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## **Peace River Water Use Plan**

### **Peace River Baseline TDGP/Temperature**

#### **GMSWORKS-2**

*Year 10 Monitoring Program - Annual Report*

**January 2018 to December 2018**

**Diversified Environmental Services  
Box 6263,  
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**MARCH 2019**

PEACE RIVER WATER USE PLAN  
IMPLEMENTATION PROGRAM

PEACE RIVER BASELINE TDGP/TEMPERATURE  
GMSWORKS-2  
YEAR 10 MONITORING PROGRAM - ANNUAL REPORT  
January 2018 to December 2018

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## EXECUTIVE SUMMARY

Long-term monitoring of baseline water temperature and total dissolved gas pressure (TDGP) in the vicinity of the WAC Bennett and Peace Canyon dams is an essential component of the Peace Spill Protocol and the Peace River Flood Pulse Plan as set out by the Peace Water Use Plan Committee and the Peace Water Use Plan (WUP; BC Hydro 2010). Data collected through the monitoring of these parameters will be used to help assess and quantify the environmental effects of spills, as well as to provide information on the temperature regime of the Peace River under normal operating conditions and the influence of reservoir operations on downstream temperature. Long-term baseline temperature data will also be available for use in other projects and monitoring programs within and outside of the Peace WUP. This report summarizes data collection and maintenance activities conducted at 18 monitoring sites located between the WAC Bennett Dam forebay (Williston Reservoir) and a point approximately 6.5 km downstream of the confluence of the Pine and Peace rivers during Year 10 (Jan 01, 2018 to Dec 31, 2018).

*In situ* reference temperatures were recorded at the time of each field download event using a YSI® multi-parameter meter, for comparison to the corresponding hourly logger readings. Mean calibration errors for all temperature loggers were  $\leq 0.3^{\circ}\text{C}$ .

Results of Year 10 water temperature monitoring over the 132 km length of the study area indicate a moderating effect of hypolimnetic withdrawal from Williston Reservoir and seasonal effects associated with ambient air temperature. Minimum winter temperatures decrease and maximum summer temperatures increase with distance downstream from the facilities.

Some logistical problems were encountered in Year 10, primarily associated with ice flows in late March and early April 2018, and floating debris resulting from flood events in mid-May and early June, 2018. Short-term data gaps were observed at some stations located immediately downstream of the Halfway, Moberly and Pine rivers due to loggers becoming temporarily stranded near the waterline by out-flowing ice and large woody debris. Data gaps were generally filled by functioning back-up loggers at these locations. A technical problem with the Hobo™ optical transfer shuttle resulted in a failure to correctly re-launch some loggers during the January 2018 download. This caused the loss or corruption of several data files between January and April of Year 10.

No spill events occurred in Year 10 and no TDGP recorders were deployed.

## TABLE OF CONTENTS

|   |           |
|---|-----------|
| EXECUTIVE SUMMARY .....                           | iii       |
| <b>TABLE OF CONTENTS</b> .....                    | <b>iv</b> |
| 1.0 INTRODUCTION .....                            | 1         |
| 2.0 METHODS .....                                 | 1         |
| 2.1 Temperature Monitoring .....                  | 1         |
| 2.1.1 Year 10 Site Logistics .....                | 4         |
| 2.2 Total Dissolved Gas Pressure (TDGP) .....     | 5         |
| 3.0 RESULTS AND DISCUSSION .....                  | 5         |
| 3.1 Temperature Monitoring .....                  | 5         |
| 3.1.1 WAC Bennett Dam Forebay and Tailrace .....  | 6         |
| 3.1.2 Peace Canyon Dam Forebay and Tailrace ..... | 7         |
| 3.1.3 Halfway River Confluence.....               | 7         |
| 3.1.4 Moberly River Confluence.....               | 8         |
| 3.1.5 Pine River Confluence .....                 | 9         |
| 4.0 RECOMMENDATIONS .....                         | 11        |
| REFERENCES .....                                  | 22        |

### LIST OF FIGURES

|   |    |
|---|----|
| Figure 1. Location of temperature loggers deployed along the Peace River (1:550,000).....   | 2  |
| Figure 2. Comparison of hourly water temperature at WAC Bennett Dam forebay station from 1 m depth (gmsUP1) and 10 m depth (gmsUP2) during Year 10, January 01, 2018 to December 31, 2018.....                                    | 13 |
| Figure 3. Comparison of hourly water temperature at WAC Bennett Dam forebay surface (gmsUP1), and WAC Bennett Dam tailrace (gmsDN1 and gmsDN2) during Year 10, January 01, 2018 to December 31, 2018.....                         | 14 |
| Figure 4. Comparison of hourly water temperature at Peace Canyon forebay surface (pcnUP1), Peace Canyon tailrace (pcnDN2BU), and WAC Bennett Dam tailrace (gmsDN-COMP) during Year 10, January 01, 2018 to December 31, 2018..... | 15 |
| Figure 5. Comparison of Peace River hourly water temperature upstream of Halfway River confluence (halfUP2) and downstream of Halfway River confluence (halfDN2) during Year 10, January 01, 2018 to December 31, 2018.....       | 16 |
| Figure 6. Comparison of Peace River hourly water temperature upstream of Moberly River confluence (mobUP2) and downstream of Moberly River confluence (mobDN1-COMP) during Year 10, January 01, 2018 to December 31, 2018. ....   | 17 |
| Figure 7. Comparison of Peace River hourly water temperature upstream of Pine River confluence (pineUP-COMP) and downstream of Pine River confluence (pineDN-COMP) during Year 10, January 01, 2018 to December 31, 2018.....     | 18 |

|   |    |
|---|----|
| Figure 8. Daily mean Peace River water temperature gradient from WAC Bennett Dam tailrace (gmsDN2), downstream to Pine River confluence (pineUP-COMP) during Year 10, January 01, 2018 to December 31, 2018.....                                      | 19 |
| Figure 9. Comparison of Peace River daily mean water temperature upstream of the Pine River confluence (pineUP-COMP) with daily mean ambient air temperature at the Fort St. John Airport during Year 10, January 01, 2018 to December 31, 2018. .... | 20 |
| Figure 10. Comparison of Year 10 daily mean water temperature at WAC Bennett Dam tailrace north manifold (gmsDN2) with average of 2009 to 2017 daily mean water temperature at gmsDN2 .....   | 21 |
| Figure 11. Comparison of Year 10 daily mean water temperature upstream of the Pine River confluence (pineUP-COMP) with average of 2009 to 2017 daily mean water temperature at pineUP-COMP. ....  | 22 |

#### LIST OF APPENDICES

|  |     |
|--|-----|
| Appendix I. Temperature monitoring station location information for Year 10, January 01, 2018 to December 31, 2018. ....   | 234 |
| Appendix II. Inventory of dissolved gas pressure meters and probes. ....   | 245 |
| Appendix III. Reference temperature values and corresponding logger fix values recorded during download events in Year 10, January 01, 2018 to December 31, 2018. .... | 256 |
| Appendix IV. Year 10 download information forms, January 01, 2018 to December 31, 2018. ....   | 29  |
| Appendix V. Summary of temperature logger deployment dates and anticipated replacement dates. ....   | 49  |

## **1.0 INTRODUCTION**

Long-term monitoring of baseline water temperature and total dissolved gas pressure (TDGP) in the vicinity of the WAC Bennett and Peace Canyon dams has been identified as an essential component of the Peace Spill Protocol (PSP) and the Peace River Flood Pulse Plan as set out by the Peace Water Use Plan Committee and the Peace Water Use Plan (WUP; BC Hydro 2010). Data collected through the monitoring of these parameters will be used to help assess and quantify the environmental effects of spills, as well as to provide information on the temperature regime of the Peace River under normal operating conditions and the influence of reservoir operations on downstream temperature. Long-term baseline temperature data will also be available for use by other projects and monitoring programs within and outside the Peace WUP.

The objectives of this program are to collect data on spatial and temporal variations in water temperature between the WAC Bennett Dam forebay (Williston Reservoir) and a point 6.5 km downstream of the Pine River confluence for up to 10 years, and to maintain TDGP data loggers and related equipment for immediate deployment in the event of a spill at either the Gordon M. Shrum (GMS) or Peace Canyon (PCN) generating stations that is likely to meet the PSP criteria (2 days at 1,500cms or 500cms for 7+ days at PCN; 205cms for 2 days or more at GMS). This report summarizes data collection activities completed during Year 10 of the monitoring program.

## **2.0 METHODS**

Temperature data presented in this summary were recorded between January 01, 2018 and December 31, 2018.

### **2.1 Temperature Monitoring**

Upon commencement of the Peace River baseline temperature monitoring program in September 2008 (Year 1), 20 Tidbit v2 Model #UTBI-001 temperature sensor/logger units (0.2°C accuracy over 0°C to 50°C; 0.02°C resolution @ 25°C; Onset Corp., Bourne, MA) were deployed at 18 locations between the WAC Bennett Dam forebay and a site approximately 6.5 km downstream of the confluence of the Pine and Peace rivers (Fig. 1). During Years 2 and 3, revisions were made to monitoring site positioning and configuration to account for changes in bank conditions, to reduce the potential for logger stranding due to debris and flow level extremes, to increase redundancy in case of logger failure or loss, and to improve accessibility during high flow stage.

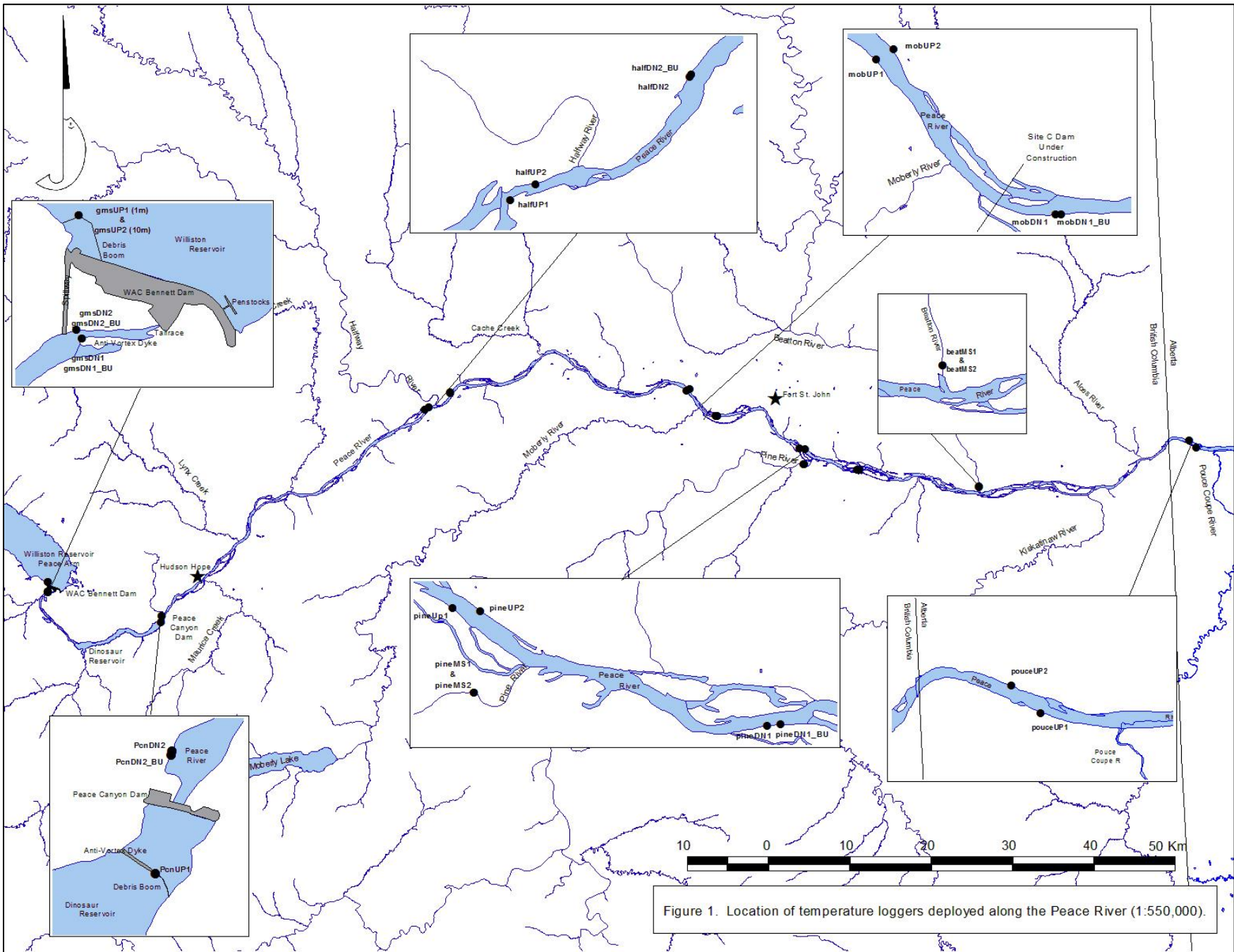


Figure 1. Location of temperature loggers deployed along the Peace River (1:550,000).

Monitoring stations are typically maintained in pairs at each general location in order to minimize the risk of data gaps in the event of logger stranding, failure, or loss. At Peace River locations upstream of major tributaries (Halfway, Moberly, and Pine rivers), monitoring stations are maintained on opposing banks of the river in order to provide redundancy and confirm temperature consistency across the channel. At Peace River locations downstream of major tributaries, paired station configuration was revised in 2011 (Year 3) from opposing banks to common banks in order to provide better redundancy in tributary outflow paths prone to stranding by passing ice and debris.

By late in Year 3, monitoring site configuration had been revised to include 21 data loggers at 18 monitoring sites. This configuration was maintained throughout Years 4 to 10. A summary of temperature monitoring station location information as of the end of Year 10 appears in Appendix I. A description of site configuration changes prior to Year 3 can be found in DES 2013.

In April 2016, six additional temperature loggers were added at 3 monitoring sites in the project area at the request of BC Hydro's Site C project (Fig. 1). These included 2 loggers on the left downstream bank of the lower Pine River mainstem (pineMS1 and pineMS2), 2 loggers on the left downstream bank of the lower Beatton River mainstem (beatMS1 and beatMS2), and 2 loggers on the left and right downstream banks of the Peace River, approximately 3 km upstream of the confluence with the Pouce Coupe River (pouceUP1 and pouceUP2). Although these additional sites are maintained and downloaded in conjunction with the Peace WUP monitoring program, results are reported in a separate summary report submitted to the Site C project. For information purposes, monitoring site details for the 6 additional loggers appear in Figure 1 and Appendices I, III and V.

Temperature loggers were programmed to record water temperature (°C) at 1 hour intervals throughout Year 10. Loggers continued to be housed in 38 mm x 100 mm steel nipples with threaded steel end caps, weighted with 5 kg steel anchors, and tethered to rooted trees or large bedrock fragments using 3.18 mm stainless steel cable or 3.5 mm (7/32") steel chain.

Temperature data recorded and stored on each logger during 2018 were downloaded at approximately 3 month intervals by field transfer to a Model U-DTW-1 Hobo® waterproof shuttle (Onset Corp., Bourne, MA). Data from the shuttle were then downloaded to a desktop computer after each field session. Logger sites at the WAC Bennett Dam and Peace Canyon Dam forebay and tailrace locations were accessed by vehicle, while all Peace River mainstem sites were accessed by riverboat. Conditions and observations at the time of each download event were documented in the field on



hardcopy Download Information Forms and subsequently entered into digital format. *In situ* reference temperatures were recorded at the time of each field download event using a YSI® Professional Plus handheld multi-parameter instrument (Model No. E-528-ProPlus) for comparison to the corresponding hourly logger readings (within 30 minutes of reference temperature).

Monitoring sites located within the downstream influence of the Halfway, Moberly, and Pine rivers have proven more susceptible to dislodgement by passing ice and debris and are inspected more frequently during the spring and summer, particularly after significant high water events (halfDN2, halfDN2BU, mobDN1, mobDN1BU, pineDN1, pineDN1BU). In addition to scheduled download events, temperature loggers at some Peace River mainstem locations were visually checked and re-positioned by DES staff during the course of activities unrelated to the temperature monitoring program.

Data files were exported as .csv files using Onset® Hoboware Pro software (Ver. 3.7.16), amalgamated into single Excel worksheets for each data logger, and plotted relative to time. Readings representing air temperature during periods of logger stranding above the waterline have been removed from data displayed graphically in this summary report.

### **2.1.1 Year 10 Site Logistics**

Occasional stranding of loggers above the waterline during Year 10 was largely associated with ice flows originating from the break-up of the Halfway, Moberly, Pine and Beaton rivers and the accumulation of debris on tether cables during tributary spring freshet and storm-related flood events in late June and July 2018. To partially alleviate this issue, the stainless steel cable tether of three of the downstream logger units was replaced with 3.5 mm steel chain (halfDN2BU, mobDN1, pineDN2BU).

Heavy snowfalls, extreme cold temperatures, and ice accumulation in January and February 2019 combined to make boating on the Peace River difficult resulting in the postponement of the download of several loggers. These downloads were completed in mid-March 2019 when favourable conditions provided a window of opportunity.

A technical problem with a replacement Hobo™ optical transfer shuttle resulted in the loss or corruption of data files during the first quarter of Year 10. The shuttle failed to correctly re-launch some loggers during the January 2018 download session, resulting in an absence of data at some stations between January and April 2018. The problem was not diagnosed until after examination of

the files following the April 2018 download. The applicable loggers were then re-launched in April after immediate replacement of the faulty shuttle.

## **2.2 Total Dissolved Gas Pressure (TDGP)**

Six Model TBO-DL6(F) TDGP monitors (Common Sensing Inc., Clark Fork, ID) were purchased by BC Hydro in Year 1, and stored at the office of Diversified Environmental Services (DES) in Fort St. John, BC. Appendix II contains an inventory of dissolved gas pressure meters and probes. Meters and probes were checked for functionality on a quarterly basis when not in use and battery charge was maintained. Initialization check routines were repeated and the condition of each probe oxygen sensor membrane was examined for evidence of ZnO precipitate build-up. In addition to routine quarterly maintenance records, calibration statements were obtained for meters that were returned to the manufacturer for repair or factory re-calibration. None of the TDGP monitors were deployed in 2018.

## **3.0 RESULTS AND DISCUSSION**

### **3.1 Temperature Monitoring**

Reference temperatures recorded during download events are presented in Appendix III along with corresponding logger temperatures and indicated error values. None of the loggers in use in 2018 exhibited a correctable zero error greater than 0.3°C.

An inconsistent reference temperature discrepancy (0.7°C) at Beatton River mainstem logger beatMS2 was attributed to localized variations between the time of download and the time of the associated hourly reading, resulting from extreme low flow and shallow water depth. This discrepancy was not believed to be a logger calibration error.

Several loggers were replaced in Year 10, as they were approaching the end of their predicted lifespan of six years or were recording low voltage readings. Logger serial numbers listed in Appendix I correspond to the units in use at the time of the last quarterly downloads completed in January and March 2019.

A summary of temperature data collection results and related conditions and limitations are discussed in the following 6 sections, which correspond to the 6 major generating station and tributary features. Download Information Forms completed during each download are provided in Appendix IV.

### 3.1.1 WAC Bennett Dam Forebay and Tailrace

The WAC Bennett Dam forebay temperature monitoring station is located at the GMS spillway log boom and consists of a vertical cable suspended from the northernmost log boom steel buoy. Temperature is recorded with 2 loggers, the first located at 1 m depth (gmsUP1) and the second at a depth of 10 m (gmsUP2). Both gmsUP1 and gmsUP2 data files were corrupted by faulty launches by the Hobo optical shuttle in April 2018 resulting in the loss of data from April 19 to April 25 (Fig. 2). Aside from this brief period, both loggers recorded seamless water temperature data in Year 10. Although seasonal thermal stratification of Williston Reservoir is evident, the relatively small temperature differential between the 2 loggers (mean=0.2°C) suggests the primary thermocline lies deeper than 10 m. Maximum temperature differentials up to 3.4°C were recorded during a period of significant daytime surface warming during the beginning of August, when annual ambient temperatures peaked. Temperature profiles recorded further up the Peace Reach during unrelated work in 2017 and 2018 indicated significant thermal stratification between 20 m and 26 m (B. Culling, pers. obs.).

Sudden and short term declines in water temperature were recorded by logger gmsUP2 in mid-September and early October 2018. These sharp declines correspond to heavy rain and snow fall events and a possible premature breakdown of the thermocline in 2018.

The GMS tailrace monitoring sites are located on opposite banks, approximately 700 m downstream of the outflow manifolds. Logger gmsDN1 records the temperature of water flowing from the south tailrace manifold, which originates from the shallowest penstock depth. Logger gmsDN2 samples water from the north tailrace manifold, which originates from a deeper withdrawal point. The tethered steel capsule at both stations contains a back-up logger in addition to the primary unit (gmsDN1BU and gmsDN2BU). The data files for all 4 loggers for the period between January 10 and April 30, 2018 were corrupted by a faulty launch by the Hobo optical shuttle in January 2018 and could not be recovered. From April 30 to December 31, 2018, all 4 loggers collected continuous data for the remainder of Year 10.

As in previous years, water temperatures at gmsDN2 showed the lowest annual variation and are consistently cooler in the summer and warmer in the winter than gmsDN1 flow, which originates closer to the surface of Williston Reservoir. Temperatures recorded at gmsUP1 (forebay surface) exhibit greater annual variation than tailrace values (Fig. 3). Temperatures recorded at gmsDN1 and gmsDN2 exhibit a wide range of hourly and daily fluctuations during the summer period compared to gmsUP1, due to operational changes in water intake for power generation and maintenance activities.

### **3.1.2 Peace Canyon Dam Forebay and Tailrace**

The data logger recording temperature at the Peace Canyon Dam forebay (pcnUP1) is attached to the anti-vortex dam log boom, located approximately 450 m upstream of the dam face. The pcnUP1 data file for the period between January 10 and April 30, 2018 was corrupted by a faulty launch by the Hobo optical shuttle in January 2018 and could not be recovered. Continuous temperature data were recovered for the remainder of Year 10 (April 30 to December 31, 2017).

Peace Canyon Tailrace logger pcnDN2BU recorded continuous data throughout Year 10. The pcnDN2 data file for the period between January 10 and April 30, 2018 was corrupted by a faulty launch by the Hobo optical shuttle in January 2018 and could not be recovered. Continuous temperature data were recovered for the remainder of Year 10 (April 30 to December 31, 2017). A comparison of PCN tailrace temperature (pcnDN2BU) and GMS tailrace temperature (mean of gmsDN1 and gmsDN2) indicates a relatively small temperature change through Dinosaur Reservoir during all seasons (Fig. 4). For example, no temperature difference was recorded in winter (December through January 10) and a mean differential of 0.4°C was recorded in summer (June through August). Figure 4 also illustrates some thermal stratification of the Peace Canyon forebay associated with surface warming during peak ambient temperatures between the late June and early August 2018. For example, PCN forebay temperatures at 1 m depth (pcnUP1) were as much as 12.1 °C warmer than water exiting the PCN powerhouse (pcnDN2BU) between June 22 and July 27, 2018.

### **3.1.3 Halfway River Confluence**

Peace River water temperature was monitored at points approximately 1 km upstream and 2.5 km downstream of the Halfway River confluence. Halfway upstream stations were maintained on opposing banks throughout Year 10 (halfUP1 and halfUP2). The upstream logger halfUP1 collected seamless data for the periods January 1 to April 25 and July 15 to January 31, 2018. The data for the intervening period April 25 to July 15, 2018 could not be recovered as the logger capsule and tether cable were removed from the anchor location by persons unknown. The halfUP2 data file for the period from April 25 to 30 was corrupted by a faulty launch by the Hobo optical shuttle in April 2018. Seamless temperature data were recovered for logger halfUP2 for the periods preceding and following April 25 to 30, 2018. No cross-channel differential was recorded between the opposing upstream stations.

Both Halfway downstream loggers (halfDN2 and halfDN2BU) were located on the left downstream bank within the influence of Halfway River inputs. Both halfDN2 and halfDN2BU

data files for the period from April 25 to 30 were corrupted by faulty launches by the Hobo optical shuttle in April 2018. In July 2018, extremely low discharge from BC hydro facilities upstream combined with localized channel configuration, resulted in near-stagnant flow conditions at the halfDN2 and halfDN2BU logger sites. In order to ensure that both loggers were positioned in an area with adequate stream flow, halfDN2 and halfDN2BU loggers were moved approximately 220 m downstream during the July 2018 download session. Logger halfDN2 was partially swung into shallow water by ice and debris from the Halfway River in early December 2018 and intermittently recorded air temperature during periods of low flow prior to the January 2019 download (Fig. 5). Logger halfDN2BU was swung into shallow water by debris from the Halfway River in early June, after the April 2018 download session, and again in late July, soon after the July 2018 download session. Throughout these periods, logger halfDN2BU frequently recorded air temperature during periods of low flow prior to the October 2018 download. During the October 2018 download session, the tether cable of halfDN2BU was replaced with heavier chain which resulted in no subsequent exposures.

As in previous years, Peace River temperature values recorded at stations upstream and downstream of the Halfway River confluence differed markedly. Temperatures collected downstream of the confluence exhibited a higher degree of daily and annual variability (Fig. 5). Halfway River inputs typically have a cooling effect during the winter (October through April) and a warming effect during the summer (May through September). Temperatures within the Halfway River mainstem upstream of its confluence with the Peace are not recorded as part of this project.

#### **3.1.4 Moberly River Confluence**

Peace River water temperature was monitored at points approximately 2.6 km upstream and 2.5 km downstream of the Moberly River confluence. Upstream stations were maintained on opposing banks throughout Year 10 (mobUP1 and mobUP2). The mobUP1 and mobUP2 data files for the period April 27 to 30 were corrupted by a faulty launch by the Hobo optical shuttle in April 2018 and could not be recovered. Excluding this period, mobUP2 recorded seamless water temperature data in Year 10. Logger mobUP1 was also partially swung to shore by ice or debris prior to the April 27, 2018 download session and recorded ambient air temperature intermittently between April 4 and 27, 2018. Excluding periods when logger mobUP1 was exposed above the water, no cross-channel differential was recorded in 2018.

The Moberly downstream logger and downstream back-up logger are both located on the south bank of the Peace River, within the influence of outfall from the Moberly River. Both loggers also lie immediately downstream of the footprint of the Site C dam which is presently under construction. Logger mobDN1 was found partially swung to shore by ice and exposed at low water levels during the April 27, 2018 download session and intermittently recorded ambient air temperatures between February 8 and April 27, 2018. After April 27, logger mobDN1 recorded continuous water temperature data in 2018. During the last download session in January 2019, the logger was found swung to shore again. The stainless steel tether cable was replaced with chain in order to minimize the risk of debris and ice dislodging the logger. The mobDN2BU data file was corrupted by a faulty launch by the Hobo optical shuttle in January 2018 resulting in the loss of data from January 4 to April 27. Logger mobDN1BU was found partially pulled to shore by persons unknown and exposed at low water levels during the July 11, 2018 download session and appears to have intermittently recorded ambient air temperatures between June 6 and July 11, 2018. Moberly downstream temperature data in Figure 6 are presented as a composite of data from the pineDN1 and pineDN1BU loggers (pineDN-COMP).

As in previous years, Peace River water temperatures recorded within the influence of the Moberly River were cooler than the Moberly upstream stations from January through March and warmer than the upstream stations from May through July in Year 10 (Fig. 6). The influence of the Moberly River is significantly less than that of the Halfway River and appears to correspond to the difference in relative contributed volumes. Temperatures within the Moberly River upstream of its confluence with the Peace River are not recorded as part of this project.

### **3.1.5 Pine River Confluence**

Peace River water temperature was monitored at points approximately 2.0 km upstream and 6.5 km downstream of the Pine River confluence. During Year 10, upstream stations were maintained on opposing banks (pineUP1 and pineUP2) and both downstream loggers (pineDN1 and pineDN1BU) were located on the south river bank, within the influence of inputs from the Pine River. The pineUP1 data file for the period of January 4 to April 27 was corrupted by a faulty launch by the Hobo optical shuttle in April 2018 and could not be recovered. Excluding this period, pineUP1 recorded continuous water temperature data in Year 10. The data file for logger pineUP2 during the periods of January 1-8 and April 27-30 was corrupted by faulty launches by the Hobo optical shuttle in January and April 2018, respectively and could not be recovered. During the October 2018 download session, logger pineUP2 was found partially pulled to shore by

persons unknown. As a result, logger pineUP2 was frequently exposed from September 22 to October 3, 2018. A slight cross-channel differential of 0.4°C was recorded between July 1 and August 31, 2018.

The pineDN1 data file for the period of January 4 to April 27 was corrupted by a faulty launch by the Hobo optical shuttle in January 2018 and could not be recovered. Excluding this period, logger pineDN1 recorded continuous water temperature data for the remainder of Year 10. Logger pineDN1BU recorded continuous water temperature data throughout most of Year 10 with the exception of brief periods when the logger was exposed during periods of low water discharge from BC Hydro facilities upstream in late April and early June 2018. Pine upstream and downstream temperature data in Figure 7 are presented as composites of data from loggers pineUP1 and pineUP2 (pineUP-COMP) and loggers pineDN1 and pineDN1BU (pineDN-COMP).

Temperature values recorded within the downstream influence of the Pine River were typically cooler than the Pine River upstream stations from late September through December and slightly warmer from July through mid-September (Fig. 7). A temperature monitoring station was maintained in the lower Pine River mainstem during Year 10 at the request of the BC Hydro Site C project. Results are discussed in a separate Site C project summary report.

Figure 8 presents comparative seasonal temperature changes over the 132 km length of the study area between the WAC Bennett Dam tailrace (gmsDN2) and the Pine River confluence (pineUP-COMP) during 2018 and Figure 9 compares daily mean ambient air temperature at the Fort St. John airport with daily mean Peace River water temperature at the Pine river confluence (pineUP-COMP). Data appearing in these figures include Halfway and Pine confluence stations not directly influenced by their respective tributary inputs. The graphs illustrate the moderating effect of hypolimnetic withdrawal from Williston Reservoir on downstream temperatures in the Peace River and the seasonal impact of ambient air temperature on downstream water temperatures, i.e., winter temperatures decrease and summer temperatures increase with distance downstream. Brief periods of homogeneity occurred in early April and mid-October, with gradients inverting on either side of these dates to form the typical annual pattern.

Figures 10 and 11 represent temporal comparisons of daily mean water temperature during Year 10 (2018) against the average of 2009 to 2017 daily mean temperatures for WAC Bennett Dam tailrace (gmsDN2) and Pine River confluence (pineUP-COMP) sites, respectively. Water temperatures

recorded in the WAC Bennett Dam tailrace (north manifold) show some deviation from the 2009-2017 average. Variability in tailrace temperature is largely due to operational factors at the GMS generating station and may include variations in reservoir elevation and changes in volume contribution from hypolimnetic and epilimnetic withdrawal at various generating outputs. An analysis of these influences is beyond the scope of this summary report. Downstream Peace River water temperatures recorded immediately above the Pine River confluence (pineUP-COMP) during Year 10 generally track the 2009-2017 average, with occasional variation due to weather events including above and below normal periods in ambient temperature and increased tributary contributions during precipitation events.

#### **4.0 RECOMMENDATIONS**

The 6.35 mm galvanized cable used during the initial years of the program was proven to have low resistance to corrosion. With the exception of a few locations where segments of galvanized cable remain well above the waterline, all the tethers have been replaced with stainless steel cable. The remaining galvanized cable sections will be monitored for corrosion during Year 11.

Monitoring sites downstream of major tributary inputs such as the Halfway, Moberly and Pine rivers have proven the most susceptible to dislodgement by ice and debris flow. In Year 10, the stainless steel cable tethers of loggers halfDN2BU, mobDN1, and pineDN1 were replaced with heavier chain which conforms to the river bottom and appears less susceptible to debris accumulation and dislodgement.

The battery life of the Tidbit v2 Model #UTBI-001 temperature sensors is estimated at approximately 5-6 years. Scheduled replacement of units should continue in 2019 as per the table presented in Appendix V.

In 2015, aluminum information tags reading “DATA RECORDER, PLEASE DO NOT DISTURB” were attached to the tether cables of loggers potentially accessible to the public and previously subject to tampering by curious persons. These tags will be monitored and maintained through Year 11.



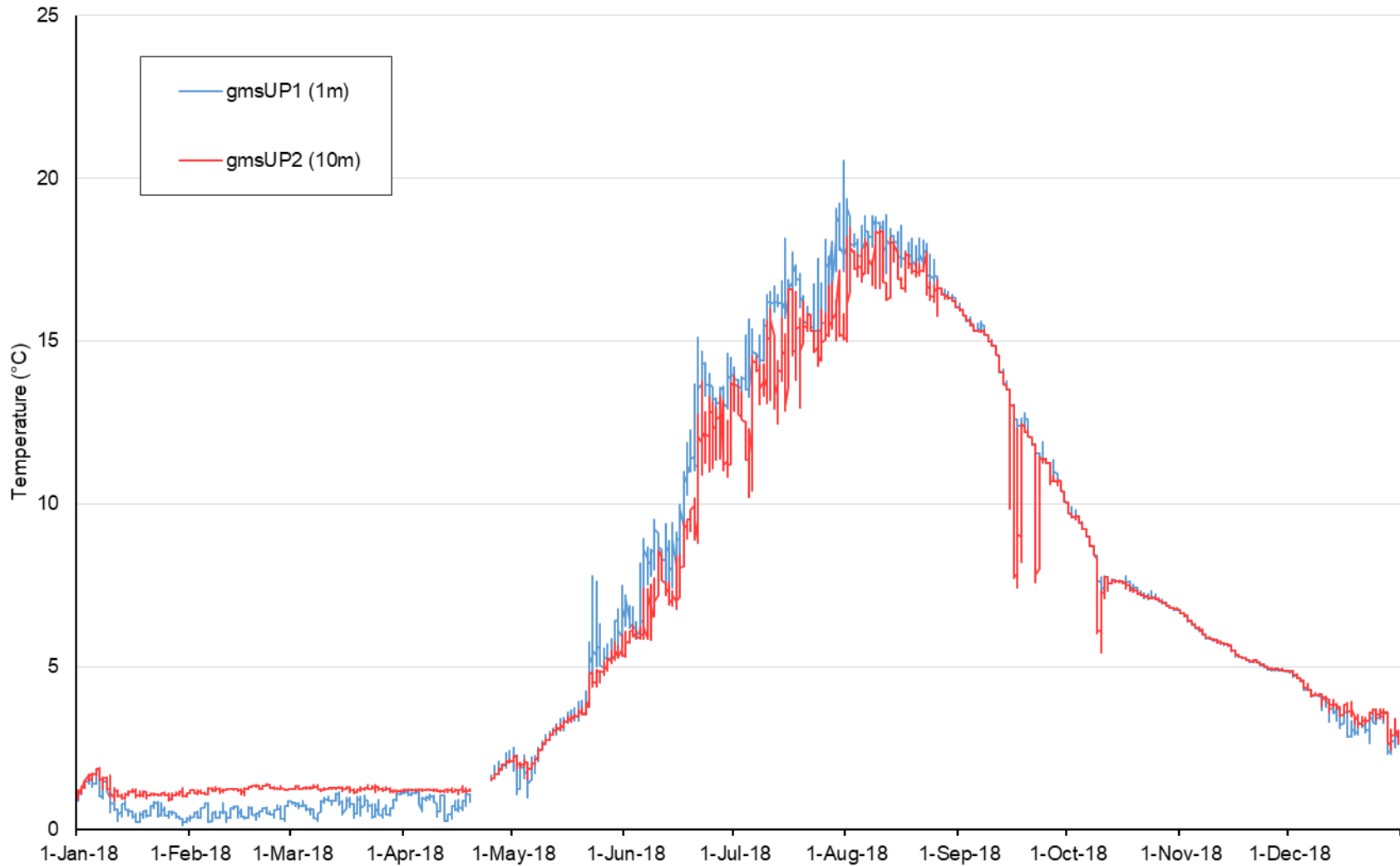


Figure 2. Comparison of hourly water temperature at WAC Bennett Dam forebay station from 1 m depth (gmsUP1) and 10 m depth (gmsUP2) during Year 10, January 01, 2018 – December 31, 2018.

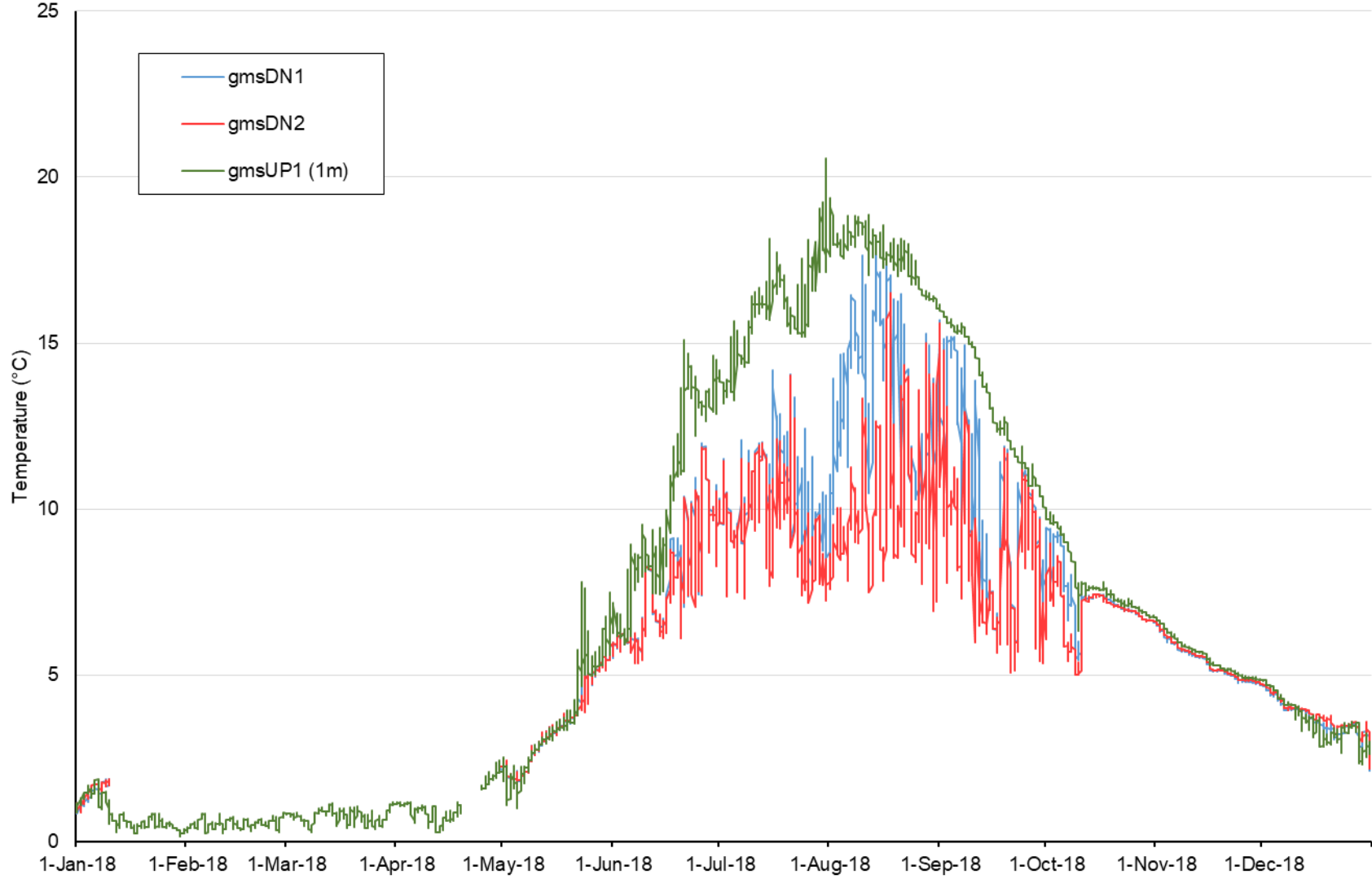


Figure 3. Comparison of hourly water temperature at WAC Bennett Dam forebay surface (gmsUP1), and WAC Bennett Dam tailrace (gmsDN1 and gmsDN2) during Year 10, January 01, 2018 – December 31, 2018.

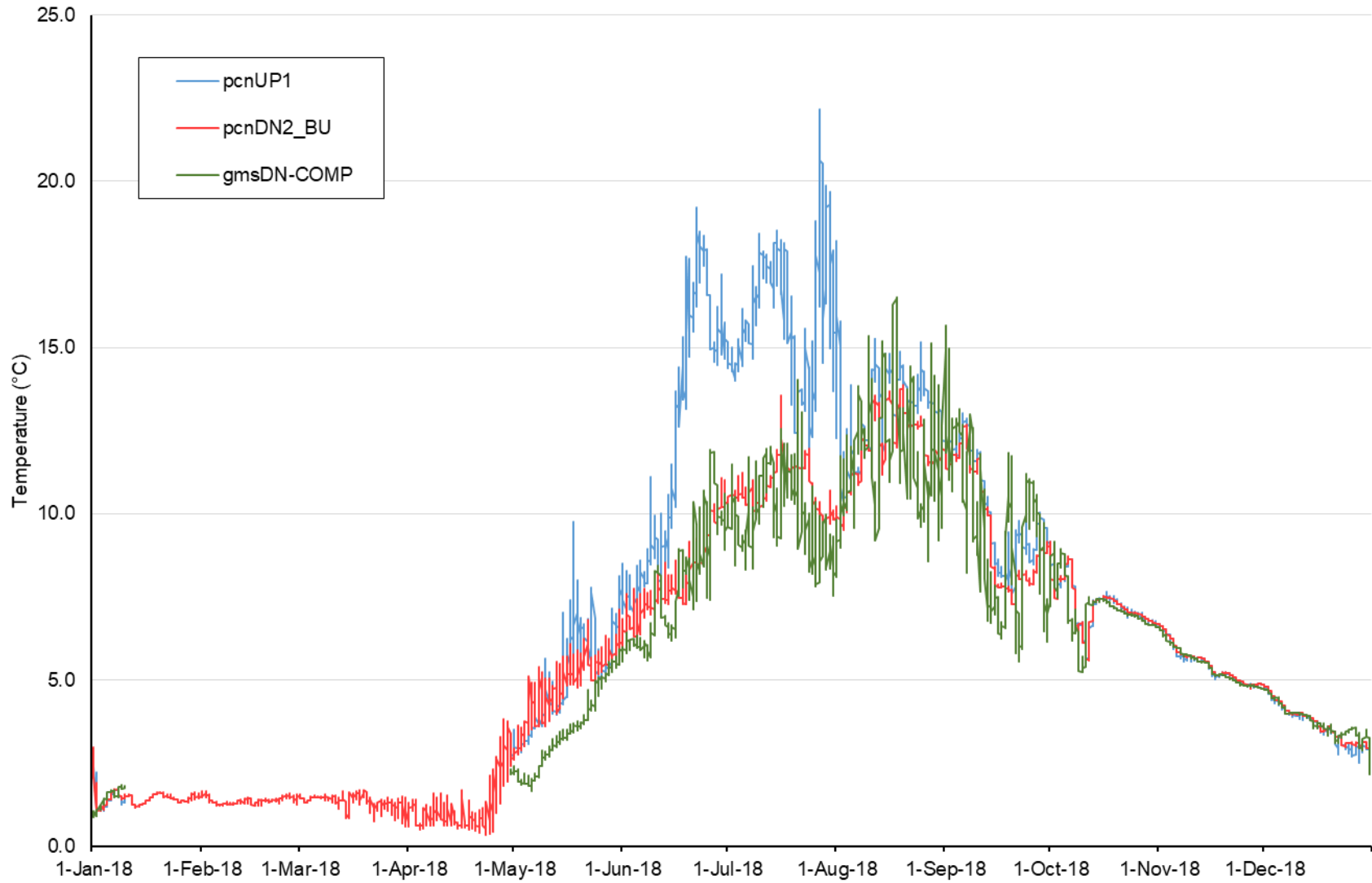


Figure 4. Comparison of hourly water temperature at Peace Canyon forebay surface (pcnUP1), Peace Canyon tailrace (pcnDN2), and WAC Bennett Dam tailrace (gmsDN-COMP) during Year 10, January 01, 2018 – December 31, 2018.

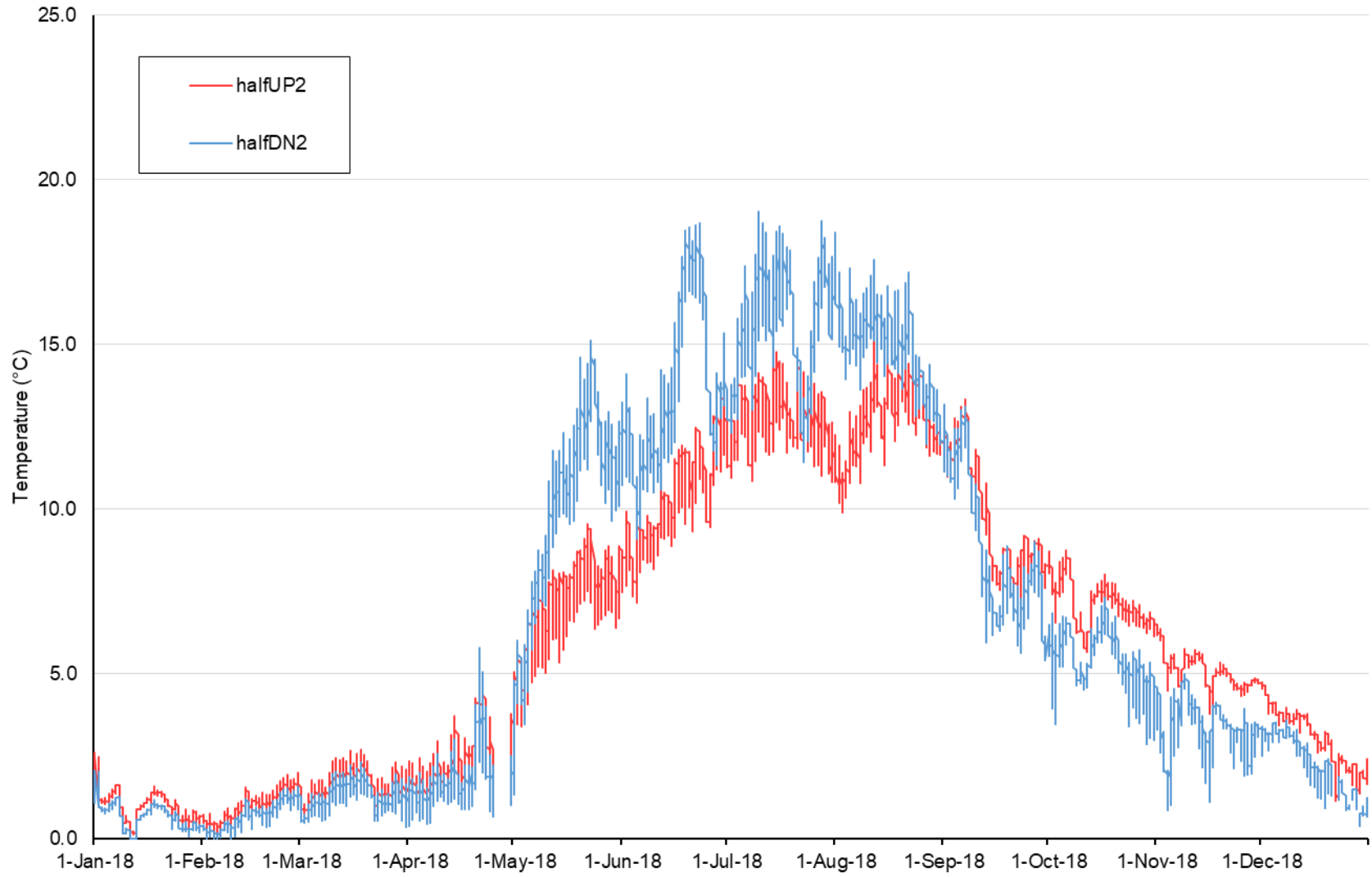


Figure 5. Comparison of Peace River hourly water temperature upstream of Halfway River confluence (halfUP2) and downstream of Halfway River confluence (halfDN2) during Year 10, January 01, 2018 – December 31, 2018.

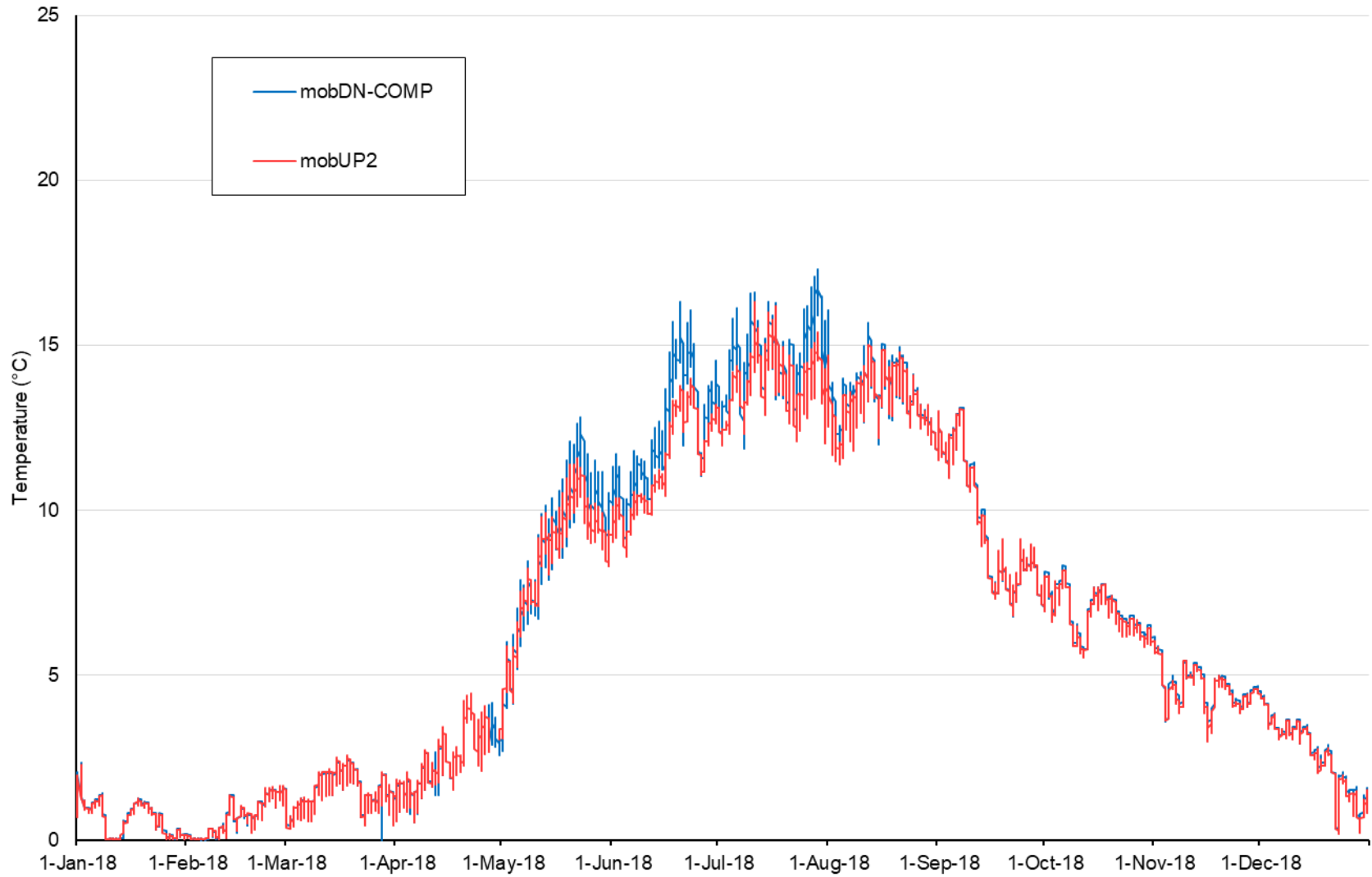


Figure 6. Comparison of Peace River hourly water temperature upstream of Moberly River confluence (mobUP2) and downstream of Moberly River confluence (mobDN-COMP) during Year 10, January 01, 2018 – December 31, 2018.

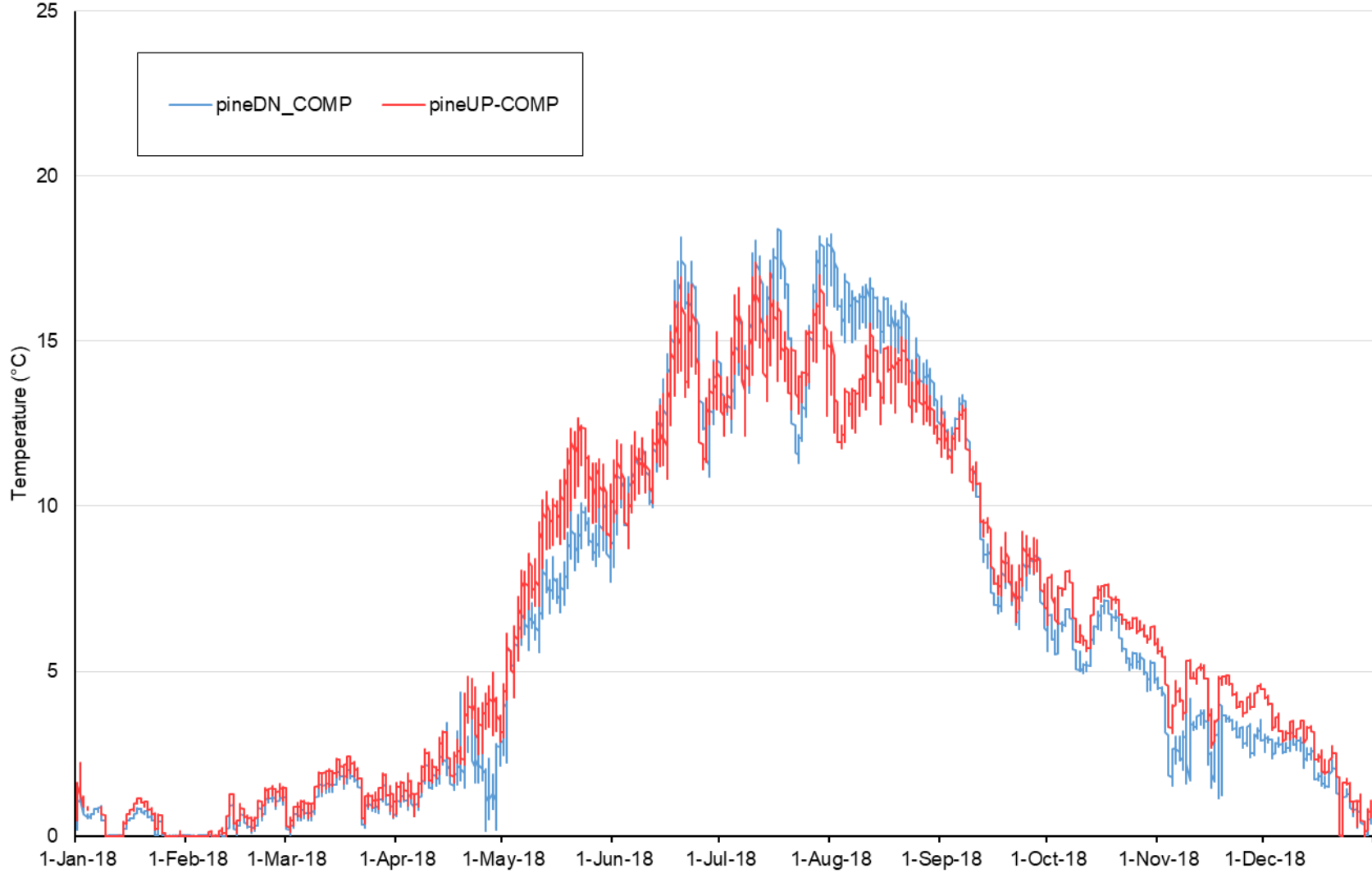


Figure 7. Comparison of Peace River hourly water temperature upstream of Pine River confluence (pineUP-COMP) and downstream of Pine River confluence (pineDN-COMP) during Year 10, January 01, 2018 – December 31, 2018.

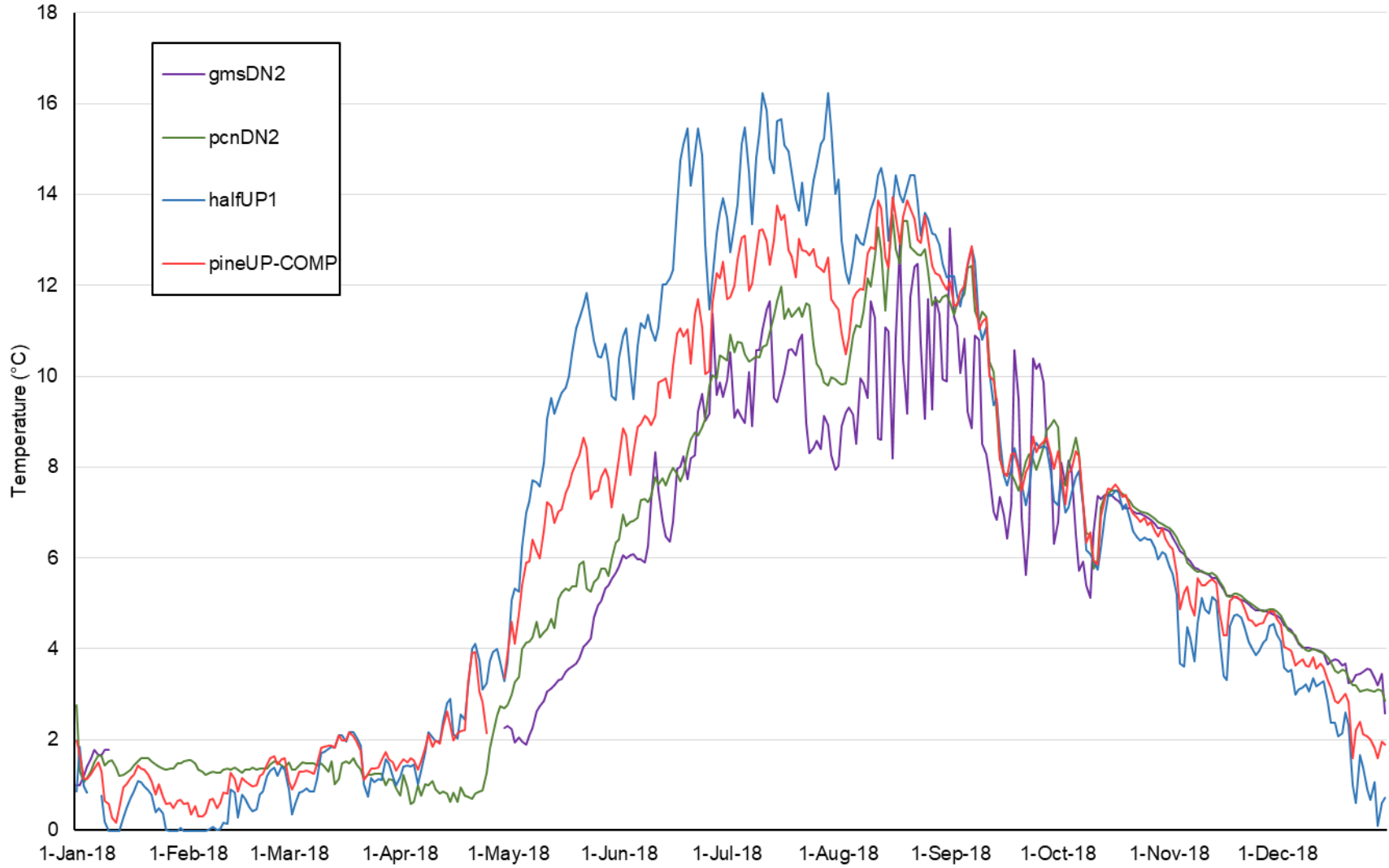


Figure 8. Daily mean Peace River water temperature gradient from WAC Bennett Dam tailrace (gmsDN2), downstream to Pine River confluence (pineUP-COMP), during Year 10, January 01, 2018 – December 31, 2018.

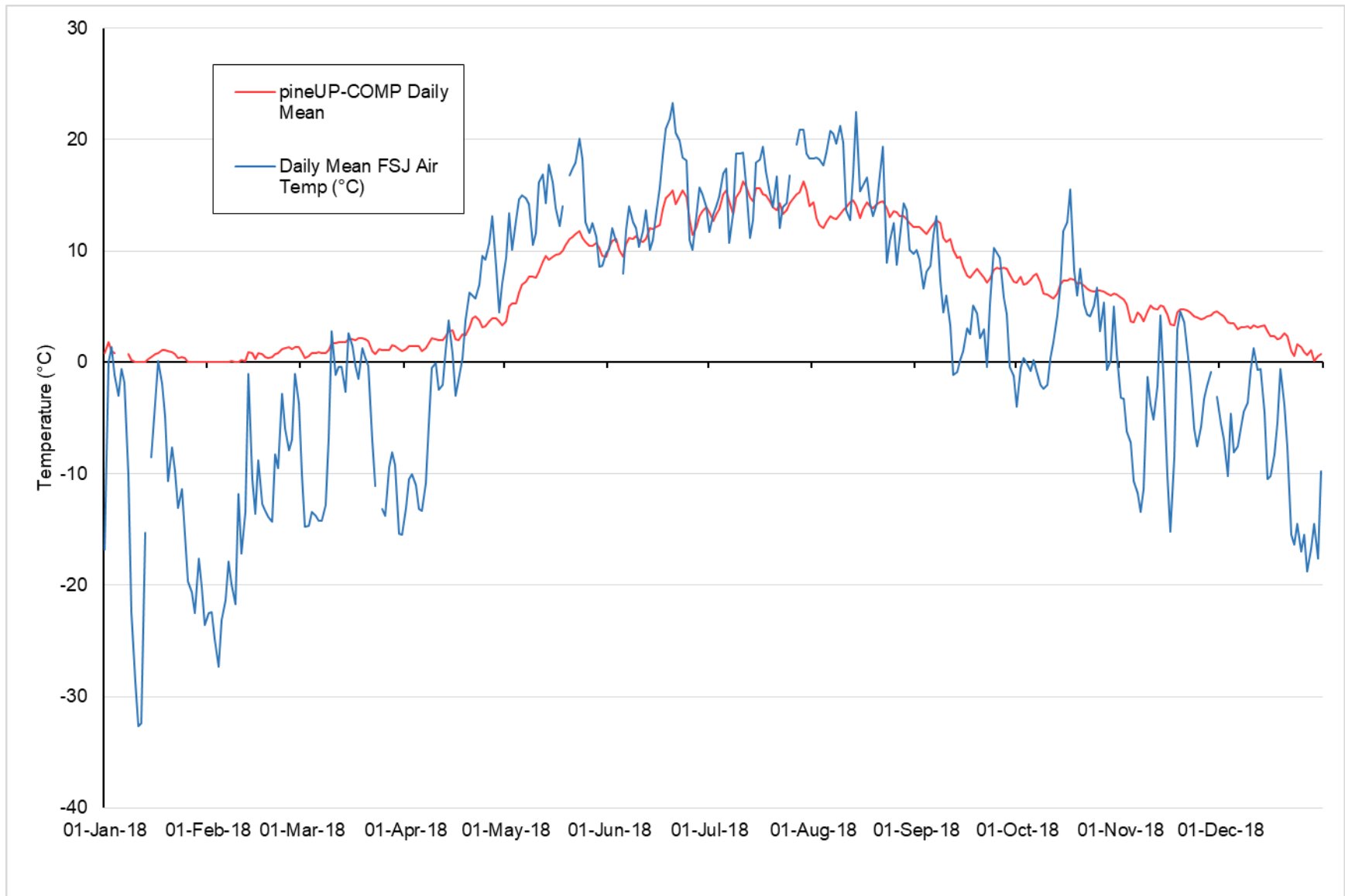


Figure 9. Comparison of Peace River daily mean water temperature upstream of the Pine River confluence (pineUP-COMP) with daily mean ambient air temperature at the Fort St. John airport during Year 10, January 01, 2018 to December 31, 2018.



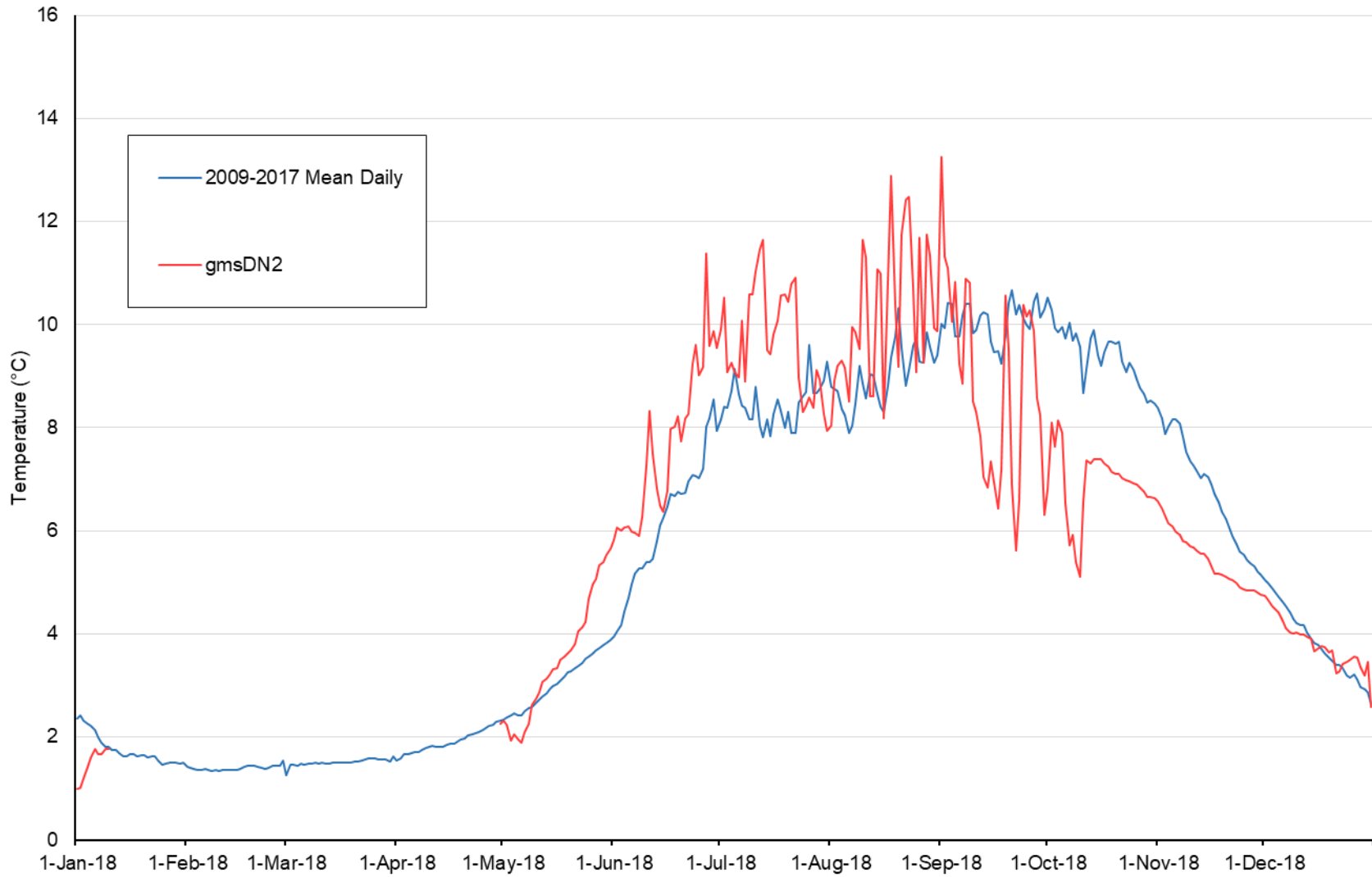


Figure 10. Comparison of Year 10 daily mean water temperature at WAC Bennett Dam tailrace north manifold (gmsDN2) with average of 2009 to 2017 daily mean water temperature at gmsDN2.

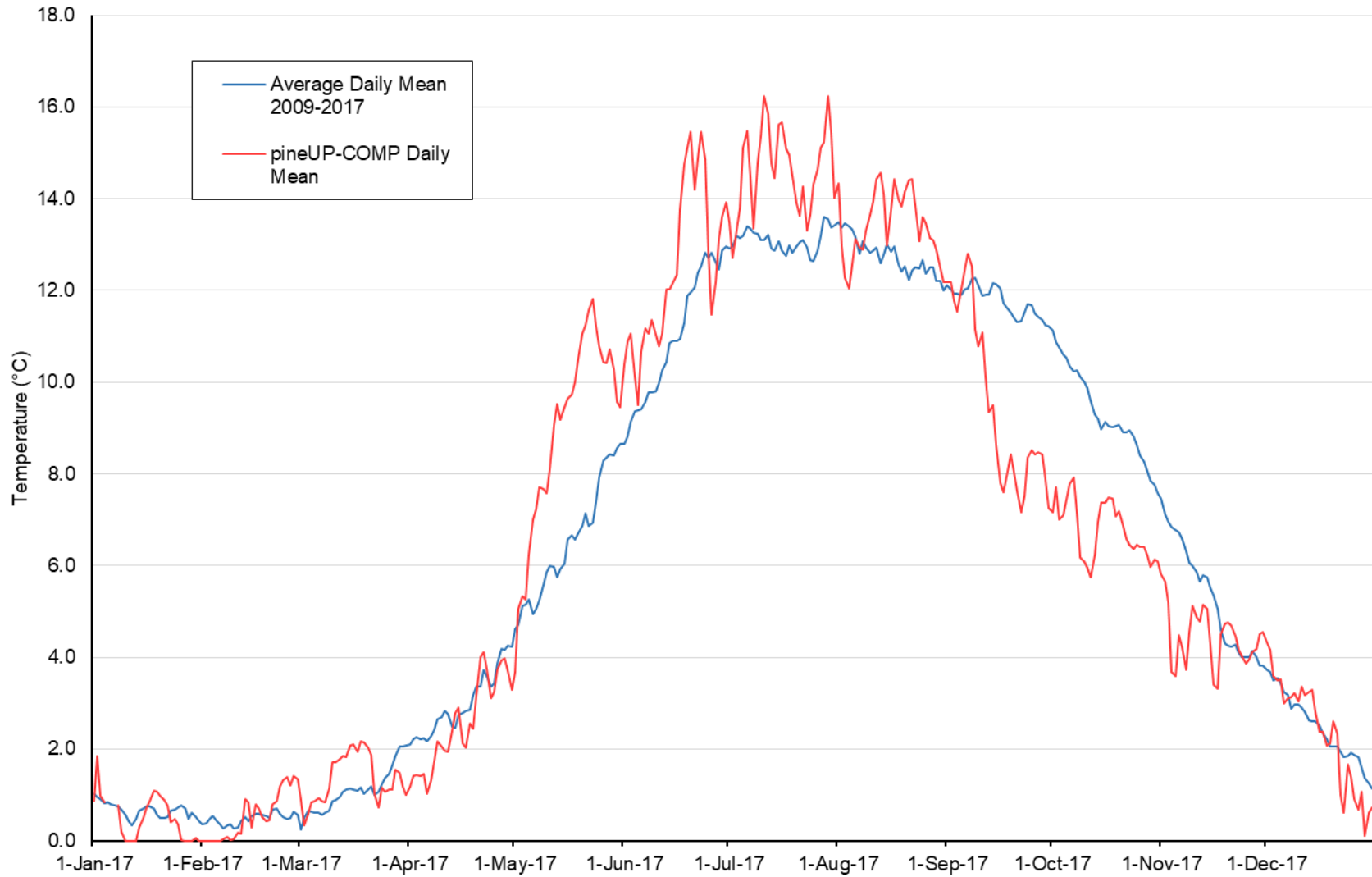


Figure 11. Comparison of Year 10 daily mean water temperature upstream of the Pine River confluence (pineUP-COMP) with average of 2009 to 2017 daily mean water temperature at pineUP-COMP.

## **REFERENCES**

BC Hydro. 2010. Peace River Water Use Plan; monitoring program terms of reference – Peace River Baseline TGP/Temp. BC Hydro, Vancouver, BC. 7pp.

DES (Diversified Environmental Services). 2013. Peace River Water Use Plan Peace River Baseline TDGP/Temperature GMSWorks-2 - Year 4 Monitoring Program - Interim Report January 2012 to December 2012. Prepare for BC Hydro, Vancouver, BC. 24pp + appendices.

**Appendix I.** Temperature monitoring station location information for Year 10, January 01, 2018 to December 31, 2018.

| Site ID   | Serial # | Location                             | UTM (Zone 10) |         | Comment                                   |
|-----------|----------|--------------------------------------|---------------|---------|---|
|           |          |                                      | East          | North   |   |
| gmsUP1    | 10676155 | WAC Bennett Forebay                  | 548841        | 6209022 | steel buoy; 1 m depth                     |
| gmsUP2    | 10676160 | WAC Bennett Forebay                  | 548841        | 6209022 | steel buoy; 10 m depth                    |
| gmsDN1    | 10635063 | GMS Tailrace                         | 548881        | 6207761 | southbank; deflection wier riprap         |
| gmsDN1BU  | 20332152 | GMS Tailrace                         | 548881        | 6207761 | southbank; deflection wier riprap         |
| gmsDN2    | 10669739 | GMS Tailrace                         | 548828        | 6207836 | north bank; riprap below Tunnel portal #3 |
| gmsDN2BU  | 20332121 | GMS Tailrace                         | 548828        | 6207836 | north bank; riprap below Tunnel portal #3 |
| pcnUP1    | 10635067 | Peace Canyon Forebay                 | 562710        | 6204068 | anti-vortex log boom; 1 m depth           |
| pcnDN2    | 10156317 | Peace Canyon Tailrace                | 562803        | 6204854 | north bank; rock slab                     |
| pcnDN2BU  | 10635061 | Peace Canyon Tailrace                | 562803        | 6204854 | north bank; rock slab                     |
| HalfUP1   | 20332123 | Halfway Confluence - upstream        | 595165        | 6230094 | south bank; spruce tree                   |
| HalfUP2   | 20030829 | Halfway Confluence - upstream        | 595569        | 6230541 | north bank; spruce tree                   |
| HalfDN2   | 10669748 | Halfway Confluence - downstream      | 598313        | 6232378 | north bank; willow                        |
| HalfDN2BU | 10156314 | Halfway Confluence - downstream      | 598286        | 6232332 | north bank; willow                        |
| MobUP1    | 10887852 | Moberly Confluence - upstream        | 627158        | 6232349 | south bank; alder                         |
| MobUP2    | 10669754 | Moberly Confluence - upstream        | 627501        | 6232563 | north bank; spruce tree                   |
| MobDN1    | 10676146 | Moberly Confluence - downstream      | 630583        | 6229281 | south bank; alder                         |
| MobDN1BU  | 10676147 | Moberly Confluence - downstream      | 630402        | 6229303 | south bank; alder                         |
| PineUP1   | 10669747 | Pine Confluence - upstream           | 641034        | 6225375 | south bank; alder                         |
| PineUP2   | 20332129 | Pine Confluence - upstream           | 641653        | 6225304 | north bank; balsam poplar                 |
| PineDN1   | 20332124 | Pine Confluence - downstream         | 648073        | 6222796 | south bank; alder                         |
| PineDN1BU | 10893055 | Pine Confluence - downstream         | 648362        | 6222823 | south bank; alder                         |
| PineMS1   | 10893069 | Pine Mainstem - upstream of Peace    | 641762        | 6223599 | north bank; steel piling                  |
| PineMS2   | 20097150 | Pine Mainstem - upstream of Peace    | 641762        | 6223599 | north bank; steel piling                  |
| BeatMS1   | 20322122 | Beatton Mainstem - upstream of Peace | 663101        | 6220759 | east bank; spruce                         |
| BeatMS2   | 20030828 | Beatton Mainstem - upstream of Peace | 663101        | 6220759 | east bank; spruce                         |
| PouceUP1  | 10635062 | Pouce Coupe confluence - upstream    | *316873       | 6225211 | south bank; birch; *UTM Zone 11           |
| PouceUP2  | 10893068 | Pouce Coupe confluence - upstream    | *315887       | 6226158 | south bank; birch; *UTM Zone 11           |

**Appendix II.** Inventory of dissolved gas pressure meters and probes.

| Meter Number | Serial Number | Probe Number | Cable Length (ft) |
|--------------|---------------|--------------|-------------------|
| 1            | 231           | 1            | 50                |
| 2            | 228           | 2            | 100               |
| 3            | 230           | 3            | 100               |
| 4            | 227           | 4            | 100               |
| 5            | 226           | 5            | 100               |
| 6            | 229           | 6            | 100               |

**Appendix III.** Reference temperature values and corresponding logger fix values recorded during download events in Year 10, January 01, 2018 to December 31, 2018.

| Logger ID                                  | Date      | Fix Temp | Ref Temp | Error |
|--|-----------|----------|----------|-------|
| gmsUP1<br>(SN 10676155)                    | 19-Apr-18 | 0.8      | 0.8      | 0.0   |
|  | 12-Jul-18 | 16.2     | 16.4     | -0.2  |
|  | 22-Oct-18 | 7.2      | 7.1      | -0.1  |
| gmsUP2<br>(SN 10666160)                    | 19-Apr-18 | 1.1      | 1.2      | 0.1   |
|  | 12-Jul-18 | 13.8     | 13.8     | 0.0   |
|  | 22-Oct-18 | 7.2      | 7.1      | 0.1   |
| gmsDN1<br>(SN 10635063)                    | 10-Jan-18 | 1.8      | 1.7      | 0.1   |
|  | 12-Jul-18 | 11.6     | 11.9     | -0.3  |
|  | 22-Oct-18 | 7.0      | 7.1      | -0.1  |
| gmsDN1_BU<br>(SN 2038613)                  | 10-Jan-18 | 1.9      | 1.7      | 0.2   |
|  | 12-Jul-18 | 11.9     | 11.9     | 0.0   |
|  | 22-Oct-18 | 7.1      | 7.1      | 0.0   |
| gmsDN2<br>(SN 10669739)                    | 10-Jan-18 | 1.8      | 1.7      | 0.1   |
|  | 12-Jul-18 | 11.6     | 11.9     | -0.3  |
|  | 22-Oct-18 | 7.0      | 7.1      | -0.1  |
| gmsDN2_BU<br>(SN 2038614)<br>(SN 20332121) | 10-Jan-18 | 1.9      | 1.7      | 0.2   |
|  | 12-Jul-18 | 11.8     | 11.9     | -0.1  |
|  | 22-Oct-18 | 7.1      | 7.1      | 0.0   |
| pcnUP1<br>(SN 10635067)                    | 10-Jan-18 | 1.4      | 1.1      | 0.3   |
|  | 12-Jul-18 | 17.1     | 17.0     | 0.1   |
|  | 22-Oct-18 | 7.2      | 7.3      | -0.1  |
| pcnDN2<br>(SN 10156317)                    | 10-Jan-18 | 1.2      | 1.3      | -0.1  |
|  | 12-Jul-18 | 10.6     | 10.7     | -0.1  |
|  | 22-Oct-18 | 7.1      | 7.1      | 0.0   |
| pcnDN2_BU<br>(SN 10635061)                 | 10-Jan-18 | 1.5      | 1.3      | 0.2   |
|  | 12-Jul-18 | 10.7     | 10.7     | 0.0   |
|  | 22-Oct-18 | 7.1      | 7.1      | 0.0   |
| halfUP1<br>(SN 20097151)<br>(SN 20322123)  | 3-Jan-18  | 0.9      | 0.9      | 0.0   |
|  | 25-Apr-18 | 2.3      | 2.5      | -0.2  |
|  | 23-Oct-18 | 6.6      | 6.6      | 0.0   |
| halfUP2<br>(SN 20030829)                   | 3-Jan-18  | 1.2      | 0.9      | 0.3   |
|  | 25-Apr-18 | 2.4      | 2.4      | 0.0   |
|  | 14-Jul-18 | 11.9     | 11.7     | 0.2   |
|  | 23-Oct-18 | 6.7      | 6.6      | 0.1   |

**Appendix III.** Reference temperature values and corresponding logger fix values recorded during download events in Year 10, January 01, 2018 to December 31, 2018, cont.

| Logger ID                   | Date      | Logger Temp | Reference Temp | Error |
|-----------------------------|-----------|-------------|----------------|-------|
| halfDN2<br>(SN 10669748)    | 3-Jan-18  | 0.9         | 0.7            | 0.2   |
|                             | 25-Apr-18 | 2.2         | 2.2            | 0.0   |
|                             | 15-Jul-18 | 15.7        | 15.8           | -0.1  |
|                             | 23-Oct-18 | 4.7         | 4.6            | 0.1   |
| halfDN2_BU<br>(SN 10156314) | 3-Jan-18  | 1.0         | 0.7            | 0.3   |
|                             | 25-Apr-08 | 2.2         | 2.5            | -0.3  |
|                             | 15-Jul-18 | 15.7        | 15.8           | -0.1  |
|                             | 23-Oct-18 | 4.7         | 4.6            | 0.1   |
| mobUP1<br>(SN 10887852)     | 4-Jan-18  | 0.8         | 0.5            | 0.3   |
|                             | 27-Apr-18 | 3.4         | 3.2            | 0.2   |
|                             | 11-Jul-18 | 14.8        | 14.9           | -0.1  |
|                             | 19-Oct-18 | 6.9         | 6.9            | 0.0   |
| mobUP2<br>(SN 10669754)     | 4-Jan-18  | 0.8         | 0.5            | 0.3   |
|                             | 27-Apr-18 | 2.7         | 2.7            | 0.0   |
|                             | 11-Jul-18 | 14.2        | 14.4           | -0.2  |
|                             | 19-Oct-18 | 6.8         | 6.8            | 0.0   |
| mobDN1<br>(SN 10676146)     | 4-Jan-18  | 0.9         | 0.6            | 0.3   |
|                             | 27-Apr-18 | 3.1         | 2.8            | 0.3   |
|                             | 11-Jul-18 | 15.2        | 15.6           | -0.4  |
|                             | 19-Oct-18 | 7.0         | 6.8            | 0.2   |
| mobDN1_BU<br>(SN 10676147)  | 4-Jan-18  | 0.8         | 0.6            | 0.2   |
|                             | 19-Oct-18 | 6.9         | 6.8            | 0.1   |
| pineUP1<br>(SN10669747)     | 4-Jan-18  | 0.8         | 0.5            | 0.3   |
|                             | 11-Jul-18 | 15.5        | 16.5           | -1.0  |
|                             | 19-Oct-18 | 6.9         | 6.9            | 0.0   |
| pineUP2<br>(SN 9767573)     | 27-Apr-18 | 3.3         | 3.3            | 0.0   |
|                             | 11-Jul-18 | 15.1        | 15.2           | -0.1  |
|                             | 19-Oct-18 | 6.9         | 6.9            | 0.0   |
| pineDN1<br>(SN 10156319)    | 4-Jan-18  | 0.6         | 0.3            | 0.3   |
|                             | 19-Oct-18 | 6.4         | 6.4            | 0.0   |
| pineDN1_BU<br>(SN 10893055) | 4-Jan-18  | 0.6         | 0.3            | 0.3   |
|                             | 27-Apr-18 | 2.0         | 2.1            | -0.1  |
|                             | 11-Jul-18 | 17.5        | 17.7           | -0.2  |
|                             | 19-Oct-18 | 6.4         | 6.4            | 0.0   |

**Appendix III.** Reference temperature values and corresponding logger fix values recorded during download events in Year 10, January 01, 2018 to December 31, 2018, cont.

| Logger ID     | Date      | Logger Temp | Reference Temp | Error |
|---------------|-----------|-------------|----------------|-------|
| pineMS1       | 27-Apr-18 | 0.5         | 0.6            | -0.1  |
| (SN 10893069) | 11-Jul-18 | 16.9        | 16.9           | 0.0   |
| pineMS2       | 19-Oct-18 | Exp         | 5.6            | -     |
| (SN 20097150) |           |             |                |       |
| beatMS1       | 11-Jul-18 | 20.9        | 21.1           | -0.2  |
| (SN 10930722) | 19-Oct-18 | 6.2         | 6.5            | -0.3  |
| beatMS2       | 27-Apr-18 | 2.4         | 2.4            | 0.0   |
| (SN 20030828) | 11-Jul-18 | 20.4        | 21.1           | -0.7  |
|               | 19-Oct-18 | 7.2         | 6.5            | 0.7   |
| pouceUP1      | 17-Jan-18 | 0.3         | 0.1            | 0.2   |
| (SN 10635062) | 11-Jul-18 | 18.3        | 18.1           | 0.2   |
|               | 18-Oct-18 | 7.6         | 7.6            | 0.0   |
| pouceUP2      | 17-Jan-18 | 0.3         | 0.2            | 0.1   |
| (SN 10893068) | 11-Jul-18 | 18.0        | 18.2           | -0.2  |



**Appendix IV. Year 10 download information forms, January 01, 2018 to December 31, 2018.**

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM                    |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
|--|--------|-----|------------------------|----------------------|-----------------------------------|---|-----------------------|--------------------|------------|-------|--|
| <b>SITE ID</b>   | gmsUP1 |     | <b>LOCATION</b>        | GMS Forebay          |                                   |   | <b>BANK</b>           |                    |            |       |  |
| <b>LOGGER TYPE</b>   | Tidbit |     | <b>LOGGER SERIAL #</b> | 10676155             |                                   |   | <b>UTM</b>            | 548841             | 6209022    |       |  |
| <b>DOWNLOAD DATE</b>   | 19     | Apr | 2018                   | <b>DOWNLOAD TIME</b> | 13:19                             |   |                       | <b>CREW</b>        | BC TE      |       |  |
| <b>TEST RECORDER TYPE</b>  | YSI    |     | <b>WATER TEMP</b>      | 0.8                  | <b>AIR TEMP</b>                   | 9 | <b>ICE CONDITIONS</b> | Winter Ice Cover   |            |       |  |
| LOGGER CONDITIONS  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>WATER DEPTH</b>   | 100    | cm  | <b>DISLODGED</b>       | no                   | <b>REASON</b>                     |   |                       |                    |            |       |  |
| <b>BURIED</b>  | no     |     | <b>FUNCTIONAL</b>      | w et                 | <b>IF DRY, HEIGHT ABOVE WATER</b> |   | cm                    | <b>TETHER TYPE</b> | steel buoy |       |  |
| COMMENTS   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Relaunch in April 19, 2018 failed due to faulty shuttle                                    |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Relaunched April 25, 2018 w ith new shuttle  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| RPL#19   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| No data April 20-25 due to faulty shuttle  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>SITE ID</b>   | gmsUP2 |     | <b>LOCATION</b>        | GMS Forebay          |                                   |   | <b>BANK</b>           |                    |            |       |  |
| <b>LOGGER TYPE</b>   | Tidbit |     | <b>LOGGER SERIAL #</b> | 10676160             |                                   |   | <b>UTM</b>            | 548841             | 6209022    |       |  |
| <b>DOWNLOAD DATE</b>   | 19     | Apr | 2018                   | <b>DOWNLOAD TIME</b> | 13:14                             |   |                       | <b>CREW</b>        | BC TE      |       |  |
| <b>TEST RECORDER TYPE</b>  | YSI    |     | <b>WATER TEMP</b>      | 1.1                  | <b>AIR TEMP</b>                   | 9 | <b>ICE CONDITIONS</b> | Winter Ice Cover   |            |       |  |
| LOGGER CONDITIONS  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>WATER DEPTH</b>   | 1000   |     | <b>DISLODGED</b>       | no                   | <b>REASON</b>                     |   |                       |                    |            |       |  |
| <b>BURIED</b>  | no     |     | <b>FUNCTIONAL</b>      | w et                 | <b>IF DRY, HEIGHT ABOVE WATER</b> |   | cm                    | <b>TETHER TYPE</b> | steel buoy |       |  |
| COMMENTS   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Relaunch failed in Jan 2018 due to faulty shuttle.   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Relaunched April 25, 2018 w ith new shuttle  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| RPL#20   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>SITE ID</b>   | gmsDN2 |     | <b>LOCATION</b>        | GMS Tailrace RDB     |                                   |   | <b>BANK</b>           |                    |            | north |  |
| <b>LOGGER TYPE</b>   | Tidbit |     | <b>LOGGER SERIAL #</b> | 10669739             |                                   |   | <b>UTM</b>            | 548828             | 6207836    |       |  |
| <b>DOWNLOAD DATE</b>   | 27     | Apr | 2018                   | <b>DOWNLOAD TIME</b> | 9:48                              |   |                       | <b>CREW</b>        | BC TE      |       |  |
| <b>TEST RECORDER TYPE</b>  | YSI    |     | <b>WATER TEMP</b>      | 2.6                  | <b>AIR TEMP</b>                   | 9 | <b>ICE CONDITIONS</b> | none               |            |       |  |
| LOGGER CONDITIONS  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>WATER DEPTH</b>   | 150    | cm  | <b>DISLODGED</b>       | no                   | <b>REASON</b>                     |   |                       |                    |            |       |  |
| <b>BURIED</b>  | no     |     | <b>FUNCTIONAL</b>      | w et                 | <b>IF DRY, HEIGHT ABOVE WATER</b> |   | cm                    | <b>TETHER TYPE</b> | rock       |       |  |
| COMMENTS   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Back-up logger gmsDN2-BU 2038614 in same capsule 09:49                                     |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Both dow nloads indicated as OK but no data due to faulty shuttle relaunch in January 2018 |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Cable ok (stainless steel cable section attached to galvanized cable around rock)          |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Primary Logger-Rpl #11, SN 10669739 @ 09:48  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>SITE ID</b>   | gmsDN1 |     | <b>LOCATION</b>        | GMS Tailrace LDB     |                                   |   | <b>BANK</b>           | south              |            |       |  |
| <b>LOGGER TYPE</b>   | Tidbit |     | <b>LOGGER SERIAL #</b> | 10635063             |                                   |   | <b>UTM</b>            | 548881             | 6207761    |       |  |
| <b>DOWNLOAD DATE</b>   | 30     | Apr | 2018                   | <b>DOWNLOAD TIME</b> | 10:00:05                          |   |                       | <b>CREW</b>        | BC TE      |       |  |
| <b>TEST RECORDER TYPE</b>  | YSI    |     | <b>WATER TEMP</b>      | 2.4                  | <b>AIR TEMP</b>                   | 9 | <b>ICE CONDITIONS</b> | none               |            |       |  |
| LOGGER CONDITIONS  |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| <b>WATER DEPTH</b>   | 200    | cm  | <b>DISLODGED</b>       | no                   | <b>REASON</b>                     |   |                       |                    |            |       |  |
| <b>BURIED</b>  | no     |     | <b>FUNCTIONAL</b>      | w et                 | <b>IF DRY, HEIGHT ABOVE WATER</b> |   | cm                    | <b>TETHER TYPE</b> | rock       |       |  |
| COMMENTS   |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Back-up logger gmsDN1-BU 2038613 in same capsule 10:01                                     |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Both dow nloads indicated as OK but no data due to faulty shuttle relaunch in January 2018 |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| cable ok (stainless steel cable section attached to galvanized cable around rock)          |        |     |                        |                      |                                   |   |                       |                    |            |       |  |
| Primary logger = gmsDN1-RPL#7, SN10635063 @ 10:00:15                                       |        |     |                        |                      |                                   |   |                       |                    |            |       |  |

**BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM**

|                           |        |                        |             |                      |      |                       |        |         |
|---------------------------|--------|------------------------|-------------|----------------------|------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnUP1 | <b>LOCATION</b>        | PCN Forebay |                      |      | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10635067    |                      |      | <b>UTM</b>            | 562710 | 6204068 |
| <b>DOWNLOAD DATE</b>      | 30     | Apr                    | 2018        | <b>DOWNLOAD TIME</b> | 8:39 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 2.6         | <b>AIR TEMP</b>      | 5.0  | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |          |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|----------|
| <b>WATER DEPTH</b> | 100 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |          |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | log boom |

**COMMENTS**

Down load indicated as OK but no data due to failed launch in Jan 2018 due to defective shuttle  
all stainless steel cable ok  
Rpl #10, SN 10635067

|                           |        |                        |              |                      |      |                       |        |         |
|---------------------------|--------|------------------------|--------------|----------------------|------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnDN2 | <b>LOCATION</b>        | PCN Tailrace |                      |      | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10156317     |                      |      | <b>UTM</b>            | 562803 | 6204854 |
| <b>DOWNLOAD DATE</b>      | 30     | Apr                    | 2018         | <b>DOWNLOAD TIME</b> | 8:55 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 2.5          | <b>AIR TEMP</b>      | 5.0  | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 150 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

Down load indicated as OK but no data due to failed launch in Jan 2018 due to defective shuttle  
all stainless steel cable ok  
RPL# 2, SN10156317

|                           |           |                        |              |                      |      |                       |        |         |
|---------------------------|-----------|------------------------|--------------|----------------------|------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnDN2_BU | <b>LOCATION</b>        | PCN Tailrace |                      |      | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit    | <b>LOGGER SERIAL #</b> | 10635061     |                      |      | <b>UTM</b>            | 562803 | 6204854 |
| <b>DOWNLOAD DATE</b>      | 30        | Apr                    | 2018         | <b>DOWNLOAD TIME</b> | 8:58 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI       | <b>WATER TEMP</b>      | 2.5          | <b>AIR TEMP</b>      | 5.0  | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 150 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

Down load OK  
All stainless steel cable ok  
Anchored to same rock as pcnDN2  
Rpl #9, SN10635061

|                           |  |                        |  |                      |  |                       |  |  |
|---------------------------|--|------------------------|--|----------------------|--|-----------------------|--|--|
| <b>SITE ID</b>            |  | <b>LOCATION</b>        |  |                      |  | <b>BANK</b>           |  |  |
| <b>LOGGER TYPE</b>        |  | <b>LOGGER SERIAL #</b> |  |                      |  | <b>UTM</b>            |  |  |
| <b>DOWNLOAD DATE</b>      |  |                        |  | <b>DOWNLOAD TIME</b> |  | <b>CREW</b>           |  |  |
| <b>TEST RECORDER TYPE</b> |  | <b>WATER TEMP</b>      |  | <b>AIR TEMP</b>      |  | <b>ICE CONDITIONS</b> |  |  |

**LOGGER CONDITIONS**

|                    |  |                   |                  |                                   |               |    |                    |  |
|--------------------|--|-------------------|------------------|-----------------------------------|---------------|----|--------------------|--|
| <b>WATER DEPTH</b> |  | cm                | <b>DISLODGED</b> |                                   | <b>REASON</b> |    |                    |  |
| <b>BURIED</b>      |  | <b>FUNCTIONAL</b> |                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> |  |

**COMMENTS**

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|---|------------|------------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|--------------------|-----------------------|------------|--|--|
| <b>SITE ID</b>  | halfUP2    | <b>LOCATION</b>        | u/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    | north                 |            |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 20030829             |                                   |                                   | <b>UTM</b>            | 595569             | 6230541               |            |  |  |
| <b>DOWNLOAD DATE</b>  | 25         | Apr                    | 2018                 | <b>DOWNLOAD TIME</b>              | 11:47                             |                       |                    | <b>CREW</b>           | BC TE      |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 2.4                  | <b>AIR TEMP</b>                   | 10                                |                       |                    | <b>ICE CONDITIONS</b> | none       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |                       |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |                                   | cm                    | <b>TETHER TYPE</b> | spruce                |            |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| RPL# 33   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| Download OK   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| Stainless cable OK, frayed 1/4" cable on shore repaired                 |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| River very low  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>SITE ID</b>  | halfUP1    | <b>LOCATION</b>        | u/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    | south                 |            |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 20097151             |                                   |                                   | <b>UTM</b>            | 595165             | 6230094               |            |  |  |
| <b>DOWNLOAD DATE</b>  | 25         | Apr                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:05                             |                       |                    | <b>CREW</b>           | BC TE      |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 2.5                  | <b>AIR TEMP</b>                   | 10                                |                       |                    | <b>ICE CONDITIONS</b> | none       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>WATER DEPTH</b>  | 200        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |                       |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |                                   | cm                    | <b>TETHER TYPE</b> | spruce tree           |            |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| RPL# 34   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| download OK   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| cable OK  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>SITE ID</b>  | halfDN2    | <b>LOCATION</b>        | d/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    | north                 |            |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 10669748             |                                   |                                   | <b>UTM</b>            | 598198             | 6232169               |            |  |  |
| <b>DOWNLOAD DATE</b>  | 25         | Apr                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:22                             |                       |                    | <b>CREW</b>           | BC TE      |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 2.2                  | <b>AIR TEMP</b>                   | 10                                |                       |                    | <b>ICE CONDITIONS</b> | none       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>WATER DEPTH</b>  | 100        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |                       |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |                                   | cm                    | <b>TETHER TYPE</b> | balsam pop            |            |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| water very low  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| download OK   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| stainless steel cable OK  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| Rpl #15, SN 10669748  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>SITE ID</b>  | halfDN2_BU | <b>LOCATION</b>        | d/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    | north                 |            |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 10156314             |                                   |                                   | <b>UTM</b>            | 598179             | 6263144               |            |  |  |
| <b>DOWNLOAD DATE</b>  | 25         | Apr                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:23                             |                       |                    | <b>CREW</b>           | BC TE      |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 2.2                  | <b>AIR TEMP</b>                   | 5                                 | <b>ICE CONDITIONS</b> | none               |                       |            |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| <b>WATER DEPTH</b>  | 100        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |                       |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                      | dry                               | <b>IF DRY, HEIGHT ABOVE WATER</b> | 80                    | cm                 | <b>TETHER TYPE</b>    | balsam pop |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| water very low  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| download OK   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
| stainless steel cable OK  |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |
|   |            |                        |                      |                                   |                                   |                       |                    |                       |            |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM                           |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|---|-----------|-----------------|----------------------|----------------------------|----------------------------|--------|----------------|-------------|---------|--|--|--|
| SITE ID   | mobUP2    | LOCATION        | u/s of Moberly River |                            |                            |        | BANK           | north       |         |  |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10669754             |                            |                            |        | UTM            | 627501      | 6232563 |  |  |  |
| DOWNLOAD DATE   | 27        | Apr             | 2018                 | DOWNLOAD TIME              | 9:55                       |        |                | CREW        | BC TE   |  |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 2.7                  | AIR TEMP                   | 10.0                       |        | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| WATER DEPTH   | 100       | cm              | DISLODGED            | no                         | REASON                     |        |                |             |         |  |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER |                            | cm     | TETHER TYPE    | spruce      |         |  |  |  |
| COMMENTS  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| download Ok   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| stainless steel cable OK  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| Rpl #16, SN 10669754 (replaced RPL# 12)   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| SITE ID   | mobUP1    | LOCATION        | u/s of Moberly River |                            |                            |        | BANK           | south       |         |  |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10887852             |                            |                            |        | UTM            | 627158      | 6232349 |  |  |  |
| DOWNLOAD DATE   | 27        | Apr             | 2018                 | DOWNLOAD TIME              | 10:02                      |        |                | CREW        | BC TE   |  |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 3.2                  | AIR TEMP                   | 10.0                       |        | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| WATER DEPTH   |           | cm              | DISLODGED            |                            | yes                        | REASON | ice            |             |         |  |  |  |
| BURIED  | no        | FUNCTIONAL      |                      | dry                        | IF DRY, HEIGHT ABOVE WATER | 10     | cm             | TETHER TYPE | alder   |  |  |  |
| COMMENTS  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| RPL#21-10887852   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| pulled to shore by persons unknown and at water's edge  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| download ok   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| SITE ID   | mobDN1_BU | LOCATION        | d/s of Moberly River |                            |                            |        | BANK           | south       |         |  |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10676147             |                            |                            |        | UTM            | 630402      | 6229275 |  |  |  |
| DOWNLOAD DATE   | 27        | Apr             | 2018                 | DOWNLOAD TIME              | 10:28                      |        |                | CREW        | BC TE   |  |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 2.8                  | AIR TEMP                   | 10.0                       |        | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| WATER DEPTH   | 100       | cm              | DISLODGED            |                            | yes                        | REASON | ice            |             |         |  |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER |                            | cm     | TETHER TYPE    | alder       |         |  |  |  |
| COMMENTS  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| download indicated as OK but no data due to faulty relaunch and defective shuttle in January 2018 |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| partially swinging to shore but still wet   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| RPL#18  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| SITE ID   | mobDN1    | LOCATION        | d/s of Moberly River |                            |                            |        | BANK           | south       |         |  |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10376146             |                            |                            |        | UTM            | 630583      | 6229281 |  |  |  |
| DOWNLOAD DATE   | 27        | Apr             | 2018                 | DOWNLOAD TIME              | 10:22                      |        |                | CREW        | BC TE   |  |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 2.8                  | AIR TEMP                   | 10.0                       |        | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| WATER DEPTH   |           | cm              | DISLODGED            |                            | yes                        | REASON | ice            |             |         |  |  |  |
| BURIED  | no        | FUNCTIONAL      |                      | dry                        | IF DRY, HEIGHT ABOVE WATER | 20     | cm             | TETHER TYPE | spruce  |  |  |  |
| COMMENTS  |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| recently swinging to shore by ice   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| download OK   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
| Rpl # 17, SN 10669746   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |
|   |           |                 |                      |                            |                            |        |                |             |         |  |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM                       |            |                 |                   |                            |        |             |            |                |       |  |  |
|---|------------|-----------------|-------------------|----------------------------|--------|-------------|------------|----------------|-------|--|--|
| SITE ID   | pineUP2    | LOCATION        | u/s of Pine River |                            |        | BANK        |            | north          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 9767573           |                            |        | UTM         | 641653     | 6225304        |       |  |  |
| DOWNLOAD DATE   | 27         | Apr             | 2018              | DOWNLOAD TIME              | 10:52  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 3.3               | AIR TEMP                   | 10.0   |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 200        | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | balsam pop |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download OK   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| labelled as halfUP1R  |            |                 |                   |                            |        |             |            |                |       |  |  |
|   |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineUP1    | LOCATION        | u/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10669747          |                            |        | UTM         | 641034     | 6225372        |       |  |  |
| DOWNLOAD DATE   | 27         | Apr             | 2018              | DOWNLOAD TIME              | 11:00  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 3.9               | AIR TEMP                   | 10.0   |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download indicated as OK but no data due to failed relaunch in Jan 2018 and defective shuttle |            |                 |                   |                            |        |             |            |                |       |  |  |
| Rpl # 14, SN 10669747   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
|   |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineDN1_BU | LOCATION        | d/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10893055          |                            |        | UTM         | 648362     | 6222823        |       |  |  |
| DOWNLOAD DATE   | 27         | Apr             | 2018              | DOWNLOAD TIME              | 13:28  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 2.1               | AIR TEMP                   | 12.0   |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 80         | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download OK   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| RPL# 25   |            |                 |                   |                            |        |             |            |                |       |  |  |
|   |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineDN1    | LOCATION        | d/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10156319          |                            |        | UTM         | 648101     | 6222802        |       |  |  |
| DOWNLOAD DATE   | 28         | Apr             | 2018              | DOWNLOAD TIME              | 13:36  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 2.1               | AIR TEMP                   | 12.0   |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 10         | cm              | DISLODGED         | yes                        | REASON | ice         | debris     |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download indicated as OK but no data due to failed relaunch in Jan 2018 and defective shuttle |            |                 |                   |                            |        |             |            |                |       |  |  |
| swung to shore recently but wet   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| RPL# 1  |            |                 |                   |                            |        |             |            |                |       |  |  |
|   |            |                 |                   |                            |        |             |            |                |       |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM                   |        |            |                 |                  |                            |        |             |                |        |         |       |
|---|--------|------------|-----------------|------------------|----------------------------|--------|-------------|----------------|--------|---------|-------|
| SITE ID   | gmsUP1 |            | LOCATION        | GMS Forebay      |                            |        |             | BANK           |        |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10676155         |                            |        |             | UTM            | 548841 | 6209022 |       |
| DOWNLOAD DATE   | 12     | Jul        | 2018            | DOWNLOAD TIME    | 12:11                      |        |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 16.4             | AIR TEMP                   | 21     |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                  |                            |        |             |                |        |         |       |
| WATER DEPTH   | 100    | cm         | DISLODGED       | no               |                            | REASON |             |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             |                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | steel buoy     |        |         |       |
| COMMENTS  |        |            |                 |                  |                            |        |             |                |        |         |       |
| Download OK   |        |            |                 |                  |                            |        |             |                |        |         |       |
| Stainless steel cable OK  |        |            |                 |                  |                            |        |             |                |        |         |       |
| RPL#19  |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
| SITE ID   | gmsUP2 |            | LOCATION        | GMS Forebay      |                            |        |             | BANK           |        |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10676160         |                            |        |             | UTM            | 548841 | 6209022 |       |
| DOWNLOAD DATE   | 12     | July       | 2018            | DOWNLOAD TIME    | 12:13                      |        |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 13.8             | AIR TEMP                   | 21     |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                  |                            |        |             |                |        |         |       |
| WATER DEPTH   | 1000   | cm         | DISLODGED       | no               |                            | REASON |             |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             |                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | steel buoy     |        |         |       |
| COMMENTS  |        |            |                 |                  |                            |        |             |                |        |         |       |
| Download OK   |        |            |                 |                  |                            |        |             |                |        |         |       |
| Stainless steel cable OK  |        |            |                 |                  |                            |        |             |                |        |         |       |
| RPL#20  |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
| SITE ID   | gmsDN2 |            | LOCATION        | GMS Tailrace RDB |                            |        |             | BANK           |        |         | north |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10669739         |                            |        |             | UTM            | 548828 | 6207836 |       |
| DOWNLOAD DATE   | 12     | Jul        | 2018            | DOWNLOAD TIME    | 11:01                      |        |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 11.9             | AIR TEMP                   | 24     |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                  |                            |        |             |                |        |         |       |
| WATER DEPTH   | 120    | cm         | DISLODGED       | no               |                            | REASON |             |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             |                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | rock           |        |         |       |
| COMMENTS  |        |            |                 |                  |                            |        |             |                |        |         |       |
| Back-up logger gmsDN2-BU 2038614 in same capsule 11:01, replaced with RPL#37 S/N 20332121 |        |            |                 |                  |                            |        |             |                |        |         |       |
| both downloads OK   |        |            |                 |                  |                            |        |             |                |        |         |       |
| cable ok (stainless steel cable section attached to galvanized cable around rock)         |        |            |                 |                  |                            |        |             |                |        |         |       |
| Primary Logger-Rpl #11, SN 10669739   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
| SITE ID   | gmsDN1 |            | LOCATION        | GMS Tailrace LDB |                            |        |             | BANK           | south  |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10635063         |                            |        |             | UTM            | 548881 | 6207761 |       |
| DOWNLOAD DATE   | 12     | Jul        | 2018            | DOWNLOAD TIME    | 11:15                      |        |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | merc   |            | WATER TEMP      | 11.9             | AIR TEMP                   | 24     |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                  |                            |        |             |                |        |         |       |
| WATER DEPTH   | 100    | cm         | DISLODGED       | no               |                            | REASON |             |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             |                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | rock           |        |         |       |
| COMMENTS  |        |            |                 |                  |                            |        |             |                |        |         |       |
| Back-up logger gmsDN1-BU 2038613 in same capsule 11:15                                    |        |            |                 |                  |                            |        |             |                |        |         |       |
| both downloads OK   |        |            |                 |                  |                            |        |             |                |        |         |       |
| cable ok (stainless steel cable section attached to galvanized cable around rock)         |        |            |                 |                  |                            |        |             |                |        |         |       |
| Primary Logger gmsDN1-RPL#7   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |
|   |        |            |                 |                  |                            |        |             |                |        |         |       |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |           |            |                 |                            |          |             |          |                |         |  |  |
|---|-----------|------------|-----------------|----------------------------|----------|-------------|----------|----------------|---------|--|--|
| SITE ID   | pcnUP1    | LOCATION   | PCN Forebay     |                            |          | BANK        |          |                | north   |  |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # | 10635067                   |          |             | UTM      | 562684         | 6204075 |  |  |
| DOWNLOAD DATE   | 12        | Jul        | 2018            | DOWNLOAD TIME              | 9:58     |             |          | CREW           | BC TE   |  |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 17.0                       | AIR TEMP | 16.0        |          | ICE CONDITIONS | none    |  |  |
| LOGGER CONDITIONS   |           |            |                 |                            |          |             |          |                |         |  |  |
| WATER DEPTH   | 100       | cm         | DISLODGED       | no                         | REASON   |             |          |                |         |  |  |
| BURIED  | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | log boom |                |         |  |  |
| COMMENTS  |           |            |                 |                            |          |             |          |                |         |  |  |
| dow nload OK  |           |            |                 |                            |          |             |          |                |         |  |  |
| all stainless steel cable ok  |           |            |                 |                            |          |             |          |                |         |  |  |
| Rpl #10, SN 10635067  |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
| SITE ID   | pcnDN2    | LOCATION   | PCN Tailrace    |                            |          | BANK        |          |                | north   |  |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # | 10156317                   |          |             | UTM      | 562803         | 6204854 |  |  |
| DOWNLOAD DATE   | 12        | Jul        | 2018            | DOWNLOAD TIME              | 9:39     |             |          | CREW           | BC TE   |  |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 10.7                       | AIR TEMP | 16.0        |          | ICE CONDITIONS | none    |  |  |
| LOGGER CONDITIONS   |           |            |                 |                            |          |             |          |                |         |  |  |
| WATER DEPTH   | 100       | cm         | DISLODGED       | no                         | REASON   |             |          |                |         |  |  |
| BURIED  | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | rock     |                |         |  |  |
| COMMENTS  |           |            |                 |                            |          |             |          |                |         |  |  |
| dow nload OK  |           |            |                 |                            |          |             |          |                |         |  |  |
| all stainless steel cable ok  |           |            |                 |                            |          |             |          |                |         |  |  |
| RPL# 2  |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
| SITE ID   | pcnDN2_BU | LOCATION   | PCN Tailrace    |                            |          | BANK        |          |                | north   |  |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # | 10635061                   |          |             | UTM      | 562803         | 6204854 |  |  |
| DOWNLOAD DATE   | 12        | Jul        | 2018            | DOWNLOAD TIME              | 9:42     |             |          | CREW           | BC TE   |  |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 10.7                       | AIR TEMP | 16.0        |          | ICE CONDITIONS | none    |  |  |
| LOGGER CONDITIONS   |           |            |                 |                            |          |             |          |                |         |  |  |
| WATER DEPTH   | 100       | cm         | DISLODGED       | no                         | REASON   |             |          |                |         |  |  |
| BURIED  | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | rock     |                |         |  |  |
| COMMENTS  |           |            |                 |                            |          |             |          |                |         |  |  |
| dow nload OK  |           |            |                 |                            |          |             |          |                |         |  |  |
| all stainless steel cable ok  |           |            |                 |                            |          |             |          |                |         |  |  |
| Anchored to same rock as pcnDN2   |           |            |                 |                            |          |             |          |                |         |  |  |
| Rpl #9, SN10635061  |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
| SITE ID   |           | LOCATION   |                 |                            |          | BANK        |          |                |         |  |  |
| LOGGER TYPE   |           |            | LOGGER SERIAL # |                            |          |             | UTM      |                |         |  |  |
| DOWNLOAD DATE   |           |            |                 | DOWNLOAD TIME              |          |             |          | CREW           |         |  |  |
| TEST RECORDER TYPE  |           |            | WATER TEMP      |                            | AIR TEMP |             |          | ICE CONDITIONS |         |  |  |
| LOGGER CONDITIONS   |           |            |                 |                            |          |             |          |                |         |  |  |
| WATER DEPTH   |           | cm         | DISLODGED       |                            | REASON   |             |          |                |         |  |  |
| BURIED  |           | FUNCTIONAL |                 | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE |          |                |         |  |  |
| COMMENTS  |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |
|   |           |            |                 |                            |          |             |          |                |         |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                 |                      |                            |        |                |             |             |  |  |  |
|---|------------|-----------------|----------------------|----------------------------|--------|----------------|-------------|-------------|--|--|--|
| SITE ID   | halfUP2    | LOCATION        | u/s of Halfway River |                            |        | BANK           |             | north       |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 20030829             |                            |        | UTM            | 595569      | 6230541     |  |  |  |
| DOWNLOAD DATE   | 14         | Jul             | 2018                 | DOWNLOAD TIME              | 9:36   | CREW           | BC TE       |             |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 11.7                 | AIR TEMP                   | 20     | ICE CONDITIONS | none        |             |  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |                |             |             |  |  |  |
| WATER DEPTH   | 90         | cm              | DISLODGED            | no                         | REASON |                |             |             |  |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER |        | cm             | TETHER TYPE | spruce      |  |  |  |
| COMMENTS  |            |                 |                      |                            |        |                |             |             |  |  |  |
| download OK   |            |                 |                      |                            |        |                |             |             |  |  |  |
| cable OK  |            |                 |                      |                            |        |                |             |             |  |  |  |
| RPL#33  |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
| SITE ID   | halfUP1    | LOCATION        | u/s of Halfway River |                            |        | BANK           |             | south       |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # |                      |                            |        | UTM            | 595165      | 6230094     |  |  |  |
| DOWNLOAD DATE   | 14         | Jul             | 2018                 | DOWNLOAD TIME              |        | CREW           | BC TE       |             |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 17.4                 | AIR TEMP                   | 15     | ICE CONDITIONS | none        |             |  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |                |             |             |  |  |  |
| WATER DEPTH   |            | cm              | DISLODGED            |                            | yes    | REASON         | tampered    |             |  |  |  |
| BURIED  |            | FUNCTIONAL      |                      | IF DRY, HEIGHT ABOVE WATER |        | cm             | TETHER TYPE | spruce tree |  |  |  |
| COMMENTS  |            |                 |                      |                            |        |                |             |             |  |  |  |
| cable, anchor and logger stolen   |            |                 |                      |                            |        |                |             |             |  |  |  |
| replaced with RPL #39 (SN 20322123) at 09:20                            |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
| SITE ID   | halfDN2    | LOCATION        | d/s of Halfway River |                            |        | BANK           |             | north       |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10669748             |                            |        | UTM            | 598198      | 6232169     |  |  |  |
| DOWNLOAD DATE   | 15         | Jul             | 2018                 | DOWNLOAD TIME              | 9:55   | CREW           | BC TE       |             |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 15.8                 | AIR TEMP                   | 20     | ICE CONDITIONS | none        |             |  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |                |             |             |  |  |  |
| WATER DEPTH   |            | cm              | DISLODGED            | no                         | REASON |                |             |             |  |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER |        | cm             | TETHER TYPE | balsam pop  |  |  |  |
| COMMENTS  |            |                 |                      |                            |        |                |             |             |  |  |  |
| download ok   |            |                 |                      |                            |        |                |             |             |  |  |  |
| stainless steel cable OK  |            |                 |                      |                            |        |                |             |             |  |  |  |
| Rpl #15, SN 10669748  |            |                 |                      |                            |        |                |             |             |  |  |  |
| water extremely low and very little flow at site                        |            |                 |                      |                            |        |                |             |             |  |  |  |
| moved downstream to new location at 10.598313.6232378                   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
| SITE ID   | halfDN2_BU | LOCATION        | d/s of Halfway River |                            |        | BANK           |             | north       |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10156314             |                            |        | UTM            | 598179      | 6263144     |  |  |  |
| DOWNLOAD DATE   | 15         | July            | 2018                 | DOWNLOAD TIME              | 10:00  | CREW           | BC TE       |             |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 15.8                 | AIR TEMP                   | 20     | ICE CONDITIONS | none        |             |  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |                |             |             |  |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED            | no                         | REASON |                |             |             |  |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER |        | cm             | TETHER TYPE | balsam pop  |  |  |  |
| COMMENTS  |            |                 |                      |                            |        |                |             |             |  |  |  |
| labelled "halfDN2_BU"   |            |                 |                      |                            |        |                |             |             |  |  |  |
| stainless steel cable OK  |            |                 |                      |                            |        |                |             |             |  |  |  |
| download ok   |            |                 |                      |                            |        |                |             |             |  |  |  |
| extremely low water and no water movement                               |            |                 |                      |                            |        |                |             |             |  |  |  |
| moved downstream to 10.598286.6232337                                   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |
|   |            |                 |                      |                            |        |                |             |             |  |  |  |



| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM  |           |            |                 |                            |                            |             |             |                |        |         |       |
|--|-----------|------------|-----------------|----------------------------|----------------------------|-------------|-------------|----------------|--------|---------|-------|
| SITE ID  | mobUP2    |            | LOCATION        | u/s of Moberly River       |                            |             |             | BANK           |        |         | north |
| LOGGER TYPE  | Tidbit    |            | LOGGER SERIAL # | 10669754                   |                            |             |             | UTM            | 627501 | 6232563 |       |
| DOWNLOAD DATE  | 11        | Jul        | 2018            | DOWNLOAD TIME              | 9:47                       |             |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE   | YSI       |            | WATER TEMP      | 14.4                       | AIR TEMP                   | 22.0        |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS  |           |            |                 |                            |                            |             |             |                |        |         |       |
| WATER DEPTH  | 30        | cm         | DISLODGED       | no                         | REASON                     |             |             |                |        |         |       |
| BURIED   | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm                         | TETHER TYPE | spruce      |                |        |         |       |
| COMMENTS   |           |            |                 |                            |                            |             |             |                |        |         |       |
| RPL#16, SN 10669754  |           |            |                 |                            |                            |             |             |                |        |         |       |
| download ok  |           |            |                 |                            |                            |             |             |                |        |         |       |
| water very low but logger wet  |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
| SITE ID  | mobUP1    |            | LOCATION        | u/s of Moberly River       |                            |             |             | BANK           | south  |         |       |
| LOGGER TYPE  | Tidbit    |            | LOGGER SERIAL # | 10887852                   |                            |             |             | UTM            | 627158 | 6232349 |       |
| DOWNLOAD DATE  | 11        | Jul        | 2018            | DOWNLOAD TIME              | 9:56                       |             |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE   | YSI       |            | WATER TEMP      | 14.9                       | AIR TEMP                   | 22.0        |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS  |           |            |                 |                            |                            |             |             |                |        |         |       |
| WATER DEPTH  | 60        | cm         | DISLODGED       | no                         | REASON                     |             |             |                |        |         |       |
| BURIED   | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm                         | TETHER TYPE | alder       |                |        |         |       |
| COMMENTS   |           |            |                 |                            |                            |             |             |                |        |         |       |
| RPL# 21, SN10887852  |           |            |                 |                            |                            |             |             |                |        |         |       |
| stainless cable ok   |           |            |                 |                            |                            |             |             |                |        |         |       |
| download ok  |           |            |                 |                            |                            |             |             |                |        |         |       |
| anchor tree has died, removed cable and relocated upstream to a new tree |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
| SITE ID  | mobDN1_BU |            | LOCATION        | d/s of Moberly River       |                            |             |             | BANK           | south  |         |       |
| LOGGER TYPE  | Tidbit    |            | LOGGER SERIAL # | 10676147                   |                            |             |             | UTM            | 630875 | 6229275 |       |
| DOWNLOAD DATE  | 11        | Jul        | 2018            | DOWNLOAD TIME              | 10:32                      |             |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE   | YSI       |            | WATER TEMP      | 15.5                       | AIR TEMP                   | 22.0        |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS  |           |            |                 |                            |                            |             |             |                |        |         |       |
| WATER DEPTH  | 30        | cm         | DISLODGED       |                            | yes                        | REASON      | tampered    |                |        |         |       |
| BURIED   | no        | FUNCTIONAL |                 | dry                        | IF DRY, HEIGHT ABOVE WATER | cm          | TETHER TYPE | alder          |        |         |       |
| COMMENTS   |           |            |                 |                            |                            |             |             |                |        |         |       |
| RPL# 18  |           |            |                 |                            |                            |             |             |                |        |         |       |
| download OK  |           |            |                 |                            |                            |             |             |                |        |         |       |
| partially pulled to shore by persons unknown                             |           |            |                 |                            |                            |             |             |                |        |         |       |
| appears to be wet intermittently   |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
| SITE ID  | mobDN1    |            | LOCATION        | d/s of Moberly River       |                            |             |             | BANK           | south  |         |       |
| LOGGER TYPE  | Tidbit    |            | LOGGER SERIAL # | 10676146                   |                            |             |             | UTM            | 630776 | 6229287 |       |
| DOWNLOAD DATE  | 11        | Jul        | 2018            | DOWNLOAD TIME              | 10:20                      |             |             |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE   | YSI       |            | WATER TEMP      | 15.5                       | AIR TEMP                   | 22.0        |             | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS  |           |            |                 |                            |                            |             |             |                |        |         |       |
| WATER DEPTH  | 40        | cm         | DISLODGED       | no                         | REASON                     |             |             |                |        |         |       |
| BURIED   | no        | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm                         | TETHER TYPE | alder       |                |        |         |       |
| COMMENTS   |           |            |                 |                            |                            |             |             |                |        |         |       |
| download OK  |           |            |                 |                            |                            |             |             |                |        |         |       |
| Rpl # 17, SN 10676146  |           |            |                 |                            |                            |             |             |                |        |         |       |
| water very low   |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |
|  |           |            |                 |                            |                            |             |             |                |        |         |       |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                 |                   |                            |        |                |             |         |  |  |  |
|---|------------|-----------------|-------------------|----------------------------|--------|----------------|-------------|---------|--|--|--|
| SITE ID   | pineUP2    | LOCATION        | u/s of Pine River |                            |        | BANK           |             | north   |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 9767573           |                            |        | UTM            | 641653      | 6225304 |  |  |  |
| DOWNLOAD DATE   | 11         | Jul             | 2018              | DOWNLOAD TIME              | 11:02  | CREW           | BC TE       |         |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 15.2              | AIR TEMP                   | 24.0   | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |                |             |         |  |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED         | no                         | REASON |                |             |         |  |  |  |
| BURIED  | yes        | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | balsam pop  |         |  |  |  |
| COMMENTS  |            |                 |                   |                            |        |                |             |         |  |  |  |
| download OK   |            |                 |                   |                            |        |                |             |         |  |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |                |             |         |  |  |  |
| labelled as "half UP1R"   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
| SITE ID   | pineUP1    | LOCATION        | u/s of Pine River |                            |        | BANK           |             | south   |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10669747          |                            |        | UTM            | 641034      | 6225372 |  |  |  |
| DOWNLOAD DATE   | 11         | Jul             | 2018              | DOWNLOAD TIME              | 10:53  | CREW           | BC TE       |         |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 15.5              | AIR TEMP                   | 24.0   | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |                |             |         |  |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED         | no                         | REASON |                |             |         |  |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | alder       |         |  |  |  |
| COMMENTS  |            |                 |                   |                            |        |                |             |         |  |  |  |
| download OK   |            |                 |                   |                            |        |                |             |         |  |  |  |
| Rpl # 14, SN 10669747   |            |                 |                   |                            |        |                |             |         |  |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
| SITE ID   | pineDN1_BU | LOCATION        | d/s of Pine River |                            |        | BANK           |             | south   |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10893055          |                            |        | UTM            | 648362      | 6222823 |  |  |  |
| DOWNLOAD DATE   | 11         | Jul             | 2018              | DOWNLOAD TIME              | 13:09  | CREW           | BC TE       |         |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 17.7              | AIR TEMP                   | 24.0   | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |                |             |         |  |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED         | no                         | REASON |                |             |         |  |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | alder       |         |  |  |  |
| COMMENTS  |            |                 |                   |                            |        |                |             |         |  |  |  |
| RPL# 25   |            |                 |                   |                            |        |                |             |         |  |  |  |
| download ok   |            |                 |                   |                            |        |                |             |         |  |  |  |
| new stainless steel cable   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
| SITE ID   | pineDN1    | LOCATION        | d/s of Pine River |                            |        | BANK           |             | south   |  |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10156319          |                            |        | UTM            | 648101      | 6222802 |  |  |  |
| DOWNLOAD DATE   | 11         | Jul             | 2018              | DOWNLOAD TIME              | 13:28  | CREW           | BC TE       |         |  |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 17.7              | AIR TEMP                   | 24.0   | ICE CONDITIONS | none        |         |  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |                |             |         |  |  |  |
| WATER DEPTH   |            | cm              | DISLODGED         | yes                        | REASON | debris         |             |         |  |  |  |
| BURIED  | no         | FUNCTIONAL      | dry               | IF DRY, HEIGHT ABOVE WATER | 30     | cm             | TETHER TYPE | alder   |  |  |  |
| COMMENTS  |            |                 |                   |                            |        |                |             |         |  |  |  |
| RPL#1   |            |                 |                   |                            |        |                |             |         |  |  |  |
| download OK   |            |                 |                   |                            |        |                |             |         |  |  |  |
| swung to shore by debris and exposed                                    |            |                 |                   |                            |        |                |             |         |  |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |                |             |         |  |  |  |
| moved to new location 10.648073.6222796                                 |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |
|   |            |                 |                   |                            |        |                |             |         |  |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM           |        |            |                 |                            |          |             |            |                |        |         |       |
|---|--------|------------|-----------------|----------------------------|----------|-------------|------------|----------------|--------|---------|-------|
| SITE ID   | gmsUP1 |            | LOCATION        | GMS Forebay                |          |             |            | BANK           |        |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10676155                   |          |             |            | UTM            | 548841 | 6209022 |       |
| DOWNLOAD DATE   | 22     | Oct        | 2018            | DOWNLOAD TIME              | 11:21    |             |            |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 7.1                        | AIR TEMP | 4           |            | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                            |          |             |            |                |        |         |       |
| WATER DEPTH   | 100    | cm         | DISLODGED       | no                         | REASON   |             |            |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | steel buoy |                |        |         |       |
| COMMENTS  |        |            |                 |                            |          |             |            |                |        |         |       |
| Download OK   |        |            |                 |                            |          |             |            |                |        |         |       |
| Stainless steel cable OK  |        |            |                 |                            |          |             |            |                |        |         |       |
| RPL#19  |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
| SITE ID   | gmsUP2 |            | LOCATION        | GMS Forebay                |          |             |            | BANK           |        |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10676160                   |          |             |            | UTM            | 548841 | 6209022 |       |
| DOWNLOAD DATE   | 22     | Oct        | 2018            | DOWNLOAD TIME              | 11:23    |             |            |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 7.1                        | AIR TEMP | 4           |            | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                            |          |             |            |                |        |         |       |
| WATER DEPTH   | 1000   | cm         | DISLODGED       | no                         | REASON   |             |            |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | steel buoy |                |        |         |       |
| COMMENTS  |        |            |                 |                            |          |             |            |                |        |         |       |
| Download OK   |        |            |                 |                            |          |             |            |                |        |         |       |
| Stainless steel cable OK  |        |            |                 |                            |          |             |            |                |        |         |       |
| RPL#20  |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
| SITE ID   | gmsDN2 |            | LOCATION        | GMS Tailrace RDB           |          |             |            | BANK           |        |         | north |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10669739                   |          |             |            | UTM            | 548828 | 6207836 |       |
| DOWNLOAD DATE   | 22     | Oct        | 2018            | DOWNLOAD TIME              | 12:01    |             |            |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 7.1                        | AIR TEMP | 7           |            | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                            |          |             |            |                |        |         |       |
| WATER DEPTH   | 180    | cm         | DISLODGED       | no                         | REASON   |             |            |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | rock       |                |        |         |       |
| COMMENTS  |        |            |                 |                            |          |             |            |                |        |         |       |
| Back-up logger gmsDN2-BU RPL#37, S/N20332121 in same capsule 12:01                |        |            |                 |                            |          |             |            |                |        |         |       |
| both downloads OK   |        |            |                 |                            |          |             |            |                |        |         |       |
| cable ok (stainless steel cable section attached to galvanized cable around rock) |        |            |                 |                            |          |             |            |                |        |         |       |
| Primary Logger-Rpl #11, SN 10669739   |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
|   |        |            |                 |                            |          |             |            |                |        |         |       |
| SITE ID   | gmsDN1 |            | LOCATION        | GMS Tailrace LDB           |          |             |            | BANK           | south  |         |       |
| LOGGER TYPE   | Tidbit |            | LOGGER SERIAL # | 10635063                   |          |             |            | UTM            | 548881 | 6207761 |       |
| DOWNLOAD DATE   | 20     | Oct        | 2017            | DOWNLOAD TIME              | 12:17    |             |            |                | CREW   | BC TE   |       |
| TEST RECORDER TYPE  | YSI    |            | WATER TEMP      | 7.1                        | AIR TEMP | 7           |            | ICE CONDITIONS | none   |         |       |
| LOGGER CONDITIONS   |        |            |                 |                            |          |             |            |                |        |         |       |
| WATER DEPTH   | 200    | cm         | DISLODGED       | no                         | REASON   |             |            |                |        |         |       |
| BURIED  | no     | FUNCTIONAL | wet             | IF DRY, HEIGHT ABOVE WATER | cm       | TETHER TYPE | rock       |                |        |         |       |
| COMMENTS  |        |            |                 |                            |          |             |            |                |        |         |       |
| Back-up logger gmsDN1-BU RPL#38 S/N2038613 in same capsule 12:18                  |        |            |                 |                            |          |             |            |                |        |         |       |
| both downloads OK   |        |            |                 |                            |          |             |            |                |        |         |       |
| cable ok (stainless steel cable section attached to galvanized cable around rock) |        |            |                 |                            |          |             |            |                |        |         |       |
| Primary Logger gmsDN1-RPL#7 S/N10635063   |        |            |                 |                            |          |             |            |                |        |         |       |

**BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM**

|                           |        |                        |             |                      |       |                       |        |         |
|---------------------------|--------|------------------------|-------------|----------------------|-------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnUP1 | <b>LOCATION</b>        | PCN Forebay |                      |       | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10635067    |                      |       | <b>UTM</b>            | 562684 | 6204075 |
| <b>DOWNLOAD DATE</b>      | 22     | Oct                    | 2018        | <b>DOWNLOAD TIME</b> | 13:10 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 7.3         | <b>AIR TEMP</b>      | 8.0   | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |          |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|----------|
| <b>WATER DEPTH</b> | 100 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |          |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | log boom |

**COMMENTS**

dow nload OK  
 all stainless steel cable ok  
 Rpl #10, SN 10635067

|                           |        |                        |              |                      |       |                       |        |         |
|---------------------------|--------|------------------------|--------------|----------------------|-------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnDN2 | <b>LOCATION</b>        | PCN Tailrace |                      |       | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10156317     |                      |       | <b>UTM</b>            | 562803 | 6204854 |
| <b>DOWNLOAD DATE</b>      | 22     | Oct                    | 2018         | <b>DOWNLOAD TIME</b> | 13:27 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 7.1          | <b>AIR TEMP</b>      | 8.0   | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 200 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

dow nload OK  
 all stainless steel cable ok  
 RPL# 2

|                           |           |                        |              |                      |       |                       |        |         |
|---------------------------|-----------|------------------------|--------------|----------------------|-------|-----------------------|--------|---------|
| <b>SITE ID</b>            | pcnDN2_BU | <b>LOCATION</b>        | PCN Tailrace |                      |       | <b>BANK</b>           | north  |         |
| <b>LOGGER TYPE</b>        | Tidbit    | <b>LOGGER SERIAL #</b> | 10635061     |                      |       | <b>UTM</b>            | 562803 | 6204854 |
| <b>DOWNLOAD DATE</b>      | 22        | Oct                    | 2018         | <b>DOWNLOAD TIME</b> | 13:30 | <b>CREW</b>           | BC TE  |         |
| <b>TEST RECORDER TYPE</b> | YSI       | <b>WATER TEMP</b>      | 7.1          | <b>AIR TEMP</b>      | 8.0   | <b>ICE CONDITIONS</b> | none   |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 200 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

dow nload OK  
 all stainless steel cable ok  
 Anchored to same rock as pcnDN2  
 Rpl #9, SN10635061

|                           |  |                        |  |                      |  |                       |  |  |
|---------------------------|--|------------------------|--|----------------------|--|-----------------------|--|--|
| <b>SITE ID</b>            |  | <b>LOCATION</b>        |  |                      |  | <b>BANK</b>           |  |  |
| <b>LOGGER TYPE</b>        |  | <b>LOGGER SERIAL #</b> |  |                      |  | <b>UTM</b>            |  |  |
| <b>DOWNLOAD DATE</b>      |  |                        |  | <b>DOWNLOAD TIME</b> |  | <b>CREW</b>           |  |  |
| <b>TEST RECORDER TYPE</b> |  | <b>WATER TEMP</b>      |  | <b>AIR TEMP</b>      |  | <b>ICE CONDITIONS</b> |  |  |

**LOGGER CONDITIONS**

|                    |  |                   |                  |                                   |               |    |                    |  |
|--------------------|--|-------------------|------------------|-----------------------------------|---------------|----|--------------------|--|
| <b>WATER DEPTH</b> |  | cm                | <b>DISLODGED</b> |                                   | <b>REASON</b> |    |                    |  |
| <b>BURIED</b>      |  | <b>FUNCTIONAL</b> |                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> |  |

**COMMENTS**

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM                           |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
|---|------------|------------------------|----------------------|-----------------------------------|-----------------------------------|-----------------------|--------------------|-------------|-------|--|--|
| <b>SITE ID</b>  | halfUP2    | <b>LOCATION</b>        | u/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    |             | north |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 20030829             |                                   |                                   | <b>UTM</b>            | 595569             | 6230541     |       |  |  |
| <b>DOWNLOAD DATE</b>  | 23         | Oct                    | 2018                 | <b>DOWNLOAD TIME</b>              | 11:44                             |                       |                    | <b>CREW</b> | BC TE |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 6.6                  | <b>AIR TEMP</b>                   | 2                                 | <b>ICE CONDITIONS</b> | none               |             |       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |             |       |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> | cm                                | <b>TETHER TYPE</b>    | spruce             |             |       |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| dow nload OK<br>cable OK<br>RPL#33 S/N20030829<br>partially pulled to shore but wet               |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>SITE ID</b>  | halfUP1    | <b>LOCATION</b>        | u/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    |             | south |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 20322123             |                                   |                                   | <b>UTM</b>            | 595165             | 6230094     |       |  |  |
| <b>DOWNLOAD DATE</b>  | 23         | Oct                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:03                             |                       |                    | <b>CREW</b> | BC TE |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 6.6                  | <b>AIR TEMP</b>                   | 2                                 | <b>ICE CONDITIONS</b> | none               |             |       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>WATER DEPTH</b>  | 200        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |             |       |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> | cm                                | <b>TETHER TYPE</b>    | spruce tree        |             |       |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| dow nload OK<br>cable OK<br>RPL #39, SN 20322123  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>SITE ID</b>  | halfDN2    | <b>LOCATION</b>        | d/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    |             | north |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 10669748             |                                   |                                   | <b>UTM</b>            | 598313             | 6232378     |       |  |  |
| <b>DOWNLOAD DATE</b>  | 23         | Oct                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:47                             |                       |                    | <b>CREW</b> | BC TE |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 4.6                  | <b>AIR TEMP</b>                   | 4                                 | <b>ICE CONDITIONS</b> | none               |             |       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b>     | no                                | <b>REASON</b>                     |                       |                    |             |       |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> | cm                                | <b>TETHER TYPE</b>    | willow             |             |       |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| dow nload ok<br>stainless steel cable OK<br>Rpl #15, SN 10669748                                  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>SITE ID</b>  | halfDN2_BU | <b>LOCATION</b>        | d/s of Halfway River |                                   |                                   | <b>BANK</b>           |                    |             | north |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> | 10156314             |                                   |                                   | <b>UTM</b>            | 598286             | 6232337     |       |  |  |
| <b>DOWNLOAD DATE</b>  | 23         | Oct                    | 2018                 | <b>DOWNLOAD TIME</b>              | 12:25                             |                       |                    | <b>CREW</b> | BC TE |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      | 4.6                  | <b>AIR TEMP</b>                   | 4                                 | <b>ICE CONDITIONS</b> | none               |             |       |  |  |
| <b>LOGGER CONDITIONS</b>  |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| <b>WATER DEPTH</b>  |            | cm                     | <b>DISLODGED</b>     | yes                               | <b>REASON</b>                     | debris                |                    |             |       |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                      | dry                               | <b>IF DRY, HEIGHT ABOVE WATER</b> | cm                    | <b>TETHER TYPE</b> | willow      |       |  |  |
| <b>COMMENTS</b>   |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |
| stainless steel cable OK<br>dow nload ok<br>pulled by debris and dry<br>cable replaced with chain |            |                        |                      |                                   |                                   |                       |                    |             |       |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |           |                 |                      |                            |        |                |        |        |         |  |  |
|---|-----------|-----------------|----------------------|----------------------------|--------|----------------|--------|--------|---------|--|--|
| SITE ID   | mobUP2    | LOCATION        | u/s of Moberly River |                            |        |                | BANK   | north  |         |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10669754             |                            |        |                | UTM    | 627501 | 6232563 |  |  |
| DOWNLOAD DATE   | 19        | Oct             | 2018                 | DOWNLOAD TIME              | 11:58  |                | CREW   | BC TE  |         |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 6.8                  | AIR TEMP                   | 5.0    | ICE CONDITIONS | none   |        |         |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |        |                |        |        |         |  |  |
| WATER DEPTH   | 150       | cm              | DISLODGED            | no                         | REASON |                |        |        |         |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | spruce |        |         |  |  |
| COMMENTS  |           |                 |                      |                            |        |                |        |        |         |  |  |
| RPL#16, SN 10669754   |           |                 |                      |                            |        |                |        |        |         |  |  |
| dow nload ok  |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
| SITE ID   | mobUP1    | LOCATION        | u/s of Moberly River |                            |        |                | BANK   | south  |         |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10887852             |                            |        |                | UTM    | 627158 | 6232349 |  |  |
| DOWNLOAD DATE   | 19        | Oct             | 2018                 | DOWNLOAD TIME              | 12:16  |                | CREW   | BC TE  |         |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 6.9                  | AIR TEMP                   | 5.0    | ICE CONDITIONS | none   |        |         |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |        |                |        |        |         |  |  |
| WATER DEPTH   | 150       | cm              | DISLODGED            | no                         | REASON |                |        |        |         |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | alder  |        |         |  |  |
| COMMENTS  |           |                 |                      |                            |        |                |        |        |         |  |  |
| RPL# 21, SN10887852   |           |                 |                      |                            |        |                |        |        |         |  |  |
| stainless cable ok  |           |                 |                      |                            |        |                |        |        |         |  |  |
| dow nload ok  |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
| SITE ID   | mobDN1_BU | LOCATION        | d/s of Moberly River |                            |        |                | BANK   | south  |         |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10676147             |                            |        |                | UTM    | 630875 | 6229275 |  |  |
| DOWNLOAD DATE   | 19        | Oct             | 2018                 | DOWNLOAD TIME              | 12:38  |                | CREW   | BC TE  |         |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 6.8                  | AIR TEMP                   | 5.0    | ICE CONDITIONS | none   |        |         |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |        |                |        |        |         |  |  |
| WATER DEPTH   | 150       | cm              | DISLODGED            | no                         | REASON |                |        |        |         |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | alder  |        |         |  |  |
| COMMENTS  |           |                 |                      |                            |        |                |        |        |         |  |  |
| dow nload OK  |           |                 |                      |                            |        |                |        |        |         |  |  |
| RPL#18  |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
| SITE ID   | mobDN1    | LOCATION        | d/s of Moberly River |                            |        |                | BANK   | south  |         |  |  |
| LOGGER TYPE   | Tidbit    | LOGGER SERIAL # | 10676146             |                            |        |                | UTM    | 630776 | 6229287 |  |  |
| DOWNLOAD DATE   | 19        | Oct             | 2018                 | DOWNLOAD TIME              | 12:31  |                | CREW   | BC TE  |         |  |  |
| TEST RECORDER TYPE  | YSI       | WATER TEMP      | 6.8                  | AIR TEMP                   | 5.0    | ICE CONDITIONS | none   |        |         |  |  |
| LOGGER CONDITIONS   |           |                 |                      |                            |        |                |        |        |         |  |  |
| WATER DEPTH   | 100       | cm              | DISLODGED            | no                         | REASON |                |        |        |         |  |  |
| BURIED  | no        | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE    | alder  |        |         |  |  |
| COMMENTS  |           |                 |                      |                            |        |                |        |        |         |  |  |
| dow nload OK  |           |                 |                      |                            |        |                |        |        |         |  |  |
| Rpl # 17, SN 10676146   |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |
|   |           |                 |                      |                            |        |                |        |        |         |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|---|------------|------------------------|------------------|----------------------|-----------------------------------|-------|-------------|----------------------------|------------|--|--|
| <b>SITE ID</b>  | pineUP2    | <b>LOCATION</b>        |                  | u/s of Pine River    |                                   |       | <b>BANK</b> |                            | north      |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> |                  | 9767573              |                                   |       | <b>UTM</b>  | 641653                     | 6225304    |  |  |
| <b>DOWNLOAD DATE</b>  | 19         | Oct                    | 2018             | <b>DOWNLOAD TIME</b> |                                   | 13:14 | <b>CREW</b> | BC TE                      |            |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      |                  | 6.9                  | <b>AIR TEMP</b>                   |       | 7.0         | <b>ICE CONDITIONS</b> none |            |  |  |
| LOGGER CONDITIONS   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>WATER DEPTH</b>  | 80         | cm                     | <b>DISLODGED</b> | yes                  | <b>REASON</b>                     |       | tampered    |                            |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                  | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |       | cm          | <b>TETHER TYPE</b>         | balsam pop |  |  |
| COMMENTS  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| labelled as "halfUP1R"  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| download OK   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| Stainless steel cable OK  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| pulled to shore but wet   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>SITE ID</b>  | pineUP1    | <b>LOCATION</b>        |                  | u/s of Pine River    |                                   |       | <b>BANK</b> |                            | south      |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> |                  | 10669747             |                                   |       | <b>UTM</b>  | 641034                     | 6225372    |  |  |
| <b>DOWNLOAD DATE</b>  | 19         | Oct                    | 2018             | <b>DOWNLOAD TIME</b> |                                   | 13:02 | <b>CREW</b> | BC TE                      |            |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      |                  | 6.9                  | <b>AIR TEMP</b>                   |       | 5.0         | <b>ICE CONDITIONS</b> none |            |  |  |
| LOGGER CONDITIONS   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b> | no                   | <b>REASON</b>                     |       |             |                            |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                  | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |       | cm          | <b>TETHER TYPE</b>         | alder      |  |  |
| COMMENTS  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| download OK   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| Rpl # 14, SN 10669747   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| Stainless steel cable OK  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>SITE ID</b>  | pineDN1_BU | <b>LOCATION</b>        |                  | d/s of Pine River    |                                   |       | <b>BANK</b> |                            | south      |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> |                  | 10893055             |                                   |       | <b>UTM</b>  | 648362                     | 6222823    |  |  |
| <b>DOWNLOAD DATE</b>  | 19         | Oct                    | 2018             | <b>DOWNLOAD TIME</b> |                                   | 14:21 | <b>CREW</b> | BC TE                      |            |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      |                  | 6.4                  | <b>AIR TEMP</b>                   |       | 10.0        | <b>ICE CONDITIONS</b> none |            |  |  |
| LOGGER CONDITIONS   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b> | no                   | <b>REASON</b>                     |       |             |                            |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                  | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |       | cm          | <b>TETHER TYPE</b>         | alder      |  |  |
| COMMENTS  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| RPL# 25   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| download ok   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| stainless steel cable replaced by chain                                 |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>SITE ID</b>  | pineDN1    | <b>LOCATION</b>        |                  | d/s of Pine River    |                                   |       | <b>BANK</b> |                            | south      |  |  |
| <b>LOGGER TYPE</b>  | Tidbit     | <b>LOGGER SERIAL #</b> |                  | 10156319             |                                   |       | <b>UTM</b>  | 648101                     | 6222802    |  |  |
| <b>DOWNLOAD DATE</b>  | 19         | Oct                    | 2018             | <b>DOWNLOAD TIME</b> |                                   | 14:06 | <b>CREW</b> | BC TE                      |            |  |  |
| <b>TEST RECORDER TYPE</b>   | YSI        | <b>WATER TEMP</b>      |                  | 6.4                  | <b>AIR TEMP</b>                   |       | 10.0        | <b>ICE CONDITIONS</b> none |            |  |  |
| LOGGER CONDITIONS   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| <b>WATER DEPTH</b>  | 150        | cm                     | <b>DISLODGED</b> | no                   | <b>REASON</b>                     |       |             |                            |            |  |  |
| <b>BURIED</b>   | no         | <b>FUNCTIONAL</b>      |                  | wet                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |       | cm          | <b>TETHER TYPE</b>         | alder      |  |  |
| COMMENTS  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| RPL#1   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| download OK   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
| Stainless steel cable OK  |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |
|   |            |                        |                  |                      |                                   |       |             |                            |            |  |  |

**BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM**

|                           |        |     |                        |                      |                 |             |                       |             |
|---------------------------|--------|-----|------------------------|----------------------|-----------------|-------------|-----------------------|-------------|
| <b>SITE ID</b>            | gmsUP1 |     | <b>LOCATION</b>        | GMS Forebay          |                 | <b>BANK</b> |                       |             |
| <b>LOGGER TYPE</b>        | Tidbit |     | <b>LOGGER SERIAL #</b> | 10676155             |                 | <b>UTM</b>  | 548841                | 6209022     |
| <b>DOWNLOAD DATE</b>      | 22     | Mar | 2019                   | <b>DOWNLOAD TIME</b> | 13:08           |             | <b>CREW</b>           | BC DC       |
| <b>TEST RECORDER TYPE</b> | YSI    |     | <b>WATER TEMP</b>      | 0.6                  | <b>AIR TEMP</b> | 8           | <b>ICE CONDITIONS</b> | Res. Frozen |

**LOGGER CONDITIONS**

|                    |     |    |                   |     |                                   |  |    |                               |
|--------------------|-----|----|-------------------|-----|-----------------------------------|--|----|-------------------------------|
| <b>WATER DEPTH</b> | 100 | cm | <b>DISLODGED</b>  | no  | <b>REASON</b>                     |  |    |                               |
| <b>BURIED</b>      | no  |    | <b>FUNCTIONAL</b> | wet | <b>IF DRY, HEIGHT ABOVE WATER</b> |  | cm | <b>TETHER TYPE</b> steel buoy |

**COMMENTS**

RPL#19  
 Low battery; Logger replaced w ith RPL#43 (SN 20332187)  
 Dow nload OK

|                           |        |     |                        |                      |                 |             |                       |             |
|---------------------------|--------|-----|------------------------|----------------------|-----------------|-------------|-----------------------|-------------|
| <b>SITE ID</b>            | gmsUP2 |     | <b>LOCATION</b>        | GMS Forebay          |                 | <b>BANK</b> |                       |             |
| <b>LOGGER TYPE</b>        | Tidbit |     | <b>LOGGER SERIAL #</b> | 10676180             |                 | <b>UTM</b>  | 548841                | 6209022     |
| <b>DOWNLOAD DATE</b>      | 22     | Mar | 2019                   | <b>DOWNLOAD TIME</b> | 13:11           |             | <b>CREW</b>           | BC DC       |
| <b>TEST RECORDER TYPE</b> | YSI    |     | <b>WATER TEMP</b>      | 0.6                  | <b>AIR TEMP</b> | 8           | <b>ICE CONDITIONS</b> | Res. Frozen |

**LOGGER CONDITIONS**

|                    |      |    |                   |     |                                   |  |    |                               |
|--------------------|------|----|-------------------|-----|-----------------------------------|--|----|-------------------------------|
| <b>WATER DEPTH</b> | 1000 | cm | <b>DISLODGED</b>  | no  | <b>REASON</b>                     |  |    |                               |
| <b>BURIED</b>      | no   |    | <b>FUNCTIONAL</b> | wet | <b>IF DRY, HEIGHT ABOVE WATER</b> |  | cm | <b>TETHER TYPE</b> steel buoy |

**COMMENTS**

RPL#20  
 Dow nload OK

|                           |        |     |                        |                      |                 |             |                       |         |
|---------------------------|--------|-----|------------------------|----------------------|-----------------|-------------|-----------------------|---------|
| <b>SITE ID</b>            | gmsDN2 |     | <b>LOCATION</b>        | GMS Tailrace RDB     |                 | <b>BANK</b> |                       | north   |
| <b>LOGGER TYPE</b>        | Tidbit |     | <b>LOGGER SERIAL #</b> | 10669739             |                 | <b>UTM</b>  | 548828                | 6207836 |
| <b>DOWNLOAD DATE</b>      | 11     | Jan | 2019                   | <b>DOWNLOAD TIME</b> | 13:48           |             | <b>CREW</b>           | BC TE   |
| <b>TEST RECORDER TYPE</b> | YSI    |     | <b>WATER TEMP</b>      | 2.5                  | <b>AIR TEMP</b> | -6          | <b>ICE CONDITIONS</b> | none    |

**LOGGER CONDITIONS**

|                    |     |    |                   |     |                                   |  |    |                         |
|--------------------|-----|----|-------------------|-----|-----------------------------------|--|----|-------------------------|
| <b>WATER DEPTH</b> | 150 | cm | <b>DISLODGED</b>  | no  | <b>REASON</b>                     |  |    |                         |
| <b>BURIED</b>      | no  |    | <b>FUNCTIONAL</b> | wet | <b>IF DRY, HEIGHT ABOVE WATER</b> |  | cm | <b>TETHER TYPE</b> rock |

**COMMENTS**

Back-up logger gmsDN2-BU RPL#367, S/N20332121 in same capsule 13:47  
 both dow nloads OK  
 cable ok (stainless steel cable section attached to galvanized cable around rock)  
 Primary Logger-Rpl #11, SN 10669739

|                           |        |     |                        |                      |                 |             |                       |         |
|---------------------------|--------|-----|------------------------|----------------------|-----------------|-------------|-----------------------|---------|
| <b>SITE ID</b>            | gmsDN1 |     | <b>LOCATION</b>        | GMS Tailrace LDB     |                 | <b>BANK</b> |                       | south   |
| <b>LOGGER TYPE</b>        | Tidbit |     | <b>LOGGER SERIAL #</b> | 10635063             |                 | <b>UTM</b>  | 548881                | 6207761 |
| <b>DOWNLOAD DATE</b>      | 11     | Jan | 2019                   | <b>DOWNLOAD TIME</b> | 14:05           |             | <b>CREW</b>           | BC TE   |
| <b>TEST RECORDER TYPE</b> | YSI    |     | <b>WATER TEMP</b>      | 1.7                  | <b>AIR TEMP</b> | -26         | <b>ICE CONDITIONS</b> | none    |

**LOGGER CONDITIONS**

|                    |     |    |                   |     |                                   |  |    |                         |
|--------------------|-----|----|-------------------|-----|-----------------------------------|--|----|-------------------------|
| <b>WATER DEPTH</b> | 200 | cm | <b>DISLODGED</b>  | no  | <b>REASON</b>                     |  |    |                         |
| <b>BURIED</b>      | no  |    | <b>FUNCTIONAL</b> | wet | <b>IF DRY, HEIGHT ABOVE WATER</b> |  | cm | <b>TETHER TYPE</b> rock |

**COMMENTS**

Back-up logger gmsDN1-BU RPL#38, S/N20332152 in same capsule 14:06  
 both dow nloads OK  
 cable ok (stainless steel cable section attached to galvanized cable around rock)  
 Primary Logger gmsDN1-RPL#7



**BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM**

|                           |        |                        |             |                      |       |                       |                 |         |
|---------------------------|--------|------------------------|-------------|----------------------|-------|-----------------------|-----------------|---------|
| <b>SITE ID</b>            | pcnUP1 | <b>LOCATION</b>        | PCN Forebay |                      |       | <b>BANK</b>           | north           |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10635067    |                      |       | <b>UTM</b>            | 562710          | 6204068 |
| <b>DOWNLOAD DATE</b>      | 22     | Mar                    | 2019        | <b>DOWNLOAD TIME</b> | 11:44 | <b>CREW</b>           | BC DC           |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 1.0         | <b>AIR TEMP</b>      | 8.0   | <b>ICE CONDITIONS</b> | W. side of boom |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |          |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|----------|
| <b>WATER DEPTH</b> | 100 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |          |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | log boom |

**COMMENTS**

fail light indicated but download OK  
 all stainless steel cable ok  
 Rpl #10, SN 10635067  
 logger replaced with RPL#42 (SN 2033186)

|                           |        |                        |              |                      |       |                       |                     |         |
|---------------------------|--------|------------------------|--------------|----------------------|-------|-----------------------|---------------------|---------|
| <b>SITE ID</b>            | pcnDN2 | <b>LOCATION</b>        | PCN Tailrace |                      |       | <b>BANK</b>           | north               |         |
| <b>LOGGER TYPE</b>        | Tidbit | <b>LOGGER SERIAL #</b> | 10156317     |                      |       | <b>UTM</b>            | 562803              | 6204854 |
| <b>DOWNLOAD DATE</b>      | 11     | Jan                    | 2019         | <b>DOWNLOAD TIME</b> | 12:36 | <b>CREW</b>           | BC TE               |         |
| <b>TEST RECORDER TYPE</b> | YSI    | <b>WATER TEMP</b>      | 2.1          | <b>AIR TEMP</b>      | -12.0 | <b>ICE CONDITIONS</b> | snow & ice on shore |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 150 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

download OK  
 all stainless steel cable ok  
 RPL# 2

|                           |           |                        |              |                      |       |                       |                     |         |
|---------------------------|-----------|------------------------|--------------|----------------------|-------|-----------------------|---------------------|---------|
| <b>SITE ID</b>            | pcnDN2_BU | <b>LOCATION</b>        | PCN Tailrace |                      |       | <b>BANK</b>           | north               |         |
| <b>LOGGER TYPE</b>        | Tidbit    | <b>LOGGER SERIAL #</b> | 10635061     |                      |       | <b>UTM</b>            | 562803              | 6204854 |
| <b>DOWNLOAD DATE</b>      | 11        | Jan                    | 2019         | <b>DOWNLOAD TIME</b> | 12:33 | <b>CREW</b>           | BC TE               |         |
| <b>TEST RECORDER TYPE</b> | YSI       | <b>WATER TEMP</b>      | 2.1          | <b>AIR TEMP</b>      | -12.0 | <b>ICE CONDITIONS</b> | snow & ice on shore |         |

**LOGGER CONDITIONS**

|                    |     |                   |                  |                                   |               |    |                    |      |
|--------------------|-----|-------------------|------------------|-----------------------------------|---------------|----|--------------------|------|
| <b>WATER DEPTH</b> | 150 | cm                | <b>DISLODGED</b> | no                                | <b>REASON</b> |    |                    |      |
| <b>BURIED</b>      | no  | <b>FUNCTIONAL</b> | wet              | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> | rock |

**COMMENTS**

download OK  
 all stainless steel cable ok  
 Anchored to same rock as pcnDN2  
 Rpl #9, SN10635061

|                           |  |                        |  |                      |  |                       |  |  |
|---------------------------|--|------------------------|--|----------------------|--|-----------------------|--|--|
| <b>SITE ID</b>            |  | <b>LOCATION</b>        |  |                      |  | <b>BANK</b>           |  |  |
| <b>LOGGER TYPE</b>        |  | <b>LOGGER SERIAL #</b> |  |                      |  | <b>UTM</b>            |  |  |
| <b>DOWNLOAD DATE</b>      |  |                        |  | <b>DOWNLOAD TIME</b> |  | <b>CREW</b>           |  |  |
| <b>TEST RECORDER TYPE</b> |  | <b>WATER TEMP</b>      |  | <b>AIR TEMP</b>      |  | <b>ICE CONDITIONS</b> |  |  |

**LOGGER CONDITIONS**

|                    |  |                   |                  |                                   |               |    |                    |  |
|--------------------|--|-------------------|------------------|-----------------------------------|---------------|----|--------------------|--|
| <b>WATER DEPTH</b> |  | cm                | <b>DISLODGED</b> |                                   | <b>REASON</b> |    |                    |  |
| <b>BURIED</b>      |  | <b>FUNCTIONAL</b> |                  | <b>IF DRY, HEIGHT ABOVE WATER</b> |               | cm | <b>TETHER TYPE</b> |  |

**COMMENTS**

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                 |                      |                            |        |             |             |                |       |  |  |
|---|------------|-----------------|----------------------|----------------------------|--------|-------------|-------------|----------------|-------|--|--|
| SITE ID   | halfUP2    | LOCATION        | u/s of Halfway River |                            |        | BANK        |             | north          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 20030829             |                            |        | UTM         | 595569      | 6230541        |       |  |  |
| DOWNLOAD DATE   | 3          | Jan             | 2019                 | DOWNLOAD TIME              | 13:36  |             |             | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.7                  | AIR TEMP                   | -12    |             |             | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |             |             |                |       |  |  |
| WATER DEPTH   | 200        | cm              | DISLODGED            | no                         | REASON |             |             |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | spruce      |                |       |  |  |
| COMMENTS  |            |                 |                      |                            |        |             |             |                |       |  |  |
| download OK   |            |                 |                      |                            |        |             |             |                |       |  |  |
| cable OK  |            |                 |                      |                            |        |             |             |                |       |  |  |
| RPL# 33 SN20030829  |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
| SITE ID   | halfUP1    | LOCATION        | u/s of Halfway River |                            |        | BANK        |             | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 20332123             |                            |        | UTM         | 595165      | 6230094        |       |  |  |
| DOWNLOAD DATE   | 3          | Jan             | 2019                 | DOWNLOAD TIME              | 13:34  |             |             | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.7                  | AIR TEMP                   | -12    |             |             | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |             |             |                |       |  |  |
| WATER DEPTH   | 200        | cm              | DISLODGED            | no                         | REASON |             |             |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | spruce tree |                |       |  |  |
| COMMENTS  |            |                 |                      |                            |        |             |             |                |       |  |  |
| download OK   |            |                 |                      |                            |        |             |             |                |       |  |  |
| cable OK  |            |                 |                      |                            |        |             |             |                |       |  |  |
| RPL #39, SN 20222123  |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
| SITE ID   | halfDN2    | LOCATION        | d/s of Halfway River |                            |        | BANK        |             | north          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10669748             |                            |        | UTM         | 598198      | 6232169        |       |  |  |
| DOWNLOAD DATE   | 3          | Jan             | 2019                 | DOWNLOAD TIME              | 13:56  |             |             | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 0.8                  | AIR TEMP                   | -10    |             |             | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |             |             |                |       |  |  |
| WATER DEPTH   | 150        | cm              | DISLODGED            | yes                        | REASON | debris      |             |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | willow      |                |       |  |  |
| COMMENTS  |            |                 |                      |                            |        |             |             |                |       |  |  |
| download ok   |            |                 |                      |                            |        |             |             |                |       |  |  |
| partially submerged to shore  |            |                 |                      |                            |        |             |             |                |       |  |  |
| RPL#15, 10669748  |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
| SITE ID   | halfDN2_BU | LOCATION        | d/s of Halfway River |                            |        | BANK        |             | north          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10156314             |                            |        | UTM         | 598179      | 6263144        |       |  |  |
| DOWNLOAD DATE   | 3          | Jan             | 2019                 | DOWNLOAD TIME              | 13:55  |             |             | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 0.8                  | AIR TEMP                   | -10    |             |             | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                      |                            |        |             |             |                |       |  |  |
| WATER DEPTH   | 100        | cm              | DISLODGED            | no                         | REASON |             |             |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet                  | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | balsam pop  |                |       |  |  |
| COMMENTS  |            |                 |                      |                            |        |             |             |                |       |  |  |
| labelled "halfDN2_BU"   |            |                 |                      |                            |        |             |             |                |       |  |  |
| chain had not moved   |            |                 |                      |                            |        |             |             |                |       |  |  |
| download ok   |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |
|   |            |                 |                      |                            |        |             |             |                |       |  |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |           |            |                 |               |                            |        |  |                |             |       |         |  |
|---|-----------|------------|-----------------|---------------|----------------------------|--------|--|----------------|-------------|-------|---------|--|
| SITE ID   | mobUP2    |            | LOCATION        |               | u/s of Moberly River       |        |  | BANK           |             |       | north   |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # |               | 10669754                   |        |  | UTM            | 627501      |       | 6232563 |  |
| DOWNLOAD DATE   | 19        | Mar        | 2019            | DOWNLOAD TIME | 12:21                      |        |  | CREW           | BC TE       |       |         |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 1.2           | AIR TEMP                   | 6.0    |  | ICE CONDITIONS | none        |       |         |  |
| LOGGER CONDITIONS   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| WATER DEPTH   | 150       | cm         | DISLODGED       | no            |                            | REASON |  |                |             |       |         |  |
| BURIED  | yes       | FUNCTIONAL | wet             |               | IF DRY, HEIGHT ABOVE WATER |        |  | cm             | TETHER TYPE | birch |         |  |
| COMMENTS  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| RPL#16, SN 10669754   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| down load ok  |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| SITE ID   | mobUP1    |            | LOCATION        |               | u/s of Moberly River       |        |  | BANK           |             |       | south   |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # |               | 10887852                   |        |  | UTM            | 627158      |       | 6232349 |  |
| DOWNLOAD DATE   | 19        | Mar        | 2019            | DOWNLOAD TIME | 12:39                      |        |  | CREW           | BC TE       |       |         |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 1.2           | AIR TEMP                   | 6.0    |  | ICE CONDITIONS | none        |       |         |  |
| LOGGER CONDITIONS   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| WATER DEPTH   | 30        | cm         | DISLODGED       | yes           |                            | REASON |  | ice            |             |       |         |  |
| BURIED  | no        | FUNCTIONAL | wet             |               | IF DRY, HEIGHT ABOVE WATER |        |  | cm             | TETHER TYPE | alder |         |  |
| COMMENTS  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| RPL# 21, SN10887852   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| stainless cable ok  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| down load ok  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| sw ung to shore but w et  |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| SITE ID   | mobDN1    |            | LOCATION        |               | d/s of Moberly River       |        |  | BANK           |             |       | south   |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # |               | 10676146                   |        |  | UTM            | 630776      |       | 6229287 |  |
| DOWNLOAD DATE   | 19        | Mar        | 2019            | DOWNLOAD TIME | 12:59                      |        |  | CREW           | BC TE       |       |         |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 1.2           | AIR TEMP                   | 6.0    |  | ICE CONDITIONS | none        |       |         |  |
| LOGGER CONDITIONS   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| WATER DEPTH   | 30        | cm         | DISLODGED       | yes           |                            | REASON |  | ice            |             |       |         |  |
| BURIED  | no        | FUNCTIONAL | wet             |               | IF DRY, HEIGHT ABOVE WATER |        |  | cm             | TETHER TYPE | alder |         |  |
| COMMENTS  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| RPL#17, S/N10676146   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| down load OK  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| partially sw ung to shore but w et                                      |           |            |                 |               |                            |        |  |                |             |       |         |  |
| replaced cable w ith chain  |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| SITE ID   | mobDN1_BU |            | LOCATION        |               | d/s of Moberly River       |        |  | BANK           |             |       | south   |  |
| LOGGER TYPE   | Tidbit    |            | LOGGER SERIAL # |               | 10676147                   |        |  | UTM            | 630875      |       | 6229275 |  |
| DOWNLOAD DATE   | 19        | Mar        | 2019            | DOWNLOAD TIME | 13:10                      |        |  | CREW           | BC TE       |       |         |  |
| TEST RECORDER TYPE  | YSI       |            | WATER TEMP      | 1.2           | AIR TEMP                   | 6.0    |  | ICE CONDITIONS | none        |       |         |  |
| LOGGER CONDITIONS   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| WATER DEPTH   |           | cm         | DISLODGED       | yes           |                            | REASON |  | ice            |             |       |         |  |
| BURIED  | no        | FUNCTIONAL | dry             |               | IF DRY, HEIGHT ABOVE WATER | 40     |  | cm             | TETHER TYPE | alder |         |  |
| COMMENTS  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| down load OK  |           |            |                 |               |                            |        |  |                |             |       |         |  |
| Rpl # 18, S/N10676147   |           |            |                 |               |                            |        |  |                |             |       |         |  |
| sw ung to shore and dry   |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |
|   |           |            |                 |               |                            |        |  |                |             |       |         |  |

| BC HYDRO PEACE RIVER TEMPERATURE MONITORING - DOWNLOAD INFORMATION FORM |            |                 |                   |                            |        |             |            |                |       |  |  |
|---|------------|-----------------|-------------------|----------------------------|--------|-------------|------------|----------------|-------|--|--|
| SITE ID   | pineUP2    | LOCATION        | u/s of Pine River |                            |        | BANK        |            | north          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 9767573           |                            |        | UTM         | 641653     | 6225304        |       |  |  |
| DOWNLOAD DATE   | 19         | Mar             | 2019              | DOWNLOAD TIME              | 13:47  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.5               | AIR TEMP                   | 6.0    |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 180        | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | balsam pop |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download OK   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| Logger "halfUP1R" SN 9767573 replaced with RPL#40 S/N20332129           |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineUP1    | LOCATION        | u/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10669747          |                            |        | UTM         | 641034     | 6225372        |       |  |  |
| DOWNLOAD DATE   | 19         | Mar             | 2019              | DOWNLOAD TIME              | 13:52  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.9               | AIR TEMP                   | 6.0    |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 80         | cm              | DISLODGED         | yes                        | REASON | ice         |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| download OK   |            |                 |                   |                            |        |             |            |                |       |  |  |
| partially swung to shore but wet  |            |                 |                   |                            |        |             |            |                |       |  |  |
| Rpl # 14, SN 10669747   |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineDN1_BU | LOCATION        | d/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10893055          |                            |        | UTM         | 648362     | 6222823        |       |  |  |
| DOWNLOAD DATE   | 19         | Mar             | 2019              | DOWNLOAD TIME              | 14:17  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.4               | AIR TEMP                   | 6.0    |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 90         | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| RPL# 25   |            |                 |                   |                            |        |             |            |                |       |  |  |
| download ok   |            |                 |                   |                            |        |             |            |                |       |  |  |
| stainless steel cable ok  |            |                 |                   |                            |        |             |            |                |       |  |  |
| SITE ID   | pineDN1    | LOCATION        | d/s of Pine River |                            |        | BANK        |            | south          |       |  |  |
| LOGGER TYPE   | Tidbit     | LOGGER SERIAL # | 10156319          |                            |        | UTM         | 648101     | 6222802        |       |  |  |
| DOWNLOAD DATE   | 19         | Mar             | 2019              | DOWNLOAD TIME              | 14:17  |             |            | CREW           | BC TE |  |  |
| TEST RECORDER TYPE  | YSI        | WATER TEMP      | 1.4               | AIR TEMP                   | 6.0    |             |            | ICE CONDITIONS | none  |  |  |
| LOGGER CONDITIONS   |            |                 |                   |                            |        |             |            |                |       |  |  |
| WATER DEPTH   | 80         | cm              | DISLODGED         | no                         | REASON |             |            |                |       |  |  |
| BURIED  | no         | FUNCTIONAL      | wet               | IF DRY, HEIGHT ABOVE WATER | cm     | TETHER TYPE | alder      |                |       |  |  |
| COMMENTS  |            |                 |                   |                            |        |             |            |                |       |  |  |
| Stainless steel cable OK  |            |                 |                   |                            |        |             |            |                |       |  |  |
| Logger RPL# 1, 10156319 replaced with RPL#41, S/N20332124               |            |                 |                   |                            |        |             |            |                |       |  |  |

**Appendix V.** Summary of temperature logger deployment dates and anticipated replacement dates.

| Site ID   | Serial # | Location                             | Date Deployed | Replace Date |
|-----------|----------|--------------------------------------|---------------|--------------|
| gmsUP1    | 20332187 | WAC Bennett Forebay                  | Mar 2019      | 2025         |
| gmsUP2    | 10676160 | WAC Bennett Forebay                  | Jan 2016      | 2022         |
| gmsDN1    | 10635063 | GMS Tailrace                         | Jan 2015      | 2021         |
| gmsDN1BU  | 20332152 | GMS Tailrace                         | July 2018     | 2024         |
| gmsDN2    | 10669739 | GMS Tailrace                         | Apr 2015      | 2021         |
| gmsDN2BU  | 20332121 | GMS Tailrace                         | July 2018     | 2024         |
| pcnUP1    | 20332186 | Peace Canyon Forebay                 | Mar 2019      | 2025         |
| pcnDN2    | 10156317 | Peace Canyon Tailrace                | July 2014     | 2020         |
| pcnDN2BU  | 10635061 | Peace Canyon Tailrace                | Apr 2015      | 2021         |
| HalfUP1   | 20332123 | Halfway Confluence - upstream        | July 2018     | 2024         |
| HalfUP2   | 20030829 | Halfway Confluence - upstream        | Oct 2017      | 2023         |
| HalfDN2   | 10669748 | Halfway Confluence - downstream      | Apr 2015      | 2021         |
| HalfDN2BU | 10156314 | Halfway Confluence - downstream      | Jul 2013      | 2018         |
| MobUP1    | 10887852 | Moberly Confluence - upstream        | Oct 2015      | 2021         |
| MobUP2    | 10669754 | Moberly Confluence - upstream        | July 2016     | 2022         |
| MobDN1    | 10676146 | Moberly Confluence - downstream      | Jan 2016      | 2021         |
| MobDN1BU  | 10676147 | Moberly Confluence - downstream      | Jan 2016      | 2021         |
| PineUP1   | 10669747 | Pine Confluence - upstream           | Apr 2015      | 2021         |
| PineUP2   | 20332129 | Pine Confluence - upstream           | Mar 2019      | 2025         |
| PineDN1   | 20332124 | Pine Confluence - downstream         | Mar 2019      | 2025         |
| PineDN1BU | 10893055 | Pine Confluence - downstream         | Jan 2017      | 2023         |
| PineMS1   | 10893069 | Pine Mainstem - upstream of Peace    | Jul 2016      | 2022         |
| PineMS2   | 20097150 | Pine Mainstem - upstream of Peace    | Apr 2018      | 2024         |
| BeatMS1   | 20322122 | Beatton Mainstem - upstream of Peace | Apr 2018      | 2024         |
| BeatMS2   | 20030828 | Beatton Mainstem - upstream of Peace | Nov 2016      | 2022         |
| PouceUP1  | 10635062 | Pouce Coupe confluence - upstream    | April 2018    | 2024         |
| PouceUP2  | 10893068 | Pouce Coupe confluence - upstream    | Apr 2016      | 2022         |