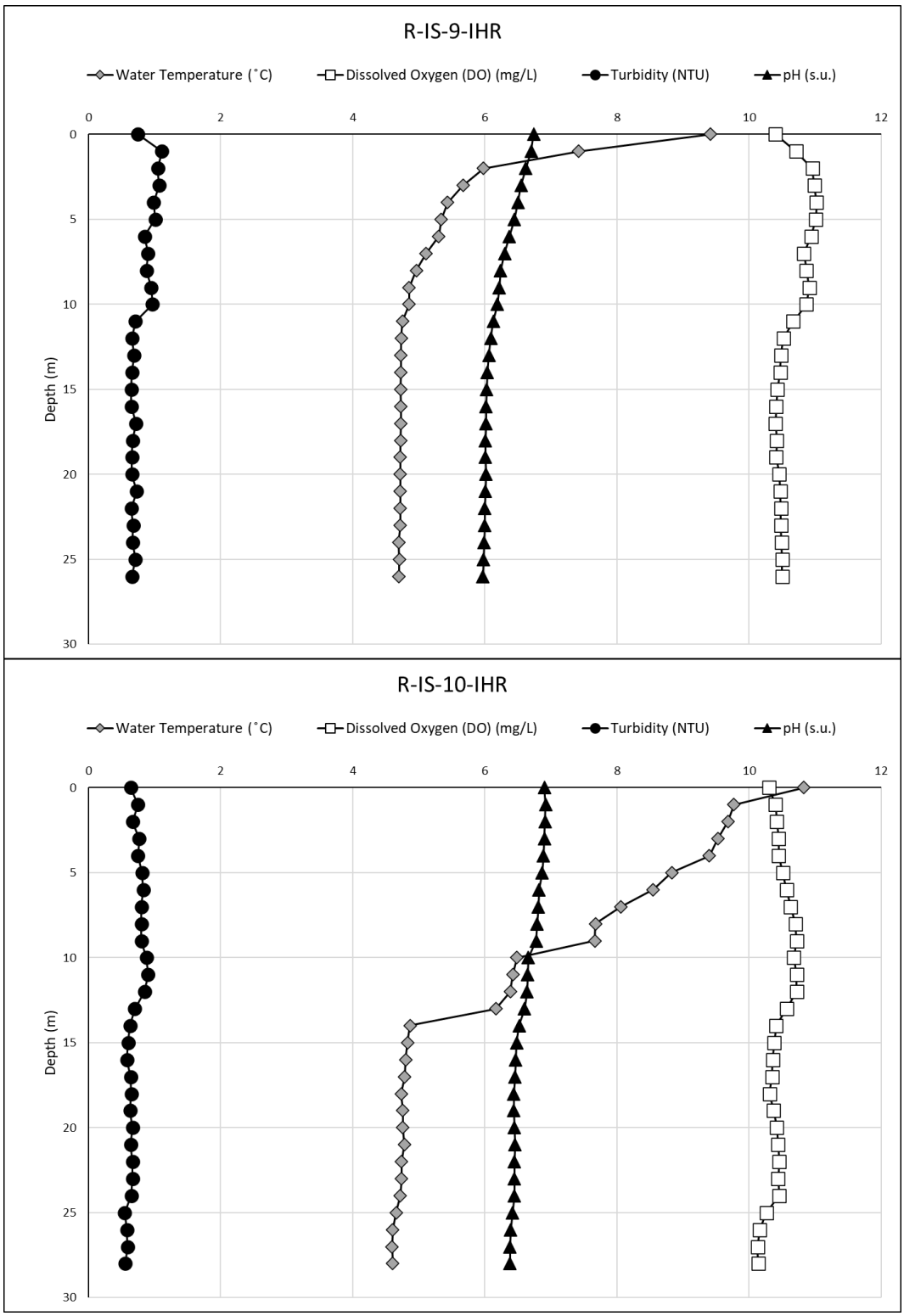

Figure E-5. *In situ* water temperature, dissolved oxygen, turbidity and pH at Ice House Reservoir Sites R-IS-9-IHR and R-IS-10-IHR, spring 2023.

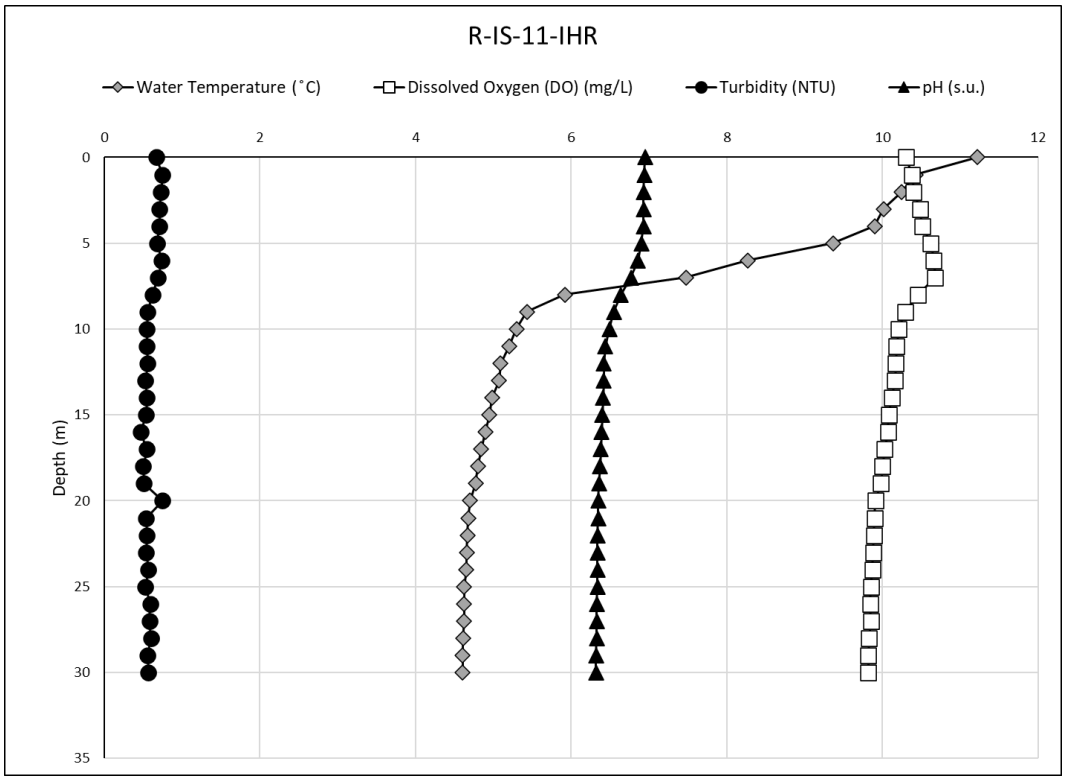

Figure E-6. *In situ* water temperature, dissolved oxygen, turbidity and pH at Ice House Reservoir Site R-IS-11-IHR, spring 2023.

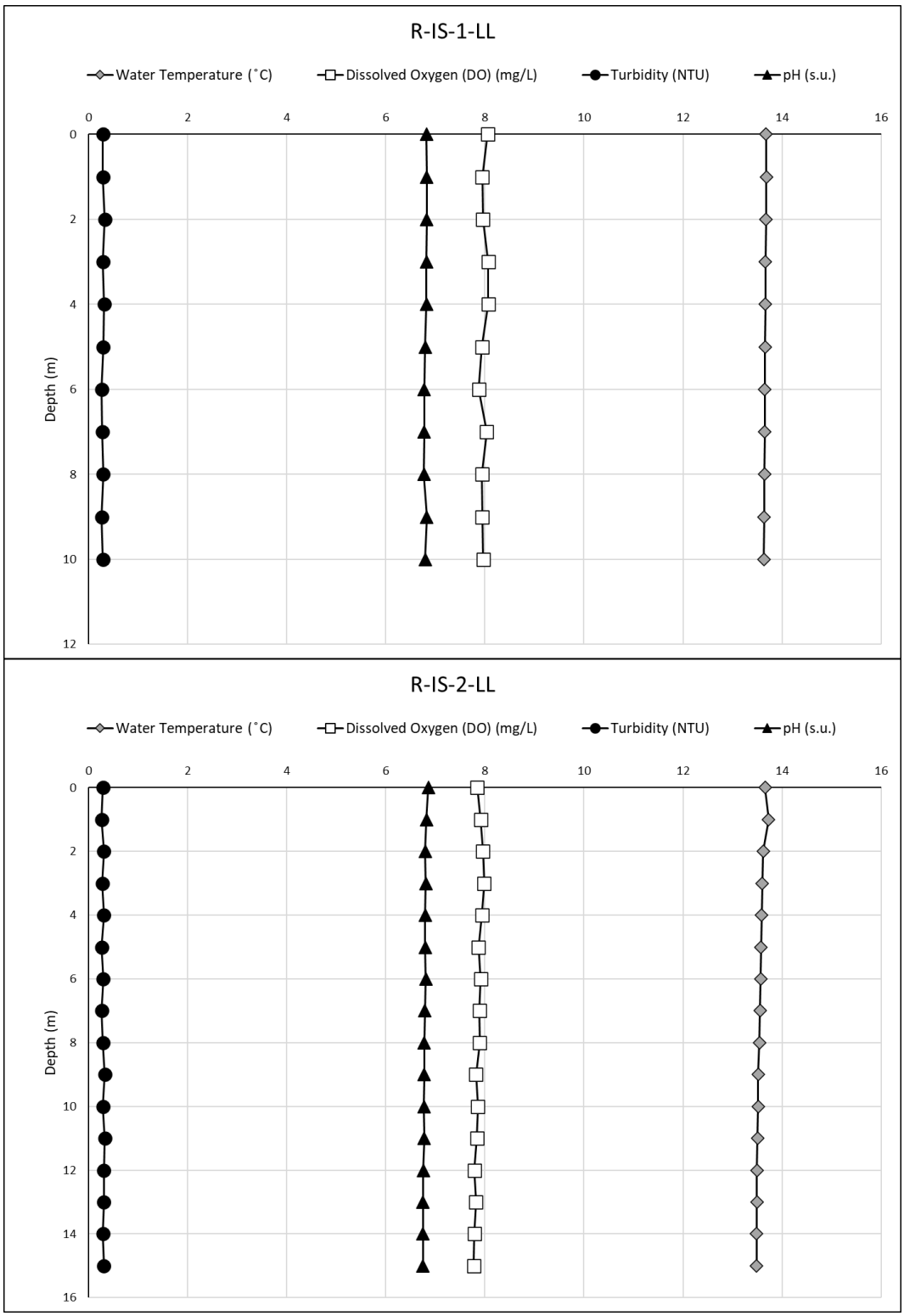

Figure E-7. *In situ* water temperature, dissolved oxygen, turbidity and pH at Loon Lake Reservoir Sites R-IS-1-LL and R-IS-2-LL, fall 2023.

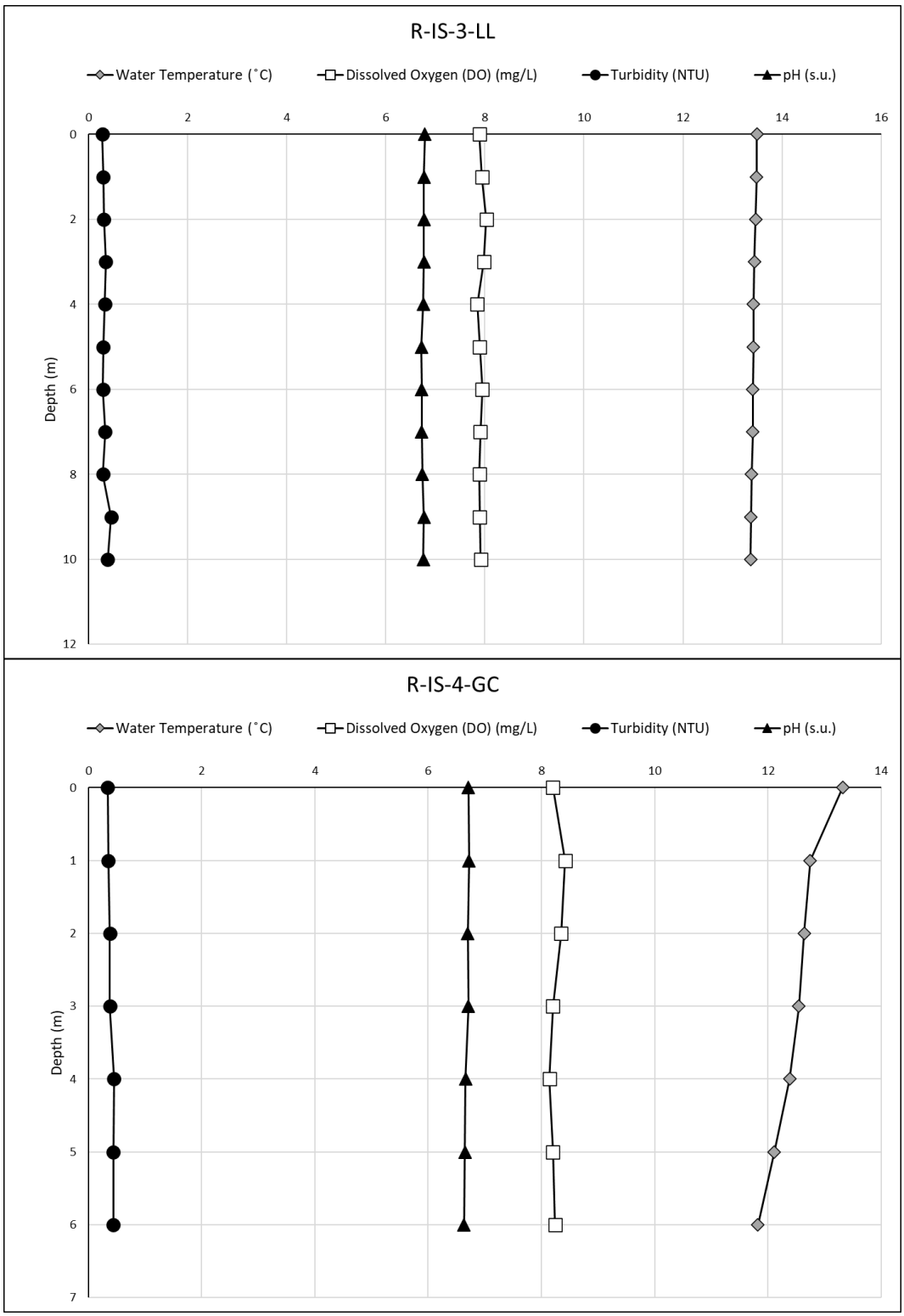

Figure E-8. *In situ* water temperature, dissolved oxygen, turbidity and pH at Loon Lake Reservoir Site R-IS-3-LL and Gerle Creek Reservoir Site R-IS-4-GC, fall 2023.

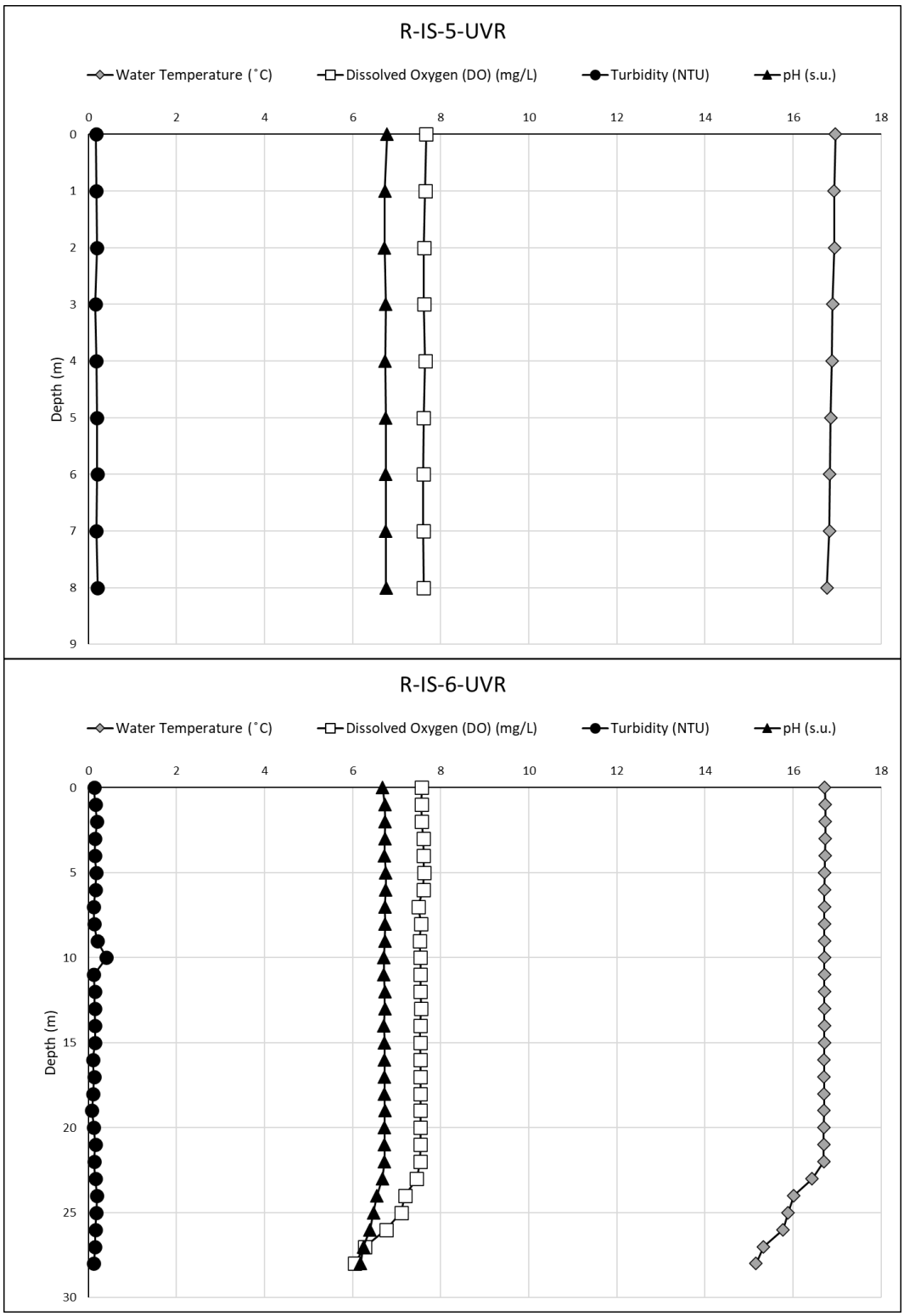

Figure E-9. *In situ* water temperature, dissolved oxygen, turbidity and pH at Union Valley Reservoir Sites R-IS-5-UVR and R-IS-6-UVR, fall 2023.

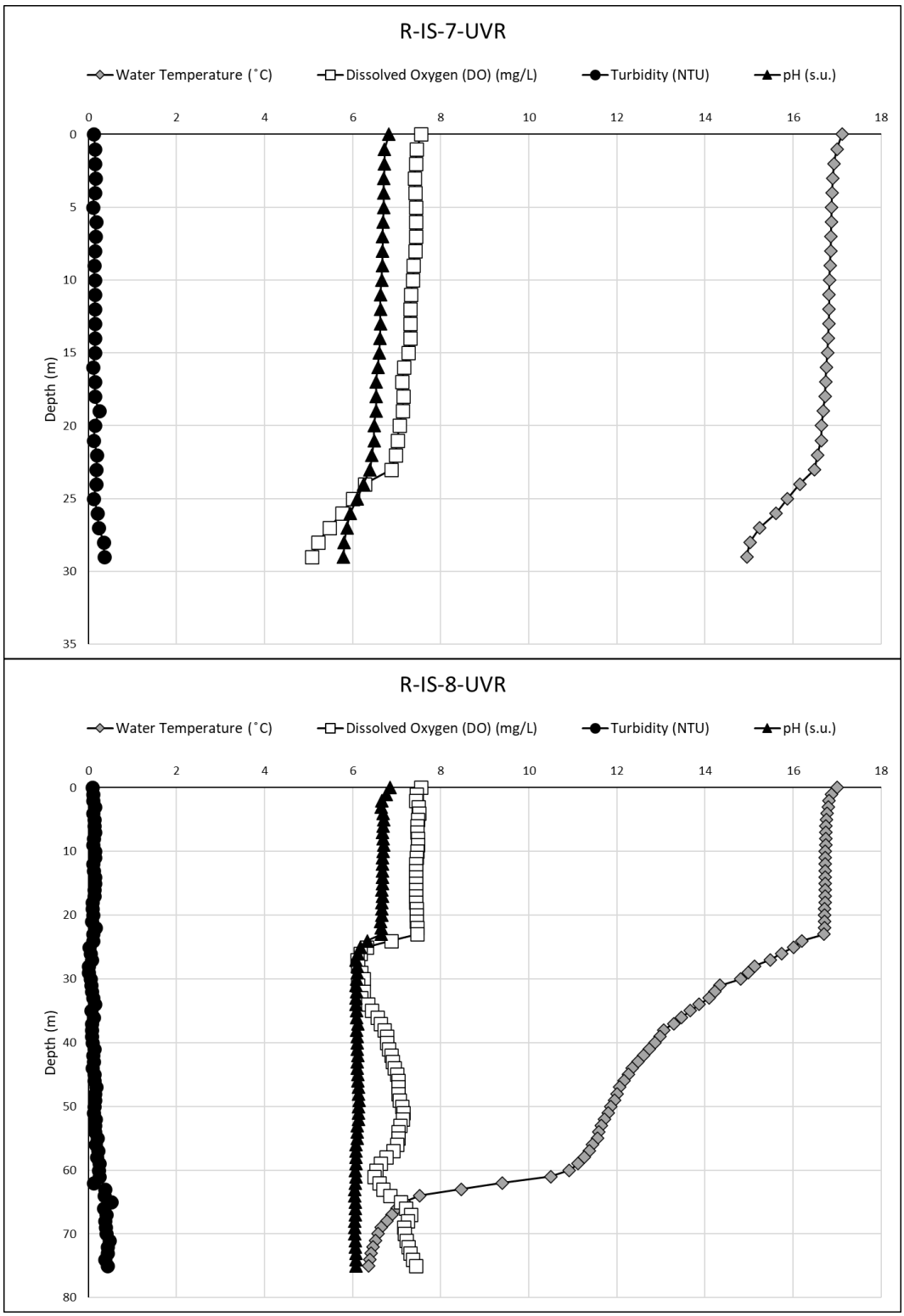

Figure E-10. *In situ* water temperature, dissolved oxygen, turbidity and pH at Union Valley Reservoir Sites R-IS-7-UVR and R-IS-8-UVR, fall 2023.

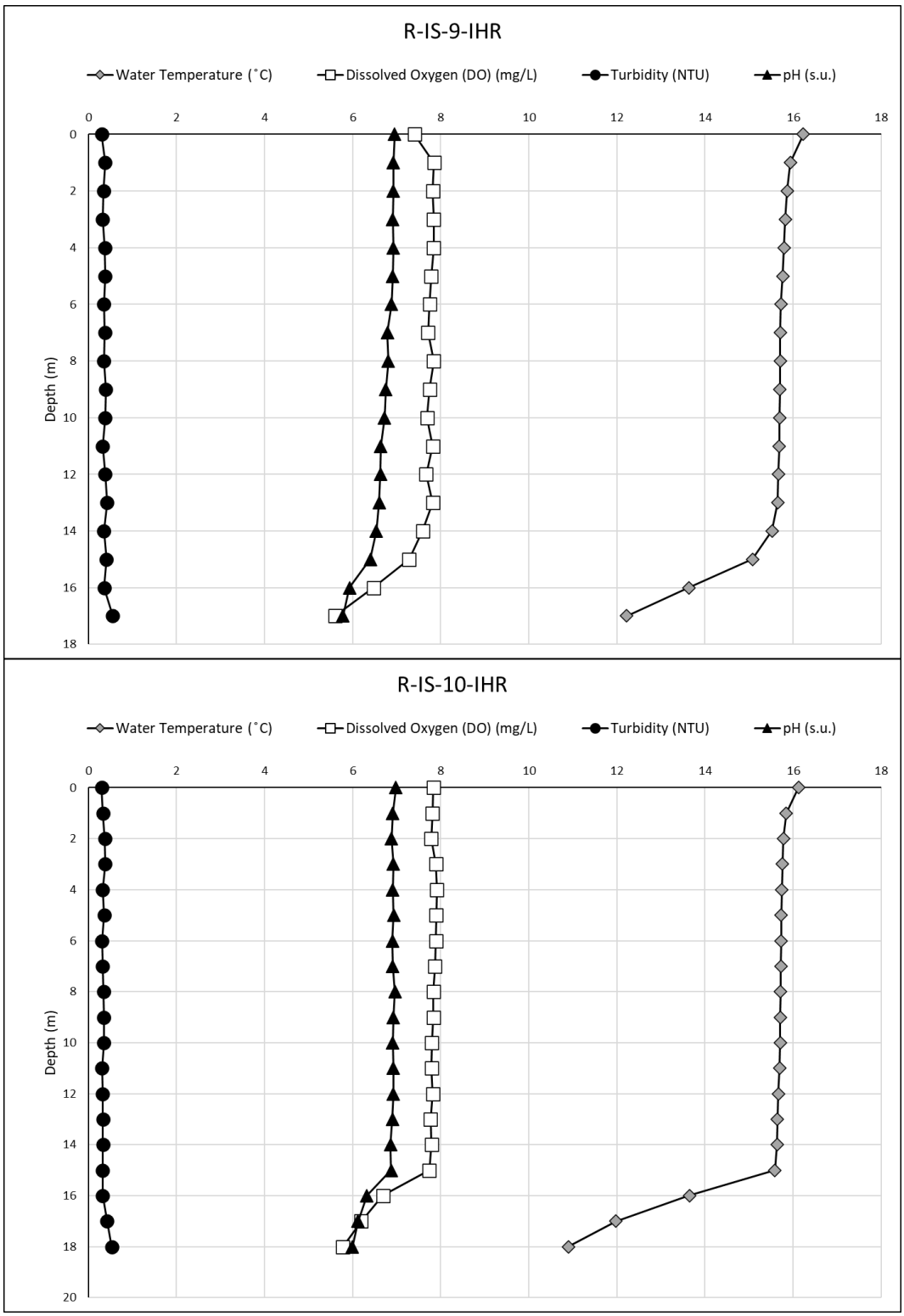

Figure E-11. *In situ* water temperature, dissolved oxygen, turbidity and pH at Ice House Reservoir Sites R-IS-9-IHR and R-IS-10-IHR, fall 2023.

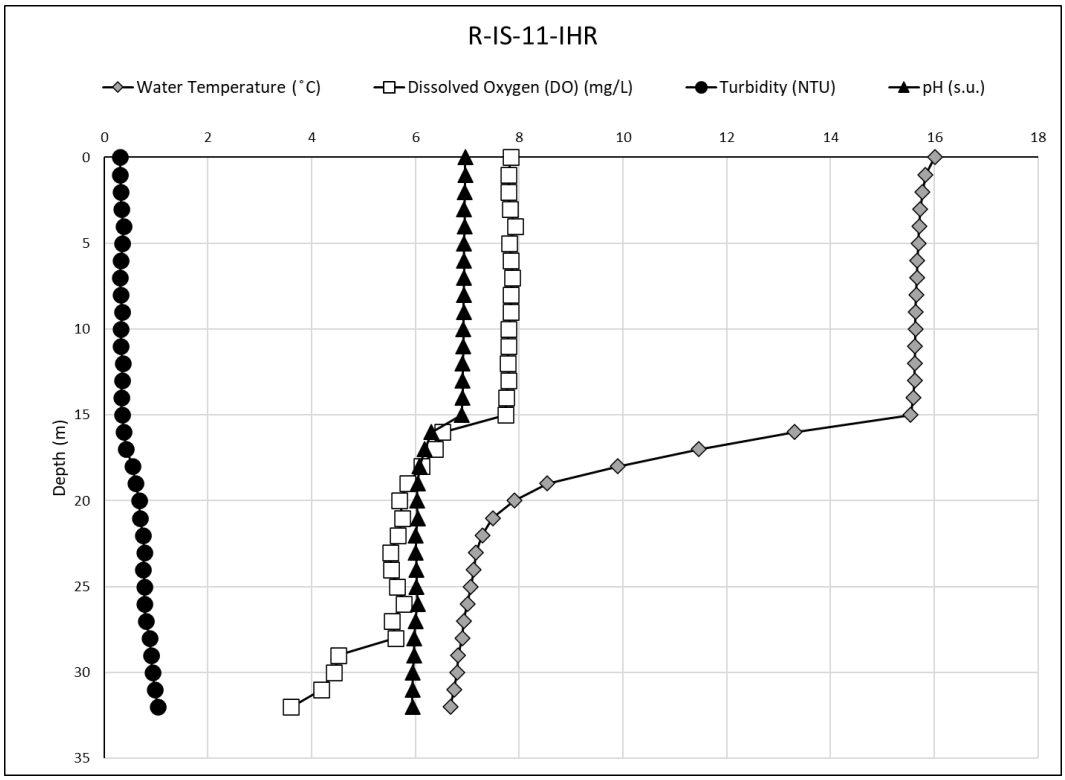

Figure E-12. *In situ* water temperature, dissolved oxygen, turbidity and pH at Ice House Reservoir Site R-IS-11-IHR, fall 2023.

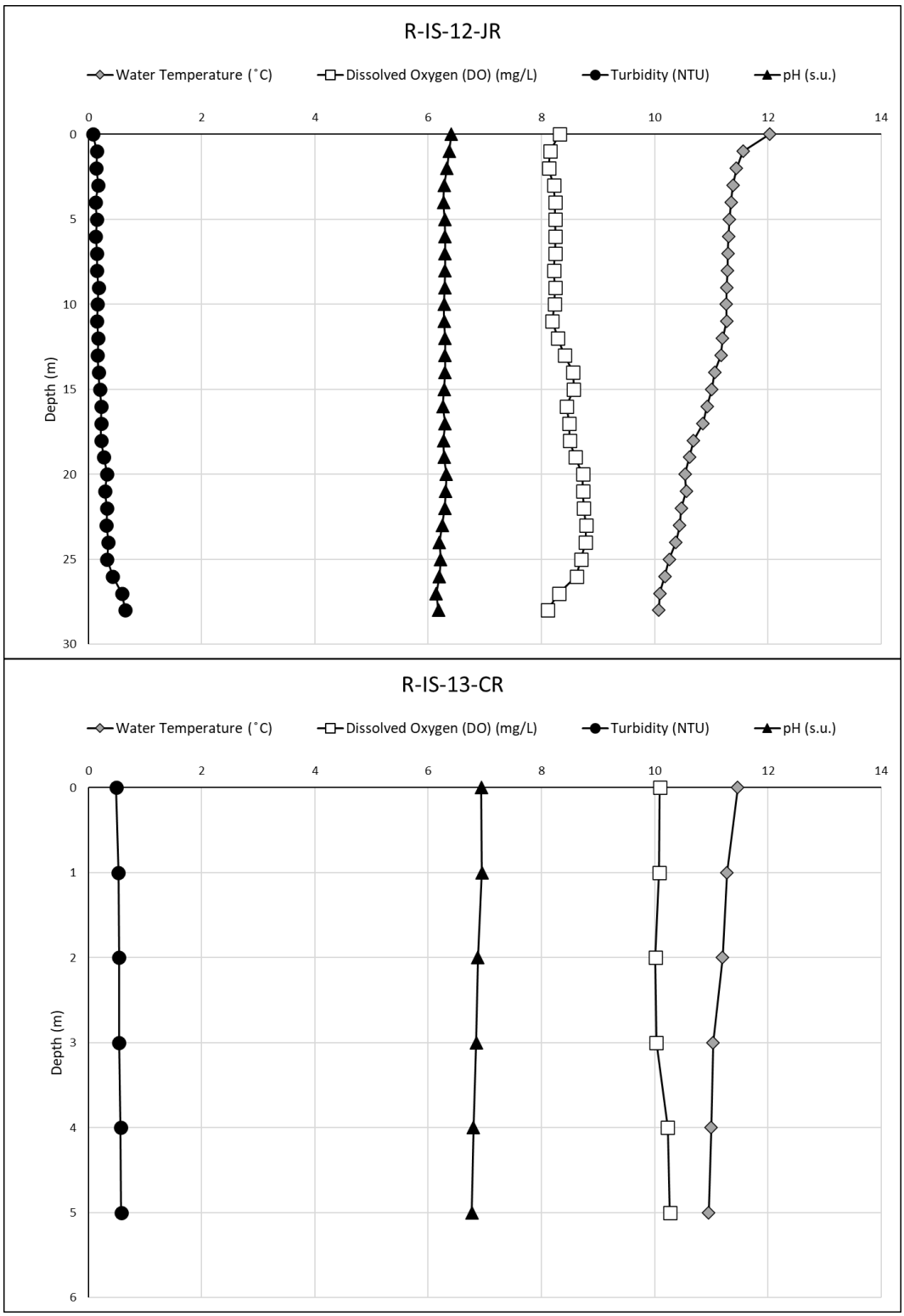

Figure E-13. *In situ* water temperature, dissolved oxygen, turbidity and pH at Junction Reservoir Site R-IS-12-JR and Camino Reservoir Site R-IS-13-CR, fall 2023.

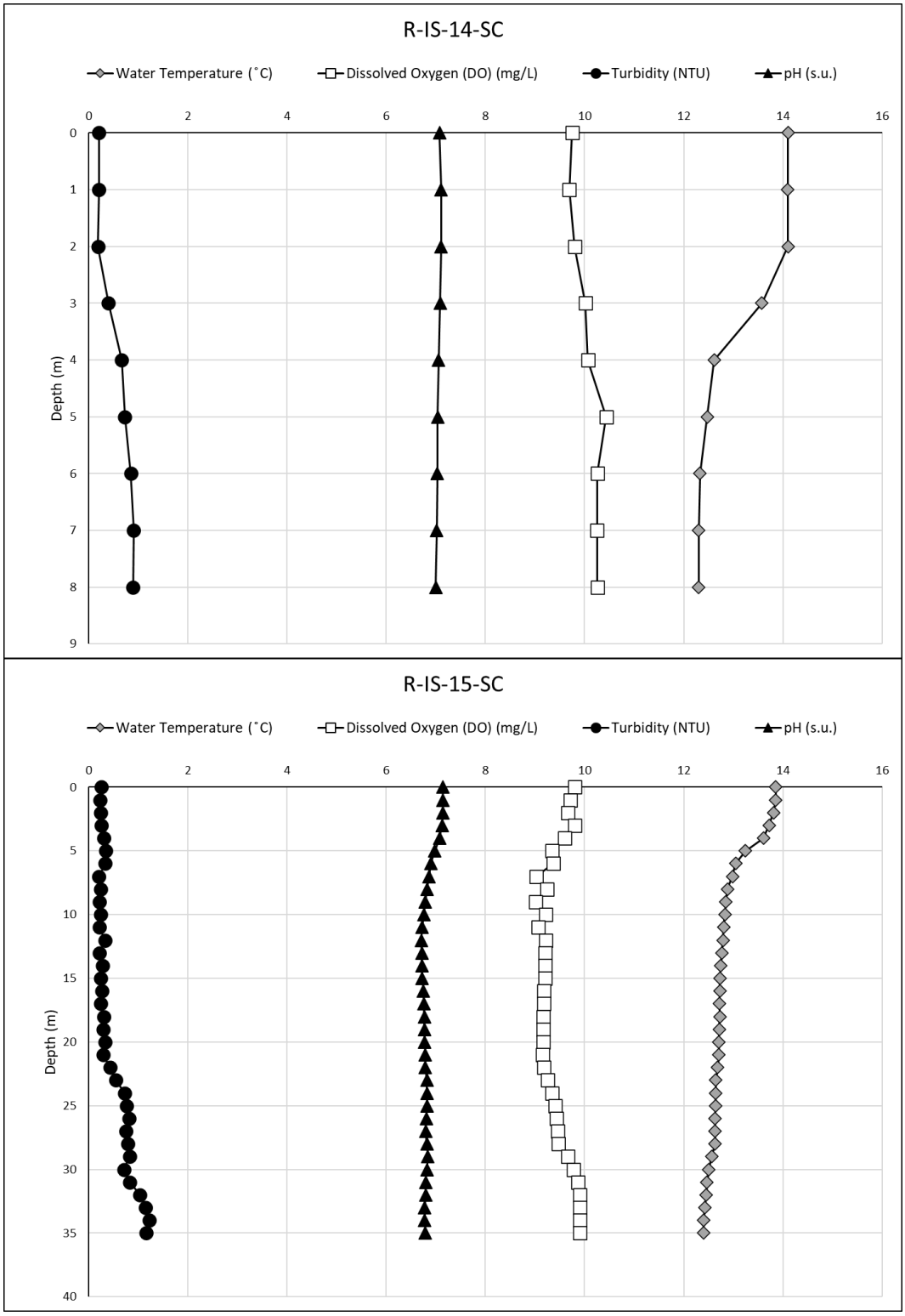

Figure E-14. *In situ* water temperature, dissolved oxygen, turbidity and pH at Slab Creek Reservoir Sites R-IS-14-SC and R-IS-15-SC, fall 2023.

This Page Intentionally Left Blank

APPENDIX F
Bacteria Results for UARP Reservoir Sites

This Page Intentionally Left Blank

Table F-1. Bacteria (MPN/100mL) for UARP Sites during the 30-day Period Surrounding Independence Day.

Site ID	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5		Fecal coliform geometric mean[1, 2]	*E. coli* geometric mean[1]
	Fecal coliform	*E. coli*	Fecal coliform	*E. coli*	Fecal coliform	*E. coli*	Fecal coliform	*E. coli*	Fecal coliform	*E. coli*		
Bac-7-UVR	130.0	91.0	46.0	8.6	70.0	60.2	79.0	33.6	17.0	13.4	56.2	29.2
Bac-10-UVR	13.0	14.4	170.0	54.8	220.0	74.9	79.0	33.1	2.0	3.1	37.8	22.7
Bac-11-JR	<1.8[1]	<1.0[1]	2.0	1.0	>1,600[2]	1,299.7	130.0	178.2	49.0	165.8	32.6	28.6
Bac-13-IHR	2.0	<1.0[1]	11.0	5.2	11.0	5.1	22.0	3.0	2.0	<1.0[1]	6.4	1.8
Bac-15-SCR	2.0	19.0	<1.8[1]	1.0	21.0	6.3	13.0	44.3	<1.8[1]	2.0	3.4	6.4
MDL	1.8	1.0	1.8	1.0	1.8	1.0	1.8	1.0	1.8	1.0	-	-
MRL	1.8	1.0	1.8	1.0	1.8	1.0	1.8	1.0	1.8	1.0	-	-

MDL = method detection limit
MRL = method reporting limit
[1] Individual results < MDL were treated as 0.5 x MDL for the geometric mean calculations.
[2] Individual results >1,600 were treated as 2.0 x 1,600 for the geometric mean calculations.

This Page Intentionally Left Blank