Exhibit 7

Exhibit 7

Biological and Water Quality Assessment of Robinson and Sugar Creeks and Tributaries 2016

Robinson Creek ust. MPC 001 (RC04)

Sugar Creek @Co. Rt. 1150W (SC01)

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Biological and Water Quality Assessment of Robinson and Sugar Creeks and Tributaries 2016

Crawford County, Illinois

Technical Report MBI/2017-5-4

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EXECUTIVE SUMMARY

This biological and water quality assessment was performed pursuant to a Plan of Study approved by Illinois EPA as part of efforts by Marathon Petroleum Company (MPC) to seek alternative thermal effluent limitations pursuant to Section 316(a) of the Clean Water Act and 35 Ill. Adm. Code 304.141(c). The major objectives of the bioassessment include:

1) determining the thermal regime in Robinson Creek during the winter, summer and fall periods;
2) determining the aquatic life status of Robinson Creek and key tributaries; and,
3) determining the proximate stressors that correspond to the observed and previously documented impairments.

With respect to the MPC thermal load to Robinson Creek, the bioassessment results support the conclusion that the current thermal regime will not preclude full attainment of the Illinois General Use for aquatic life. In short, temperature is not identified as a cause of biological impairment as is more fully discussed in a separate technical support document prepared by MBI (2017). The bioassessment results confirm the aquatic life in Robinson Creek are not in attainment with the Illinois General Use standard due to non-thermal causes.

Illinois EPA stream surveys since 1992 have also shown that the biota in Robinson Creek are not in attainment with the Illinois General Use for aquatic life. In terms of the Illinois fish Index of Biotic Integrity (fIBI) scores, the 1992, 2008, and 2013 Illinois EPA Facility Related Stream Surveys (FRSS) and the 2016 results of this bioassessment demonstrate that incremental improvement has occurred through time.

The principal causes associated with the biological impairments identified in this bioassessment are the result of the logical association of exceedances of biological effect thresholds for water and sediment, altered habitat attributes, and the biological assemblage responses and longitudinal patterns observed downstream from the major pollution sources. Determining which constituents are primarily responsible for specific biological impairments and how these causes can be addressed will require a more thorough investigation beyond the scope of this bioassessment.

FOREWORD

What is a Biological and Water Quality Survey?

A biological and water quality survey, or "bioassessment," is an interdisciplinary monitoring effort coordinated on a waterbody specific or watershed scale. This may involve a relatively simple setting focusing on one or two small streams, one or two principal stressors, and a handful of sampling sites or a much more complex effort including entire drainage basins, multiple and overlapping stressors, and tens of sites. The 2016 study described below includes Robinson Creek, Sugar Creek, and their tributaries with emphasis on the mosaic of overlapping stressors and sources in Robinson, IL. This bioassessment follows a series of prior surveys performed by Illinois EPA and DNR dating from 1992 and most recently in 2013. The principal focus of the 2016 bioassessment is on the status of the Illinois General Use for aquatic life.

Scope of the 2016 Biological and Water Quality Assessment

The Midwest Biodiversity Institute (MBI) was contracted by the Marathon Petroleum Company LP (MPC) to develop a biological and water quality monitoring and assessment plan for Robinson Creek in the vicinity of the MPC Illinois Refining Division Refinery located in Robinson, IL. The plan submitted to and approved by Illinois EPA described the spatial and temporal sampling design, the indicators and parameters that are to be collected at each sampling site, and in conformance with methods that will produce data of a high quality and level of resolution (MBI 2016a). The sampling was conducted via an intensive pollution survey design. This design is employed to fulfill multiple purposes and goals in addition to the determination of the existing status of the biological assemblages and their relationship to chemical, physical, and biological stressors. Targeted sites were positioned upstream and downstream from major discharges, other sources of potential pollution releases and contamination, and major tributaries to provide a "pollution profile" of Robinson Creek. The sampling locations included those in prior Illinois EPA Facility Related Stream Surveys (FRSS) with sites added to fill gaps left by that coverage. The major objectives included:

1) Determine the aquatic life status of Robinson Creek and key tributaries in quantitative terms, i.e., not only if a waterbody is impaired, but the spatial extent and severity of the impairment and the respective departures from established criteria[1];
2) Determine the proximate stressors that correspond to observed impairments for the purpose of targeting appropriate management actions to those stressors; and,
3) Determine the thermal regime in Robinson Creek during the winter, summer, and fall periods - the detailed results are reported in MBI (2017).

[1] The terms "criteria" and "criterion" may be used interchangeably (in this report and in other reports prepared by Midwest Biodiversity Institute) with the term "standard" in the context of discussions related to the Illinois water quality standards as set forth in 35 Ill. Adm. Code 302.211, including in tables and figures.

To meet these objectives, data was collected with methods that provide high quality results and in conformance with the practices of Illinois EPA (IEPA 2010a,b; 2011; 2014a,b) and Illinois DNR (IDNR 2010a,b; Szafoni 2001) and under a study plan approved by Illinois EPA and Illinois DNR.

STUDY AREA DESCRIPTION

The 2016 study area included Sugar Creek, Robinson Creek and its tributaries, and Lamotte Creek. A tributary of Sugar Creek, Robinson Creek is impacted by municipal and industrial point source discharges of wastewater, riparian encroachment, varying degrees of historical channelization, and nonpoint sources including agricultural row cropping and urban development within the City of Robinson. The urban gradient is strongest in upper Robinson Creek transitioning to agricultural further downstream. Robinson Creek tributaries include Quail Creek, Marathon Creek, and two unnamed tributaries that receive stormwater from the MPC Refinery. Robinson Creek is a tributary to Sugar Creek which flows into the Wabash River. Lamotte Creek is a tributary to Sugar Creek located south and west of Palestine, IL.

General Landscape Setting

The study area lies mostly within the Southern Illinoisan Till Plain (72j) and Wabash River Bluffs and Low Hills (72m) subregions of the Interior River Valleys and Hills Level III ecoregion (Woods et al. 2006). The Southern Illinoisan Till Plain subregion is characterized by a partly dissected till plain that was once covered by forests and prairies (Table 1). Broad flats, rolling hills, and subdued moraines are common. The underlying Paleozoic sandstone, limestone, coal, and

Table 1. *Level IV subregions of the 2014 study area and their key attributes (from Woods et al. 1995).*

Level IV Subregion	Physiography	Geology	Soils	Potential Natural Vegetation	Land Use/Land Cover
Southern Illinoisan Till Plain (72j)	Glaciated, partly dissected, flat to rolling till plains (hills to south, with bedrock close to surface) with low Illinoisan-age moraines; Major streams have broad floodplains.	Thin to thick Quaternary loess (10- 60"), Illinoisan-age glacial till, alluvium. Paleozoic sandstone, limestone, coal, and shale; bedrock near surface (south).	Uplands in the north: Alfisols. Uplands in south, side slopes, flats in north: Alfisols. Floodplains, low terraces: Mollisols .	Oak–hickory forest & bluestem prairie; composition varies by drainage & slope; mix of mesic & bottomland forests; wet prairie vegetation.	Flat land converted to cropland (soybeans, corn, and wheat) with remnant forests; cropland tiled and ditched to promote drainage.
Wabash River Bluffs and Low Hills (72m)	Low bluffs along the Wabash River.	Quaternary alluvium.	Inceptisols.	Mixed oak hickory & bluestem prairie; dry upland forests; mesic upland forests; mesic prairie remnants.	Forested on steep slopes, else cropland (corn, wheat, soybeans, and hay), livestock.

shale is mantled by loess and Illinoisan-age glacial till. Upland soils are clayey or silty, derived from loess and till, and have poor internal drainage. Impervious fragipans or claypans are common. These soils are droughty during dry periods, excessively wet during the spring, and acidic. Overall soil quality and productivity are lower than in the Central Corn Belt Plains. In the early 19th century, about 40% of the well-drained uplands were covered by prairies. The remaining uplands were covered by scattered trees, groves, and forests. Groves containing pin oak, post oak, swamp white oak, and blackjack oak were native to nearly level, poorly drained uplands with clay-rich soils. Oak–hickory forests occurred on relatively dry valley slopes and mesic forests containing red oak, elm, basswood, and walnut dominated low morainal ridges. Today, nearly all of the original prairies and most of the original forests (especially in the south) have been converted to row crop agriculture. Soybeans, corn, and wheat are the primary crops, and livestock farming is present. Forests are now largely confined to side slopes and river bottoms that are unsuitable for farming. The natural soil wetness is generally unfavorable for crops, and, therefore, nearly all of the flat and nearly level uplands have been tiled to improve drainage. Nonpoint sources are typical of the extensive row cropping that dominates the landscape with row cropping encroaching on the riparian zone of streams and the after effects of stream channelization in several reaches. Towards the southern portion of the study area the terrain becomes hilly as glacial till thins and bedrock approach the surface. The Wabash River Bluffs and Low Hills subregion is characterized by partly forested, low bluffs along the Wabash River. Alfisols are common, and are characteristically derived from thick loess. This subregion is more wooded, rugged, and deeply loess-covered than the Southern Illinoisan Till Plain subregion. The streams in this subregion can be inundated by flood waters from the Wabash River that can extend several miles upstream in Sugar Creek.

Major Point Sources

Significant point sources of pollution were inventoried in order to complete the intensive pollution survey design (Table 2). Major point sources include the Robinson Wastewater Treatment Plant (WWTP), the MPC Robinson Refinery, and Illinois Rain CII.

Table 2. *List of major point sources that occur in the Robinson Creek study area with discharge location river miles.*

Receiving Stream	River Mile (RM)	Facility/Outfall(s)
Robinson Creek	6.45	Robinson WWTP 001
Robinson Creek	5.00	MPC 001
Marathon Creek	4.95, 0.30	MPC 002,003,005,008; Illinois Rain CII 001/B01
U.T. to Robinson Creek	4.77, 0.10	MPC 006
U.T. to Robinson Creek	3.7, 0.10	MPC 007, 009, 010

Robinson WWTP (NPDES Permit No. IL0030732)

The City of Robinson operates a 2.5 MGD advanced activated sludge treatment facility including a $7.8 million upgrade in 2010-2011. Treatment processes include biological nutrient removal

(denitrification and phosphorus removal), automated storm flow management, waste activated sludge screening and disposal, waste sludge conditioning to reduce waste sludge yield, ultraviolet disinfection, plant effluent water reuse, and a comprehensive supervisory control and data acquisition (SCADA) package that includes the plant and 12 collection system lift stations located throughout Robinson and the surrounding area. The City operates an industrial pretreatment program. The primary discharge via outfall 001 is directly to Robinson Creek.

MPC Robinson Refinery (NPDES Permit No. IL0004073)

The MPC Robinson Refinery has one process wastewater outfall (001), a wastewater plant bypass outfall (002), and seven outfalls that discharge stormwater runoff to Marathon Creek (003, 005, 008) and two unnamed tributaries to Robinson Creek (006, 007, 009, 010). The refinery was constructed in 1906 by the Lincoln Oil Company and purchased by The Ohio Oil Company (predecessor of MPC) in 1924. Industrial processes include crude oil distillation, catalytic cracking, hydrocracking, hydrotreating, coking, reforming, alkylation, aromatics extraction, isomerization, and sulfur recovery. The refinery processes 245,000 barrels/day of sweet and sour crude oil to produce gasoline, distillates, propane, aromatics, slurry, anode-grade coke, propylene and sulfur which are shipped by rail, truck, and pipeline. MPC was the first U.S. refining company to adopt the American Chemistry Council's Responsible Care principles to address continual improvement in health, environmental, safety and security performance.

Illinois Rain CII (NPDES Permit No. IL0004065)

The Illinois Rain CII discharges to Marathon Creek via a pipeline that crosses the MPC refinery. The principal manufactured product is calcined petroleum coke which is made from green petroleum coke (GPC), a byproduct of the oil refining process. An average discharge of 0.288 MGD treated wastewater is generated from an evaporative cooler, cleaning waters, and stormwater runoff including coke storage pile runoff. Treatment consists of a three stage settling pond and rock filter for outfall 001. During emergency events generally caused by excessive precipitation, water is discharged directly from the second cell of the settling pond to outfall B01, thereby by-passing the polishing cell and rock filter. There are two permitted discharges, outfalls 001 and B01. Permit limits are for flow, pH, and total suspended solids (TSS) which reflects best available treatment and control technology.

Nonpoint Sources

Robinson Creek also receives stormwater runoff from the City of Robinson and a tributary, Quail Creek, receives additional runoff from a golf course. All of the other sites receive agricultural runoff and the lower most site on Sugar Creek receives runoff from a railroad yard in Palestine, IL.

Sampling Sites Selection and Locations

Intensive Pollution Survey Design

The delineation of recommended sampling locations was developed by using an intensive pollution survey design. Targeted sites are positioned upstream and downstream from major

discharges, sources of potential pollution releases and contamination, and major tributaries so as to provide a "pollution profile" of Robinson and Sugar Creeks (Figure 1). The previously established Illinois EPA Facility Related Stream Survey (FRSS) sites were used to determine sampling locations with additional sites added to fill gaps left by that coverage. A listing of all sites, indicators, parameters, and sampling frequencies are found in Table 3 and Appendix Table A-1.

Site Identification and Descriptions

Each sampling site was assigned a unique site code, a river mile, and UTM (Universal Transverse Mercator) coordinates which varied from one to three depending on what type of sampling it represented (Table 3). Site codes consisted of an alpha-numeric series of codes with the alpha representing the individual stream (RC = Robinson Creek) and the number ordered from upstream to downstream. UTM coordinates consisted of a single set at grab sampling and Datasonde sites and up to three coordinates for fish and macroinvertebrate sites (upstream and downstream ends of sites plus a center point). There were 10 sites in Robinson Creek, four sites in Sugar Creek, single sites in Quail Creek, Marathon Creek, two unnamed tributaries to Robinson Creek, and Lamotte Creek for a total of 19 sites (Table 3; Figure 1). The parameters and frequencies varied between sites, but with only two exceptions each was sampled for fish, macroinvertebrates, habitat, and baseline water chemistry. Selected sites were sampled for additional chemical parameters, mussels, and sediment chemistry. Datasonde deployments of 3-4 days each were made monthly at four locations in Robinson Creek and one location in Sugar Creek, with deployments at two additional Robinson Creek locations Aug. 29-Sept. 2, 2016.

Robinson Creek and Tributaries

Nine sites (RC01-RC09) were planned for sampling in the original study plan beginning at the railroad bridge just upstream from the confluence of Quail Creek and Robinson Creek (RC01) and continuing downstream to Co. Rt. 1150E upstream from the confluence of Robinson Creek and Sugar Creek (RC09).

RC10 was the upstream most site located at Prairie Street added in mid-September 2016 in an attempt to have a site that was upstream from the accumulation of urban influences within the City of Robinson. As a result of being added late in the survey RC10 was sampled for fish and habitat only. It was located downstream from Prairie Street which is within the City of Robinson, but upstream of the most intensive urban influences on water quality and habitat. The site is downstream from an area dominated by medium density housing development, but with a largely intact riparian zone of mature woody vegetation. Further upstream the land use is predominated by agricultural row cropping and the headwaters where Robinson Creek originates had recently been channelized.

Site RC01 (Figure 2) was located just upstream from an abandoned railroad bridge approximately 0.1 mile upstream from the Robinson WWTP. This site corresponds to site BFC-20 that was included in the 2013 IEPA FRSS study. It essentially serves as an upstream "control" site for the major point source discharges located downstream and is under the influence of urban stormwater from the City of Robinson.

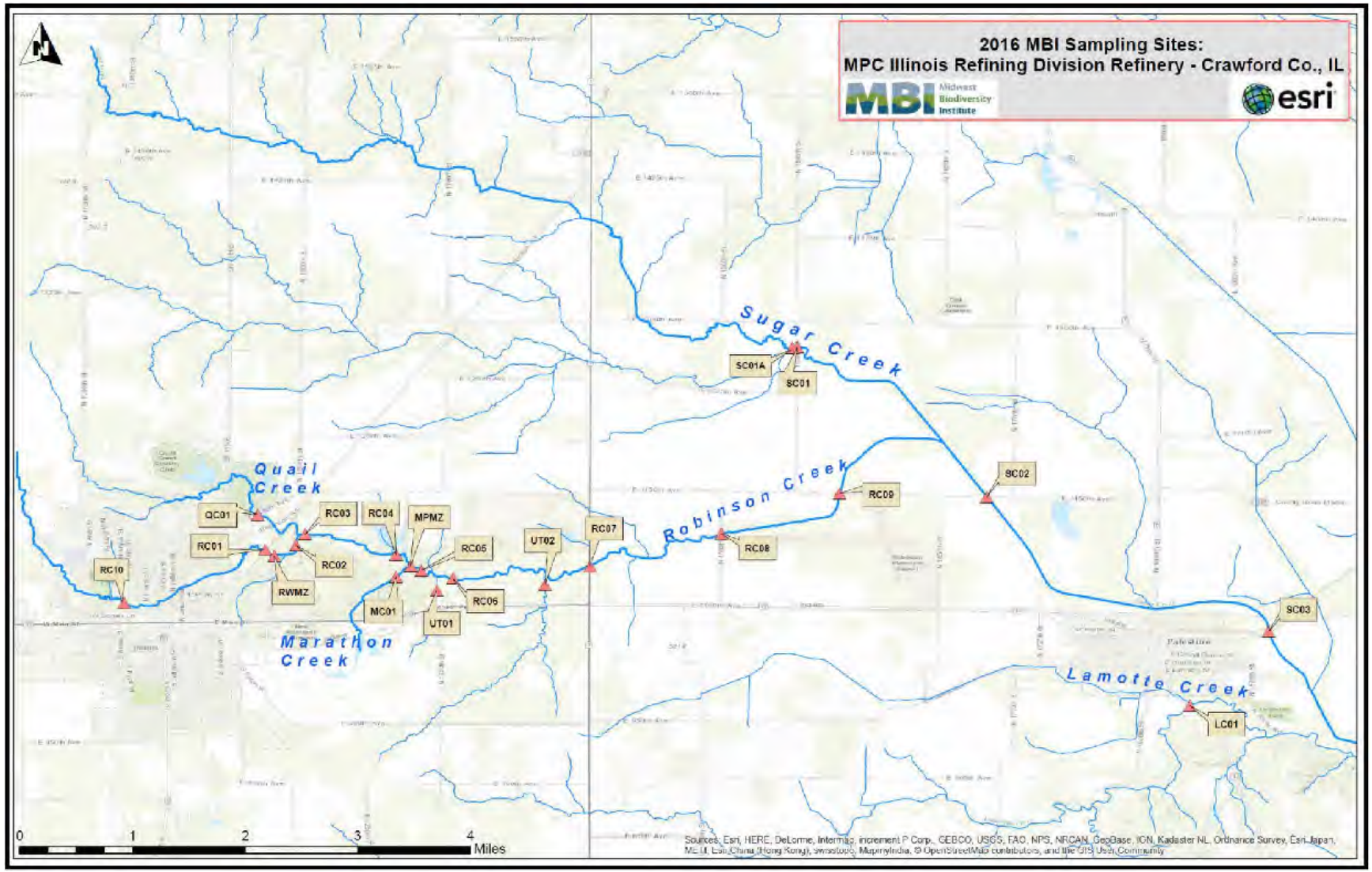

Figure 1. *Map of sampling locations in the Robinson Creek study area, 2016. Site codes correspond to descriptions in Table 4.*

Table 3. *Sampling sites and locations with chemical, physical, and biological parameters collected at each site in 2016 and ordered from upstream to downstream.*

Site ID	River Mile	Drainage Area (mi.^{2})	Latitude-Longitude	Chemistry Data Type[1]	Biological Data Type[2]	Location
Robinson Creek						
RC10	7.90	1.49	39.00830, -87.74462	--	FHW, QH	Dst. Prairie Str.
RC01	6.50	2.59	39.01470, -87.72588	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	Ust. Robinson WWTP @ RR Bridge
RWMZ	6.45	3.24	39.01439, -87.72527	C, D, N, H, O	FHW, QH, Ma, Mu	Robinson WWTP Discharge Plume
RC02	6.25	3.28	39.01686, -87.72214	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	0.2 mi. dst. Robinson WWTP
RC03	6.00	5.73	39.01704, -87.72043	C, D, N, H, O, B	FHW, QH, Ma, Mu, BChla, Chla	Dst. Quail Creek
RC04	5.20	6.51	39.01463, -87.70869	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	Ust. Marathon 001
MPMZ	5.00	7.79	39.01274, -87.70719	C, D, N, H, O	FHW, QH, Ma, Mu	Marathon 001 Discharge Plume
RC05	4.90	7.98	39.01182, -87.70573	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	0.2 mi. dst. Marathon 001
RC06	4.60	8.40	39.01117, -87.70135	C, D, N, H, O, B	FHW, QH, Ma, Mu, BChla, Chla	0.17 mi. dst. U.T. (MPC 006)
RC07	3.30	10.50	39.01355, -87.68383	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	IL St. Rt. 1
RC08	2.00	12.32	39.01748, -87.66604	C, D, N, H, O, B	FHW, QH, Ma, Mu, BChla, Chla	Co. Rt. 1500N
RC09	1.00	12.95	39.02237, -87.65269	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	Co. Rt. 1150E

***Table 3**. continued.*

Site ID	River Mile	Drainage Area in mi^2	Latitude-Longitude	Chemistry Data Type1	Biological Data Type	Location
Sugar Creek						
SC01A	6.00	14.19	39.04106, -87.65873	--	FHW, QH, Ma, Mu	Ust. Co. Rt. 1150E (ust. UT)
SC01	5.90	14.21	39.04098, -87.65697	C, D, N, H, O, B, DS	FHW, QH, Ma, Mu, BChla, Chla	Dst. Co. Rt. 1150E (dst. UT)
SC02	4.10	30.66	39.02145, -87.63335	C, D, N, H, O, B	FWD, QH, Ma, Mu, Chla	0.5 mi. dst. Robinson Creek
SC03	1.60	35.20	39.00302, -87.59679	C, D, N, H, O, B,	FWD, QH, Ma, Mu, Chla	Dst. E. Franklin Str. (RR Yard)
Marathon Creek						
MC01	4.95, 0.16	1.24	39.01269, -87.70849	C, D, N, H, O, B	FHW, QH, Ma, Mu, Chla	Ust. Mouth – MPC 002, 003, 005; Rain CII
Quail Creek						
QC01	6.5, 0.25	2.37	39.01743, -87.72407	C, D, N, H, O, B	FHW, QH, Ma, Mu, Chla	Dst. Trimble Rd.
Unnamed Tributary to Robinson Creek @ RM 4.77						
UT01	4.77, 0.10	0.32	39.00923, -87.70449	C, D, N, H, O, B	FHW, QH, Ma, Mu, Chla	Dst. MPC Retention Pond (MPC 006)
Unnamed Tributary to Robinson Creek @ RM 3.70						
UT02	3.7, 0.10	1.37	39.00825, -87.69034	C, D, N, H, O, B	FHW, QH, Ma, Mu, Chla	Dst. MPC RR Yard (MPC 007, 009, 010)
LaMotte Creek						
LC01	0.80, 1.90	26.75	38.99578, -87.60555	C, D, N, H, O, B	FWD, QH, Ma, Mu, Chla	IL St. Rt. 33 (Palestine)

[1] C – conventional; D – demand; N – nutrients; H – heavy metals; O – organics; B – sediment; DS – datasonde; [2] FHW – fish headwater; FWD – fish wadeable; QH – qualitative habitat; Ma – macroinvertebrate; Mu – mussel; BChla – benthic chlorophyll α; Chla – sestonic chlorophyll α.

***Figure 2**. Photos of Robinson Creek sampling sites RC01, RWMZ (Robinson WWTP discharge plume), RC02, RC03, RC04, and MPMZ (MPC 001 discharge plume) taken during macroinvertebrate sample collection in August 2016.*

Site RCMZ (Figure 2) was located within the immediate influence of the Robinson WWTP discharge. The purpose of the sampling was to ascertain any immediate or acute impacts to water quality or the biological assemblages.

Site RC02 (Figure 2) was located approximately 0.2 miles downstream from the Robinson WWTP and upstream from the confluence with Quail Creek. It represents the immediate impact from the Robinson WWTP.

RC03 (Figure 2) was located immediately downstream form the confluence with Quail Creek and 0.45 miles downstream from the Robinson WWTP.

RC04 (Figure 2) was located approximately 0.2 miles upstream from the MPC 001 effluent and 0.25 miles upstream from the confluence with Marathon Creek and served as the upstream "control" site for quantifying impacts from the thermal component of the MPC 001 discharge on the Robinson Creek thermal regime.

MPMZ (Figure 3) was located within the immediate influence of the MPC 001 discharge just upstream from the confluence with Marathon Creek (Figure 2) which receives effluent from MPC 002, 003, 005, and 008 and Illinois Rain CII. The purpose of sampling this site was to ascertain any immediate or acute impacts to water quality or the biological assemblages.

RC05 (Figure 3) was located approximately 0.2 miles downstream from the MPC 001 discharge and 0.15 miles downstream from Marathon Creek. This site represents the immediate impact of MPC 001 and other discharges via Marathon Creek.

RC06 (Figure 3) was located approximately 0.4 miles downstream from MPC 001 and 0.17 miles downstream from the unnamed tributary that receives stormwater runoff via the MPC 006 outfall.

RC07 (Figure 3) is located at Illinois St. Rt. 1 and is the compliance point for temperature in the draft NPDES permit for the MPC Refinery 001 outfall. It is approximately 1.7 miles downstream from MPC 001.

RC08 (Figure 3) is located at Crawford Co. Rt. 1500N and is approximately 3 miles downstream from MPC 001.

RC09 (Figure 3) is located at Co. Rt. 1150E (also known as the "hog farm") and is the compliance point for temperature in the current NPDES permit for the MPC Refinery 001 outfall.

QC01 (Figure 4) is located in Quail Creek which enters Robinson Creek approximately 0.05 miles upstream from the Robinson WWTP. The site was located downstream from E. 1150th Ave. adjacent to a residence which is 0.25 miles upstream from the mouth. This site is impacted by urban runoff

Figure 3. *Photos of Robinson Creek sampling sites RC05, RC06, RC07, RC08, and RC09 taken during macroinvertebrate sample collection in August 2016.*

and the Quail Creek golf course located just upstream. Quail Creek originates in a reservoir located on the golf course.

MC01 (Figure 4) is located in Marathon Creek which enters Robinson Creek just downstream from the MPC 001 discharge. The sampling site is 0.16 miles upstream from the mouth and downstream from the MPC Illinois Refining Division refinery. It receives effluent from the MPC 002 bypass, the 003 and 005 stormwater discharges, and the Illinois Rain CII effluent that is conveyed via a pipeline that passes underneath the refinery.

UT01 (Figure 4) is located in an unnamed tributary that enters Robinson Creek at RM 4.77 approximately 0.23 miles downstream from the MPC 001 discharge. This tributary receives stormwater discharges via MPC 006. This site had the smallest catchment of any site in the study area draining 0.32 $mi.^2$.

UT02 (Figure 4) is located in an unnamed tributary that enters Robinson Creek at RM 3.7 approximately 1.3 miles downstream from the MPC 001 discharge. This site is impacted by runoff from the MPC railyard and includes stormwater discharges from MPC 007, 009, and 010.

Sugar Creek and Tributaries

Four sites were sampled in Sugar Creek and one in a tributary, Lamotte Creek for a total of 5 sites. The drainage area ranged from 14.2 $mi.^2$ at SC01A to 35.2 $mi.^2$ at the downstream most site in Palestine (SC03). All of these sites with the exception of SC01A and SC01B can become inundated by the level of the Wabash River for the duration of high flow events.

SC01 (Figure 5) was split between two sites, SC01A and SC01B. SC01A was located upstream from Co. Rt. 1150E and an unnamed tributary and was sampled for biological assemblages and habitat only. SC01B was located immediately downstream from Co. Rt. 1150E and served as the control site for Robinson Creek. Both sites were affected exclusively by agricultural land uses.

SC02 (Figure 5) was located at Co. Rt. 1150E and 0.5 miles downstream from the confluence with Robinson Creek. The drainage area of 30.66 $mi.^2$ at this site was essentially double that of Robinson Creek and Sugar Creek upstream from Robinson Creek.

SC03 (Figure 5) was located at Franklin Street in Palestine, IL and immediately downstream from a railroad yard.

LC01 (Figure 5) is located in Lamotte Creek upstream from Illinois St. Rt. 33 just south of Palestine, IL. This also serves as a background site being largely impacted by agricultural land uses. The drainage area of 26.75 $mi.^2$ makes it more suitable as a control for Sugar Creek.

***Figure 4**. Photos of Robinson Creek tributary sampling sites QC01, MC01, UT01, and UT02 taken during macroinvertebrate sample collection in August 2016.*

Figure 5. *Photos of Sugar Creek sampling sites SC01, SC02, and SC03 and Lamotte Creek LC01 taken during macroinvertebrate sample collection in August 2016. SC02 and SC03 are shown at Wabash River flood stage in January 2016.*

METHODS

Chemical/Physical Water Quality

The specific methods of collection followed Illinois EPA methods and are described in the following subsections. The majority of the chemical laboratory analyses were provided by the MPC Refining Analytical and Development (RAD) Laboratory in Catlettsburg, KY. Selected analyses were provided by the MPC Robinson Refinery laboratory in Robinson, IL and a contract laboratory for the chlorophyll α and pesticide analyses. Each of the MPC laboratories are accredited via the National Environmental Laboratory Accreditation Program (NELAP). The chemical/physical parameter categories (demand, nutrients, metals, organics) and the frequency of sample collection are summarized in Table 4.

Water Sampling

Grab water samples were collected at 17 stream locations (Table 4) and within the plumes of the Robinson WWTP and MPC 001 discharges to Robinson Creek that are colloquially referred to as "mixing zones". A total of 148 water samples were collected and analyzed for 22,173 parameters. All sites were sampled six times during the mid-June to mid-October seasonal index period except the two unnamed tributaries (UT01 and UT02) each of which was sampled twice. Samples were collected in accordance with Illinois EPA methods (IEPA 2012a) using a modified Multi Vertical-Equal Trans Rate method (MV-ETR). The MV-ETR requires proportional spacing of sampling points (or verticals) across the stream and an equal rate of transit when lowering and raising the water sampling device through the water column. Water from each of the verticals was composited into a churn splitter, mixed and then split into the appropriate bottles which were then placed on ice for shipment to the Marathon RAD laboratory for analysis. Samples for hexavalent chromium were analyzed at the MPC Robinson Refinery laboratory and pesticides and chlorophyll α were analyzed by a contract laboratory.

Continuous Monitoring

Continuous monitoring using YSI model 6920v2 and EXO2 units to record dissolved oxygen (D.O.), temperature, conductivity, and pH was conducted for consecutive 3-4 day periods during 2016 at five locations monthly in 2016 and at seven locations during August 29-September 2 (Table 4). This meets the specifications of the IEPA (2011a) methodology and was done in accordance with YSI specifications (YSI 2012, 2017). Periods of seasonal base flows were targeted for each sampling period.

Sediment Sampling

Bottom sediments were sampled for bulk chemical analysis at the same 17 locations sampled for water chemistry following IEPA methods (IEPA 2011b). Samples were initially collected in mid-October, but laboratory issues precluded the full range of analytes. As a result all 17 locations were resampled in early February 2017. A total of 25 sediment samples were analyzed for 3,294 parameters. All sediment samples were analyzed by a contract laboratory.

Table 4. *Master list of sampling sites, biological and habitat indicators, and chemical parameters for the Robinson and Sugar Creek biological and water quality survey in 2016. Sites assessed by IEPA in prior Facility Related Stream Surveys (FRSS ID) are provided for reference. A Key to Graph Labels appears lower left.*

MPC Site ID	FRSS ID	River_Stream Name	RM	Latitude	Longitude	Location-Description	Drain. Area	Fish Type	EF Gear	Macroinvertebrates	Mussels	Habitat	Datasonde	Field WQ	Demand	Nutrients	Metals	Organics	Sed. Metals & Organics
RC10		Robinson Creek	7.9	39.008300	-87.744620	Praire Street near Meserve Cabin	1.40	F	F			QHEI		1X					
QC01	BFCB	Quail Creek	0.50	39.019625	-87.727450	Ust. confl. with Robinson Creek	2.29	F	F	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
RC01	BFC-20	Robinson Creek	6.50	39.015168	-87.726464	RR bridge 0.1 mi. ust. Robinson WWTP	2.59	F	E	IEPA MH	INHS TP	QHEI	S	8X	6X	6X	6X	6X	1X
RWMZ	BFC-RB-EI	Robinson Creek	6.45	39.014383	-87.725301	Robinson WWTP mixing zone	3.24	E (MZ)	E	MZ		QHEI (MZ)		8X	6X	6X	6X	6X	
RC02		Robinson Creek	6.25	39.015714	-87.722492	0.2 mi. dst. Robinson WWTP	3.27	E	E	IEPA MH	INHS TP	QHEI	S	8X	6X	6X	6X	6X	1X
RC03	BFC-19	Robinson Creek	6.00	39.017105	-87.721340	Dst. Quail Cr. confl.; 0.4 mi dst. Robinson WWTP	5.73	E	E	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
RC04	BFC-25	Robinson Creek	5.20	39.014534	-87.709609	Farm access road ust. MPC 001 outfall	6.51	E	E	IEPA MH	INHS TP	QHEI	W,S	8X	6X	6X	6X	6X	1X
MPMZ	BFC-MR-EI	Robinson Creek	5.00	39.013060	-87.707780	MPC 001 outfall mixing zone	6.53	E (MZ)	E	MZ		QHEI (MZ)		8X	6X	6X	6X	6X	
MC01	BFCA-22	Marathon Creek	0.16	39.011665	-87.709664	Farm access - MPC 002, 003, 005, 008; Ill. Rain CII	1.24	F	E	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
RC05	BFC-26	Robinson Creek	4.90	39.012500	-87.706390	0.1 mi. dst. MPC 001 (outside mixing zone)	7.94	E	E	IEPA MH	INHS TP	QHEI	W,S	8X	6X	6X	6X	6X	1X
UT01		U.T. Robinson Creek[1]	0.10	39.009917	-87.704437	MPC 006 tributary	0.33	F	F	IEPA MH	INHS TP	QHEI		4X	2X	2X	2X	2X	1X
RC06		Robinson Creek	4.60	39.011488	-87.702346	Dst. 006 trib.; 0.4 mi. dst. MPC 001	8.39	E	E	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
UT02		U.T. Robinson Creek[1]	0.10	39.010649	-87.690496	MPC RR yard trib. - 007, 009, 010 outfalls	1.47	F	F	IEPA MH	INHS TP	QHEI		4X	2X	2X	2X	2X	1X
RC07	BFC-11	Robinson Creek	3.30	39.013038	-87.684726	IL Rt 1 - 1.7 mi. dst. MPC 001	10.4	D,E	E	IEPA MH	INHS TP	QHEI	W,S	8X	6X	6X	6X	6X	1X
RC08		Robinson Creek	2.00	39.017250	-87.667852	1500 N - 3.0 mi. dst. MPC 001	12.3	D,E	E	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
RC09	BFC-10	Robinson Creek	1.00	39.022390	-87.652680	1150 E - 4.0 mi. dst. MPC 001	13.0	D,E	E	IEPA MH	INHS TP	QHEI	W,S	8X	6X	6X	6X	6X	1X
SC01A		Sugar Creek	6.00	39.041060	-87.658730	Ust. U.T. confluence	14.1	F	F	IEPA MH	INHS TP	QHEI		2X					
SC01B	BF-22	Sugar Creek	5.90	39.041110	-87.658060	1550 N - background site	14.2	E	E	IEPA MH	QL	QHEI	W,S	8X	6X	6X	6X	6X	1X
SC02	BF-11	Sugar Creek	4.10	39.021902	-87.633767	1150 E - 0.5 mi. dst. Robinson Creek	30.7	D,E	D	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
SC03	BF-01	Sugar Creek	1.60	39.004657	-87.597527	Palestine - E. Franklin Street - dst. RR yard	35.1	D,E	D	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
LC01	BFB-13	Lamotte Creek	1.90	38.995150	-87.607661	IL Rt 33 - S of Palestine - background site	26.7	E	D	IEPA MH	INHS TP	QHEI		8X	6X	6X	6X	6X	1X
							Totals	**17**	17	17	15	17	7	144	110	110	110	110	17

1 - contingent on having sufficient water to sample biota.

Key to Graph Labels
1 - Robinson WWTP
2 - MPC 001
A - Quail Creek
B - Marathon Creek (MPC 002, 003, 005, 008; Illinois Rain CII)
C - Unnamed tributary #1 (MPC 006)
D - Unnamed tributary #2 (MPC 007, 009, 010)
E - Lamotte Creek

Fish Sampling Codes:
D - Roller barge - 200 meters
E - Longline - 150 meters
F - Backpack - 100-125 meters; Wisconsin
MZ - mixing zone site - 50 meters
EF Gear - 2.5 GPP (2500 W)
EF Gear - 5.0 GPP (5000 W)

Macroinvertebrates:
MH - IEPA multihabitat method
MZ - Mixing zone sample

Mussels:
INHS TP - INHS Timed Protocol
QL - qualitative search

Datasonde:
S - summer deployment (5 Sondes/week over 6 total weeks)
W - winter deployment (4X January 25 - March 31)

Field WQ:
Temperature, D.O., Conductivity, pH
2X collected by fish crew
6X collected by chemical crew
All water and sediment samples collected by chemical crew mid-June to mid-October

Biological Assemblage Sampling

Biological assemblages included in the 2016 Robinson and Sugar Creek bioassessment included fish, macroinvertebrates, and freshwater mussels at 17 instream locations and within the immediate plumes of the Robinson WWTP and MPC 001 discharges to Robinson Creek which were also colloquially referred to as "mixing zones". Biological and habitat sampling adhered to a summer-early fall index period of June 16-October 15 for fish and July 1-September 30 for macroinvertebrates and mussels. For fish and QHEI, all sites were sampled twice and macroinvertebrates and mussels once with a 10% resample of the macroinvertebrate sites. All sampling occurred during periods of summer-fall base flows – periods of higher flows and high runoff were avoided.

Fish Assemblage Methods

Fish were collected twice at each site with pulsed D.C. electrofishing units ranging from a Wisconsin AbP-3 battery-powered back pack unit to Smith-Root GPP generator powered units of 2500 or 5000 W capacity at 17 instream sites and two discharge plume sites (Table 5). A new upstream site was added to the second sampling pass. Deference was given to the most effective method given the prevailing site and water characteristics. The upper boundary for using the battery-powered back pack electrofishing unit was two times the depth or five times the width of the net ring (anode). Wider and deeper sites were sampled with the generator powered units as either a bank set longline or floated on a roller barge. The 5000 W unit was used to overcome the highly elevated conductivity downstream from the point source discharges in Robinson Creek. The primary net ring served as the anode and a woven steel cable cathode trailed from the back pack unit, the longline, or the roller barge. A long handled dip net was used to assist in the capture of stunned fish.

A three-person crew consisting of a fish crew leader and two field technicians conducted the sampling under summer-fall base flow conditions. Sampling effort was standardized by distance and included a 200 meter long reach for the generator powered methods and 150 meters for the back pack method. The two sites in the Robinson WWTP and MPC Robinson 001 plumes were each limited to 50 meters in length in order to determine the immediate impact of each discharge.

Captured fish were placed in a live well, bucket, or live net for later processing. Water was regularly replaced and/or aerated to maintain adequate D.O. levels in the water and to minimize mortality. Samples from each site were processed by enumerating and recording weights by species and by life stage (young-of-the-year, juvenile, and adult) on a field sheet. The incidence of external anomalies was recorded following procedures outlined by Ohio EPA (2006, 2015) and refinements made by Sanders et al. (1999). Fish were released back into the water after they were identified to species, examined for external anomalies, and weighed either individually or in batches. Larval fish were not included in a sample and fish measuring less than 15-20 mm in length were generally excluded as a matter of practice. All sites were marked with GPS coordinates (beginning, middle, and end of a sampling reach) and site data was recorded on a standard field form.

While the majority of captured fish were identified to species in the field, any uncertainty about a field identification required vouchering for laboratory identification. Voucher specimens were preserved in borax buffered 10% formalin solution and labeled by date, stream, and geographic identifier (e.g., river mile and site number). Identification was made to the species level at a minimum. Regional ichthyology keys were used including the Fishes of Illinois (Smith 1979) and updates available through the Illinois Natural History Survey (INHS). Scientific nomenclature followed Page et al. (2012). Vouchers were deposited at The Ohio State University Museum of Biodiversity (OSUMB) in Columbus, OH.

Macroinvertebrate Methods

Macroinvertebrate methods followed the Illinois EPA multi-habitat method (IEPA 2011c,d) at all of the 17 instream sites (Table 4) with a truncated effort within the discharge plume sites. The IEPA multi-habitat method involves the selection of a sampling reach that has instream and riparian habitat conditions typical of the assessment reach. Sampling reach requirements included flow conditions that approximate typical summer base flows, the absence of highly influential tributary streams, the presence of one riffle/pool sequence or analog (i.e., run/bend meander or alternate point-bar sequence), if present, and a length of at least 300 feet. The collection of macroinvertebrates was accomplished with a dip net in all bottom-zone and bank-zone habitat types that occurred within a sampling site. Water conditions must allow a sampler to apply the 11-transect habitat-sampling method or to estimate with reasonable accuracy via visual or tactile cues the amount of each of several bottom-zone and bank-zone habitat types. All sites were marked with GPS coordinates (beginning and end of a sampling reach) and site data was recorded on a standard field form.

Multi-habitat samples were field preserved in 10% formalin. Upon delivery to the MBI lab in Hilliard, OH the preserved samples were transferred to 70% ethyl alcohol. Laboratory procedures followed the IEPA (2011e) methodology which requires the production of a 300-organism subsample from a gridded tray following a scan and pre-pick of large and/or rare taxa. Taxonomic resolution was at the lowest practicable resolution for the common macroinvertebrate assemblage groups such as mayflies, stoneflies, caddisflies, midges, and crustaceans, which goes beyond the genus level requirement of IEPA (2011g). However, calculation of the Macroinvertebrate IBI (mIBI) adhered to the IEPA methods by using genera as the benchmark level of taxonomic resolution for mIBI scoring.

Freshwater Mussels

Freshwater mussels were collected at the 17 instream sites and two discharge plumes within the study area (Table 4). Live mussels and shells were collected at each sample site to assess past and current freshwater mussel occurrences. Live mussels were collected by hand grubbing, raking, and visual detection of trails, siphons, and exposed shells using an observation bucket. All available habitat types including riffles, pools, slack water, and areas of differing substrates were sampled. Live mussels were held instream until they were processed and then released.

Collection times generally varied between 3-4 hours for drainage areas >3 mi.^{2}, and 2-3 hours for smaller stream sizes and the discharge plumes. All live mussels and shells were identified to species and recorded. For each live individual, shell length (mm), gender, and photographs were recorded. Shell material was classified as recent dead (periostracum present, nacre pearly, and soft tissue present) or relict (periostracum eroded, nacre faded, shell chalky). A species was considered extant at a site if it was represented by live or recently dead shell material (after Szafoni 2001). All live mussels were returned to the stream reach from which they were collected. Parameters recorded included extant and total species richness, presence of rare or listed species, and individuals collected expressed as catch-per-unit-effort. Recent recruitment was evidenced by individuals with lengths <30 mm.

Habitat Assessment

The QHEI (Rankin 1989, 1995; Ohio EPA 2006) was employed as the principal aquatic habitat assessment methodology at each site (Table 4). The protocol was accomplished as part of the fish assemblage method by the fish crew leader who is trained and experienced in using the QHEI. The QHEI measures six categories of habitat that are important to the aquatic biota with a scoring range of 0-100. QHEI scores of 60 are generally regarded as sufficient to support the General Use. Scores below 45 indicate substantial deficiencies in habitat that can preclude attainment of the General Use. A QHEI matrix showing the occurrence of good and modified attributes is also examined to evaluate the specific attributes of stream habitat at each site.

Data Management

All data was managed by MBI in internal databases that permit ready access and analysis. Biological and habitat data is stored in a routine based on the Ohio ECOS format that MBI uses for all biological data management tasks. Biological data analysis included the calculation of Illinois fish and macroinvertebrate IBIs for determining General Use aquatic life status and the accompanying data attributes to enhance the diagnosis of impairments. Habitat data was analyzed using the QHEI and also via a QHEI attributes matrix to aid in assessing habitat related impairments. Summaries of species/taxa relative abundance and QHEI metrics at each site and by sampling date are provided in Appendices A-C.

Determining Use Attainability

In Illinois, most waters of the State, including the 2016 study area, must meet the General Use standards of 35 Ill. Admin. Code Part 302, unless there is a specific designation included in 35 Ill. Admin. Code Part 303. An assessment of aquatic life use attainability is therefore not a routine outcome of a biological and water quality assessment and was not considered herein.

Determining Use Attainment

The determination of the attainment status of the Illinois General Use for aquatic life generally followed the guidance in the 2016 Illinois EPA Integrated Report (IEPA 2016) relying primarily

on the biological results and attainment of the fIBI and mIBI thresholds expressed as fully supporting, non-supporting fair, and non-supporting poor, with the most limiting result of either the fish or macroinvertebrates determining the assignment of fair or poor.

Determining Causal Associations

Using the results, conclusions, and recommendations of this assessment requires an understanding of the methodology used to determine biological status (e.g., unimpaired or impaired, narrative ratings of quality) and assigning associated causes and sources of impairment utilizing the accompanying chemical/physical data and source information (e.g., point source loadings, land use). The identification of impairment in rivers and streams was performed in accordance with Illinois EPA procedures (IEPA 2016).

Causal Diagnosis

Describing the causes and sources associated with observed biological impairments relies on an interpretation of multiple lines of evidence including water chemistry data, sediment chemistry data, habitat data, effluent data, land use data, and biological response signatures (Yoder and Rankin 1995; Yoder and DeShon 2003). Thus, the assignment of associated causes and sources of biological impairment in this report represents the association of impairments (based on response indicators) with stressor and exposure indicators using linkages to the bioassessment data based on previous experiences with analogous situations and impact types. This was done by relating exceedances of chemical thresholds such as chronic and acute water quality criteria and relevant biological effects thresholds for water and sediment chemistry associated with biological impairments to determine categorical and/or parameter specific causes. The reliability of the identification of associated causes and sources is increased where other such prior associations have been observed. This process relies on multiple lines of evidence concerning the biological response, which is the ultimate measure of success in water quality management. Exceedance thresholds for chemical parameters used in the causal analyses are listed in Appendix A (Table A-4) and indicated in the tabular and graphical presentation of the chemical water and sediment results.

Hierarchy of Water Indicators

A carefully conceived ambient monitoring approach, using cost-effective indicators comprised of ecological, chemical, and toxicological measures, can ensure that all relevant pollution sources are judged objectively on the basis of environmental results. A tiered approach that links the results of administrative actions with true environmental measures was employed in our analyses. This integrated approach is outlined in Figure 6 and includes a hierarchical continuum from administrative to true environmental indicators.

Completing the Cycle of WQ Management: Assessing and Guiding Management Actions with Integrated Environmental Assessment

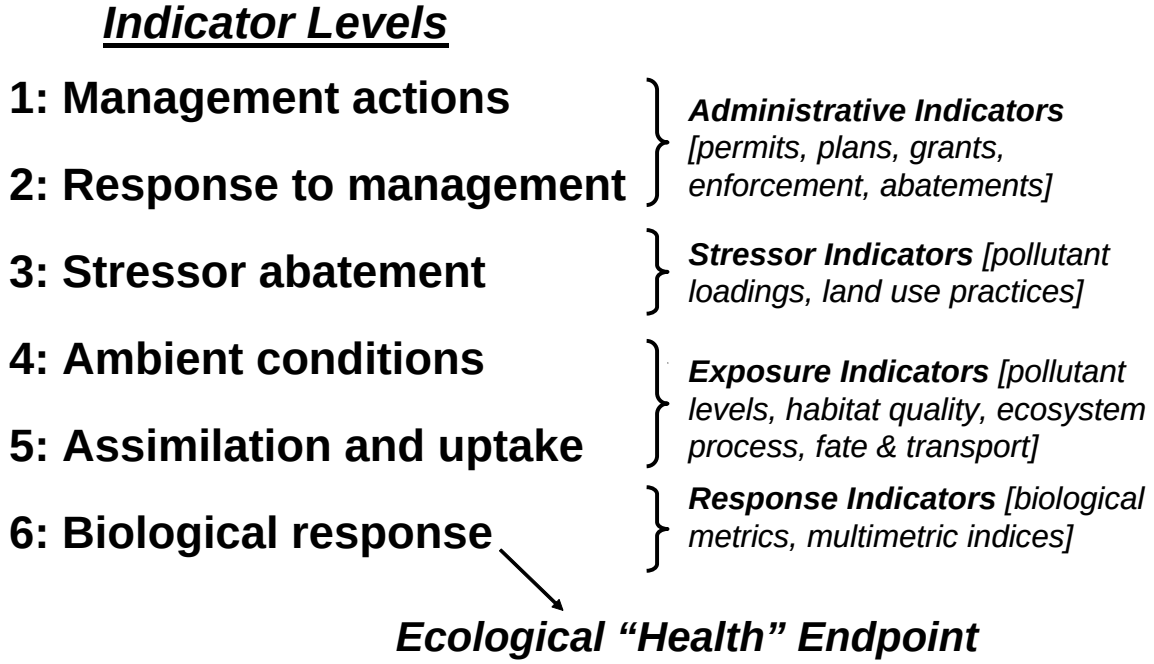

Figure 6*. The hierarchy of administrative and environmental indicators which can be used to support monitoring and assessment, reporting, and an evaluation of the effectiveness of pollution controls on a receiving stream. This is patterned after a model developed by U.S. EPA (1995) and enhanced by Karr and Yoder (2004).*

The six "levels" of indicators include:

- Level 1 - actions taken by regulatory agencies (permitting, enforcement, grants);
- Level 2 - responses by the regulated entity (treatment works, pollution prevention);
- Level 3 - changes in discharged quantities (pollutant loadings);
- Level 4 - changes in ambient conditions (chemical/physical water quality, habitat);
- Level 5 - changes in uptake and/or assimilation (tissue contamination, biomarkers, assimilative capacity); and,
- Level 6 - changes in health, ecology, or other effects (ecological condition, human and wildlife health).

In this process, the results of administrative activities (levels 1 and 2) are linked to water quality (levels 3, 4, and 5) which translates to a response (level 6). An example is the aggregate effect of billions of dollars spent on water pollution control in the U.S. since the early 1970s that have been determined with quantifiable measures of environmental condition. In this case, the

hierarchy was applied to a specific stream reach that is impacted by multiple point and nonpoint sources. The administrative steps taken by Illinois EPA to issue NPDES permits (Level 1) and the steps taken by the permit holders (Level 2) are easily described and quantified. Quantifying changes in the loadings of pollutants (Level 3) can be affected by the quality and completeness of the effluent monitoring which includes the capture of stressors that actually affect the receiving streams. Likewise, documenting changes in ambient conditions (Level 4) can also be affected by the quality and completeness of the chemical/physical monitoring that not only includes the parameters but also the spatial design in relation to sources of pollution. This in turn informs about how pollution sources tax the assimilative capacity (Level 5) of a receiving stream. The end result of all the above is portrayed by the response in the biological indicators which is expressed as attainment or non-attainment of the Illinois General Use aquatic life thresholds for the fish and macroinvertebrate IBIs (IEPA 2016). Symptoms expressed by the biota beyond the index scores can be useful in aiding the causal diagnosis as a feedback loop in the hierarchy of indicators process.

Superimposed on this hierarchy is the concept of stressor, exposure, and response indicators.

- *Stressor* indicators generally include activities which have the potential to degrade the aquatic environment such as pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications.
- *Exposure* indicators are those which measure the effects of stressors and can include whole effluent toxicity tests, tissue residues, and biomarkers, each of which provides evidence of biological exposure to a stressor or bioaccumulative agent.
- *Response* indicators are generally composite measures of the cumulative effects of stress and exposure and include the more direct measures of community and population response that are represented here by the biological indices which comprise the Illinois EPA biological endpoints.

This classification of indicators represents the essential technical elements for the pollution survey design that was employed in the Robinson and Sugar Creek bioassessment by using each indicator *within* its most appropriate role which are most appropriate for each (Yoder and Rankin 1998).

Causal Associations

Describing the causes and sources associated with biological impairments in the study area involved the interpretation of multiple lines of evidence that included water chemistry, sediment chemistry, habitat, and effluent data, a general knowledge about upstream land uses, and biological response signatures within the biological data itself. The assignment of causes and sources of biological impairment result from the association of the impairment with exceedances of water quality criteria or other response-based thresholds and the proximity to sources of pollution which, for the Robinson and Sugar Creek study area, are detailed in the **SYNTHESIS** section later in the report.

RESULTS and DISCUSSION

The reporting and discussion of the results of the bioassessment follows the hierarchy of water indicators by characterizing point and nonpoint loadings of pollutants, the level of exposure suggested by an assessment of the chemical/physical data (including habitat), and the inferences raised by the biological results. Taken together, these results were used to document aquatic life use impairments and assign causes and sources associated with each.

Point Source Discharges

Three major point sources are located in the study area – the Robinson WWTP, the MPC Robinson Refinery, and Illinois Rain CII, all of which are located in Robinson, IL. The Robinson WWTP discharges treated municipal wastewater directly to Robinson Creek (RM 6.45) with an average permitted flow of 2.5 MGD. The MPC Robinson Refinery discharges treated industrial process wastewater directly to Robinson Creek (RM 5.0) via outfall 001 with an annual average permitted flow of 2.67 MGD. An additional eight permitted outfalls include a treatment plant bypass (002) and intermittent discharges of stormwater to Marathon Creek (003,005,008), unnamed tributary #1 (RM 4.77; 006), and unnamed tributary #2 (RM 3.70; 007,009,010). Illinois Rain CII discharges industrial process wastewater to Marathon Creek through a pipeline that crosses the MPC Refinery.

Information about the characteristics and quantities of pollutants discharged by each was obtained from Discharge Monitoring Report (DMR) data supplied by MPC and the U.S. EPA Discharge Monitoring Report (DMR) Pollutant Loading Tool[2].

MPC Robinson Refinery

The principal discharge of treated process wastewater to Robinson Creek is via outfall 001. Table 5 summarizes annual loadings of selected parameters during 2013-16 based on data obtained from the U.S. EPA DMR Pollutant Loading Tool. Discharged loadings were predominated by sulfates and chlorides followed by chemical oxygen demand (COD), oil and grease, total suspended solids (TSS), 5-day biochemical oxygen demand (BOD_5), fluoride, and ammonia-N. Lesser loadings of sulfide, total phenols, and chromium compounds were also reported. The NPDES permit requires monitoring for additional heavy metal and organic compounds. Whole effluent toxicity testing is conducted twice per year.

Robinson WWTP

The discharge of treated wastewater to Robinson Creek is via outfall 001. Table 6 summarizes annual loadings of selected parameters 2013-16 based on data obtained from the U.S. EPA DMR Pollutant Loading Tool. Discharged loadings were predominated by nitrogen, 5-day carbonaceous biochemical oxygen demand ($cBOD_5$), total suspended solids (TSS), phosphorus, and ammonia-N. The NPDES permit requires monitoring for additional heavy metal and organic compounds. Whole effluent toxicity testing is conducted twice per year.

[2] https://cfpub.epa.gov/dmr/compare_dmr_tri_multiyr.cfm.

***Table 5**. Summary of annual loadings (lbs/year) for 11 pollutant parameters discharged by MPC Robinson Refinery via outfall 001 into Robinson Creek during 2013-2016. Data obtained from the U.S. EPA Discharge Monitoring Report (DMR) Pollutant Loading Tool.*

Parameter	Max Allowed (2013)	2013	2014	2015	2016
Sulfate	19,633,074	4,079,116	3,641,826	4,606,332	5,169,528
Chloride	11,235,652	3,788,731	3,284,232	4,355,588	3,217,090
Chemical Oxygen Demand (COD)	3,564,955	356,142	262,832	305,133	338,771
Oil And Grease	195,098	61,836	48,379	59,262	70,992
Solids, Total Suspended	144,312	46,741	35,262	41,715	45,009
5-Day BOD (20°C)	81,030	22,020	24,881	28,807	39,235
Fluoride	60,887	6,738	6,024	5,810	6,548
Ammonia-N	31,580	4,811	2,222	2,407	2,413
Sulfide	2,701	345	296	380	418
Total Phenols	1,549	167	119	172	165
Chromium & Chromium Compounds	15,491	57	106	78	128

Illinois Rain CII

The discharge of treated wastewater to Marathon Creek is via outfall 001 and for stormwater bypassed flows via outfall BD01. Table 7 summarizes annual loadings of selected parameters during 2013-16 based on data obtained from the U.S. EPA DMR Pollutant Loading Tool. Discharged loadings were predominated by total suspended solids (TSS), iron, and fluoride. Barium, manganese, and nickel compounds were also reported. The NPDES permit requires semi-annual monitoring for additional heavy metal and organic compounds.

Effluent Loadings Source Analysis

Effluent parameters, including certain in common parameters, for all three point sources were evaluated in order to have an understanding of the magnitude of potential impact by each one individually. The average permitted flows and annual loadings of total suspended solids (TSS) and 5-day biochemical oxygen demand (BOD_5), are illustrated in Figure 7. The 2016 average flows of MPC 001 and the Robinson WWTP combined are more than 18 times the flow of Illinois Rain CII. In 2016, MPC 001 contributed 87.5% of the TSS and 83.2% of BOD_5 loadings and was the primary source of dissolved substances, particularly chloride and sulfate. The Robinson WWTP contributed 11.1% and 16.8% of the loadings of TSS and BOD, respectively. Illinois Rain CII comprised 1.4% of the TSS loadings.

***Table 6**. Summary of annual loadings (lbs/year) for 12 pollutant parameters discharged by the Robinson WWTP into Robinson Creek during 2013-2016. Data obtained from the U.S. EPA Discharge Monitoring Report (DMR) Pollutant Loading Tool.*

Parameter	2013	2014	2015	2016
Nitrogen	23,886	21,023	22,302	21,728
5-day Carbonaceous BOD	8,951	8,877	13,981	8,715
Total Suspended Solids	9,826	8,641	22,585	5,396
Phosphorus	3,082	2,271	3,321	2,601
Ammonia-N	2,776	761	2,397	840
Fluoride	-	-	3,306	2,465
Iron	-	-	675	377
Manganese Compounds	-	-	319	255
Zinc Compounds	-	-	159	153
Barium Compounds	-	-	90	53.6
Nickel Compounds	-	-	16	33.1
Total Phenols	-	-	21	8

***Table 7**. Summary of annual loadings (lbs/year) for 6 pollutant parameters discharged by the Illinois Rain CII into Marathon Creek during 2013-2016. Data obtained from the U.S. EPA Discharge Monitoring Report (DMR) Pollutant Loading Tool.*

Parameter	2013	2014	2015	2016
Total Suspended Solids	4,972	2,199	1,610	1,384
Iron	0	34	231	48.9
Fluoride	0	11	157	43.4
Barium Compounds	0	5	27	6.37
Manganese Compounds	0	2	6	2.07
Nickel Compounds	0	0	16	0.67

The Robinson WWTP and MPC 001 accounted for the majority of the loadings of BOD_5, TSS, nutrients, ammonia, and dissolved substances such as chlorides and sulfates. The 2016 DMR results for two in common parameters are depicted in Figure 8. Chloride and sulfate loadings were available for MPC 001 only (Figure 9). MPC 001 predominated loadings of TSS and BOD_5 while the Robinson WWTP discharged higher loadings of ammonia during four months.

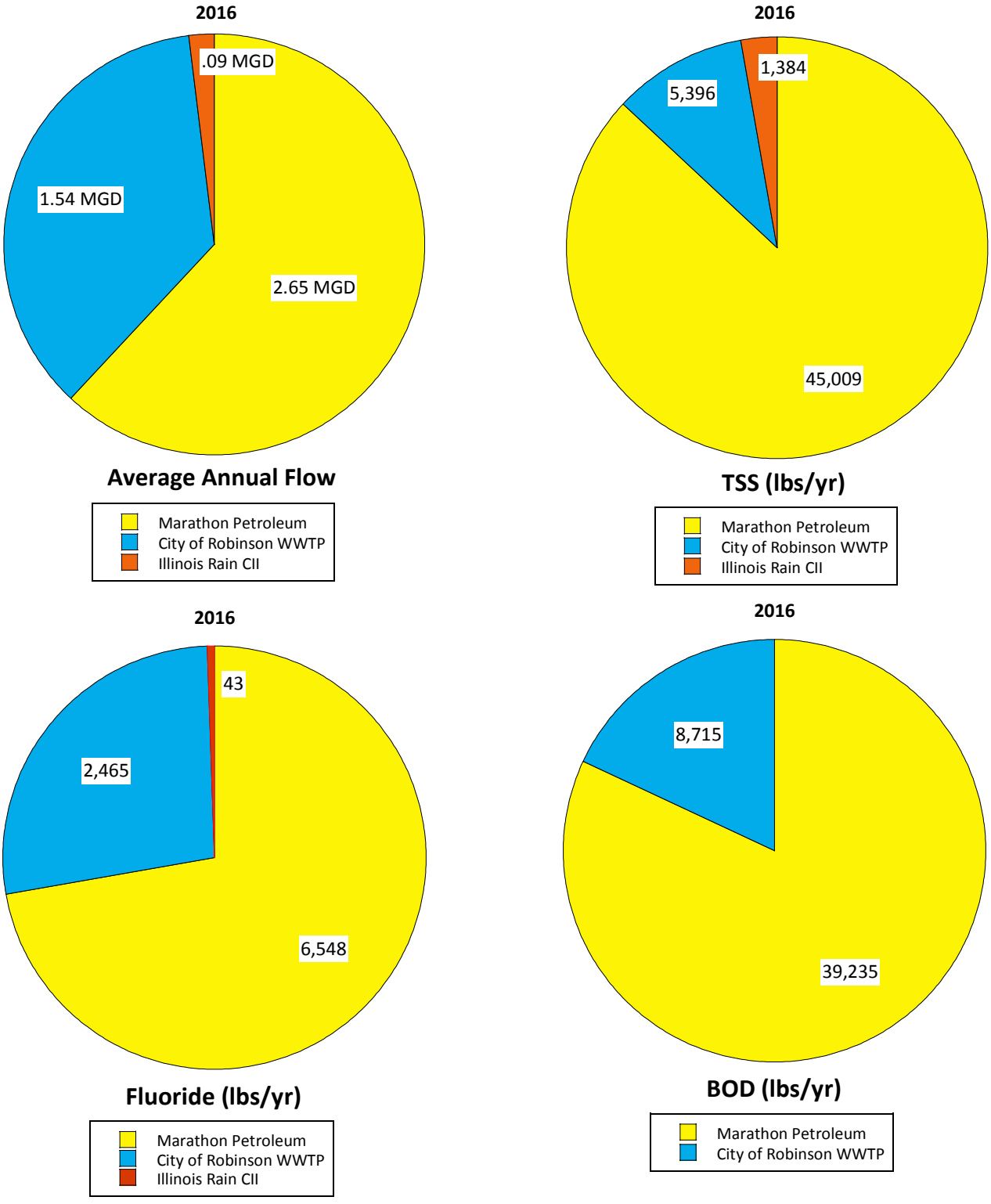

***Figure 7**. Relative contributions of point source flows (MGD) and discharged loadings (lbs./year) of TSS, fluoride, and BOD to Robinson Creek by MPC 001, the Robinson WWTP, and Illinois Rain CII in 2016.*

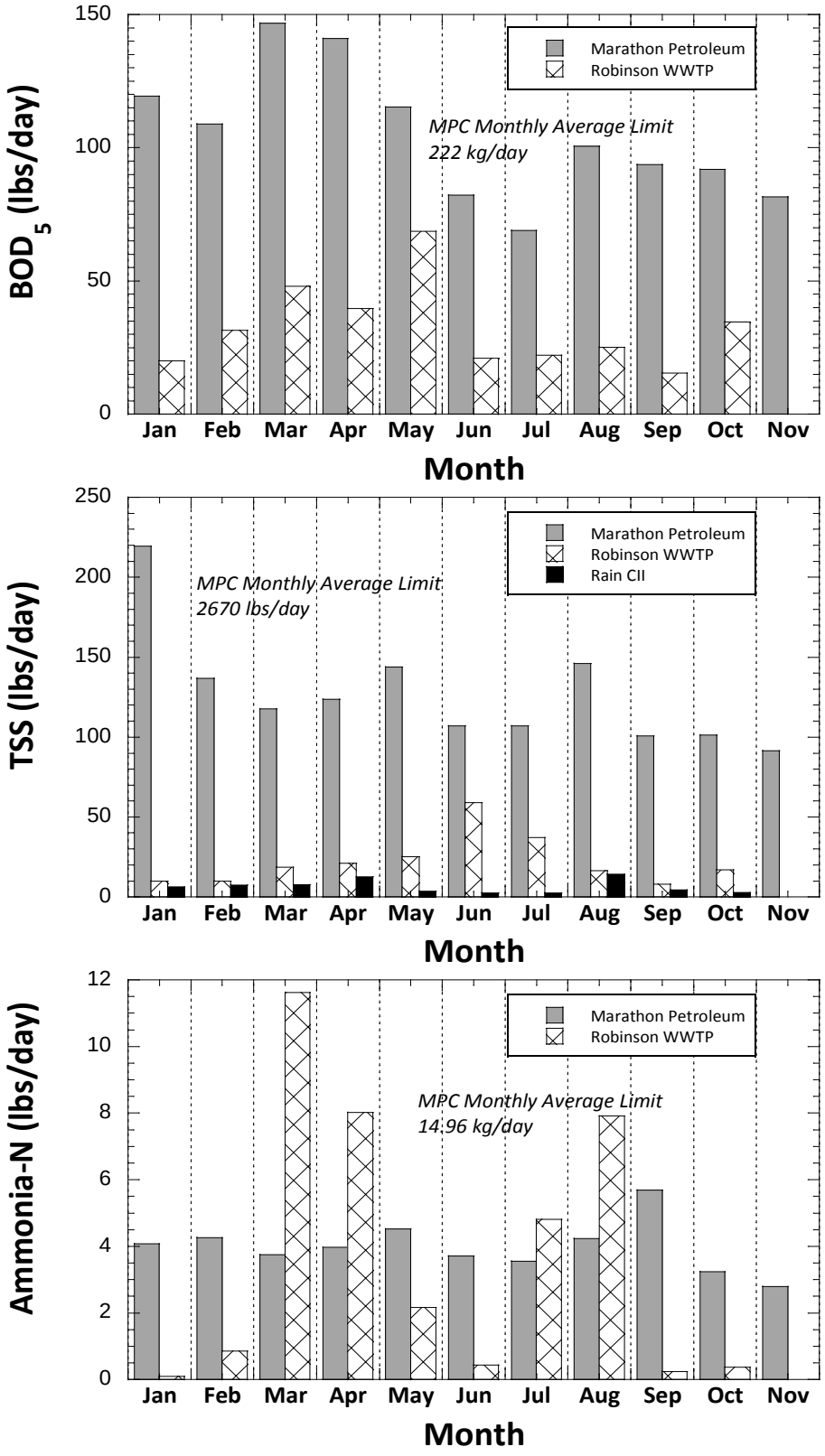

***Figure 8**. Monthly average loadings (lbs/day) of BOD_5, total suspended solids (TSS), and ammonia-N discharged by the Robinson WWTP, MPC 001, and Illinois Rain CII January-November 2016.*

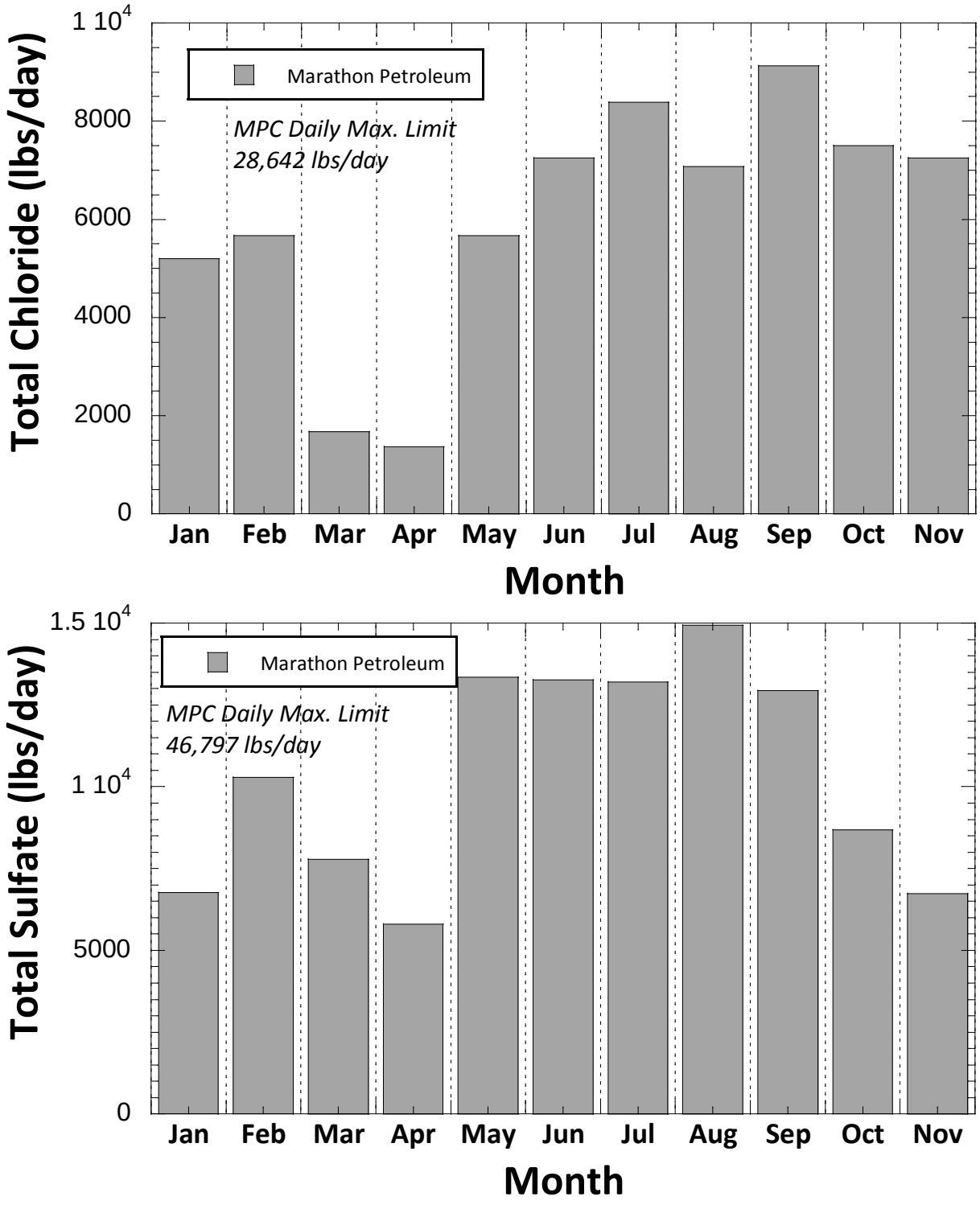

Figure 9. *Average monthly loadings (lbs/day) of total chloride and sulfate from the MPC 001 discharge during January-November 2016.*

Flow Conditions

Because there are no flow gages in the Sugar Creek subbasin, the flow regime during 2016 was inferred from a flow hydrograph from the USGS gage on Bonpas Creek located in the subbasin adjacent and south of the study area (Figure 10). Stream flows in this region are highly dependent on runoff and thus exhibit flashy flow patterns as evidenced in the sharp fluctuations in daily flows. The critical summer low flow of Bonpas Creek is zero and the median is 22 cfs. Flows during the summer fluctuated from <10 cfs to >1000 cfs rising quickly following periods of heavy rain and high runoff and returning to base flows in a few hours.

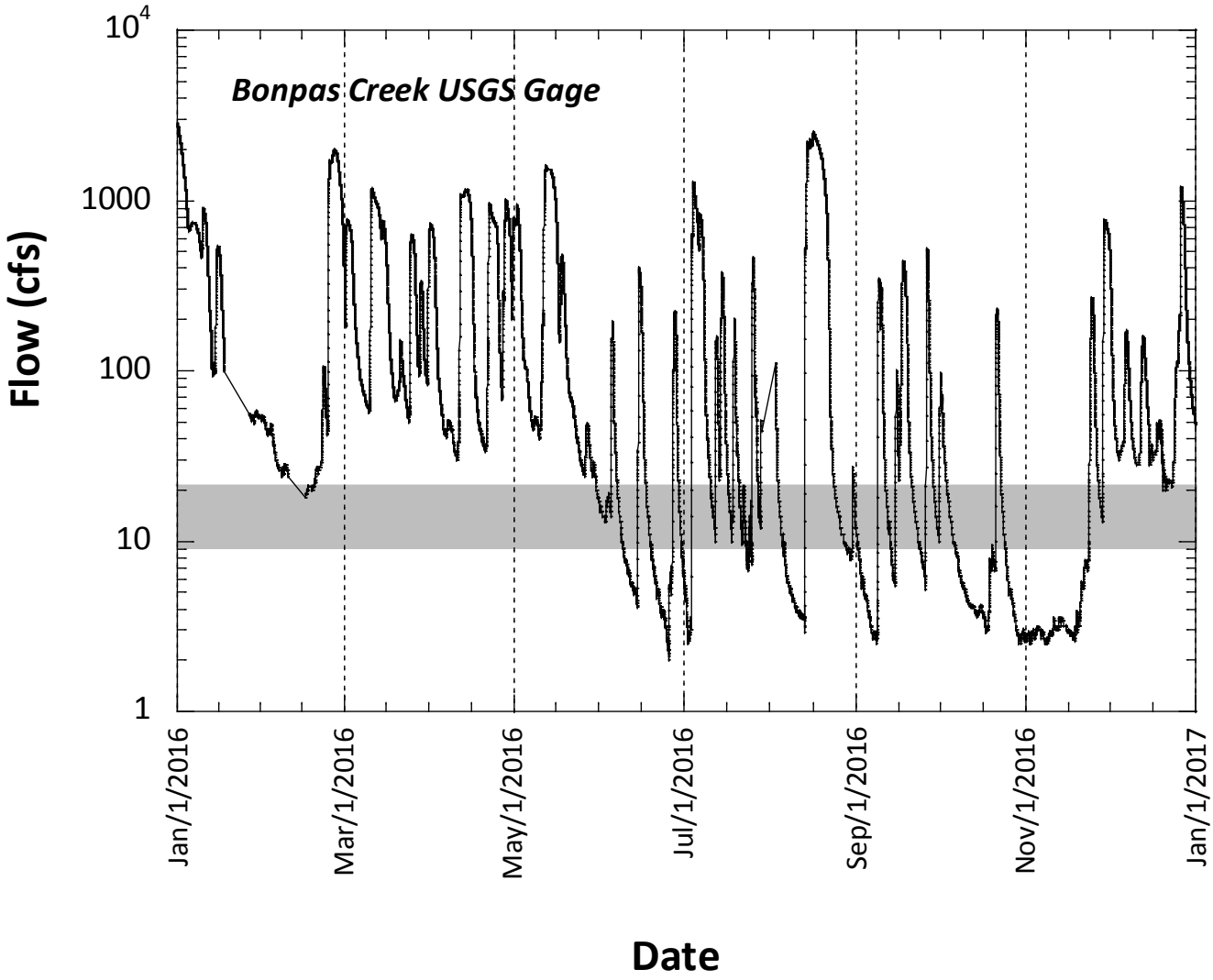

***Figure 10**. Daily flow measured at the USGS gage on Bonpas Creek at Browns, IL during calendar year 2016. The shaded area is the range between the median and minimum average flow. The critical low flow is zero.*

Chemical/Physical Water Quality

Chemical/physical water quality in the study area was determined from data collected via grab samples from the water column at all wetted sites, continuous measurements over 3-4 consecutive day periods at selected mainstem sites in Robinson Creek and a control site in Sugar Creek, and by sediment chemistry from samples collected at selected sites in February 2017 (raw chemical data appears in Appendix A). Parameter groupings included field, demand, ionic strength, nutrients, heavy metals, and organic compounds. Continuous measurements over 3-4 consecutive day periods were made at selected mainstem, tributary, and reference sites for D.O. (mg/l), pH (S.U.), conductivity (µS/cm), and temperature (°C) using YSI Datasonde continuous recorders. Benthic and sestonic chlorophyll α were also collected to provide additional data for the determination of the risk to aquatic life from the effects of nutrient enrichment.

The assessment of the chemical/physical data involved comparing instantaneous, mean, and median values with various effect and non-effect thresholds some of which are codified as criteria in the Illinois WQS and others that lack such criteria and for which other effect thresholds are used to evaluate the risk of exposure to aquatic life. The sampling frequency at each site was insufficient to perform binomial estimates of exceedances such as that in the U.S. EPA Consolidated Assessment and Listing Methodology (CALM; U.S. EPA 2002), thus any value above a particular threshold was considered to be an exceedance. As such, the chemical/physical data served as an indicator of the degree of exposure and stress in support of the primacy of the biological data to determine the attainment of Illinois General Use for aquatic life and for assigning causes of impairment associated with biological impairments.

Exceedances of Illinois Water Quality Standards

The first step in assessing the chemical/physical data collected in 2016 was to determine the extent of exceedances of criteria in the Illinois Water Quality Standards. The exceedances in the 2016 results are listed in Table 8. Temperature exceedances were not included, but are accounted for in the 316(a) technical support document in support of the 316(a) petition (MBI 2017). There were very few chemical exceedances and those that were measured occurred in Robinson Creek downstream from the MPC 001 discharge and in Sugar Creek downstream from Robinson Creek and at the Sugar Creek control site. All except two of the exceedances were for dissolved oxygen (D.O.) and these were measured in the summer month Datasonde deployments in Robinson Creek downstream from MPC 001. A single sample exceedance was recorded for 2,4-Dinitrophenol in Sugar Creek (SC03) in Palestine and a single high pH of 9.3 in Sugar Creek at the control site (SC01B).

Exceedances of Biological Effect and Reference Thresholds

The principal purpose of the chemical assessment is to provide data that supports the interpretation of observed biological impairments and to assist in assigning associated causes of the impairments. Chemical thresholds and benchmarks are essential to that process and included the Illinois water quality standards and derived water quality criteria, biological effect

***Table 8**. Exceedances of Illinois water quality standards or derived water quality criteria based on chemical grab samples and Datasonde measurements during June-October 2016.*

Site ID	River Mile	Parameter (Measured Value/Standard)
Robinson Creek		
RC10	7.90	*No exceedances observed*
RC01	6.50	*No exceedances observed*
RWMZ	6.45	*No exceedances observed*
RC02	6.25	*No exceedances observed*
RC03	6.00	*No exceedances observed*
RC04	5.20	*No exceedances observed*
MPMZ	5.00	*No exceedances observed*
RC05	4.90	D.O. (see Fig. 11/6 mg/l 7-day average)
RC06	4.60	*No exceedances observed*
RC07	3.30	D.O. (see Fig. 11/6 mg/L, 7-day), D.O. (5 mg/l Not-to-Exceed)
RC08	2.00	*No exceedances observed*
RC09	1.00	D.O. (see Fig. 11/6 mg/L 7-day average), D.O. (5 mg/l Not-to-Exceed)
Sugar Creek		
SC01A	6.00	*No exceedances*
SC01B	5.90	D.O. (see Fig. 11/5 mg/L Not-to-Exceed); pH (9.3/6.5-9.0)
SC02	4.10	*No exceedances observed*
SC03	1.60	2,4-Dinitrophenol (4.1 µg/L/10 µg/L)
Unnamed Tributary to Robinson Creek (RM 4.77)		
UT01	0.10	*No exceedances observed*
Unnamed Tributary to Robinson Creek (RM 3.70)		
UT02	0.10	*No exceedances observed*
Marathon Creek		
MC01	0.16	*No exceedances observed*
Quail Creek		
QC01	0.25	*No exceedances observed*
Lamotte Creek		
LC01	1.90	*No exceedances observed*

thresholds derived from regional analyses of stress/response relationships, and national and regional water quality effects compendia. Some of these consist of correlations between concentrations of substances that correspond to biological quality gradients across significant geographical areas while others are toxicological endpoints derived from laboratory studies. Two recent regional studies that were used include correlative effects levels of different chemicals by the DuPage River Salt Creek Working Group (DRSCWG; Miltner et al. 2010) in northeastern Illinois and the Metropolitan Sewer District of Greater Cincinnati (MSDGC; MBI 2015) in southwest Ohio. NOAA Screening Quick Reference Tables (SQRT; Buchman 2008) were used for chemicals that were not included in the Illinois WQS. A compendia of biological and toxicological effect thresholds appears in Appendix Table A-4. Sediment chemical results were

evaluated against threshold and probable effect levels (TEL and PEL) established by MacDonald et al. (2000). Nutrients were further assessed using the draft Stream Nutrient Assessment Procedure (SNAP; Ohio EPA 2015) which is a "combined criteria" consisting of the fish and macroinvertebrate IBI thresholds, the diel D.O. flux, benthic chlorophyll α, and total nitrate and phosphorus. Regional reference values that are representative of background conditions at regional reference sites are considered non-effect benchmarks, but can nonetheless be useful for screening chemicals that vary with landscape characteristics such as nutrients. Illinois EPA developed what are termed non-standard benchmarks that are derived from statistical analyses of the statewide ambient database for water and sediment (Illinois EPA 2016). These and selected reference values are also included in Appendix Table A-4 as non-effect thresholds.

Conventional and Demand Parameters

This category includes D.O., temperature, pH, ammonia-N, and BOD_5. The D.O. results include both grab and continuous data. There were five exceedances of certain provisions of the Illinois D.O. standard in Robinson Creek downstream from MPC 001 and a single exceedance at the Sugar Creek control site. Only the results from the Datasonde monitoring events at the five monthly locations could be used to determine exceedances of the multidimensional Illinois D.O. standard. Most were comparatively minor exceedances at RC05, RC07, RC09, and the SC01 control site as depicted in Figure 11. Grab sample D.O. results were well above the average and minimum not-to-exceed standard, but did show indications of borderline excessive diel D.O. fluxes upstream from MPC 001 (RC04), at the mouth of Robinson Creek (RC09), and the control site on Sugar Creek (SC01B; Figure 12). The five-day biochemical oxygen demand (BOD_5) results were deemed invalid for all except two of the grab sampling events due to elapsed holding times during shipping. Of the remaining results that were analyzed within the accepted holding time all were at or below the minimum detection limit of 2 mg/l suggesting little to no organic enrichment in Robinson or Sugar Creeks.

Ammonia-N is included as a conventional parameter as it has, along with BOD_5, been the target of point source controls of sewage treatment discharges and has shown historic declines in Midwestern U.S. rivers and streams since the early 1990s. Mean ammonia-N was typically <0.1 mg/l in Robinson Creek and <0.2 mg/l in Sugar Creek with the highest values occurring at the control site (SC01B; Figure 12). Quail Creek and the Unnamed Tributary at RM 3.7 (MPC Railyard; MPC 007,009,010) had higher mean values than did Robinson Creek. Maximum values of 0.26-0.30 occurred immediately within the MPC 001 discharge plume, RM 2.0 (RC08), and RM 1.0 (RC09), but none exceeded the Southwest Ohio benchmark value (MBI 2015) for headwater streams, which is the most relevant of the biological effect thresholds for Robinson and Sugar Creeks. The highest maximum value of 0.8 mg/l occurred at the control site in Sugar Creek which elevated the mean value, but the source was not determined.

Nutrient Enrichment Parameters

Nutrient parameters included total phosphorus, total nitrate, and total Kjeldahl nitrogen collected as grab samples. Median values were plotted in lieu of mean values to dampen the effect of outliers. A draft Stream Nutrient Assessment Procedure (SNAP) developed by Ohio

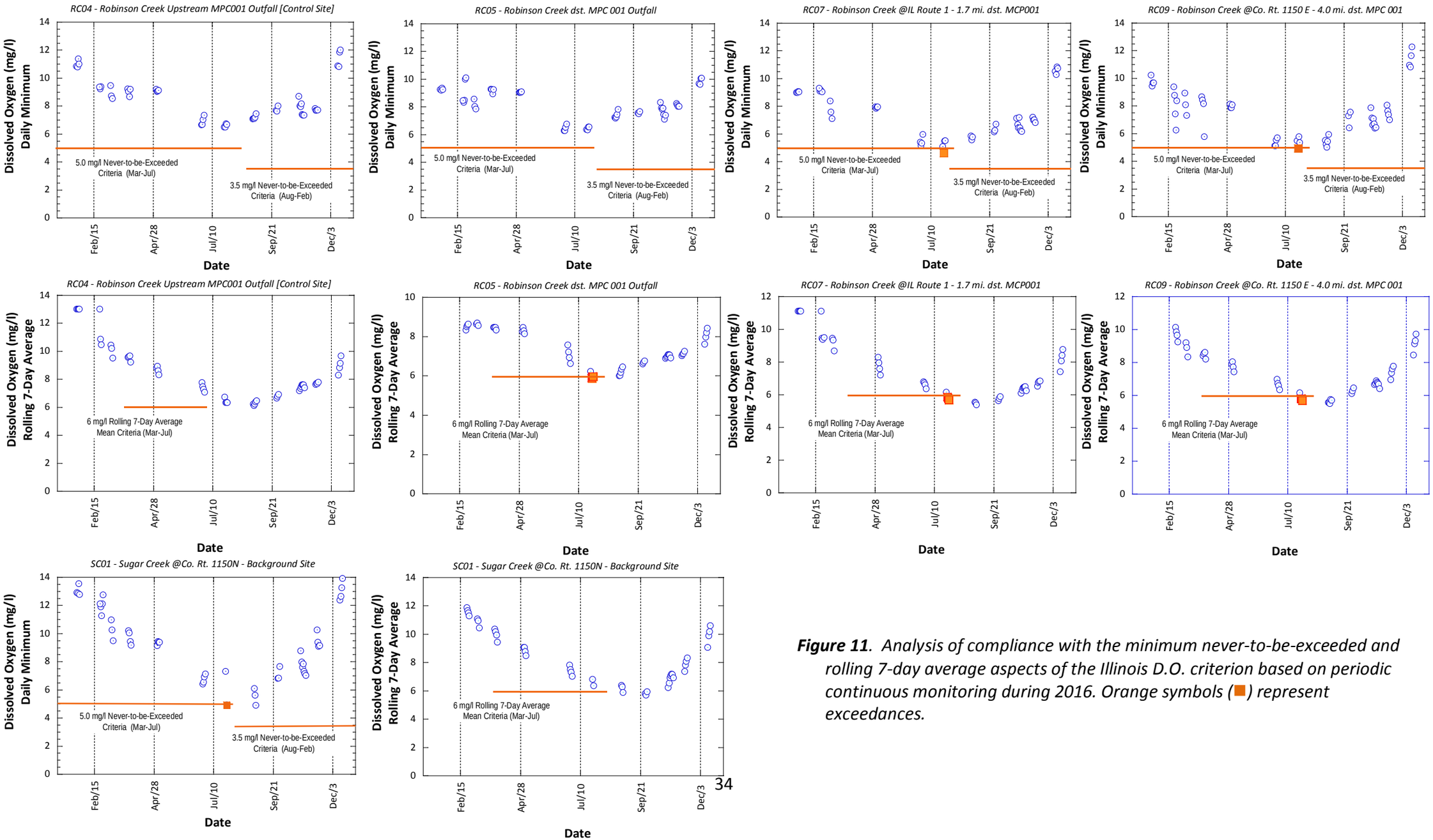

Figure 11. *Analysis of compliance with the minimum never-to-be-exceeded and rolling 7-day average aspects of the Illinois D.O. criterion based on periodic continuous monitoring during 2016. Orange symbols (■) represent exceedances.*

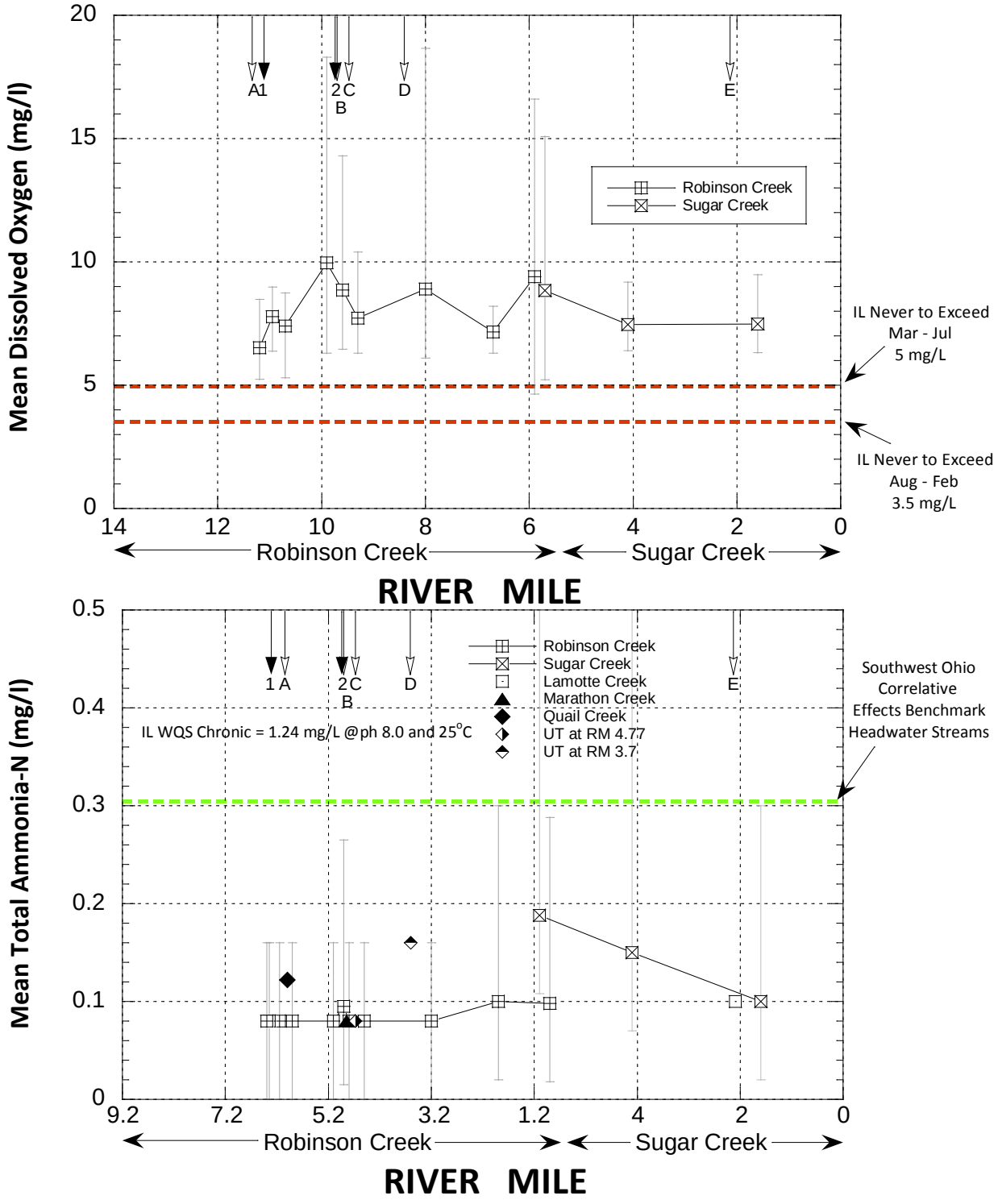

Figure 12. *Mean dissolved oxygen (D.O.; upper) and ammonia-N (lower) based on daytime grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

EPA (2015) was used to assess the overall effect of nutrient enrichment in Robinson Creek and Sugar Creek. SNAP requires data for benthic chlorophyll a and the diel D.O. flux the latter of which was provided by the summer period Datasonde results.

Median total phosphorus showed a pattern of enrichment related primarily to the Robinson WWTP discharge (Figure 13). Median values of 0.6 mg/l declined in a downstream direction stabilizing between 0.2-0.3 mg/l. All of the tributaries and the control site (SC01B) had values between 0.1-0.2 mg/l. Maximum values of 2.20 and 2.15 mg/l occurred immediately downstream from the Robinson WWTP slowly dissipating in a downstream direction to less than the Illinois non-standard benchmark of 0.62 mg/l. All total P values, however, exceeded the U.S. EPA ecoregion reference benchmark of 0.08 mg/l (U.S. EPA 2000).

Median nitrate-N values increased to 2.5-3.0 mg/l downstream from the Robinson WWTP and to values >8-10 mg/l immediately downstream from the MPC 001 discharge (Figure 13). These high median values declined steadily to less than the Illinois non-standard benchmark and 5 mg/l downstream in Robinson Creek and into Sugar Creek. Background values were in the 1.0-1.5 mg/l range at the control site in Sugar Creek (SC01B) and in Lamotte Creek (LC01). Quail Creek (QC01) had the lowest median value in the 2016 study area at <0.5 mg/l. All of the values in the mainstem of Robinson Creek and Sugar Creek downstream from Robinson Creek exceeded the U.S. EPA ecoregion reference values (U.S. EPA 2000).

Median total Kjeldahl nitrogen (TKN) showed a sharp increase downstream from the MPC 001 discharge increasing from <0.4 mg/l to 1.35 mg/l and consistently above 1.0 mg/l at all downstream sites in Robinson Creek and into Sugar Creek (Figure 14). All of these values exceeded the U.S. EPA ecoregion reference value, the Southwest Ohio biological effect benchmark value (MBI 2015) for headwater streams, and the DRSCWG IPS[3] target (MBI 2010). Maximum values indicated variability in TKN inputs and were nearly at or above 3 mg/l at two downstream Robinson Creek sites (RC07 and RC08). Median values in Marathon Creek (MC01), the control site in Sugar Creek (SC01B), and Lamotte Creek were at or just above the 0.4 mg/l minimum detection limit. Quail Creek and the two unnamed tributaries subject to MPC stormwater discharges were less elevated with values of 0.5-0.8 mg/l.

Stream Nutrient Assessment Procedure (SNAP)

The draft Ohio EPA SNAP procedure (Ohio EPA 2015), adapted to Illinois, was used to assess the overall effect of nutrient enrichment in Robinson Creek. SNAP uses the fIBI, and mIBI, the aquatic life use support status (supporting or non-supporting), the total P and nitrate-N results, the maximum and minimum D.O., the diel D.O. swing from continuous monitoring, and benthic chlorophyll a measured at each site to arrive at a trophic status determination for sites that are impaired for aquatic life use support. Sufficient data was collected at six sites in Robinson Creek (RC01, RC02, RC04, RC05, RC07, RC09) and partial data at two other sites (RC06, RC08) plus the control site in Sugar Creek (RC01B). Sites that are impaired for aquatic life based on the fIBI and mIBI were then assessed for the likelihood that nutrient enrichment is a primary

[3] DuPage River Salt Creek Working Group (DRSCWG) Integrated Prioritization System (IPS)

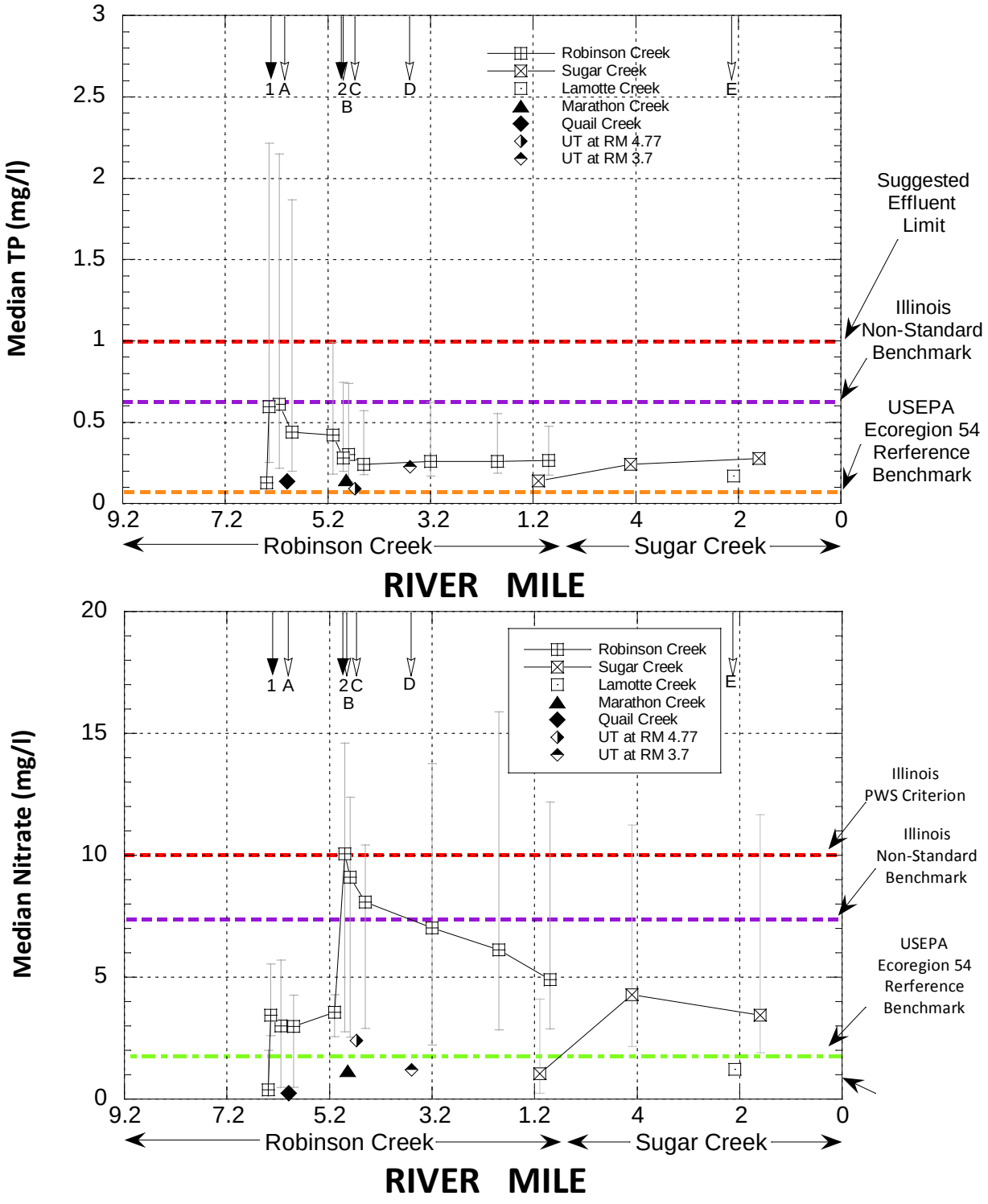

***Figure 13**. Median total phosphorus (upper) and nitrate-N (lower) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

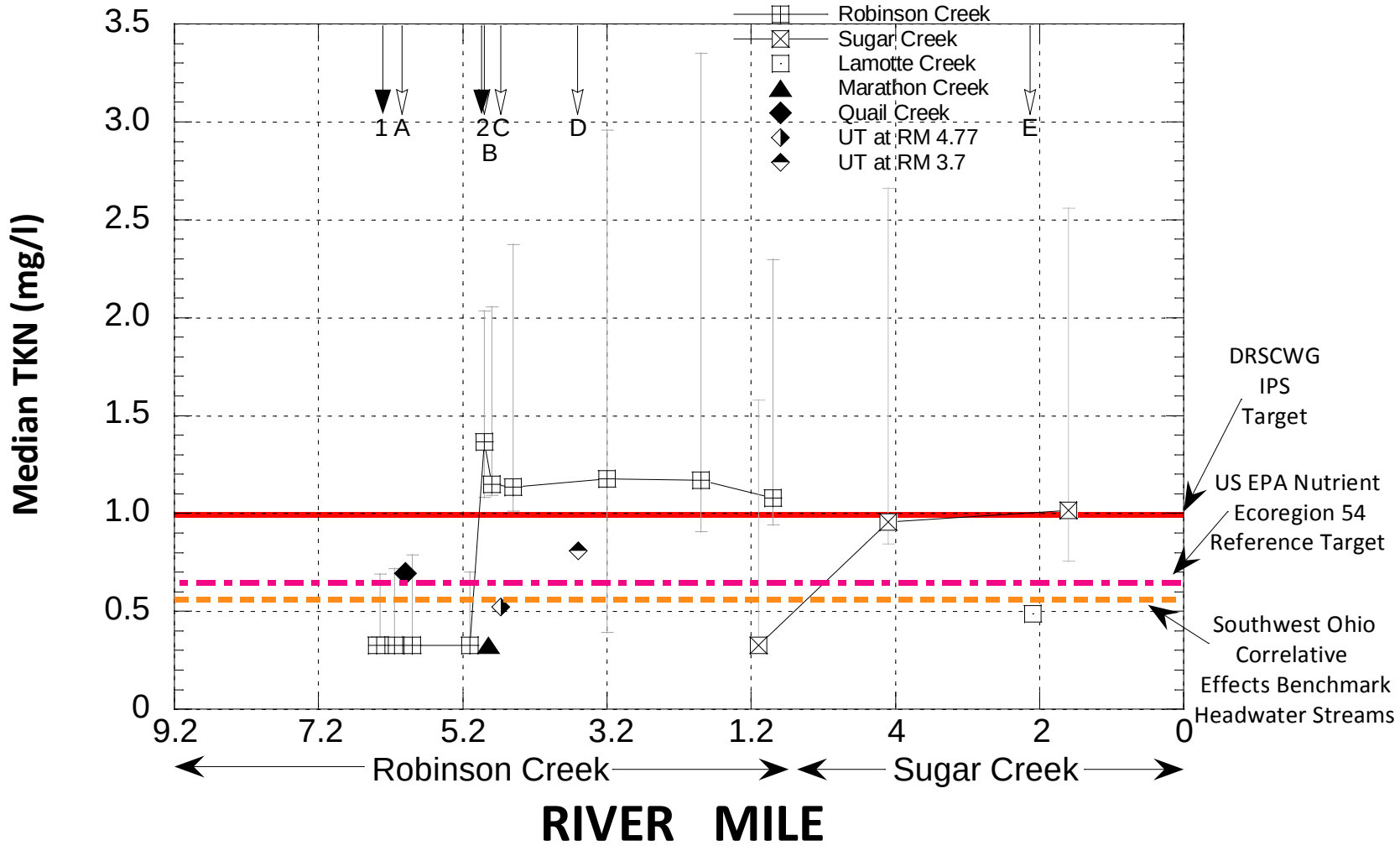

***Figure 14**. Median total Kjeldahl nitrogen (TKN) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

cause associated with the aquatic life impairment (Table 9). Nutrients were not a likely cause at any of the assessed sites. This includes all sites in Robinson Creek downstream from the Robinson WWTP to the mouth at RC09 and the control site in Sugar Creek. This assessment was made despite elevated nutrient levels primarily because D.O. fluxes were low downstream from the WWTP and to the mouth at RC09 (Figure 15). In addition both benthic and sestonic chlorophyll a were very low and not indicative of excessive nutrient effects. The lack of nutrient induced responses in diel D.O. and very low benthic chlorophyll a levels rule out nutrients as a primary cause of biological impairment in Robinson Creek and Sugar Creek.

Ionic Strength Parameters

This category includes parameters based on dissolved ions in the water such as conductivity, total dissolved solids, chloride, and sulfates. These are naturally present in streams and rivers, but can become highly elevated as the result of discharges of municipal and industrial wastewater and urban nonpoint source runoff during the winter months in particular.

Median conductivity showed increases to >1000 µS/cm downstream from the Robinson WWTP and a larger increases up to 2000 µS/cm downstream from the MPC 001 discharge (Figure 16) and remained above 1500 µS/cm throughout Robinson Creek and Sugar Creeks. Background levels were <500 µS/cm at the control site in Sugar Creek (SC01B), Lamotte Creek (LC01), and Quail Creek (QC01). Values in the two unnamed tributaries receiving MPC stormwater and Marathon Creek were only slightly elevated above these background and other reference levels. Mean total dissolved solids showed the same patterns (Figure 16).

Median total chloride showed a similar pattern to conductivity and TDS first increasing downstream from the Robinson WWTP and then increasing further downstream from the MPC 001 discharge. All values including maximums were below the Illinois water quality standard of 500 mg/l and well below the site-specific standard of 750 mg/l (Figure 17). A biological effect based threshold derived by the DRSCWG (Miltner et al. 2010) of 120 mg/l was exceeded at all except the upstream Robinson Creek and tributary sites most of which reflected background conditions of <40-50 mg/l. It is thought that the DRSCWG IPS summer-fall values reflect the latent accumulation of chlorides in stream beds, riparian zones, and near surface ground water from winter concentrations that are likely double the summer-fall values. The U.S. EPA national criterion of 230 mg/l is based on winter values. The difference in Robinson Creek is that the two major sources of chlorides consist of year round inputs making the summer to winter translation less of an issue.

Total sulfates were elevated downstream from the MPC 001 discharge increasing from levels of <100 mg/l to >300-500 mg/l (Figure 17). These elevated values persisted well downstream into Sugar Creek. All tributaries had background levels. Marathon Creek had slightly elevated levels above background levels. However, none of the elevated values in Robinson or Sugar Creek exceeded the Illinois water quality standard. These values did exceed the biological effect threshold of 120 mg/l for Southwest Ohio headwater streams (MBI 2015).

Table 9. *Results for parameters and indicators used in the Stream Nutrient Assessment Procedure (SNAP) to determine the role of the effect of nutrients on aquatic life use support in Robinson Creek in 2016. SNAP produces a trophic status that translates to the likelihood of nutrients as a cause of non-support.*

Site ID	River Mile	QHEI	Drain. Area (mi^2)	fIBI[1]	mIBI[2]	Attain-ment Status	Total Phos. (mg/l)[3]	Nitrate (mg/L)[4]	Max DO	Min DO	Max. Daily DO Flux	DO Flux Narrative	Benthic Chl. a	Benthic Chlr a Narrative	Sestonic Chlr a	Trophic Status
Robinson Creek																
RC01	6.50	73.0	2.50	22.0	23.7	**Non**	0.13	0.39	7.78	6.04	1.74	Normal-Low	126	Low-Moderate	0.5	Not Nutrients
RC02	6.25	55.0	3.20	33.0	29.4	**Non**	0.61	3.00	9.35	6.60	2.75	Normal-Low	177	Low-Moderate	2.14	Not Nutrients
RC04	5.20	76.5	6.50	28.0	29.5	**Non**	0.42	3.57	10.69	6.50	3.34	Normal-Low	63.8	Low	0.5	Not Nutrients
RC05	4.90	58.5	7.90	20.5	19.5	**Non**	0.30	9.10	9.25	6.30	2.00	Normal-Low	15.8	Low	0.5	Not Nutrients
RC06	4.60	58.0	8.40	23.0	23.6	**Non**	0.24	8.10	-	-	-	-	83.6	-	0.8	-
RC07	3.30	62.5	10.50	23.5	35.2	**Non**	0.26	7.03	10.94	4.62	5.60	Normal-Low	5.3	Low	2.1	Not Nutrients
RC08	2.00	62.0	12.30	27.5	29.5	**Non**	0.26	6.13	-	-	-	-	57.5	-	0.5	-
RC09	1.00	64.0	12.90	28.5	29.5	**Non**	0.27	4.90	11.05	4.93	5.62	Normal-Low	5.7	Low	0.5	Not Nutrients
SC01	5.90	56.0	14.20	-	36.6	**Non**	0.14	1.05	11.49	4.90	4.57	Normal-Low	13.3	Low	5.34	Not Nutrients

[1,2] – Shading color based on Illinois 305(b) guidance – Green – Good, Full Attaining; Yellow – Fair; Non-Attaining; Orange – Poor, Non-Attaining

[3,4] – Shading color derived from narrative risk levels from Ohio Draft Stream Nutrient Assessment Procedure (SNAP; Ohio EPA 2015); risk levels based on co-occurrence of phosphorus and nitrogen (see document); Key: Blue – Least Disturbed; Green – Generally Little to Low Risk; Yellow – Low to Moderate Risk; Orange – Moderate – High Risk; Red – High Risk

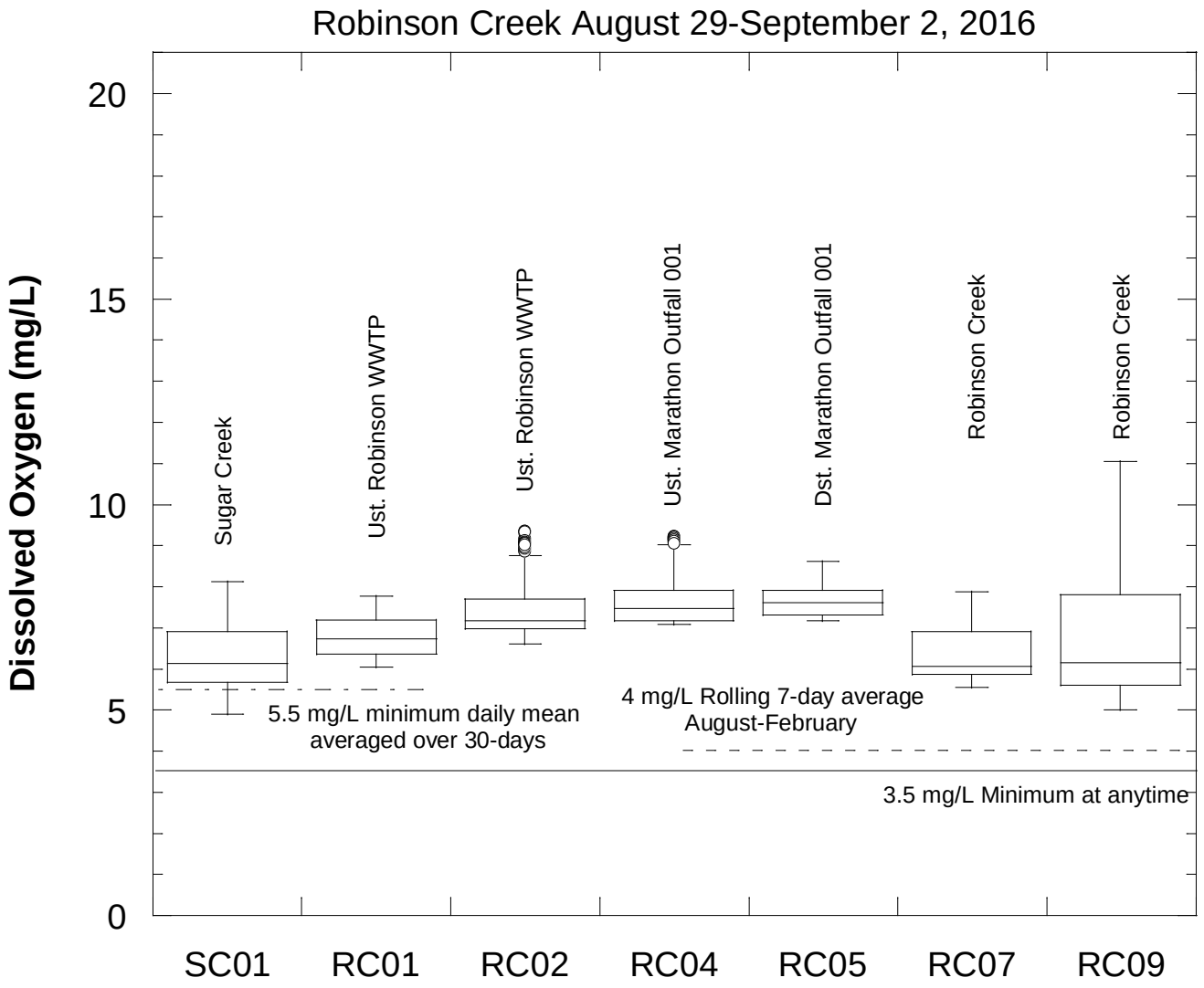

Figure 15. *Results of continuous D.O. monitoring at six sites in Robinson Creek and the control site in Sugar Creek during August 29-September 2 during summer low flows. This supplied the diel D.O. flux input to the SNAP procedure (Table 10).*

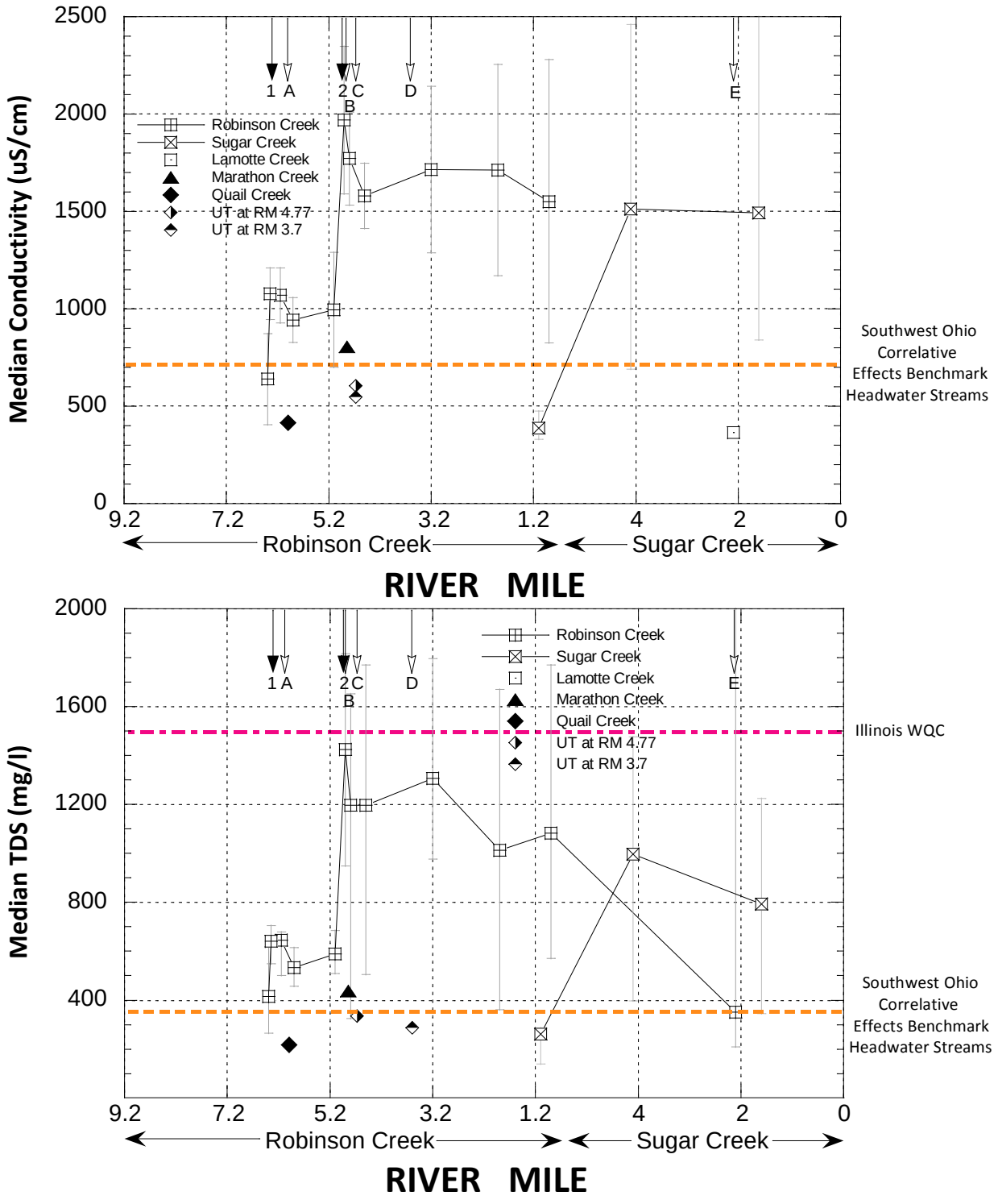

***Figure 16**. Median conductivity (upper) and mean total dissolved solids (TDS; lower) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

Heavy Metals and Other Parameters

A series of heavy metals and other parameters were sampled and analyzed (all values are expressed as total recoverable form) as part of the overall assessment of water quality in the 2016 study area. This included 16 heavy metal and four other parameters that have the potential to be informative about the diverse sources of pollution in Robinson and Sugar Creeks. The results of the sampling and analysis of 20 parameters are depicted in Table 10. There were no exceedances of Illinois water quality standards among any of the metals parameters. Several parameters were below the minimum detection limit or detected just above that level (Be, Cd, Cr^{+3}, Cu, Fe, Pb, and Ni). Others were detected, but showed little in the way of meaningful longitudinal patterns (Ca, Cr^{+6}, Mg) that suggested a specific source of origin. Only two parameters, manganese and zinc, exceeded the southwest Ohio biological effect thresholds. Four other parameters exhibited meaningful longitudinal patterns and these were graphed to illustrate potential sources and fate in Robinson and Sugar Creeks.

Selenium values were below the minimum detection level at all sites upstream from the MPC 001 discharge and in each tributary except Marathon Creek (MC01). The highest mean value of 65.3 µg/l occurred in the MPC 001 discharge plume and declined downstream remaining above 30-50 µg/l and 26.3 µg/l at the downstream most Sugar Creek site (SC03). While none of these values were exceedances of the current Illinois water quality standard of 1.0 mg/l (1000 µg/l), they did exceed published effect thresholds (Appendix Table A-4) including the recently revised U.S. EPA national water quality criterion for lotic systems (U.S. EPA 2016).

Mean total strontium exhibited a pattern similar to selenium except that elevated values were also observed at the upstream most site in Robinson Creek (RC01; Figure 18). The NOAA SQRT guidelines (Buchman 2008) list a chronic effect value of 1500 µg/l for freshwater which is above the maximum values observed in the 2016 study area. Background levels were 100-150 mg/l in the tributaries and the control site in Sugar Creek (SC01B) with levels slightly elevated in Marathon Creek. Values increased tenfold over background in the MPC 001 discharge plume and downstream extending into Sugar Creek.

Mean total vanadium exhibited a clear pattern of increase downstream from the MPC 001 discharge, but returned to background levels by the downstream most site in Robinson Creek (Figure 19). All values were well below the NOAA SQRT chronic threshold of 19 µg/l with maximum values of 6 µg/l occurring on the MPC 001 discharge plume, RC05, and at RC07.

Mean total zinc exhibited a pattern that points to the Robinson WWTP as the primary source above background levels (Figure 19). Background levels were below the minimum detection level at the upstream most site in Robinson Creek (RC01), the control site in Robinson Creek (SC01B), Quail Creek (QC01), and the second unnamed tributary (UT02). Very low, but detectable levels occurred in the remaining tributaries. Maximum values were well below the Illinois chronic water quality standard.

Table 10. *Mean total recoverable concentrations for 16 heavy metal and four other parameters in the 2016 Robinson Creek study area, June-October 2016. Values exceeding Illinois water quality standards or biological effect thresholds are highlighted (BD – values <mean detection level).*

Site ID	Basin code	Stream Code	RM	ALUMINUM (µg/L)	ARSENIC (µg/L)	BERYLLIUM (µg/L)	BORON (µg/L)	CADMIUM (µg/L)	CALCIUM (mg/L)	CHROMIUM (µg/L)	HEX. CHROME (ug/l)	COBALT (µg/L)	COPPER (µg/L)	IRON (µg/L)	LEAD (µg/L)	MAGNESIUM (µg/L)	MANGANESE (µg/L)	NICKEL (µg/L)	SELENIUM (µg/L)	SILVER (µg/L)	STRONTIUM (µg/L)	VANADIUM (µg/L)	ZINC (µg/L)
Robinson Creek																							
RC01	95	730	6.50	100.0	BD	BD	108.0	BD	75.7	BD	5.0	BD	BD	BD	BD	15850	69.5	BD	BD	BD	221.5	BD	BD
RWMZ	95	730	6.45	253.0	BD	BD	183.0	BD	79.9	2.5	5.0	BD	BD	BD	BD	27300	94.0	2.5	BD	BD	149.5	BD	22.0
RC02	95	730	6.25	156.5	BD	BD	182.5	BD	81.6	2.5	3.5	BD	BD	BD	BD	26650	53.5	2.5	BD	BD	154.0	BD	20.5
RC03	95	730	6.00	117.0	BD	BD	144.0	BD	77.5	2.5	3.0	BD	BD	BD	BD	23550	42.0	2.5	BD	BD	156.0	BD	15.0
RC04	95	730	5.20	135.0	BD	BD	150.0	BD	78.9	BD	2.5	BD	BD	BD	BD	24950	24.5	2.5	BD	BD	154.5	BD	15.5
MPMZ	95	730	5.00	45.0	9.0	BD	276.5	BD	128.5	BD	3.0	BD	2.5	BD	BD	32150	18.5	BD	64.5	BD	1150.0	3.8	12.0
RC05	95	730	4.90	137.0	8.0	BD	259.5	BD	120.0	BD	4.0	BD	BD	BD	BD	31050	43.5	BD	54.0	BD	978.0	5.0	14.5
RC06	95	730	4.60	76.5	8.0	BD	209.5	BD	110.0	BD	3.0	BD	2.5	BD	BD	29500	36.0	BD	46.5	BD	831.5	3.8	11.0
RC07	95	730	3.30	92.0	6.5	BD	234.0	BD	116.0	BD	3.0	BD	BD	250	BD	30150	42.0	BD	46.0	BD	810.5	2.5	7.5
RC08	95	730	2.00	124.5	6.0	BD	212.5	BD	108.5	BD	3.0	BD	2.5	BD	BD	28950	50.5	BD	36.5	BD	777.0	2.5	7.5
RC09	95	730	1.00	91.5	3.8	BD	199.5	BD	105.5	BD	4.0	BD	BD	BD	BD	27900	81.5	BD	34.5	BD	720.5	BD	6.0
Quail Creek																							
QC01	95	735	0.25	63.5	2.5	BD	35.0	BD	48.1	BD	2.0	BD	BD	600	BD	14900	392.0	BD	BD	BD	114.5	BD	BD
Marathon Creek																							
MC01	95	734	0.16	133.5	2.5	BD	72.5	BD	70.8	BD	5.0	BD	BD	250	BD	19150	129.0	BD	3.8	BD	255.0	2.5	2.5
Unnamed Tributary to Robinson Creek at RM 4.77																							
UT01	95	732	0.10	628.0	BD	BD	32.0	BD	56.9	BD	3.0	BD	4.8	925	BD	22850	130.5	BD	BD	BD	140.5	3.8	3.8
Unnamed Tributary to Robinson Creek at RM 3.70																							
UT02	95	733	0.10	628.0	BD	BD	55.0	BD	52.2	BD	3.0	BD	BD	BD	BD	20650	225.5	BD	BD	BD	133.0	BD	BD
Sugar Creek																							
SC01	95	731	6.00	423.0	BD	BD	25.0	BD	55.3	BD	5.0	BD	BD	600	BD	17800	98.0	BD	BD	BD	113.0	BD	2.5
SC02	95	731	4.10	55.0	5.0	BD	180.0	BD	100.9	BD	4.0	BD	BD	BD	BD	27050	31.5	BD	33.0	BD	684.5	BD	3.8
SC03	95	731	1.60	194.0	3.8	BD	170.0	BD	97.9	BD	5.0	BD	BD	250	BD	26350	40.5	BD	29.5	BD	674.5	BD	2.5
LaMotte Creek																							
LC01	95	229	1.90	838.0	BD	BD	28.0	BD	48.9	BD	5.0	BD	BD	1000	BD	18850	99.5	BD	BD	BD	102.2	2.5	4.3

Parameter	WWH[1]	75% HW[2]
MANGANESE (µg/L)	347	-
COPPER (µg/L)	8.9	5
LEAD (µg/L)	17.4	2.5
ZINC (µg/L)	39.3	15
CADMIUM (µg/L)	-	0.25

[1]SW Ohio Correlative Effects Benchmarks for WWH

[2]Ohio Reference Site Target (Statewide 75th %ile)

Guidelines for Identifying Potential Causes of Impairment of Aquatic Life Use in Illinois Streams	
ARSENIC	Acute: 360 µg/L (dissolved), Chronic: 190 µg/L (dissolved)
IRON	Acute: 1000 µg/L (dissolved)
SELENIUM	Acute: 1000 µg/L
BORON	Acute: 40100 µg/L, Chronic: 7600 µg/L
CHROMIUM, HEX.	Acute: 16 µg/L, Chronic: 11 µg/L

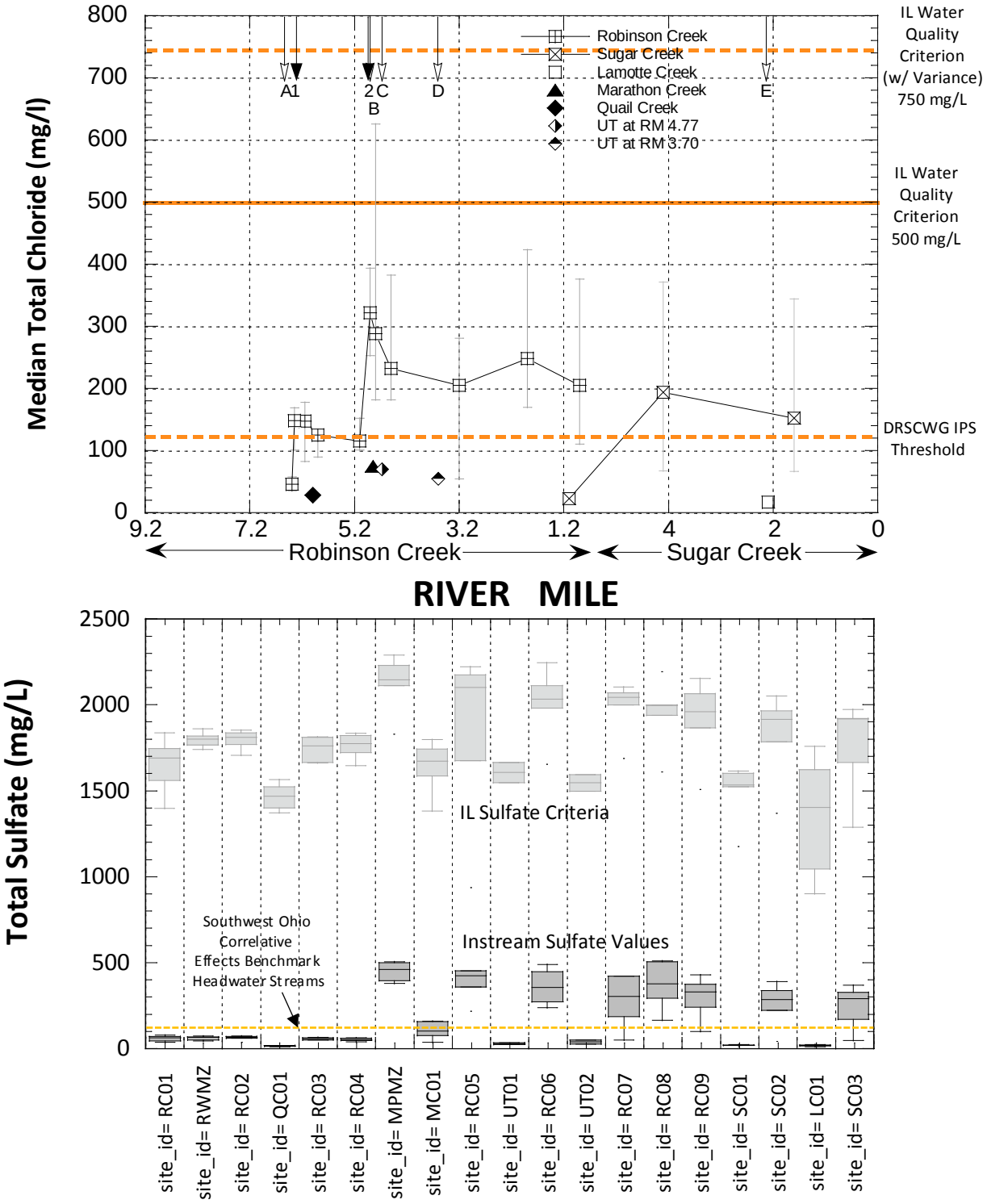

Figure 17*. Median chloride (upper) and total sulfate (lower) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top of the chloride figure. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

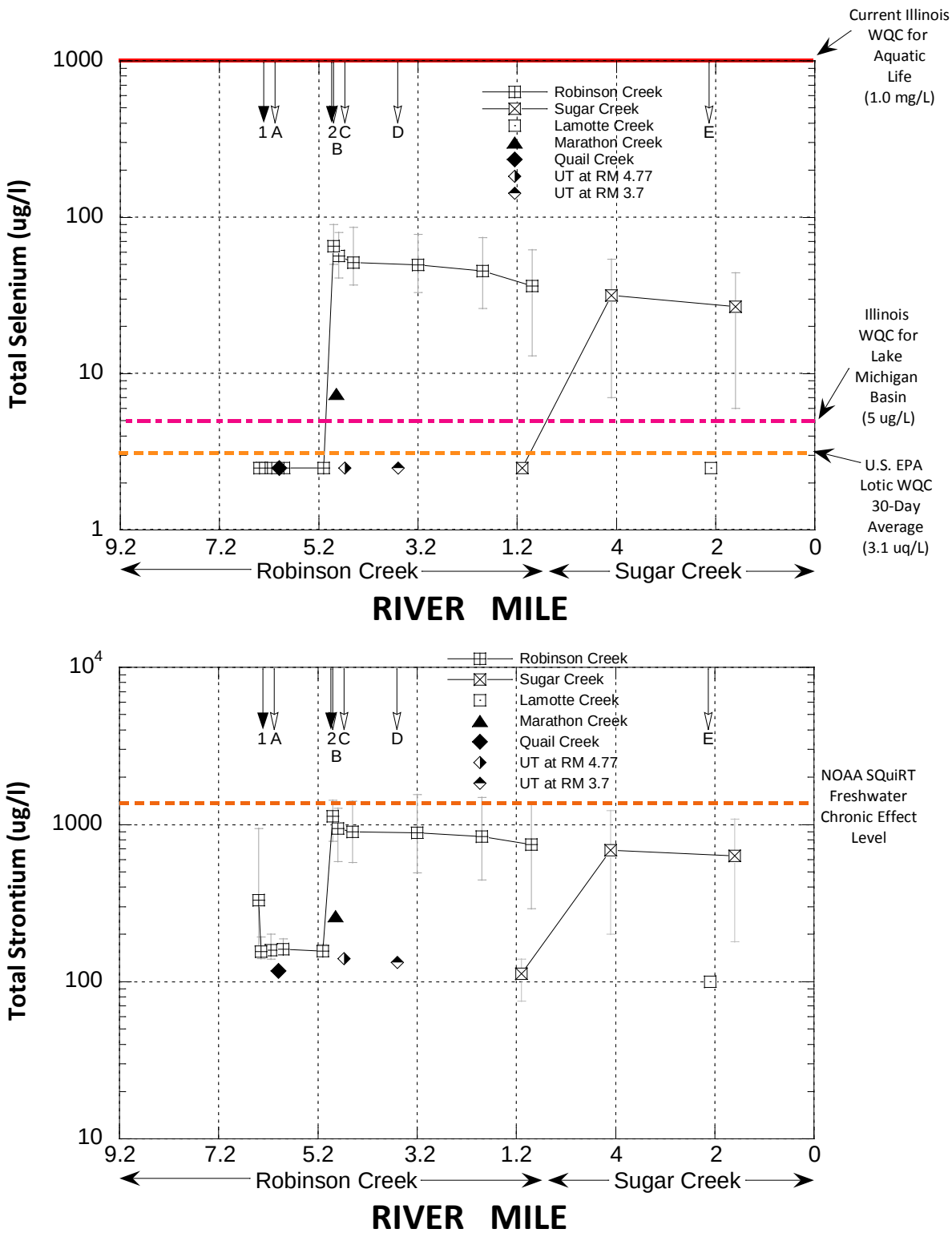

***Figure 18**. Mean total selenium (upper) and mean total strontium (lower) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality standard and other effect thresholds are depicted for selenium and the NOAA SQuiRT freshwater threshold for strontium.*

Organic Compounds

Scans for organic compounds were included in the assessment of water quality. The 11 organic compounds that were detected in grab water samples are listed in Table 11. A single sample exceedance of the Illinois criteria for 2,4-Dinitrophenol occurred at the downstream most site in Sugar Creek (SC03). U.S. EPA (2015) screening levels were consistently exceeded for bis(2-Ethylhexyl) Phthalate at 14 locations with no longitudinal patterns being evident that point to a specific source.

Sediment Chemistry

Sediment samples were initially collected in late October, but lab issues precluded several of the analyte groups so resampling occurred in early February 2017. Samples were analyzed for heavy metals and classes of organic compounds including base neutral acids (BNA), polycyclic aromatic hydrocarbons (PAH), semi-volatile compounds, pesticides, and PCBs. No detections of pesticides occurred in any of the samples. PCB were detected at two sites in the form of Aroclor 1254 at RC05 and SC03 and at very low levels. All other samples were below the minimum detection level.

Sediment Metals

Data for 16 heavy metals are depicted in Table 12. Only 3 samples exceeded the MacDonald et al. (2000) threshold effect level (TEL) and none exceeded the probable effect level (PEL). Arsenic exceeded the TEL in the first unnamed tributary (UT01) that receives stormwater runoff from MPC. Lead exceeded the TEL at two sites in lower Robinson Creek (RC07 and RC08). Selenium exceeded the Ohio EPA (2008) guideline threshold and also that recommended by Lemly (2002, 2004) at RC05 and RC06. Other parameters exhibited longitudinal increases downstream from the MPC 001 discharge and included aluminum, arsenic, beryllium, chromium, and copper.

Sediment PAHs

PAHs in sediment exceeded MacDonald et al. (2000) TEL and PELs for selected parameters, but only at two sampling locations, one in Robinson Creek (RC02) and one in Quail Creek (QC01) each of which is upstream of the major point source discharges (Table 13). Seven compounds exceeded TELs at RC02 and nine compounds exceeded TELs and four compounds exceed PELs in Quail Creek. Values above minimum detection limits, but below TEL/PEL thresholds occurred mostly in upper Robinson Creek with values below minimum detection limits downstream from RC06 and in all of the remaining tributaries. None exceeded the EPA GLNPO (2000) or IEPA (1997) sediment thresholds.

Stream Habitat

The habitat assessment was based on the QHEI and its metrics, submetrics, and individual attributes. QHEI scores were generally above the threshold for General Use attainability (60) in the Robinson Creek mainstem with two sites and Marathon Creek on the border with fair quality reflecting incomplete recovery from past channelization particularly in the segment downstream from Illinois Rt. 1 (RC07; Figure 20). Sugar Creek QHEIs were in the fair range with

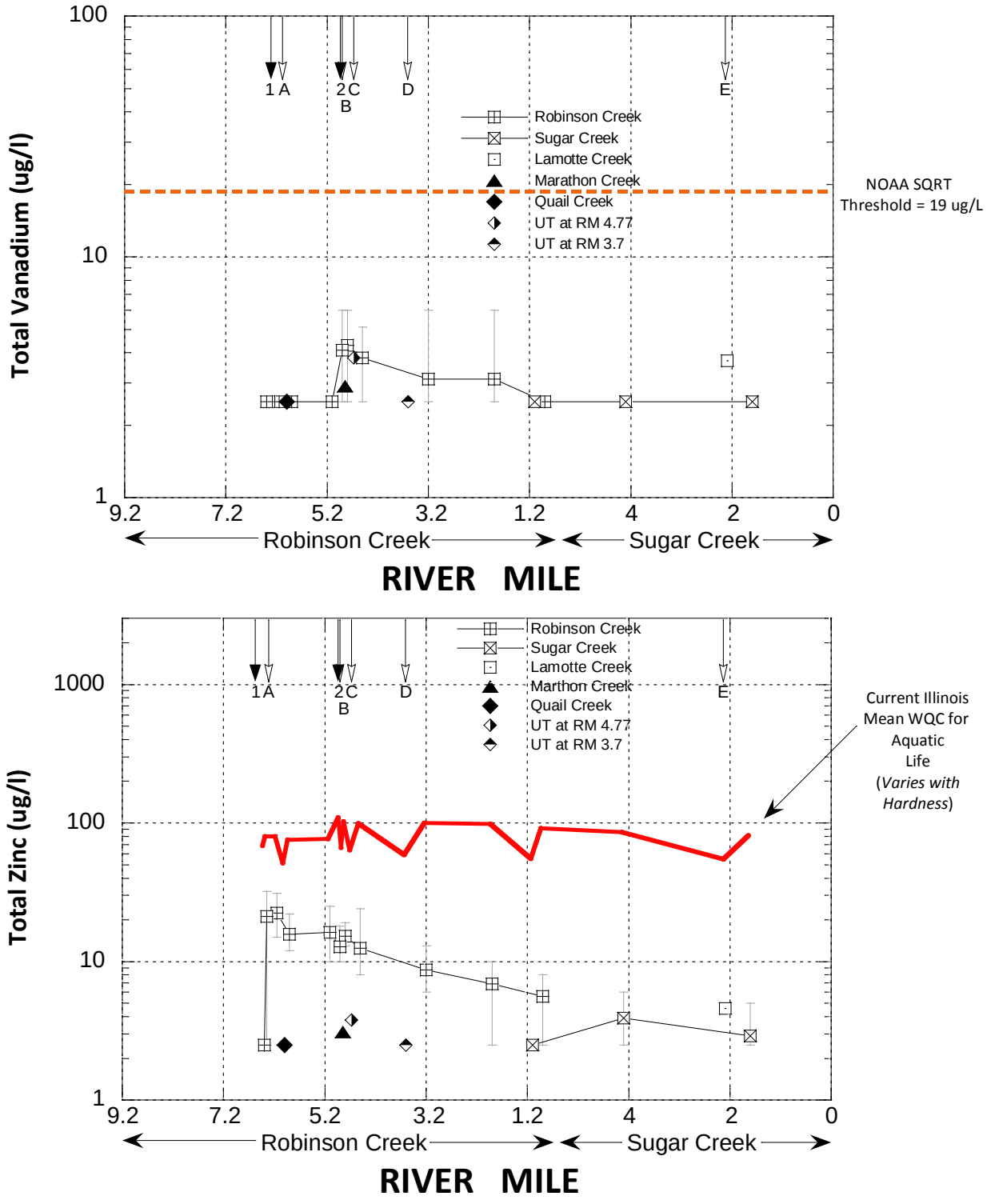

Figure 19. *Mean total vanadium (upper) and mean total zinc (lower) based on grab samples at all sites in the Robinson and Sugar Creek study area, June-October 2016. Maximum and minimum values are shown around the mean for each site in Robinson and Sugar Creek. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top. Illinois water quality criteria and other effect or refence thresholds are depicted in each.*

***Table 11**. Mean concentrations for 11 organic compounds detected by scans in grab water samples in the 2016 Robinson Creek study area, June-October 2016. Values exceeding Illinois water quality criteria or ecological effect thresholds are highlighted (BD – values <mean detection level).*

Site ID	Basin code	Stream Code	RM	2,3,4,6-Tetrachlorophenol (ug/L)		2,4-Dinitrophenol (ug/L)		Benzyl butyl phthalate (ug/L)		Bis(2-ethylhexyl) phthalate (ug/L)		Di-n-butyl phthalate (ug/L)		Di-n-octyl phthalate (ug/L)		Pentachlorophenol (ug/L)		Acetone (ug/L)		Bromomethane (ug/L)		Chloroform (ug/L)		Chloromethane (ug/L)	
Robinson Creek																									
				Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max	Median	Max
RC01	95	730	6.50	BD	BD	BD	BD	5.00	10.49	5.05	11.00	5.00	12.69	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
RWMZ	95	730	6.45	BD	BD	BD	BD	5.00	10.00	5.00	10.93	5.00	15.09	5.00	10.18	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
RC02	95	730	6.25	BD	BD	BD	BD	5.00	10.54	5.00	10.93	5.00	11.34	5.00	10.60	BD	BD	2.50	6.00	BD	BD	BD	BD	0.50	1.00
RC03	95	730	6.00	BD	BD	BD	BD	5.00	11.13	5.00	12.65	5.00	11.17	5.00	11.68	BD	BD	2.50	5.00	BD	BD	BD	BD	BD	BD
RC04	95	730	5.20	BD	BD	BD	BD	BD	BD	BD	BD	5.00	12.12	BD	BD	BD	BD	2.50	5.00	BD	BD	BD	BD	BD	BD
MPMZ	95	730	5.00	BD	BD	BD	BD	5.00	12.00	5.00	11.00	5.00	15.66	BD	BD	5.00	10.22	2.50	6.00	BD	BD	BD	BD	BD	BD
RC05	95	730	4.90	BD	BD	BD	BD	BD	BD	BD	BD	8.57	33.24	BD	BD	BD	BD	2.50	22.00	BD	BD	BD	BD	BD	BD
RC06	95	730	4.60	5.00	12.50	BD	BD	5.00	12.00	8.04	12.00	5.00	15.95	BD	BD	5.00	10.89	BD	BD	BD	BD	BD	BD	BD	BD
RC07	95	730	3.30	BD	BD	BD	BD	BD	BD	5.00	10.51	BD	BD	BD	BD	5.00	10.69	BD	BD	BD	BD	BD	BD	BD	BD
RC08	95	730	2.00	BD	BD	BD	BD	BD	BD	5.00	11.00	BD	BD	BD	BD	5.00	10.75	2.50	5.00	BD	BD	BD	BD	BD	BD
RC09	95	730	1.00	BD	BD	BD	BD	BD	BD	5.03	11.00	BD	DB	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Quail Creek																									
QC01	95	735	0.25	5.00	11.22	BD	BD	BD	BD	5.00	10.00	7.97	17.58	BD	BD	5.00	10.92	2.50	5.00	BD	BD	0.50	1.00	BD	BD
Marathon Creek																									
MC01	95	734	0.16	BD	BD	BD	BD	5.00	11.00	5.00	11.00	BD	BD	BD	BD	BD	BD	2.50	5.00	BD	BD	BD	BD	BD	BD
Unnamed Tributary to Robinson Creek at RM 4.77																									
UT01	95	732	0.10	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Unnamed Tributary to Robinson Creek at RM 3.70																									
UT02	95	733	0.10	BD	BD	BD	BD	BD	BD	BD	BD	8.05	11.09	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD	BD
Sugar Creek																									
SC01	95	731	6.00	BD	BD	BD	BD	BD	BD	BD	BD	5.00	11.57	BD	BD	BD	BD	2.50	6.00	0.50	1.00	BD	BD	BD	BD
SC02	95	731	4.10	BD	BD	BD	BD	5.00	12.00	5.15	12.00	BD	BD	BD	BD	5.00	10.00	BD	BD	BD	BD	BD	BD	BD	BD
SC03	95	731	1.60	5.00	10.00	5.00	10.00	5.00	15.00	5.05	13.00	5.05	14.00	BD	BD	5.00	12.00	BD	BD	BD	BD	BD	BD	BD	BD
LaMotte Creek																									
LC01	95	229	1.90	BD	BD	BD	BD	5.00	11.00	5.00	11.00	5.00	11.50	BD	BD	BD	BD	2.50	6.00	BD	BD	BD	BD	BD	BD

Orange - exceedance of IL water quality criterion.
Yellow - exccedance of chronic ecological screening level (U.S. EPA 2015).

***Table 12**. Concentrations for 15 heavy metals and one (1) non-metal in sediment in the 2016 Robinson Creek study area, February 2017. Values exceeding the MacDonald et al. (2000), Ohio EPA (2008), IEPA 1997, and Lemly (2000) threshold levels for each are highlighted in accordance with the legend at the bottom (BD – values <mean detection level).*

Site ID	Basin code	Stream Code	RM	ALUMINUM (mg/kg)	ARSENIC (mg/kg)	BERYLLIUM (mg/kg)	BORON (mg/kg)	CADMIUM (mg/kg)	CHROMIUM (mg/kg)	COBALT (mg/kg)	COPPER (mg/kg)	IRON (mg/kg)	LEAD (mg/kg)	MANGANESE (mg/kg)	NICKEL (mg/kg)	SELENIUM (mg/kg)	STRONTIUM (mg/kg)	VANADIUM (mg/kg)	ZINC (mg/kg)
95-730 Robinson Creek																			
RC01	95	730	6.50	3450	2.88	0.269	3.36	0.14	6.31	3.56	6.62	8420	24.7	314	5.57	**BD**	14.15	11.3	54.5
RC02	95	730	6.25	3360	3.51	0.255	3.49	0.149	6.74	3.69	9.44	8060	27.7	442	5.91	**BD**	13.1	9.07	58.4
RC03	95	730	6.00	3790	3.45	0.298	2.87	0.113	6.63	3.55	6.72	8480	12.7	315	6.04	**BD**	10.96	10.4	34.9
RC04	95	730	5.20	3410	3.27	0.277	1.97	0.124	6.69	3.16	8.2	7330	25.8	357	5.38	**BD**	10.715	9.46	43.9
RC05	95	730	4.90	5690	6.73	0.388	4.66	0.185	10.3	5.38	16	12600	27.9	651	9.07	4.71	29.35	15.5	71.5
RC06	95	730	4.60	4480	6.19	0.374	4.79	0.121	8.44	5.13	12.1	10800	25.6	535	7.75	3.42	12.585	14.2	60
RC07	95	730	3.30	7050	5.71	0.459	7.73	0.196	12	6.82	13.2	13000	66.9	438	13.2	**BD**	23.5	18.6	44.2
RC08	95	730	2.00	3520	3.5	0.293	3.46	0.173	7.18	3.85	7.55	8230	44.6	291	6.37	1.18	14.1	10.6	35.7
RC09	95	730	1.00	4290	3.12	0.264	3.98	0.112	10	3.44	7.16	7680	18	259	6.85	**BD**	17.05	12.3	33.6
95-735 Quail Creek																			
QC01	95	735	0.25	4860	6.01	0.397	3.54	0.132	8.95	5.05	6.62	14100	11	268	7.34	**BD**	7.54	15.6	33.4
95-734 Marathon Creek																			
MC01	95	734	0.16	3390	3.2	0.265	2.55	0.115	7.63	3.49	5.69	7420	13.8	469	5.49	**BD**	11.93	12.5	35.6
95-732 Unnamed Tributary to Robinson Creek at RM 4.77																			
UT01	95	732	0.10	6020	11.2	0.586	4.07	0.134	16.2	6.01	12.4	18000	16.3	584	8.24	**BD**	10.295	29.4	33
95-733 Unnamed Tributary to Robinson Creek at RM 3.70																			
UT02	95	733	0.10	5730	3.94	0.398	3.35	0.108	8.54	3.93	8.23	10400	9.65	480	7.63	**BD**	9.03	14.3	33.1
95-731 Sugar Creek																			
SC01	95	731	6.00	4140	3.18	0.308	2.51	**BD**	6.9	3.87	5.54	8130	7.36	343	6.62	**BD**	7.47	12.1	23.5
SC02	95	731	4.10	4570	3.41	0.293	3.67	0.108	9.27	3.92	6.76	7810	15.3	292	7.18	**BD**	12.25	13.7	30
SC03	95	731	1.60	4060	3.01	0.261	2.71	0.114	10.5	3.39	9.04	7350	18.4	225	6.68	**BD**	12.35	10.7	32.3
95-229 LaMotte Creek																			
LC01	95	229	1.90	3240	2.72	0.218	2.84	**BD**	5.75	2.8	3.53	6300	5.17	266	5.08	**BD**	9.145	9.17	18.3
MacDonald et al. 2000	TEC		None	9.79	None	None	0.99	43.40	None	31.6	20000	35.8	460	22.7		None	None	121.0	
	PEC		None	33.00	None	None	4.98	111.0	None	149.0	40000	128.0	1100	48.6		None	None	459.0	
Ohio EPA 2008	Sed. Reference Values		29000	25.00	0.80	None	0.79	29.00	12.00	32.0	41000	47.0	1500	33.0	1.7	None	40.0	160.0	
IEPA 1997	IL Elevated		None	7.20	None	None	2.00	37.00	None	37.0	26100	60.0	1100	26.0		None	None	170.0	
	IL Highly Elevated		None	18.00	None	None	9.30	110.0	None	170.0	53000	245.0	2300	45.0		None	None	760.0	
Lemly 2002	Se Recommended Guideline															2.0			

***Table 13**. Concentrations for 17 PAH compounds in sediment in the 2016 Robinson Creek study area, February 2017. Values exceeding the MacDonald et al. (2000), EPA Ingersol et al. (2000), and IEPA (2000) thresholds for each are highlighted in accordance with the legend at the bottom (BD – values <mean detection level).*

Site ID	Basin code	Stream Code	RM	1,4-DICHLOROBENZENE (µg/kg)	2-CHLORONAPHTHALENE (µg/kg)	ACENAPHTHENE (µg/kg)	ANTHRACENE (µg/kg)	BENZO(A)ANTHRACENE (µg/kg)	BENZO(A)PYRENE (µg/kg)	BENZO(B)FLUORANTHENE (µg/kg)	BENZO(G,H,I)PERYLENE (µg/kg)	BENZO(K)FLUORANTHENE (µg/kg)	CHRYSENE (µg/kg)	DIBENZ(A,H)ANTHRACENE (µg/kg)	FLUORANTHENE (µg/kg)	FLUORENE (µg/kg)	INDENO(1,2,3-CD)PYRENE (µg/kg)	NAPHTHALENE (µg/kg)	PHENANTHRENE (µg/kg)	PYRENE (µg/kg)
Robinson Creek																				
RC01	95	730	6.50	**BD**	**BD**	**BD**	**BD**	29.9	35.2	53.9	23.2	19.8	43.6	**BD**	86.7	**BD**	21.4	**BD**	32.3	68.6
RC02	95	730	6.25	**BD**	**BD**	21.3	79.9	163	149	212	86.3	54.2	174	23	432	32.7	78.5	**BD**	340	313
RC03	95	730	6.00	**BD**	**BD**	**BD**	**BD**	8.75	8.79	13.7	**BD**	**BD**	14.4	**BD**	15.9	**BD**	**BD**	**BD**	**BD**	BD
RC04	95	730	5.20	**BD**	**BD**	**BD**	**BD**	17.6	21.7	28.6	14.2	9.96	19.5	**BD**	26.2	**BD**	11.1	**BD**	11.4	23.8
RC05	95	730	4.90	**BD**	**BD**	**BD**	**BD**	21.5	25.6	32.2	17.9	**BD**	42.5	**BD**	38.2	**BD**	**BD**	**BD**	29.8	47.1
RC06	95	730	4.60	**BD**	**BD**	**BD**	**BD**	11.7	12.8	18.4	**BD**	**BD**	19.2	**BD**	18.8	**BD**	**BD**	**BD**	11.6	BD
RC07	95	730	3.30	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
RC08	95	730	2.00	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
RC09	95	730	1.00	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
Quail Creek																				
QC01	95	735	0.25	**BD**	**BD**	103	246	798	738	1000	388	329	791	96.4	1970	81	361	**BD**	1080	1450
Marathon Creek																				
MC01	95	734	0.16	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
Unnamed Tributary to Robinson Creek at RM 4.77																				
UT01	95	732	0.10	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
Unnamed Tributary to Robinson Creek at RM 3.70																				
UT02	95	733	0.10	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
Sugar Creek																				
SC01	95	731	6.00	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
SC02	95	731	4.10	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
SC03	95	731	1.60	**BD**	**BD**	**BD**	**BD**	5.55	**BD**	**BD**	**BD**	**BD**	7.03	**BD**	9.38	**BD**	**BD**	**BD**	**BD**	BD
LaMotte Creek																				
LC01	95	229	1.90	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	**BD**	BD
MacDonald et al. 2000	TEL		None	None	6.71	46.9	31.7	31.9	None	None	None	57.1	6.22	111	77.4	None	34.6	41.9	53
	PEL		None	None	88.9	245	385	782	None	None	None	862	135	2,355	144	None	391	875	875
U.S. EPA 2000b	TEC		None	None	None	57.2	108	150	240	170	240	166	33	423	77.4	200	176	204	195
	PEC		None	None	None	845	1050	1450	13,400	320	13,400	1,290	135	2,230	536	3,200	561	1,170	1,520
IEPA Guidelines 1997	LEL		None	None	None	220	320	150	None	170	240	340	60	750	190	200	None	560	490
	SEL		None	None	None	3,700	14,800	14,400	None	3,200	13,400	4,600	1,300	10,200	1,600	3,200	None	9,500	8,500

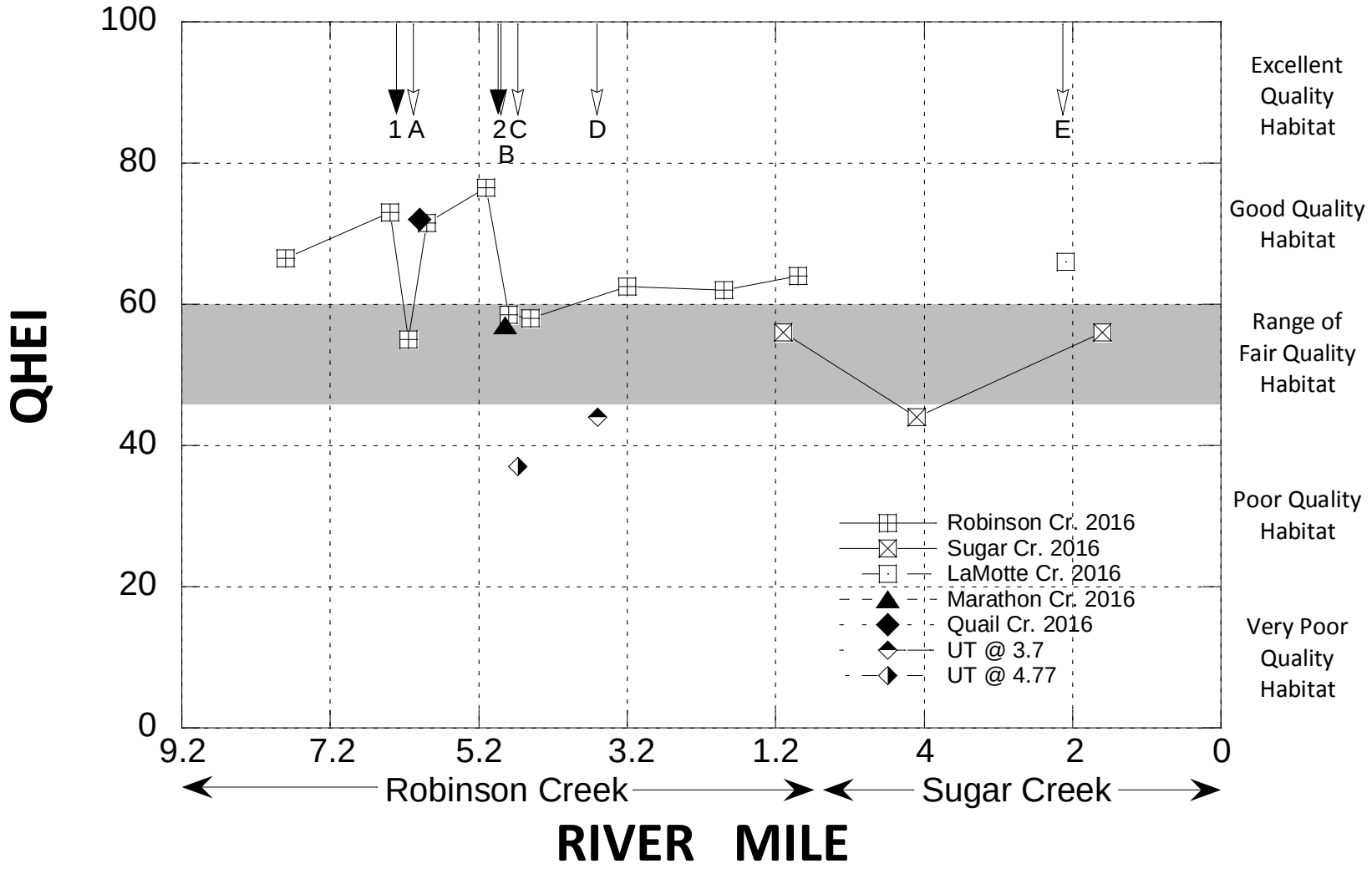

***Figure 20**. QHEI values in the 2016 study area. The range between good and poor habitat is indicated by the shaded area.*

A QHEI matrix showing good and poor habitat attributes (after Rankin 1995) was developed for each site in the 2016 study area (Table 14). Stream habitat in parts of Robinson and Sugar Creeks has been modified to varying extents as evidenced by the presence of moderate influence modified attributes. Substrate, channel, and flow related issues are consistently evident in the QHEI matrix. All 21 sites had moderate to high silt covering and moderate to extensive embeddedness. Channel modifications were still apparent in fair to poor development at 10 sites. The high influence modified attribute of sparse to no cover prevailed at 14 sites. Sugar Creek exhibited signs of legacy channelization with high influence attributes at all 4 sites.

Biological Assemblages

Fish were sampled at 21 sites, macroinvertebrates at 20 sites, and mussels at 19 sites in 2016 following standardized procedures specified by the 2016 Study Plan (MBI 2016) and consistent with Illinois EPA and Illinois DNR methods.

Mussel Assemblage

Mussels were sampled at 19 sites following Illinois DNR methods (Szafoni 2001). The results are depicted in Table 15 and reveal that only two species were collected in the 2016 study area. The mussel assemblage was classified as Unique, Highly Valued, Moderate, Limited, or Restricted (Table 15) following criteria outlined in Szafoni (2001).

Only two species of freshwater mussels were observed in the 2016 study area. *Anodontoides ferussacianus* was the only live mussel observed and was found in LaMotte Creek (LC01). Three live specimens were collected and all were >30 mm. Relict specimens of *Uniomerus tetralasmus* were collected in Robinson Creek at RC04, RC05 and RC06. All sites were classified as Restricted (Table 15).

Fish Assemblage

Attributes and metrics of the fish assemblage in the 2016 study area are depicted in Table 16 (raw fish data appears in Appendix B). Fish were present at all sites and ranged from three species in the first unnamed tributary (UT01) to 27 species in Lamotte Creek (LC01), but typically ranged from 10-20+ species in Robinson and Sugar Creek with an overall pattern of increasing downstream. Intolerant species were rare or absent at most sites with a high of 3 species in Lamotte Creek. The proportion of tolerant species ranges from a high of 73% at the added upstream site in Robinson Creek (RC10) to 17% at the downstream most Sugar Creek site (SC03) typically ranging from 30-40+% in Robinson and Sugar Creeks.

Use support was determined with the fish Index of Biotic Integrity (fIBI; Smogor 2000, 2005) in accordance with Illinois thresholds for full support, non-support fair, and non-support poor (Table 16). Two sites, Lamotte Creek (LC01) and the downstream most site in Sugar Creek (SC03), had fIBI values indicating full support. Of the remaining sites 13 were non-support fair, two sites non-support poor, and two sites with split results between the first and second sampling passes (RC05 and RC06). The longitudinal pattern in the mean fIBI values (Figure 21)

Table 14. *Qualitative Habitat Evaluation Index (QHEI) scores showing Good (■) and Modified Habitat (●●) attributes in the 2016 Robinson Creek study area.*

Site ID	River Mile	QHEI	Good Habitat Attributes											High Influence Modified Attributes						Moderate Influence Modified Attributes												Ratios	
			No Channelization	Boulder, Cobble, Gravel	Silt Free	Good-Excellent Development	Moderate-High Sinuosity	Moderate-Extensive Cover	Fast Flow w Eddies	Little to No Embeddedness	Max Depth > 40 cm	No Riffle Embeddedness	"Good" Habitat Attributes	Channelized or No Recovery	Silt/Muck Substrates	No Sinuosity	Sparse No Cover	Max Depths <40 cm	High Influence Poor Attributes	Recovering from Channelization	Mod-High Silt Cover	Sand Substrates (Boatable sites)	Hardpan Origin	Fair- Poor Development	Low Sinuosity	≤ 2 Cover Types	Intermittent Flow/Pools <20 cm	No Fast Current Types	Mod-Extensive Embeddedness	Mod-Extensive Riffle	No Riffle	Poor Habitat Attributes	Ration of Poor (High) to Good	Ration of Poor (All) to Good
Robinson Creek																																		
RC10	7.9	**66.5**	■	■		■	■	■			■		6						0		●						●	●	●		4	1.4	0.7
RC01	6.5	**73**	■	■		■	■	■	■		■		7						0		●						●	●	●		4	1.6	0.6
RWMZ	6.45	**78.5**	■	■		■	■	■	■		■	■	8						0		●							●	●		3	2.3	0.4
RC02	6.25	**55**	■	■		■	■		■				5				●	●	2		●			●	●			●	●		5	1.0	1.0
RC03	6.0	**71.5**	■	■		■	■	■	■		■		7						0		●							●	●		3	2.0	0.5
RC04	5.2	**76.5**	■			■	■	■	■		■		6						0		●		●					●	●		4	1.4	0.7
MPMZ	5.0	**58**	■	■		■			■		■		5				●		1		●		●		●			●	●		5	1.0	1.0
RC05	4.9	**58.5**	■	■			■	■	■		■		6				●		1		●		●	●				●	●		5	1.2	0.9
RC06	4.6	**58**					■	■	■	■	■		5						0	●	●		●	●	●			●	●		7	0.8	1.3
RC07	3.3	**62.5**		■				■			■		3				●		1	●	●			●	●			●	●	●	7	0.5	2.0
RC08	2.0	**62**	■			■	■	■	■		■		6				●		1		●			●				●	●	●	5	1.2	0.9
RC09	1.0	**64**	■			■		■	■		■		5				●		1		●				●			●	●	●	5	1.0	1.0
Sugar Creek																																		
SC01A	6.0	**52**	■	■		■	■						4				●	●	2		●							●	●	●	4	1.0	1.0
SC01B	5.9	**56**	■				■	■			■		4				●		1		●			●				●	●	●	5	0.8	1.2
SC02	4.1	**44**											0			●	●	●	3	●	●			●				●	●	●	6	0.1	7.0
SC03	1.6	**56**								■	■		2				●		1	●	●			●	●			●	●	●	7	0.4	2.7
Unnamed Tributary to Robinson Creek at RM 4.77																																		
UT01	0.1	**37**	■				■						2				●	●	2		●		●	●	●			●	●	●	7	0.4	2.7
Unnamed Tributary to Robinson Creek at RM 4.77																																		
UT02	0.1	**44**	■				■						2				●	●	2		●			●				●	●	●	5	0.5	2.0
Marathon Creek																																		
MC01	0.16	**57**	■	■		■	■	■					5				●	●	2		●		●					●	●	●	5	1.0	1.0
Quail Creek																																		
QC01	0.25	**72**	■	■		■	■	■			■		6						0		●							●	●	●	4	1.4	0.7
Lamotte Creek																																		
LC01	1.9	**66**	■	■		■	■	■	■		■		7				●		1		●							●	●	●	4	1.6	0.63

Table 15. *Mussel data from the 2016 study area. Numbers in columns are live individuals collected (photographed, measured and dead shells collected, no live specimens collected as voucher specimens). "D' and "R" indicates that only dead or relict shells were collected. MCI scores and Resource Classification are based on values in (Szafoni 2001); R=restricted, L=Limited, M=Moderate, HV=Highly Valued, and U=Unique). ND = no data available.*

	Robinson Creek											Sugar Creek			Tributaries				
Site Codes	**RC01**	**RWMZ**	**RC02**	**RC03**	**RC04**	**RPMZ**	**RC05**	**RC06**	**RC07**	**RC08**	**RC09**	**SC01B**	**SC02**	**SC03**	**UT01**	**UT02**	**MC01**	**QC01**	**LC01**
Subfamily Anodontinae																			
Anodontoides ferussacianus																			3
Subfamily Ambleminae																			
Uniomerus tetralasmus					R		R	R											
Results Summary																			
Individuals collected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Live species collected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Extant species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total species collected	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1
Catch per unit effort (CPUE)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.86
Mussel Community Index (MCI)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Resource Classification	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Table 16. *Selected fish and macroinvertebrate assemblage attributes for sites sampled in the 2016 Robinson Creek study area. Biological index scores are shaded by level of use support: green – fully supporting; yellow – non-support fair; orange – non-support poor (see legend at bottom for IEPA fIBI and mIBI use support thresholds).*

				Fish Assemblage Metrics							Macroinvertebrate Assemblage Metrics							
Site ID	**River Mile**	**Drainage Area mi.²**	**QHEI**	**#Native Species**	**#Intoler-ant Sp.**	**%Tolerant Species**	**%DELT**	**MIwb**	**fIBI**	**mIBI**	**Total Taxa**	**EPT Taxa**	**%EPT**	**Mayfly Taxa**	**Intolerant Taxa**	***%Crico-topus sp.***	***Polyped-ilum (P) illinoense***	**%Toxic Tolerant**
Robinson Creek																		
RC10	7.90	1.4	66.5	11	0	73	0	5.3	28	-	-	-	-	-	-	-	-	-
RC01	6.50	2.5	73.0	13/10	0/0	54/60	0.8/0.9	6.6/6.2	23/21	23.7	25	1	13.8	0	1	0.4	1.4	2.4
RC02	6.25	3.2	55.0	13/13	0/0	38/38	0/0	5.4/6.4	31/35	29.4	27	2	16.0	1	1	0.3	2.0	6.3
RC03	6.00	5.7	71.5	18/13	0/1	38/31	0/2.5	7.6/6.9	40/32	29.6	24	4	19.7	0	2	0.0	5.5	5.5
RC04	5.20	6.5	76.5	12/12	1/1	33/33	2.3/1.9	6.3/6.2	28/28	25.4/33.6	25/28	2/4	0.7/7.1	1/0	1/3	0.0/0.0	6.2/4.6	6.2/4.6
RC05	4.90	7.9	58.5	15/11	0/1	33/45	5.1/35.8	7.1/6.4	25 16	19.5	21	4.9	2.3	1	1	4.9	26.1	30.9
RC06	4.60	8.4	58.0	15/11	1/0	33/36	26.3/48.1	6.5/6.2	26 20	23.6	21	0.8	1.1	2	2	0.8	12.4	13.2
RC07	3.30	10.5	62.5	18/10	0/0	33/40	27.1/28.2	7.4/5.5	25/22	30.5/39.9	26/19	3/3	39.7/42.8	1/1	0/1	0.3/0.0	4.9/1.7	5.2/1.7
RC08	2.00	12.3	62.0	18/14	3/1	28/36	2.9/25.4	7.1/7.5	32/23	29.5	17	3	19.8	1	2	1.0	1.0	2.0
RC09	1.00	12.9	64.0	14/16	1/1	43/31	3.9/1.9	5.8/6.2	27/30	29.5	24	2	29.4	1	0	0.3	0.3	0.7
Sugar Creek																		
SC01A	6.00	14.1	52.0	5	0	40	0	3.9	20	30.4	25	5	8.4	4	2	0.4	1.1	1.5
SC01B	5.90	14.2	56.0	19/20	0/0	32/30	0.1/0.2	7.4/8.2	31/33	36.6	29	6	16.5	5	1	0.0	2.2	2.2
SC02	4.10	30.6	44.0	15/16	1/1	33/25	1.7/5.8	6.3/6.3	27/31	37.7	26	4	41.1	2	2	0.3	2.0	2.3
SC03	1.60	35.2	56.0	22/18	2/1	27/17	3.6/2.2	8.2/7.8	46/43	50.8	31	7	32.4	4	2	0.0	0.7	0.7
Quail Creek																		
QC01	0.25	2.3	72.0	9/11	0/1	44/45	0/0.8	5.5/5.7	16/19	31.5	32	4	10.7	2	3	0.0	6.1	6.4
Marathon Creek																		
MC01	0.16	1.2	57.0	11/10	0/0	45/30	0.5/0	5.7/5.0	38/37	30.9	29	2	29.6	1	1	0.0	12.2	12.2
Unnamed Trib. to Robinson Creek @RM 4.77																		
UT01	0.10	0.3	37.0	3/3	0/0	33/33	0/0	3.0/2.6	27/24	23.5	21	2	10.3	1	1	0.7	1.4	2.1
Unnamed Trib. to Robinson Creek @RM 3.70																		
UT02	0.10	1.3	44.0	3/4	0/0	67/50	1.4/0.6	2.3/2.3	30/32	31.5	27	5	1.0	4	3	1.0	13.1	14.1
Lamotte Creek																		
LC01	1.90	26.7	66.0	27/25	3/2	22/28	0/0.4	8.4/8.3	53/50	46.9	32	7	0.0	5	2	0.0	0.4	0.4

AQLU Status	**fIBI**	**mIBI**
Full Support	≥41	≥41.8
Non-Support Fair	>20,<41	≥20.9,<41.8
Non-Support Poor	≤20	<20.9

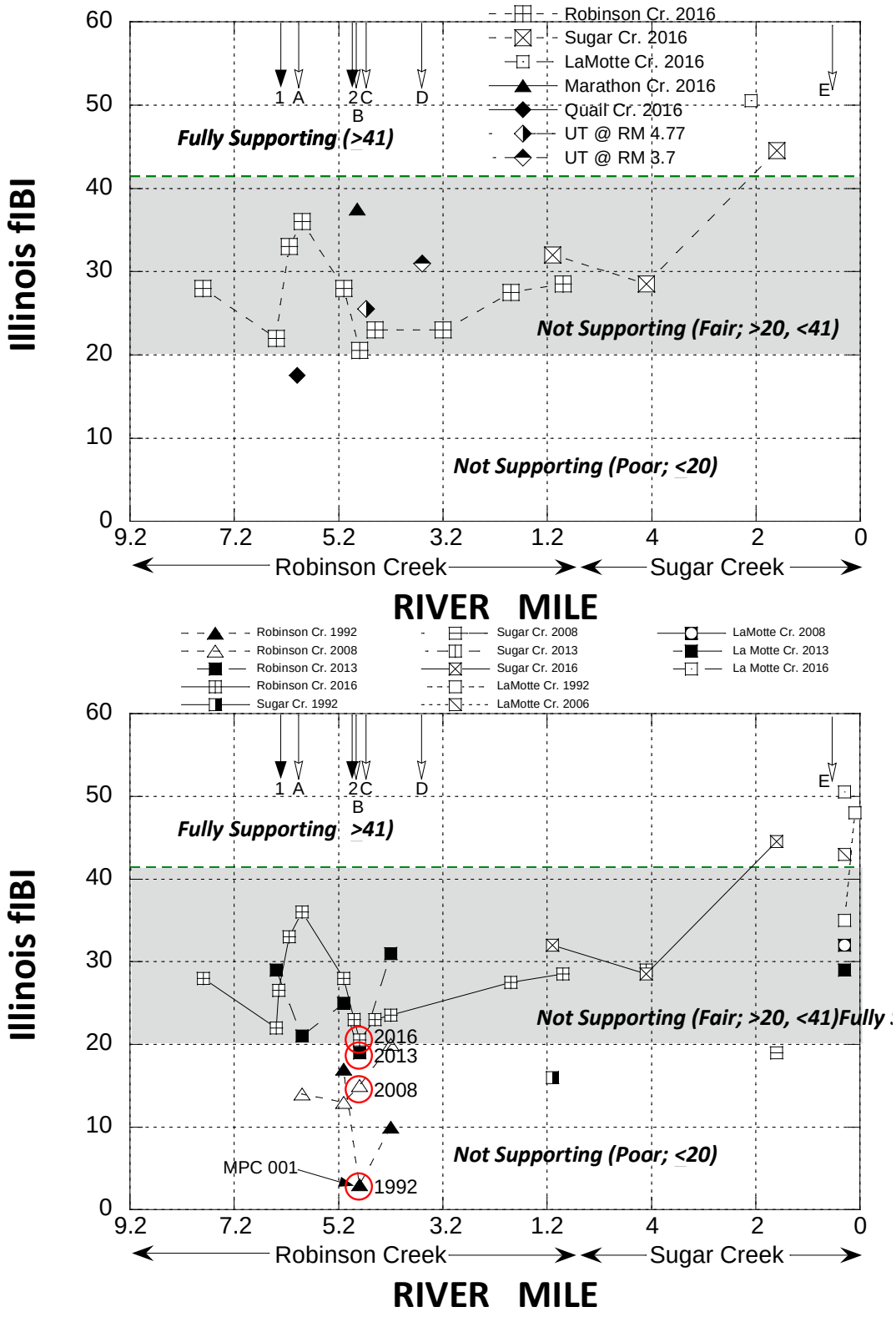

Figure 21*. Illinois fish Index of biotic integrity (fIBI) results for the 2016 study area in 2016 (upper) and for Robinson Creek, Sugar Creek, and Lamotte Creek in 1992, 2008, 2013, and 2016 (lower). Thresholds for full support and two levels of non-support are depicted with major pollution sources and tributaries along the top of each graph.*

in 2016 suggests a series of impacts beginning upstream from the Robinson WWTP, an initial and brief recovery interrupted by the entry of the MPC 001 discharge, and a gradual recovery downstream through Robinson Creek and into Sugar Creek where full support was observed at the downstream most site (SC03). Quail Creek was the only site firmly in the non-support poor range. The fFIBI values in Marathon Creek that nearly met the full support threshold further indicate the MPC 001 discharge as the major impact in Robinson Creek with fIBIs immediately downstream borderline non-support poor. However, the consistent increase downstream indicates the overall effect dissipates with distance downstream.

Historical data from Illinois EPA was available for most of the 2016 sites including data from 1992, 2008, and 2013. The fIBI values from those surveys were graphed against the 2016 results (Figure 21) and reveal that an overall and incremental improvement has occurred in each subsequent year through 2016. fIBI scores in 1992 were in the lowest non-support poor range with a value of 3 immediately downstream from the MPC 001 discharge. This compares to values of 15 in 2008, 19 in 2013, and 25 in 2016 which demonstrates a consistent incremental improvement at the point of maximum effect from pollutants in the MPC 001 discharge. fIBI scores also increased with distance downstream in each year. The only exception was the 2013 fIBI being higher at RC07 than in 2016, but this was the only instance where successive years values decreased.

External anomalies on fish consist of delineating the occurrence of deformities, erosions, lesions, and tumors (DELTs; Figure 22) and are an important indicator of sublethal stress (Yoder and Rankin 1995; Sanders et al. 1999; Yoder and DeShon 2003). The results in the 2016 study area showed increases in the frequency of DELT anomalies on fish from slightly above normal background levels of 0-1.3% in Robinson Creek upstream from MPC 001 and of 1.9-2.3% in Marathon Creek increasing markedly to values of 26.3% and 27.1% at RC06 and RC07 during the first sampling pass. Values increased to 35.8%, 48.1%, 28.2%, and 25.9% during the second sampling pass between RC05 and RC08, a distance of 2.9 miles (Table 17). DELTs in excess of 10% are indicative of a chronic impact involving toxicity (Yoder and Rankin 1995; Yoder and DeShon 2003). The incidence of light and heavy DELTs as defined by Sanders et al. (1999) were also examined by sampling pass (Figure 22). The incidence of heavy DELTs was about one-third to one-half of the total, but were most pronounced downstream from the MPC 001 discharge. The frequency of DELTs began to return to upstream levels in lower Robinson Creek, but some values remained in the 3-5% range well downstream into Sugar Creek (RC02 and RC03). The differences between the first and second sampling pass suggest an increased duration of the causes and also lengthening the most severe impact from about 1.3 to 2.9 miles.

Macroinvertebrate Assemblage

Macroinvertebrates were assessed at 18 stream sites and two discharge plume sites in the 2016 study area (Table 16). Two sites were resampled consistent with IEPA (2011c,d) methods. Total taxa ranged from a high of 32 in Lamotte Creek to a low of 17 in Robinson Creek at RM 2.0 (RC08). The number of EPT taxa ranged from 1 at RM 4.9 (RC05) immediately downstream from the MPC 001 discharge to 7 at the downstream most site in Sugar Creek (SC03) and Lamotte Creek (LC01). The %EPT taxa ranged from a low of 0.7% in Robinson Creek upstream

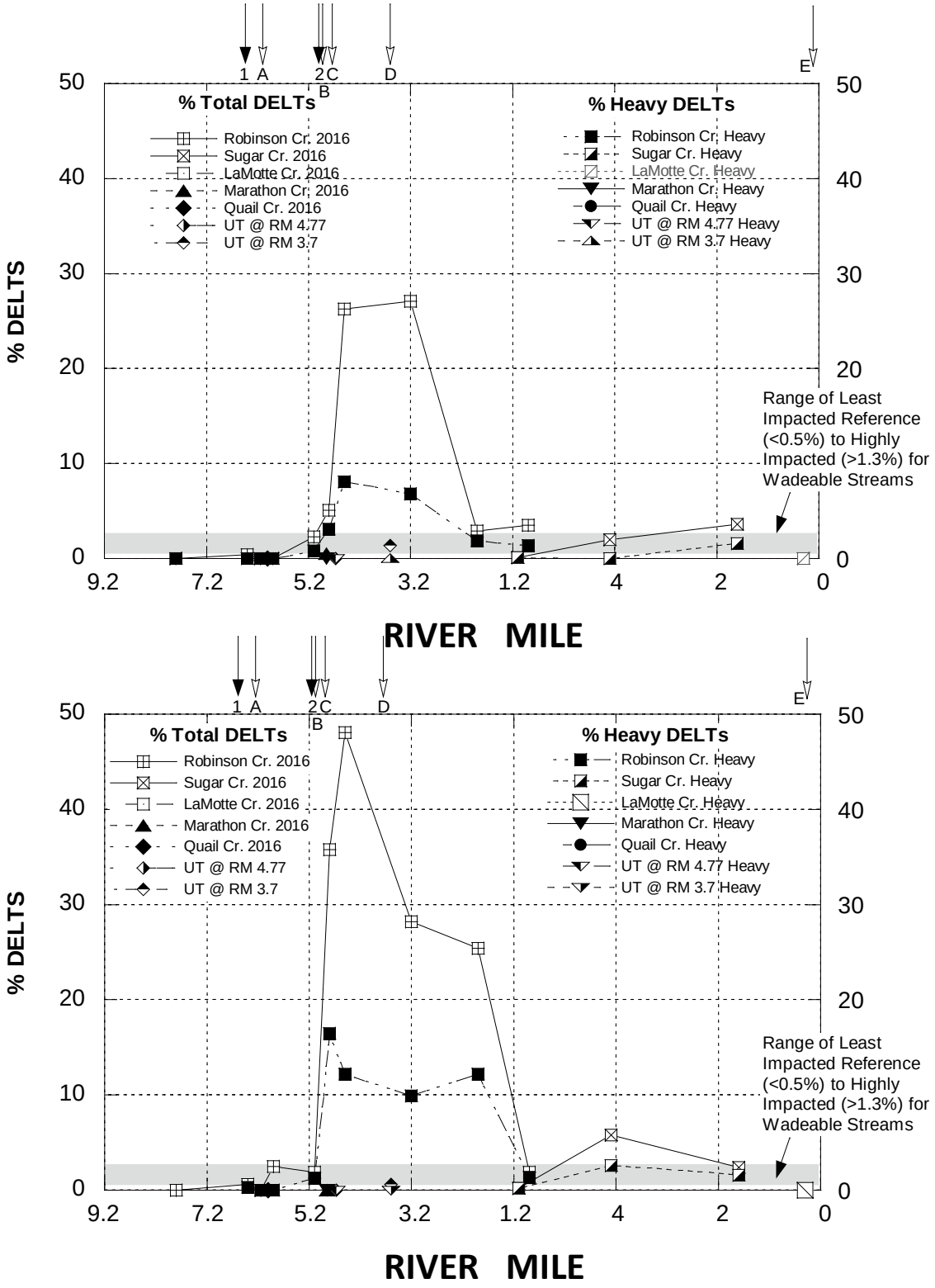

Figure 22. *Frequency of DELT anomalies on fish at sampling locations in the 2016 study area by sampling pass – first pass (upper) and second pass (lower). The incidence of total and heavy DELTs are shown for each location and with the range of incidence expected between least impacted and highly impacted sites for wadebale streams. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top.*

from MPC 001 (RC04) to a high of 42.8% at RM 3.3 (RC07). The number of mayfly taxa ranged from 0 in Robinson Creek at RC01, RC03, RC04, and RC05 to a high of 5 at the control site in Sugar Creek (SC01B) and Lamotte Creek (LC01). The mIBI is a key criteria for determining aquatic life support in combination with the FIBI. The same two sites that were in full support of the fIBI likewise were in full support for the mIBI (Table 16; Figure 23). All except one site had mIBI scores indicating non-support fair. Robinson Creek immediately downstream form MPC 001 (RC05) was non-support-poor.

There is no historical data that is of sufficient rigor to determine macroinvertebrate assemblage trends through time, but it seems plausible that they have experienced a similar degree of improvement since the early 1990s. Toxic response signatures for macroinvertebrates would include midges of the genus *Cricotopus* >5%, mIBI scores in the poor range, and EPT taxa <4 (Yoder and DeShon 2003). The site immediately downstream from the MPC 001 discharge (RC05) came very close to meeting these criteria with 4.9% *Cricotopus sp.*, a poor mIBI score, and 1 EPT taxa. This toxic response signature was absent from all other sites with *Cricotopus* midges either 0 or less than 1%. The broader toxic tolerant taxa includes additional midge taxa specifically *Polypedilum (P) illinoense* which in combination with *Cricotopus sp.* also comprises a toxic response signature (Yoder and DeShon 2003). This occurred at RC05 and additionally in the Unnamed Tributary at RM 3.77 which receives stormwater runoff from outfalls 007, 009, and 010 (Table 16). The cause of unknown toxicity was assigned to these sites in Table 17 as a result.

Aquatic Life Use Impairments and Associated Causes

Aquatic Life Condition Assessment

The primary indicator of overall condition in terms of aquatic life is the status of the Illinois General Use using the fish and macroinvertebrate Indices of Biotic Integrity and generally following the guidance in the Illinois EPA 2016 Integrated Report (IEPA 2016). The status of aquatic life is portrayed in an attainment table (Table 17) and expressed as full or non-support. Non-support is further subdivided into non-support fair and non-support poor based on the most limiting of either the fish or macroinvertebrate results. Of the 19 sites assessed for General Use aquatic life support (two discharge plume sites were not assessed) two (2) were in full support, fourteen (14) in non-support fair, and five (5) in non-support poor. In terms of the Illinois fish Index of Biotic Integrity (IBI) scores, incremental improvement through time was evident based on a comparison of results from the 1992, 2008, and 2013 Illinois EPA Facility Related Stream Surveys (FRSS) and the 2016 results reported herein.

Causes and Sources of Non-attainment

Causes and sources were determined for each impaired site and included categorical or parameter level associations and their sources (if known). These were compared to the IEPA derived causes listed in the 2016 Integrated Report (IEPA 2016) for six (6) coinciding sites (Table 17). Assigning causes involved using a lines-of-evidence approach where the causes are logically related to a biological impairment, not simply based on coincidental exceedances of a criterion or other relevant threshold, but also the longitudinal pattern of each indicator. A

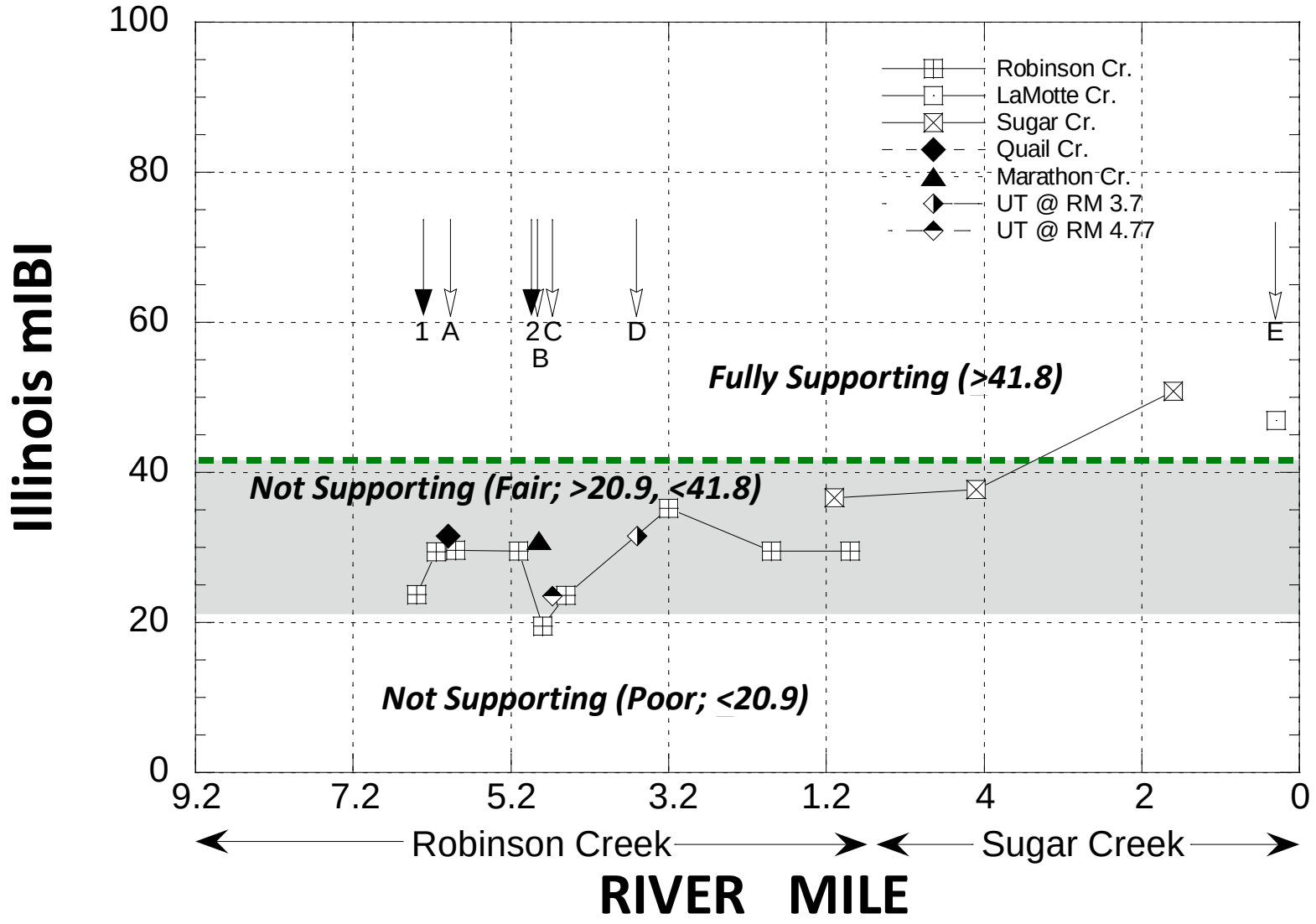

Figure 23. *Illinois macroinvertebrate Index of biotic integrity (mIBI) results for the 2016 study area. Thresholds for full support and two levels of non-support are depicted with major pollution sources and tributaries along the top of each graph. See Table 5 for a key to discharges (numbered) and tributaries (lettered) across the top.*

relationship that is supported by prior empirical observations in other studies or our own experiences was also used and is supported by a variety of sources of biological effect stressor thresholds. Eight (8) causal categories and five (5) source categories were identified for the 2016 study area (Table 17). Of these causes, three (3) were habitat related (siltation, flow, and channel modification) and five (5) were chemical (PAHs, selenium, chlorides, sulfate, and unknown toxicity). Certain causes such as siltation were pervasive throughout the study area while others were specific to contiguous reaches and were correlated with specific biological responses. An example is the relationship between highly elevated DELT (deformities, erosions, lesions, tumors) anomalies on fish in proximity to the MPC 001 outfall and the associated pollutants that exceeded biological effect thresholds immediately downstream. Sources included agricultural, urban, and industrial stormwater, an industrial point source, and legacy hydromodification. These constitute the principal causes and sources that would need to be addressed to fully resolve the aquatic life impairments listed in Table 1. Temperature was not listed as a cause of the biological impairment, as was established in the technical support document for the 316(a) variance (MBI 2017), and the assignment of only non-thermal causes by this study. Furthermore, the predictive analysis in MBI 2017 concludes that the current thermal regime will not preclude full attainment of the Illinois General Use for aquatic life.

Table 17. *Aquatic life use attainment status in the 2016 Robinson and Sugar Creek study area with associated causes and sources of impairment derived by MBI for non-supporting sites (see footnote for fIBI and mIBI use support thresholds) with IEPA derived causes in the 2016 Integrated Report (IEPA 2016). Causes are not assigned to fully supporting sites.*

MBI [IEPA] Site ID	River Mile	Drainage Area (mi.^{2})	fIBI	mIBI	QHEI	Use Support[1]	MBI Causes	MBI Sources	IEPA Derived Causes
Robinson Creek									
RC10	7.90	1.40	28.0*	-	66.5	**Non - Fair**	Siltation, flow	Urban NPS, Agricultural NPS	(Not assessed)
RC01 [BFC-20]	6.50	2.50	22.0*	23.7*	73.0	**Non - Fair**	Siltation, flow	Urban NPS	Low D.O.
RWMZ	6.45	3.20	26.5*	17.3*	78.5	*Use Attainment Status Not Determined*			
RC02	6.25	3.20	33.0*	29.4*	55.0	**Non - Fair**	Siltation, PAH	Urban NPS, Unknown	(Not assessed)
RC03 [BFC-19]	6.00	5.70	36.0*	29.6*	71.5	**Non - Fair**	Siltation	Urban NPS	Total P
RC04 [BFC-2]	5.20	6.50	28.0*	29.5*	76.5	**Non - Fair**	Siltation	Urban NPS	Total P
MPMZ [BFC-MR-EI]	5.00	7.70	23.0*	18.7*	58.0	*Use Attainment Status Not Determined*			
RC05 [BFC-26]	4.90	7.90	20.5*	19.5*	58.5	**Non - Poor**	Selenium, Chlorides, Sulfate, Siltation, Unknown toxicity	Industrial PS, Urban NPS	Total P
RC06	4.60	8.40	23.0*	23.6*	58.0	**Non - Fair**	Selenium, Chlorides, Sulfate, Siltation	Industrial PS, Urban NPS	(Not assessed)
RC07 [BFC-11]	3.30	10.50	23.5*	35.2*	62.5	**Non - Fair**	Selenium, Chlorides, Sulfate, Siltation	Industrial PS, Agricultural NPS	Chloride, Fluoride, Total P
RC08	2.00	12.30	27.5*	29.5*	62.0	**Non - Fair**	Selenium, Chlorides, Sulfate, Siltation	Industrial PS, Agricultural NPS	(Not assessed)
RC09 [BFC-10]	1.00	12.90	28.5*	29.5*	64.0	**Non - Fair**	Selenium, Chlorides, Sulfate, Siltation	Industrial PS, Agricultural NPS	(Not assessed)

Table 17. *Aquatic life use attainment status in the 2016 Robinson and Sugar Creek study area with associated causes and sources of impairment derived by MBI for non-supporting sites (see footnote for fIBI and mIBI use support thresholds) with IEPA derived causes in the 2016 Integrated Report (IEPA 2016). Causes are not assigned to fully supporting sites.*

MBI [IEPA] Site ID	River Mile	Drainage Area (mi.^{2})	fIBI	mIBI	QHEI	Use Support[1]	MBI Causes	MBI Sources	IEPA Derived Causes
Sugar Creek									
SC01A	6.00	14.10	16.0*	30.4*	52.0	**Non - Poor**	Siltation, Flow, Channel Modification	Agricultural NPS, Legacy Hydromodification	(Not assessed)
SC01B [BF-22]	5.90	14.20	-	36.6*	56.0	**Non - Fair**	Siltation, Ammonia-N	Agricultural NPS, Unknown	(Not assessed)
SC02 [BF-11]	4.10	30.60	28.5*	37.7*	44.0	**Non - Fair**	Selenium, Chlorides, Sulfate, Siltation, Channel Modification	Industrial PS, Agricultural NPS, Legacy Hydromodification	(Not assessed)
SC03 [BF-01]	1.60	35.20	44.5	50.8	56.0	**Full**			
Unnamed Tributary to Robinson Creek (RM 4.77)									
UT01	0.10	0.30	25.5*	23.5*	37.0	**Non - Fair**	Siltation, Flow	Legacy Hydromodification, Industrial Stormwater	(Not assessed)
Unnamed Tributary to Robinson Creek (RM 3.70)									
UT02	0.10	1.30	31.0*	31.5*	44.0	**Non - Fair**	Siltation, Flow, Channel Modification, Unknown toxicity	Legacy Hydromodification, Industrial Stormwater	(Not assessed)
Marathon Creek									
MC01 [BFCA-22]	0.16	1.20	37.5*	30.9*	57.0	**Non - Fair**	Siltation	Industrial Stormwater	(Not assessed)

Table 17. *Aquatic life use attainment status in the 2016 Robinson and Sugar Creek study area with associated causes and sources of impairment derived by MBI for non-supporting sites (see footnote for fIBI and mIBI use support thresholds) with IEPA derived causes in the 2016 Integrated Report (IEPA 2016). Causes are not assigned to fully supporting sites.*

MBI [IEPA] Site ID	River Mile	Drainage Area (mi.^{2})	fIBI	mIBI	QHEI	Use Support[1]	MBI Causes	MBI Sources	IEPA Derived Causes
Quail Creek									
QC01 [BFCB]	0.25	2.30	17.5*	31.5*	72.0	**Non - Poor**	Siltation	Urban NPS	(Not assessed)
Lamotte Creek									
LC01 [BFB-13]	1.90	1.90	50.5	46.9	66.0	**Full**			Low D.O.

[1] - IEPA Aquatic Life Use Support Thresholds

AQLU Status	fIBI	mIBI
Full Support	≥41	≥41.8
Non-Support Fair	>20,<41	≥20.9,<41.8
Non-Support Poor	≤20	<20.9

SYNTHESIS

The results of the 2016 Robinson and Sugar Creek bioassessment show that while significant biological impairment remains in Robinson Creek, parts of Sugar Creek, and several tributaries, a consistent trend of incremental improvement in the fish Index of Biotic Integrity (fIBI) has occurred since 1992. The very degraded and poor condition of the fish assemblage observed in 1992 has at least improved to fair quality and along with the macroinvertebrates has reached full support at the downstream most site in Sugar Creek. This is undoubtedly the result of reductions in the gross loadings of pollutants from the two major point sources, the Robinson WWTP and the MPC Robinson Refinery. Still, signatures of significant impairment remain in Robinson Creek, including the reach within the City of Robinson, and the reaches downstream from the Robinson WWTP and the MPC 001 discharge. The principal causes associated with the biological impairments are summarized in Table 17 and are the result of the logical association of exceedances of chemical criteria, biological effect thresholds for water and sediment, and altered habitat attributes with the biological assemblage responses and longitudinal patterns observed downstream from the sources.

While the highly elevated DELT anomalies were quantitatively revealed for the first time in 2016, it is likely that these have existed all along based on what we have observed in similarly impacted Midwestern rivers where DELTs have been consistently monitored over time (e.g., Ohio EPA 2012). While the longitudinal pattern in DELTs observed in 2016 potentially points to the MPC 001 discharge, as noted previously herein, there are other major point sources and non-point sources discharging to Robinson Creek and its tributaries. Additionally, determining which constituents are primarily responsible will require a more thorough and diverse investigation. Developing a study to sort out exactly what is causing the highly elevated DELTs is needed to more definitively determine the specific agents involved. What we do know now is that the observed biological response is to non-thermal causes based on the exceedance of specific biological effect thresholds for a number of non-thermal parameters within the City of Robinson and downstream from the MPC 001 discharge, the characteristics of the specific biological responses indicating general toxicity, and the conclusions of the predictive 316(a) analysis (MBI 2017). This bioassessment also meets the test of the Interagency 316(a) Technical Guidance Manual and Guide for Thermal Effects Sections of Nuclear Facilities Environmental Impact Statements (U.S. EPA 1977) for ruling out any negative interactions between the effects of chemical caused impairments and elevated temperature in Robinson Creek.

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APPENDIX A

CHEMICAL/PHYSICAL WATER QUALITY DATA

APPENDIX A-1

Appendix A-1: Raw Chemical Water Data from Grab Samples 2016.

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	3.7500	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0220	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	35.6000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	2.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	11.6000	mg/L		
P1055	Manganese	Water	0.1110	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	6.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	5.8000	mg/L		
P985	Vanadium	Water	0.0070	mg/L		
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

8260B	1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TETRACHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
8260B	TOLUENE	mg/kg	0.00095	J	<0.00678		<0.0224		<0.0376		0.0046	J	<0.0565		<0.0485		<0.0385		<0.0443	
8260B	1,2,3-TRICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2,4-TRICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,1-TRICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,2-TRICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRICHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRICHLOROFLUOROMETHANE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	1,2,3-TRICHLOROPROPANE	mg/kg	<0.00314		<0.00339		<0.0112		<0.0188		<0.0231		<0.0283		<0.0242		<0.0193		<0.0222	
8260B	1,2,4-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2,3-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,3,5-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	VINYL CHLORIDE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	XYLENES, TOTAL	mg/kg	<0.00376		<0.00407		<0.0134		<0.0226		<0.0277		<0.0339		<0.0291		<0.0231		<0.0266	
8260B	TOLUENE-D8	% Rec	102		103		109		107		107		108		105		105		108	
8260B	DIBROMOFLUOROMETHANE	% Rec	117		119		92.3		94.9		94.7		95.4		94.6		101		101	
8260B	4-BROMOFLUOROBENZENE	% Rec	80.5		83.2		104		104		103		102		106		102		102	
8270C	ACENAPHTHENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.103		<0.0441		<0.0462		0.0213	J
8270C	ACENAPHTHYLENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	ANTHRACENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.246		<0.0441		<0.0462		0.0799	
8270C	BENZIDINE	mg/kg	<0.418	J4	<0.452	J4	<0.459	J4	<0.435	J4	<0.456	J4	<0.502	J4	<0.445	J4	<0.466	J4	<0.492	J4
8270C	BENZO(A)ANTHRACENE	mg/kg	<0.0414		<0.0448		0.0299	J	<0.0431		<0.0451		0.798		<0.0441		0.00875	J	0.163	
8270C	BENZO(B)FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0539		<0.0431		<0.0451		1		<0.0441		0.0137	J	0.212	
8270C	BENZO(K)FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0198	J	<0.0431		<0.0451		0.329		<0.0441		<0.0462		0.0542	
8270C	BENZO(G,H,I)PERYLENE	mg/kg	<0.0414		<0.0448		0.0232	J	<0.0431		<0.0451		0.388		<0.0441		<0.0462		0.0863	
8270C	BENZO(A)PYRENE	mg/kg	<0.0414		<0.0448		0.0352	J	<0.0431		<0.0451		0.738		<0.0441		0.00879	J	0.149	
8270C	BIS(2-CHLORETHOXY)METHANE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-CHLOROETHYL)ETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-CHLOROISOPROPYL)ETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-BROMOPHENYL-PHENYLETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-CHLORONAPHTHALENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	4-CHLOROPHENYL-PHENYLETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	CHRYSENE	mg/kg	<0.0414		<0.0448		0.0436	J	<0.0431		<0.0451		0.791		<0.0441		0.0144	J	0.174	
8270C	DIBENZ(A,H)ANTHRACENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.0964		<0.0441		<0.0462		0.023	J
8270C	3,3-DICHLOROBENZIDINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DINITROTOLUENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,6-DINITROTOLUENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0867		<0.0431		<0.0451		1.97		<0.0441		0.0159	J	0.432	
8270C	FLUORENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.081		<0.0441		<0.0462		0.0327	J
8270C	HEXACHLOROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLORO-1,3-BUTADIENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLOROCYCLOPENTADIENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLOROETHANE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	INDENO(1,2,3-CD)PYRENE	mg/kg	<0.0414		<0.0448		0.0214	J	<0.0431		<0.0451		0.361		<0.0441		<0.0462		0.0785	
8270C	ISOPHORONE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	NAPHTHALENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	NITROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	N-NITROSODIMETHYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	

Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

8270C	N-NITROSODIPHENYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	N-NITROSODI-N-PROPYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PHENANTHRENE	mg/kg	<0.0414		<0.0448		0.0323	J	<0.0431		<0.0451		1.08		<0.0441		<0.0462		0.34	
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
8270C	BENZYLBUTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DI-N-BUTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DIETHYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DIMETHYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DI-N-OCTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PYRENE	mg/kg	<0.0414		<0.0448		0.0686		<0.0431		<0.0451		1.45		<0.0441		<0.0462		0.313	
8270C	1,2,4-TRICHLOROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-CHLORO-3-METHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-CHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DICHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DIMETHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4,6-DINITRO-2-METHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DINITROPHENOL	mg/kg	<0.418	J3	<0.452	J3	<0.459	J3	<0.435	J3	<0.456	J3	<0.502	J3	<0.445	J3	<0.466	J3	<0.492	J3
8270C	2-NITROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-NITROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PENTACHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4,6-TRICHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-FLUOROPHENOL	% Rec	60.6		47.3		60.3		61.1		57.4		70		51.5		57.2		59.3	
8270C	PHENOL-D5	% Rec	62.2		51.9		64.9		65.9		58.5		70.1		55.9		60.1		62.5	
8270C	NITROBENZENE-D5	% Rec	57.4		48.2		63.4		64.4		56.8		66.5		54.3		57.6		58.6	
8270C	2-FLUOROBIPHENYL	% Rec	70.4		67.4		77.2		76.6		70.1		75.4		70.5		72.7		71.6	
8270C	2,4,6-TRIBROMOPHENOL	% Rec	86.6		79		91.6		86.8		80.5		89.8		78.7		85.2		86.9	
8270C	P-TERPHENYL-D14	% Rec	67.1		69.1		70.3		71.5		68.3		63.9		67.2		73.1		67.1	

Qualifiers:B: The same analyte is found in the associated blank.J: The identification of the analyte is acceptable; the reported value is an estimate.J3: The associated batch QC was outside the established quality control range for precision.J4: The asso

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.3000	ug/L	LT	<10.6
P34571	1,4-Dichlorobenzene	Water	5.3000	ug/L	LT	<10.6
	1-Methylnaphthalene	Water	5.3000	ug/L	LT	<10.6
	2 Chloro 5 Methylphenol	Water	5.3000	ug/L	LT	<10.6
	2,3 Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,3,4,6-Tetrachlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,4 & 2,5-Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,4,5-Trichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34621	2,4,6-Trichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34606	2,4-Dimethylphenol	Water	5.3000	ug/L	LT	<10.6
P34616	2,4-Dinitrophenol	Water	5.3000	ug/L	LT	<10.6
P34611	2,4-Dinitrotoluene	Water	5.3000	ug/L	LT	<10.6
	2,6-Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34626	2,6-Dinitrotoluene	Water	5.3000	ug/L	LT	<10.6
P34581	2-Chloronaphthalene	Water	5.3000	ug/L	LT	<10.6
P34586	2-Chlorophenol	Water	5.3000	ug/L	LT	<10.6
	2-Methylnaphthalene	Water	5.3000	ug/L	LT	<10.6
	2-Methylphenol	Water	5.3000	ug/L	LT	<10.6
P34591	2-Nitrophenol	Water	5.3000	ug/L	LT	<10.6
	3 & 4-Chlorophenol	Water	10.6000	ug/L	LT	<21.2
	3 & 4-Methylphenol	Water	10.6000	ug/L	LT	<21.2
	4,6-Dinitro-2-methylphenol	Water	5.3000	ug/L	LT	<10.6
P34636	4-Bromophenyl phenyl ether	Water	5.3000	ug/L	LT	<10.6
P34452	4-Chloro-3-methylphenol	Water	5.3000	ug/L	LT	<10.6
P34641	4-Chlorophenyl phenyl ether	Water	5.3000	ug/L	LT	<10.6
P3760	4-Nitrophenol	Water	5.3000	ug/L	LT	<10.6
P34205	Acenaphthene	Water	5.3000	ug/L	LT	<10.6
P34200	Acenaphthylene	Water	5.3000	ug/L	LT	<10.6
PTEMP38	Aniline	Water	5.3000	ug/L	LT	<10.6
P34220	Anthracene	Water	5.3000	ug/L	LT	<10.6
	Azobenzene	Water	5.3000	ug/L	LT	<10.6
P34526	Benzo(a)anthracene	Water	5.3000	ug/L	LT	<10.6
P34247	Benzo(a)pyrene	Water	5.3000	ug/L	LT	<10.6
	Benzo(b&k)fluoranthene	Water	10.6000	ug/L	LT	<21.2
P34230	Benzo(b)fluoranthene	Water	5.3000	ug/L	LT	<10.6
P34521	Benzo(g,h,i)perylene	Water	5.3000	ug/L	LT	<10.6
P34242	Benzo(k)fluoranthene	Water	5.3000	ug/L	LT	<10.6
	Benzyl alcohol	Water	5.3000	ug/L	LT	<10.6
	Benzyl butyl phthalate	Water	5.3000	ug/L	LT	<10.6
	Biphenyl	Water	5.3000	ug/L	LT	<10.6
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.3000	ug/L	LT	<10.6
	Bis(2-chloroethyl) ether	Water	5.3000	ug/L	LT	<10.6
	Bis(2-chloroisopropyl) ether	Water	5.3000	ug/L	LT	<10.6

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.3000	ug/L	LT	<10.6
P34320	Chrysene	Water	5.3000	ug/L	LT	<10.6
P34556	Dibenz(a,h)anthracene	Water	5.3000	ug/L	LT	<10.6
	Dibenzofuran	Water	5.3000	ug/L	LT	<10.6
P34336	Diethyl phthalate	Water	5.3000	ug/L	LT	<10.6
P34341	Dimethyl phthalate	Water	5.3000	ug/L	LT	<10.6
P39110	Di-n-butyl phthalate	Water	11.5000	ug/L		
P34596	Di-n-octyl phthalate	Water	5.3000	ug/L	LT	<10.6
P34376	Fluoranthene	Water	5.3000	ug/L	LT	<10.6
P34381	Fluorene	Water	5.3000	ug/L	LT	<10.6
P39700	Hexachlorobenzene	Water	5.3000	ug/L	LT	<10.6
P34391	Hexachlorobutadiene	Water	5.3000	ug/L	LT	<10.6
P34386	Hexachlorocyclopentadiene	Water	5.3000	ug/L	LT	<10.6
P34396	Hexachloroethane	Water	5.3000	ug/L	LT	<10.6
P34403	Indeno(1,2,3-cd)pyrene	Water	5.3000	ug/L	LT	<10.6
P34408	Isophorone	Water	5.3000	ug/L	LT	<10.6
P34696	Naphthalene	Water	5.3000	ug/L	LT	<10.6
P34447	Nitrobenzene	Water	5.3000	ug/L	LT	<10.6
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.3000	ug/L	LT	<10.6
P39032	Pentachlorophenol	Water	5.3000	ug/L	LT	<10.6
P34461	Phenanthrene	Water	5.3000	ug/L	LT	<10.6
P34694	Phenol	Water	5.3000	ug/L	LT	<10.6
P34469	Pyrene	Water	5.3000	ug/L	LT	<10.6
PTEMP121	Pyridine	Water	5.3000	ug/L	LT	<10.6
P410	Total Alkalinity	Water	113.0000	mg/L		
P610	Ammonia	Water	0.2000	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2600	mg/L		
P940	Chloride	Water	14.1000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	3.7700	mg/L		
P945	Sulfate	Water	15.5000	mg/L		
P310	BOD5	Water	12.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2300	mg/L		
P94	Specific Conductivity	Water	274.4000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	218.0000	mg/L		
P530	TSS	Water	60.0000	mg/L		
P625	TKN	Water	1.3900	mg/L		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		
P32230	Chlorophyll a, Sestonic	Water	1.0700	mg/m3		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		
P1082	STRONTIUM	Water	0.0823	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	67.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	1.1800	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0250	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	31.9000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	1.4000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	12.3000	mg/L		
P1055	Manganese	Water	0.0860	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	5.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	4.6000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water		ug/L	ND	
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	110.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	10.7000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.9400	mg/L		
P945	Sulfate	Water	9.9000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	25.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2900	mg/L		
P94	Specific Conductivity	Water	271.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	208.0000	mg/L		
P530	TSS	Water	45.0000	mg/L		
P625	TKN	Water	1.2600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	4.0100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	74.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	74.0000	mg/l		
P1082	STRONTIUM	Water	0.0603	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	91.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.0000	mg/l		
P1032	Hevavalent Chromium	Water	0.0060	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	1.4200	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0300	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	41.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	1.7000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	15.0000	mg/L		
P1055	Manganese	Water	0.0880	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	6.4000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	8.4000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	6.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	124.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	15.3000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.2100	mg/L		
P945	Sulfate	Water	15.7000	mg/L		
P310	BOD5	Water	15.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2800	mg/L		
P94	Specific Conductivity	Water	255.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	2740.0000	mg/L		
P530	TSS	Water	42.0000	mg/L		
P625	TKN	Water	0.6500	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	50.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	50.4000	mg/l		
P1082	STRONTIUM	Water	0.0854	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	63.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	64.6000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3430	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0340	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	64.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.9000	mg/L		
P1055	Manganese	Water	0.1220	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.0000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	13.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	261.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	20.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	22.7000	mg/L		
P310	BOD5	Water	11.0000	mg/L		
P335	Chemical Oxygen Demand	Water	82.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1000	mg/L		
P94	Specific Conductivity	Water	545.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	260.0000	mg/L		
P530	TSS	Water	16.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	2.6700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P1082	STRONTIUM	Water	0.1250	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	91.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	85.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2890	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0270	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	63.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	22.9000	mg/L		
P1055	Manganese	Water	0.0700	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	8.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	11.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	204.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	18.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.2500	mg/L		
P945	Sulfate	Water	18.7000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1100	mg/L		
P94	Specific Conductivity	Water	530.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	444.0000	mg/L		
P530	TSS	Water	11.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	66.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.5000	mg/l		
P1082	STRONTIUM	Water	0.1280	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	88.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	71.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.4960	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0290	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	56.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	22.7000	mg/L		
P1055	Manganese	Water	0.1140	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.7000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	18.5000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	237.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	20.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	23.7000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.0900	mg/L		
P94	Specific Conductivity	Water	455.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1872.0000	mg/L		
P530	TSS	Water	16.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	90.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.4000	mg/l		
P1082	STRONTIUM	Water	0.1190	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **LC01** RM: **1.90** River Code - River [95-229] LaMotte Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	62.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	43.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1210	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1080	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	65.5000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	13.2000	mg/L		
P1055	Manganese	Water	0.1450	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	33.4000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.1000	ug/L	LT	<10.2
P34571	1,4-Dichlorobenzene	Water	5.1000	ug/L	LT	<10.2
	1-Methylnaphthalene	Water	5.1000	ug/L	LT	<10.2
	2 Chloro 5 Methylphenol	Water	5.1000	ug/L	LT	<10.2
	2,3 Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,3,4,6-Tetrachlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,4 & 2,5-Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,4,5-Trichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34621	2,4,6-Trichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34606	2,4-Dimethylphenol	Water	5.1000	ug/L	LT	<10.2
P34616	2,4-Dinitrophenol	Water	5.1000	ug/L	LT	<10.2
P34611	2,4-Dinitrotoluene	Water	5.1000	ug/L	LT	<10.2
	2,6-Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34626	2,6-Dinitrotoluene	Water	5.1000	ug/L	LT	<10.2
P34581	2-Chloronaphthalene	Water	5.1000	ug/L	LT	<10.2
P34586	2-Chlorophenol	Water	5.1000	ug/L	LT	<10.2
	2-Methylnaphthalene	Water	5.1000	ug/L	LT	<10.2
	2-Methylphenol	Water	5.1000	ug/L	LT	<10.2
P34591	2-Nitrophenol	Water	5.1000	ug/L	LT	<10.2
	3 & 4-Chlorophenol	Water	10.2000	ug/L	LT	<20.4
	3 & 4-Methylphenol	Water	10.2000	ug/L	LT	<20.4
	4,6-Dinitro-2-methylphenol	Water	5.1000	ug/L	LT	<10.2
P34636	4-Bromophenyl phenyl ether	Water	5.1000	ug/L	LT	<10.2
P34452	4-Chloro-3-methylphenol	Water	5.1000	ug/L	LT	<10.2
P34641	4-Chlorophenyl phenyl ether	Water	5.1000	ug/L	LT	<10.2
P3760	4-Nitrophenol	Water	5.1000	ug/L	LT	<10.2
P34205	Acenaphthene	Water	5.1000	ug/L	LT	<10.2
P34200	Acenaphthylene	Water	5.1000	ug/L	LT	<10.2
PTEMP38	Aniline	Water	5.1000	ug/L	LT	<10.2
P34220	Anthracene	Water	5.1000	ug/L	LT	<10.2
	Azobenzene	Water	5.1000	ug/L	LT	<10.2
P34526	Benzo(a)anthracene	Water	5.1000	ug/L	LT	<10.2
P34247	Benzo(a)pyrene	Water	5.1000	ug/L	LT	<10.2
	Benzo(b&k)fluoranthene	Water	10.2000	ug/L	LT	<20.4
P34230	Benzo(b)fluoranthene	Water	5.1000	ug/L	LT	<10.2
P34521	Benzo(g,h,i)perylene	Water	5.1000	ug/L	LT	<10.2
P34242	Benzo(k)fluoranthene	Water	5.1000	ug/L	LT	<10.2
	Benzyl alcohol	Water	5.1000	ug/L	LT	<10.2
	Benzyl butyl phthalate	Water	5.1000	ug/L	LT	<10.2
	Biphenyl	Water	5.1000	ug/L	LT	<10.2
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.1000	ug/L	LT	<10.2
	Bis(2-chloroethyl) ether	Water	5.1000	ug/L	LT	<10.2
	Bis(2-chloroisopropyl) ether	Water	5.1000	ug/L	LT	<10.2
	Bis(2-ethylhexyl) phthalate	Water	5.1000	ug/L	LT	<10.2
P34320	Chrysene	Water	5.1000	ug/L	LT	<10.2

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.1000	ug/L	LT	<10.2
	Dibenzofuran	Water	5.1000	ug/L	LT	<10.2
P34336	Diethyl phthalate	Water	5.1000	ug/L	LT	<10.2
P34341	Dimethyl phthalate	Water	5.1000	ug/L	LT	<10.2
P39110	Di-n-butyl phthalate	Water	10.5500	ug/L		
P34596	Di-n-octyl phthalate	Water	5.1000	ug/L	LT	<10.2
P34376	Fluoranthene	Water	5.1000	ug/L	LT	<10.2
P34381	Fluorene	Water	5.1000	ug/L	LT	<10.2
P39700	Hexachlorobenzene	Water	5.1000	ug/L	LT	<10.2
P34391	Hexachlorobutadiene	Water	5.1000	ug/L	LT	<10.2
P34386	Hexachlorocyclopentadiene	Water	5.1000	ug/L	LT	<10.2
P34396	Hexachloroethane	Water	5.1000	ug/L	LT	<10.2
P34403	Indeno(1,2,3-cd)pyrene	Water	5.1000	ug/L	LT	<10.2
P34408	Isophorone	Water	5.1000	ug/L	LT	<10.2
P34696	Naphthalene	Water	5.1000	ug/L	LT	<10.2
P34447	Nitrobenzene	Water	5.1000	ug/L	LT	<10.2
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.1000	ug/L	LT	<10.2
P39032	Pentachlorophenol	Water	5.1000	ug/L	LT	<10.2
P34461	Phenanthrene	Water	5.1000	ug/L	LT	<10.2
P34694	Phenol	Water	5.1000	ug/L	LT	<10.2
P34469	Pyrene	Water	5.1000	ug/L	LT	<10.2
PTEMP121	Pyridine	Water	5.1000	ug/L	LT	<10.2
P410	Total Alkalinity	Water	185.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2200	mg/L		
P940	Chloride	Water	50.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	59.5000	mg/L		
P310	BOD5	Water	3.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1500	mg/L		
P94	Specific Conductivity	Water	522.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	350.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	65.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.2000	mg/l		
P1082	STRONTIUM	Water	0.1970	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	72.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1300	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0800	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	50.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	10.1000	mg/L		
P1055	Manganese	Water	0.0770	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	22.8000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	12.6900	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	146.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	34.9000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.5200	mg/L		
P945	Sulfate	Water	37.1600	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	5.0000	mg/L	LT	<10
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1500	mg/L		
P94	Specific Conductivity	Water	394.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	278.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	81.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	81.8000	mg/l		
P1082	STRONTIUM	Water	0.1670	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	93.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **0805** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		
P1082	STRONTIUM	Water	0.3870	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	81.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.9000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **0805** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	77.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.9000	mg/l		
P1082	STRONTIUM	Water	0.9430	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	87.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	70.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1032	Hevavalent Chromium	Water	0.0060	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0330	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1280	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	75.5000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	15.6000	mg/L		
P1055	Manganese	Water	0.0670	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	38.3000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	200.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2400	mg/L		
P940	Chloride	Water	57.8000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.6400	mg/L		
P945	Sulfate	Water	70.8000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	11.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1300	mg/L		
P94	Specific Conductivity	Water	653.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	608.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32228	Chlorophyll a, Benthic	Water	126.0000	mg/m2		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P1082	STRONTIUM	Water	0.2470	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	69.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	79.8000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0260	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1080	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	75.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	16.1000	mg/L		
P1055	Manganese	Water	0.0720	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	41.8000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	189.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2400	mg/L		
P940	Chloride	Water	42.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	46.0000	mg/L		
P310	BOD5	Water	24.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.0900	mg/L		
P94	Specific Conductivity	Water	692.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	620.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	59.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	59.6000	mg/l		
P1082	STRONTIUM	Water	0.2330	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	58.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1080	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1350	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	79.5000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.5000	mg/L		
P1055	Manganese	Water	0.0480	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.8000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	40.2000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	10.4900	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.2900	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	210.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2500	mg/L		
P940	Chloride	Water	53.8000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	78.2000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	11.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1200	mg/L		
P94	Specific Conductivity	Water	723.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	480.0000	mg/L		
P530	TSS	Water	6.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		
P1082	STRONTIUM	Water	0.2580	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	97.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	92.4000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0920	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0920	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	83.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	20.6000	mg/L		
P1055	Manganese	Water	0.0580	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.0000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	30.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39311	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	251.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3600	mg/L		
P940	Chloride	Water	40.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.1600	mg/L		
P945	Sulfate	Water	66.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	11.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1100	mg/L		
P94	Specific Conductivity	Water	626.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	264.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		
P1082	STRONTIUM	Water	0.2100	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC01** RM: **6.50** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	73.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	67.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2390	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1860	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	83.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.0000	mg/L		
P1055	Manganese	Water	0.1120	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	14.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	109.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0310	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	10.8100	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	310.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5500	mg/L		
P940	Chloride	Water	144.0000	mg/L		
P615	Nitrite	Water	0.2400	mg/L		
P630	Nitrate	Water	5.5800	mg/L		
P945	Sulfate	Water	68.3000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	20.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	1.2700	mg/L		
P94	Specific Conductivity	Water	1044.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	652.0000	mg/L		
P530	TSS	Water	12.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.8100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1082	STRONTIUM	Water	0.1400	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	81.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2390	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1590	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	75.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.7000	mg/L		
P1055	Manganese	Water	0.0840	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	103.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0220	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	15.0900	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	270.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5300	mg/L		
P940	Chloride	Water	131.0000	mg/L		
P615	Nitrite	Water	0.7800	mg/L		
P630	Nitrate	Water	3.3600	mg/L		
P945	Sulfate	Water	63.4000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	21.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.8100	mg/L		
P94	Specific Conductivity	Water	936.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	550.0000	mg/L		
P530	TSS	Water	12.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.2700	mg/m3		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Collection Date 07/29/2013

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P301	Dissolved oxygen saturation	Water	91.0000	%		
P82078	Turbidity	Water	3.7000	NTU		
P10	Temperature, sample	Water	3.0000	deg C		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.2900	mg/l		0.055
P1067	Nickel	Water	3.3400	ug/l	J	0.56
P927	Magnesium	Water	31700.0000	ug/l		27.7
P1083	Strontium	Water	115.0000	ug/l		0.24
P1105	Aluminum	Water	268.0000	ug/l		8.61
P940	Chloride	Water	150.0000	mg/l		1.43
P80082	Carbonaceous biochemical oxygen demand, standard	Water		mg/l	ND	2
P610	Ammonia-nitrogen	Water		mg/l	ND	0.02
P1007	Barium	Water	13.7000	ug/l		0.82
P1002	Arsenic	Water		ug/l	ND	1.65
P1042	Copper	Water	5.9600	ug/l		1.6
P1220	Chromium	Water		ug/l	ND	1.75
P1027	Cadmium	Water		ug/l	ND	0.39
P1079	Silver	Water		ug/l	ND	0.64
P665	Phosphorus	Water	1.1300	mg/l		0.003
P625	Kjeldahl nitrogen	Water	0.7200	mg/l		0.19
P549	Volatile suspended solids	Water	8.0000	mg/l		
P310	Biochemical oxygen demand, standard conditions	Water		mg/l	ND	2
P1092	Zinc	Water	21.1000	ug/l	J6	2
P937	Potassium	Water	13700.0000	ug/l		37.8
P1051	Lead	Water		ug/l	ND	4.01
P1045	Iron	Water	122.0000	ug/l		4.2
P900	Hardness, Ca, Mg	Water	*****.****	ug/l	C	
P929	Sodium	Water	*****.****	ug/l		34.1
P1037	Cobalt	Water	1.8400	ug/l	J	0.58
P999	Boron	Water	204.0000	ug/l		1.32
P985	Vanadium	Water		ug/l	ND	0.88
P945	Sulfate	Water		mg/l	ND	16.3
P530	Total suspended solids	Water	13.0000	mg/l		
P1055	Manganese	Water	110.0000	ug/l		1.84
P1012	Beryllium	Water	0.2800	ug/l	J	0.17
P1147	Selenium	Water		ug/l	ND	2.62
P916	Calcium	Water	82700.0000	ug/l		28.6
P299	Dissolved oxygen (DO)	Water	7.7000	mg/l		
P400	pH	Water	7.7000	None		
P94	Specific conductance	Water	1147.0000	umho/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	23.1000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3310	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1900	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	76.9000	mg/L		
P1220	Chromium	Water	0.0340	mg/L		
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.8000	mg/L		
P1055	Manganese	Water	0.1160	mg/L		
P1067	Nickel	Water	0.0240	mg/L		
P937	Potassium	Water	13.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	112.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	10.1800	ug/L		
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	269.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.2700	mg/L		
P940	Chloride	Water	152.0000	mg/L		
P615	Nitrite	Water	0.2400	mg/L		
P630	Nitrate	Water	3.5100	mg/L		
P945	Sulfate	Water	66.0000	mg/L		
P310	BOD5	Water	9.0000	mg/L		
P335	Chemical Oxygen Demand	Water	19.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	2.3200	mg/L		
P94	Specific Conductivity	Water	1097.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	636.0000	mg/L		
P530	TSS	Water	15.0000	mg/L		
P625	TKN	Water	0.7300	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	79.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	79.8000	mg/l		
P1082	STRONTIUM	Water	0.1460	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	68.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	73.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2670	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2000	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	82.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	27.8000	mg/L		
P1055	Manganese	Water	0.0950	mg/L		
P1067	Nickel	Water	0.0060	mg/L		
P937	Potassium	Water	15.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	138.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0320	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	161.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5400	mg/L		
P940	Chloride	Water	160.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.5700	mg/L		
P945	Sulfate	Water	51.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3600	mg/L		
P94	Specific Conductivity	Water	1279.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	712.0000	mg/L		
P530	TSS	Water	20.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	3.7400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	68.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	68.1000	mg/l		
P1082	STRONTIUM	Water	0.1500	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	71.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	59.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3030	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1520	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	80.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.3000	mg/L		
P1055	Manganese	Water	0.0930	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	95.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0170	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	10.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	195.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4200	mg/L		
P940	Chloride	Water	97.4000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.9500	mg/L		
P945	Sulfate	Water	46.1000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	1059.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	644.0000	mg/L		
P530	TSS	Water	20.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	6.9400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	92.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	92.4000	mg/l		
P1082	STRONTIUM	Water	0.1920	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	101.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	81.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1820	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1800	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	79.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	28.0000	mg/L		
P1055	Manganese	Water	0.0470	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	15.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	128.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0220	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	323.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5700	mg/L		
P940	Chloride	Water	170.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	5.2300	mg/L		
P945	Sulfate	Water	73.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	10.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3800	mg/L		
P94	Specific Conductivity	Water	1136.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	548.0000	mg/L		
P530	TSS	Water	8.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	67.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	67.8000	mg/l		
P1082	STRONTIUM	Water	0.1490	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWMZ** RM: **6.45** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	83.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	70.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1740	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1850	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	82.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.2000	mg/L		
P1055	Manganese	Water	0.0740	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	14.8000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	110.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0310	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	10.1300	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	308.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5700	mg/L		
P940	Chloride	Water	149.0000	mg/L		
P615	Nitrite	Water	0.2800	mg/L		
P630	Nitrate	Water	5.7700	mg/L		
P945	Sulfate	Water	69.8000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	17.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	1.2400	mg/L		
P94	Specific Conductivity	Water	1037.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	638.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	2.6700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	80.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.7000	mg/l		
P1082	STRONTIUM	Water	0.1390	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	J	
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	78.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1320	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1490	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	72.5000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	23.8000	mg/L		
P1055	Manganese	Water	0.0440	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	98.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0180	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	11.3400	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	252.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4400	mg/L		
P940	Chloride	Water	125.0000	mg/L		
P615	Nitrite	Water	0.7100	mg/L		
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	62.2000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.7300	mg/L		
P94	Specific Conductivity	Water	915.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	496.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	89.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	89.7000	mg/l		
P1082	STRONTIUM	Water	0.1570	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	94.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RWM2** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		
P1082	STRONTIUM	Water	0.1540	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	94.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	81.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1032	Hevavalent Chromium	Water	0.0120	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1680	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1920	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	77.3000	mg/L		
P1220	Chromium	Water	0.0330	mg/L		
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.4000	mg/L		
P1055	Manganese	Water	0.0770	mg/L		
P1067	Nickel	Water	0.0230	mg/L		
P937	Potassium	Water	12.7000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	108.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0200	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	6.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	10.5400	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.9300	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	10.6000	ug/L		
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	284.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.2300	mg/L		
P940	Chloride	Water	145.0000	mg/L		
P615	Nitrite	Water	0.2700	mg/L		
P630	Nitrate	Water	3.3400	mg/L		
P945	Sulfate	Water	68.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	21.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	2.2500	mg/L		
P94	Specific Conductivity	Water	1093.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	670.0000	mg/L		
P530	TSS	Water	6.0000	mg/L		
P625	TKN	Water	0.7600	mg/L		
P32228	Chlorophyll a, Benthic	Water	177.0000	mg/m2		
P32230	Chlorophyll a, Sestonic	Water	3.7400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	73.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	73.5000	mg/l		
P1082	STRONTIUM	Water	0.1510	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	73.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.7000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1930	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1920	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	81.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.9000	mg/L		
P1055	Manganese	Water	0.0600	mg/L		
P1067	Nickel	Water	0.0060	mg/L		
P937	Potassium	Water	14.4000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	131.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0290	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	1.0000	ug/L		
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	164.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5500	mg/L		
P940	Chloride	Water	179.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.6600	mg/L		
P945	Sulfate	Water	61.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4900	mg/L		
P94	Specific Conductivity	Water	1237.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	680.0000	mg/L		
P530	TSS	Water	6.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.8100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	55.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.3000	mg/l		
P1082	STRONTIUM	Water	0.1540	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	79.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1330	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1510	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	81.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.0000	mg/L		
P1055	Manganese	Water	0.0470	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	93.5000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0150	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	296.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4100	mg/L		
P940	Chloride	Water	77.5000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.6300	mg/L		
P945	Sulfate	Water	36.2000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2000	mg/L		
P94	Specific Conductivity	Water	1046.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	652.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	1.0700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	81.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	81.3000	mg/l		
P1082	STRONTIUM	Water	0.2000	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	98.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1450	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1800	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	82.9000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.0000	mg/L		
P1055	Manganese	Water	0.0360	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	15.1000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	127.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0210	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	320.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4400	mg/L		
P940	Chloride	Water	168.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	5.0500	mg/L		
P945	Sulfate	Water	75.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3600	mg/L		
P94	Specific Conductivity	Water	1120.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	536.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	1.6000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	61.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.1000	mg/l		
P1082	STRONTIUM	Water	0.1540	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC02** RM: **6.25** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	71.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1160	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1660	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	80.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.2000	mg/L		
P1055	Manganese	Water	0.0500	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.1000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	92.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0220	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	292.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4900	mg/L		
P940	Chloride	Water	124.0000	mg/L		
P615	Nitrite	Water	0.2400	mg/L		
P630	Nitrate	Water	4.3200	mg/L		
P945	Sulfate	Water	65.5000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.9300	mg/L		
P94	Specific Conductivity	Water	942.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	576.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P1082	STRONTIUM	Water	0.1510	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	79.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.7000	mg/l		
P1032	Hevavalent Chromium	Water	0.0090	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1200	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1350	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	69.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	21.3000	mg/L		
P1055	Manganese	Water	0.0380	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	81.9000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0140	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	11.1700	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	237.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.4400	mg/L		
P940	Chloride	Water	103.0000	mg/L		
P615	Nitrite	Water	0.6200	mg/L		
P630	Nitrate	Water	2.6400	mg/L		
P945	Sulfate	Water	55.1500	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	19.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5700	mg/L		
P94	Specific Conductivity	Water	818.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	452.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	72.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	72.1000	mg/l		
P1082	STRONTIUM	Water	0.1550	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	93.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	89.7000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0940	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1720	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	76.8000	mg/L		
P1220	Chromium	Water	0.0280	mg/L		
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.8000	mg/L		
P1055	Manganese	Water	0.0350	mg/L		
P1067	Nickel	Water	0.0180	mg/L		
P937	Potassium	Water	11.4000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	98.5000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0170	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	5.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	11.1300	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	12.6500	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	11.6800	ug/L		
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	271.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.0700	mg/L		
P940	Chloride	Water	134.0000	mg/L		
P615	Nitrite	Water	0.2500	mg/L		
P630	Nitrate	Water	3.0500	mg/L		
P945	Sulfate	Water	62.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	1.9700	mg/L		
P94	Specific Conductivity	Water	1026.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	564.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.6700	mg/L		
P32228	Chlorophyll a, Benthic	Water	157.0000	mg/m2		
P32230	Chlorophyll a, Sestonic	Water	1.0700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	77.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.7000	mg/l		
P1082	STRONTIUM	Water	0.1600	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/01/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	67.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1020	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1310	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	71.9000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	21.4000	mg/L		
P1055	Manganese	Water	0.0460	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	83.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0160	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	165.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3900	mg/L		
P940	Chloride	Water	127.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.9100	mg/L		
P945	Sulfate	Water	50.0000	mg/L		
P310	BOD5	Water	24.0000	mg/L		
P335	Chemical Oxygen Demand	Water	10.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3100	mg/L		
P94	Specific Conductivity	Water	943.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	500.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.8000	mg/L		
P32230	Chlorophyll a, Sestonic	Water	3.7400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	65.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.9000	mg/l		
P1082	STRONTIUM	Water	0.1520	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	62.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1980	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1270	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	78.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	22.3000	mg/L		
P1055	Manganese	Water	0.0720	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	7.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	73.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	244.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3700	mg/L		
P940	Chloride	Water	88.8000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	48.7000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	5.0000	mg/L	LT	<10
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1900	mg/L		
P94	Specific Conductivity	Water	910.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	500.0000	mg/L		
P530	TSS	Water	15.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.9000	mg/l		
P1082	STRONTIUM	Water	0.1870	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	101.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.4000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1180	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1530	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	80.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.3000	mg/L		
P1055	Manganese	Water	0.0350	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	101.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0140	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	503.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3400	mg/L		
P940	Chloride	Water	126.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	3.8000	mg/L		
P945	Sulfate	Water	62.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	13.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2900	mg/L		
P94	Specific Conductivity	Water	967.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	620.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	53.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	53.2000	mg/l		
P1082	STRONTIUM	Water	0.1570	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC03** RM: **6.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	64.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1830	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1720	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	79.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	27.2000	mg/L		
P1055	Manganese	Water	0.0640	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	95.9000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0250	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	12.1200	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	294.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.5100	mg/L		
P940	Chloride	Water	123.0000	mg/L		
P615	Nitrite	Water	0.3000	mg/L		
P630	Nitrate	Water	3.3100	mg/L		
P945	Sulfate	Water	47.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	20.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	1.0400	mg/L		
P94	Specific Conductivity	Water	956.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	566.0000	mg/L		
P530	TSS	Water	10.0000	mg/L		
P625	TKN	Water	0.7400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	63.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.7000	mg/l		
P1082	STRONTIUM	Water	0.1440	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	58.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.0000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2070	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1340	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	67.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	20.8000	mg/L		
P1055	Manganese	Water	0.0360	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	78.3000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0130	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	11.9200	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	232.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.4500	mg/L		
P940	Chloride	Water	100.0000	mg/L		
P615	Nitrite	Water	0.6400	mg/L		
P630	Nitrate	Water	2.5500	mg/L		
P945	Sulfate	Water	55.0000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	17.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5300	mg/L		
P94	Specific Conductivity	Water	773.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	504.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	77.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.2000	mg/l		
P1082	STRONTIUM	Water	0.1520	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	93.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.0000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32228	Chlorophyll a, Benthic	Water	63.8000	mg/m2		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1120	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1440	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	73.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	23.2000	mg/L		
P1055	Manganese	Water	0.0270	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	84.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0160	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	5.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	255.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.3900	mg/L		
P940	Chloride	Water	108.0000	mg/L		
P615	Nitrite	Water	0.2000	mg/L		
P630	Nitrate	Water	2.6100	mg/L		
P945	Sulfate	Water	64.0000	mg/L		
P310	BOD5	Water	14.0000	mg/L		
P335	Chemical Oxygen Demand	Water	13.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5100	mg/L		
P94	Specific Conductivity	Water	693.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	688.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	58.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	58.2000	mg/l		
P1082	STRONTIUM	Water	0.1720	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1300	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1560	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	78.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.1000	mg/L		
P1055	Manganese	Water	0.0220	mg/L		
P1067	Nickel	Water	0.0050	mg/L		
P937	Potassium	Water	11.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	106.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0190	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	277.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.4400	mg/L		
P940	Chloride	Water	153.0000	mg/L		
P615	Nitrite	Water	0.2500	mg/L		
P630	Nitrate	Water	4.1800	mg/L		
P945	Sulfate	Water	59.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3300	mg/L		
P94	Specific Conductivity	Water	1093.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	656.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	61.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.2000	mg/l		
P1082	STRONTIUM	Water	0.1510	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	71.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.4000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1400	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1420	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	81.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	25.8000	mg/L		
P1055	Manganese	Water	0.0210	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	98.9000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0100	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	288.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.3600	mg/L		
P940	Chloride	Water	106.0000	mg/L		
P615	Nitrite	Water	0.1700	mg/L		
P630	Nitrate	Water	4.2900	mg/L		
P945	Sulfate	Water	40.7000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1700	mg/L		
P94	Specific Conductivity	Water	1070.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	584.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		
P1082	STRONTIUM	Water	0.1610	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	J	
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	91.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0920	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1640	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	80.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.8000	mg/L		
P1055	Manganese	Water	0.0150	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	108.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0150	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	301.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.3300	mg/L		
P940	Chloride	Water	144.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	3.8300	mg/L		
P945	Sulfate	Water	53.4000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	11.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2800	mg/L		
P94	Specific Conductivity	Water	1036.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	596.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	44.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	44.7000	mg/l		
P1082	STRONTIUM	Water	0.1570	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC04** RM: **5.20** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	60.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	53.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0420	mg/L		
P1002	Arsenic	Water	0.0120	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2760	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	120.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	32.2000	mg/L		
P1055	Manganese	Water	0.0190	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	15.3000	mg/L		
P1147	Selenium	Water	0.0670	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	242.0000	mg/L		
P985	Vanadium	Water	0.0060	mg/L		
P1092	Zinc	Water	0.0180	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	15.6600	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	156.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	1.2000	mg/L		
P940	Chloride	Water	248.0000	mg/L		
P615	Nitrite	Water	0.3500	mg/L		
P630	Nitrate	Water	14.8500	mg/L		
P945	Sulfate	Water	478.0000	mg/L		
P310	BOD5	Water	11.0000	mg/L		
P335	Chemical Oxygen Demand	Water	36.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.7700	mg/L		
P94	Specific Conductivity	Water	1786.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1328.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	2.0900	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	63.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.8000	mg/l		
P1082	STRONTIUM	Water	0.7810	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	74.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	67.4000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0680	mg/L		
P1002	Arsenic	Water	0.0110	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2860	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	95.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0050	mg/L		
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	31.0000	mg/L		
P1055	Manganese	Water	0.0200	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	23.6000	mg/L		
P1147	Selenium	Water	0.0720	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	326.0000	mg/L		
P985	Vanadium	Water	0.0060	mg/L		
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	12.7400	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	214.0000	mg/L		
P610	Ammonia	Water	0.1700	mg/L		
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	1.1200	mg/L		
P940	Chloride	Water	324.0000	mg/L		
P615	Nitrite	Water	1.5700	mg/L		
P630	Nitrate	Water	12.1800	mg/L		
P945	Sulfate	Water	395.0000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	49.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5000	mg/L		
P94	Specific Conductivity	Water	1961.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1452.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.5400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0400	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2770	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	130.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	31.7000	mg/L		
P1055	Manganese	Water	0.0120	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.2000	mg/L		
P1147	Selenium	Water	0.0500	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	284.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	6.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	206.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	1.0600	mg/L		
P940	Chloride	Water	319.0000	mg/L		
P615	Nitrite	Water	0.4800	mg/L		
P630	Nitrate	Water	2.7500	mg/L		
P945	Sulfate	Water	443.0000	mg/L		
P310	BOD5	Water	12.0000	mg/L		
P335	Chemical Oxygen Demand	Water	28.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	1570.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1398.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1900	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	48.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	48.6000	mg/l		
P1082	STRONTIUM	Water	1.1500	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	63.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	58.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0440	mg/L		
P1002	Arsenic	Water	0.0090	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.3170	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	142.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	34.7000	mg/L		
P1055	Manganese	Water	0.0180	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	16.4000	mg/L		
P1147	Selenium	Water	0.0900	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	369.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0130	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.2200	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	181.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.9900	mg/L		
P940	Chloride	Water	400.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	12.3200	mg/L		
P945	Sulfate	Water	500.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	40.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2700	mg/L		
P94	Specific Conductivity	Water	2770.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1832.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		
P1082	STRONTIUM	Water	1.4300	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	51.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	52.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0460	mg/L		
P1002	Arsenic	Water	0.0090	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2480	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	138.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	34.8000	mg/L		
P1055	Manganese	Water	0.0240	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	19.4000	mg/L		
P1147	Selenium	Water	0.0620	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	306.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	12.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	192.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.6700	mg/L		
P940	Chloride	Water	301.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.8300	mg/L		
P945	Sulfate	Water	506.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	30.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1900	mg/L		
P94	Specific Conductivity	Water	2393.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1676.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1100	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	76.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	76.5000	mg/l		
P1082	STRONTIUM	Water	1.2400	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	55.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	46.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0600	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2670	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	127.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	32.1000	mg/L		
P1055	Manganese	Water	0.0170	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	16.4000	mg/L		
P1147	Selenium	Water	0.0510	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	263.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0100	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	226.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.6000	mg/L		
P940	Chloride	Water	341.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	7.9600	mg/L		
P945	Sulfate	Water	379.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	35.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2900	mg/L		
P94	Specific Conductivity	Water	1978.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	908.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.5400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	57.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	57.8000	mg/l		
P1082	STRONTIUM	Water	1.0300	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MPMZ** RM: **5.00** River Code - River [95-730] Robinson Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	51.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	44.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2480	mg/L		
P1002	Arsenic	Water	0.0100	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2560	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	114.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	31.4000	mg/L		
P1055	Manganese	Water	0.0490	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	14.6000	mg/L		
P1147	Selenium	Water	0.0590	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	218.0000	mg/L		
P985	Vanadium	Water	0.0060	mg/L		
P1092	Zinc	Water	0.0190	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	12.1300	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	177.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	1.0500	mg/L		
P940	Chloride	Water	217.0000	mg/L		
P615	Nitrite	Water	0.3000	mg/L		
P630	Nitrate	Water	12.4900	mg/L		
P945	Sulfate	Water	400.0000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	32.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.7700	mg/L		
P94	Specific Conductivity	Water	1595.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1224.0000	mg/L		
P530	TSS	Water	15.0000	mg/L		
P625	TKN	Water	2.1000	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	67.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	67.4000	mg/l		
P1082	STRONTIUM	Water	0.6840	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	70.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0780	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2150	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	76.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.8000	mg/L		
P1055	Manganese	Water	0.0190	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	16.8000	mg/L		
P1147	Selenium	Water	0.0460	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	241.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0140	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	197.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.7000	mg/L		
P940	Chloride	Water	215.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	10.0200	mg/L		
P945	Sulfate	Water	217.0000	mg/L		
P310	BOD5	Water	2.0000	mg/L		
P335	Chemical Oxygen Demand	Water	36.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4700	mg/L		
P94	Specific Conductivity	Water	1531.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1170.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1000	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	72.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	72.6000	mg/l		
P1082	STRONTIUM	Water	0.5820	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0005	mg/l		
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	100.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.4000	mg/l		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32228	Chlorophyll a, Benthic	Water	15.8000	mg/m2		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1690	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2690	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	126.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	30.7000	mg/L		
P1055	Manganese	Water	0.0380	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.5000	mg/L		
P1147	Selenium	Water	0.0490	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	281.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0130	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	33.2400	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	195.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	1.0900	mg/L		
P940	Chloride	Water	654.0000	mg/L		
P615	Nitrite	Water	0.4600	mg/L		
P630	Nitrate	Water	2.7200	mg/L		
P945	Sulfate	Water	937.0000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	31.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2500	mg/L		
P94	Specific Conductivity	Water	1553.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1444.0000	mg/L		
P530	TSS	Water	12.0000	mg/L		
P625	TKN	Water	1.1800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	63.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.2000	mg/l		
P1082	STRONTIUM	Water	1.1500	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	56.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	48.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0740	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2830	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	136.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	32.6000	mg/L		
P1055	Manganese	Water	0.0180	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	15.9000	mg/L		
P1147	Selenium	Water	0.0800	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	331.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0130	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	180.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.9200	mg/L		
P940	Chloride	Water	370.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	11.4400	mg/L		
P945	Sulfate	Water	450.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	35.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	2554.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1676.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1200	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	52.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	52.6000	mg/l		
P1082	STRONTIUM	Water	1.2700	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	57.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1050	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2070	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	111.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	30.2000	mg/L		
P1055	Manganese	Water	0.0670	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.8000	mg/L		
P1147	Selenium	Water	0.0410	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	251.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0150	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	12.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	27.0000	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	278.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.7100	mg/L		
P940	Chloride	Water	178.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.5200	mg/L		
P945	Sulfate	Water	359.0000	mg/L		
P310	BOD5	Water	9.0000	mg/L		
P335	Chemical Oxygen Demand	Water	31.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1200	mg/L		
P94	Specific Conductivity	Water	1949.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1160.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	1.0900	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	87.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.1000	mg/l		
P1082	STRONTIUM	Water	0.8060	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	J	
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	104.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1750	mg/L		
P1002	Arsenic	Water	0.0130	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2630	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	138.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	33.9000	mg/L		
P1055	Manganese	Water	0.1000	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	16.2000	mg/L		
P1147	Selenium	Water	0.0650	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	308.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0180	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	22.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	194.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water	0.0035	mg/L	LT	<0.007
P951	Fluoride	Water	0.8900	mg/L		
P940	Chloride	Water	359.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	8.1800	mg/L		
P945	Sulfate	Water	452.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	49.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3400	mg/L		
P94	Specific Conductivity	Water	2095.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	232.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	1.6400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	39.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	39.0000	mg/l		
P1082	STRONTIUM	Water	1.1900	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC05** RM: **4.90** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1032	Hevavalent Chromium	Water	0.0070	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1040	mg/L		
P1002	Arsenic	Water	0.0090	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2090	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	101.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	28.5000	mg/L		
P1055	Manganese	Water	0.0400	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	11.7000	mg/L		
P1147	Selenium	Water	0.0490	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	178.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.1500	ug/L	LT	<10.3
P34571	1,4-Dichlorobenzene	Water	5.1500	ug/L	LT	<10.3
	1-Methylnaphthalene	Water	5.1500	ug/L	LT	<10.3
	2 Chloro 5 Methylphenol	Water	5.1500	ug/L	LT	<10.3
	2,3 Dichlorophenol	Water	5.1500	ug/L	LT	<10.3
	2,3,4,6-Tetrachlorophenol	Water	5.1500	ug/L	LT	<10.3
	2,4 & 2,5-Dichlorophenol	Water	5.1500	ug/L	LT	<10.3
	2,4,5-Trichlorophenol	Water	5.1500	ug/L	LT	<10.3
P34621	2,4,6-Trichlorophenol	Water	5.1500	ug/L	LT	<10.3
P34606	2,4-Dimethylphenol	Water	5.1500	ug/L	LT	<10.3
P34616	2,4-Dinitrophenol	Water	5.1500	ug/L	LT	<10.3
P34611	2,4-Dinitrotoluene	Water	5.1500	ug/L	LT	<10.3
	2,6-Dichlorophenol	Water	5.1500	ug/L	LT	<10.3
P34626	2,6-Dinitrotoluene	Water	5.1500	ug/L	LT	<10.3
P34581	2-Chloronaphthalene	Water	5.1500	ug/L	LT	<10.3
P34586	2-Chlorophenol	Water	5.1500	ug/L	LT	<10.3
	2-Methylnaphthalene	Water	5.1500	ug/L	LT	<10.3
	2-Methylphenol	Water	5.1500	ug/L	LT	<10.3
P34591	2-Nitrophenol	Water	5.1500	ug/L	LT	<10.3
	3 & 4-Chlorophenol	Water	10.3000	ug/L	LT	<20.6
	3 & 4-Methylphenol	Water	10.3000	ug/L	LT	<20.6
	4,6-Dinitro-2-methylphenol	Water	5.1500	ug/L	LT	<10.3
P34636	4-Bromophenyl phenyl ether	Water	5.1500	ug/L	LT	<10.3
P34452	4-Chloro-3-methylphenol	Water	5.1500	ug/L	LT	<10.3
P34641	4-Chlorophenyl phenyl ether	Water	5.1500	ug/L	LT	<10.3
P3760	4-Nitrophenol	Water	5.1500	ug/L	LT	<10.3
P34205	Acenaphthene	Water	5.1500	ug/L	LT	<10.3
P34200	Acenaphthylene	Water	5.1500	ug/L	LT	<10.3
PTEMP38	Aniline	Water	5.1500	ug/L	LT	<10.3
P34220	Anthracene	Water	5.1500	ug/L	LT	<10.3
	Azobenzene	Water	5.1500	ug/L	LT	<10.3
P34526	Benzo(a)anthracene	Water	5.1500	ug/L	LT	<10.3
P34247	Benzo(a)pyrene	Water	5.1500	ug/L	LT	<10.3
	Benzo(b&k)fluoranthene	Water	10.3000	ug/L	LT	<20.6
P34230	Benzo(b)fluoranthene	Water	5.1500	ug/L	LT	<10.3
P34521	Benzo(g,h,i)perylene	Water	5.1500	ug/L	LT	<10.3
P34242	Benzo(k)fluoranthene	Water	5.1500	ug/L	LT	<10.3
	Benzyl alcohol	Water	5.1500	ug/L	LT	<10.3
	Benzyl butyl phthalate	Water	5.1500	ug/L	LT	<10.3
	Biphenyl	Water	5.1500	ug/L	LT	<10.3
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.1500	ug/L	LT	<10.3
	Bis(2-chloroethyl) ether	Water	5.1500	ug/L	LT	<10.3
	Bis(2-chloroisopropyl) ether	Water	5.1500	ug/L	LT	<10.3
	Bis(2-ethylhexyl) phthalate	Water	5.1500	ug/L	LT	<10.3
P34320	Chrysene	Water	5.1500	ug/L	LT	<10.3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.1500	ug/L	LT	<10.3
	Dibenzofuran	Water	5.1500	ug/L	LT	<10.3
P34336	Diethyl phthalate	Water	5.1500	ug/L	LT	<10.3
P34341	Dimethyl phthalate	Water	5.1500	ug/L	LT	<10.3
P39110	Di-n-butyl phthalate	Water	12.3400	ug/L		
P34596	Di-n-octyl phthalate	Water	5.1500	ug/L	LT	<10.3
P34376	Fluoranthene	Water	5.1500	ug/L	LT	<10.3
P34381	Fluorene	Water	5.1500	ug/L	LT	<10.3
P39700	Hexachlorobenzene	Water	5.1500	ug/L	LT	<10.3
P34391	Hexachlorobutadiene	Water	5.1500	ug/L	LT	<10.3
P34386	Hexachlorocyclopentadiene	Water	5.1500	ug/L	LT	<10.3
P34396	Hexachloroethane	Water	5.1500	ug/L	LT	<10.3
P34403	Indeno(1,2,3-cd)pyrene	Water	5.1500	ug/L	LT	<10.3
P34408	Isophorone	Water	5.1500	ug/L	LT	<10.3
P34696	Naphthalene	Water	5.1500	ug/L	LT	<10.3
P34447	Nitrobenzene	Water	5.1500	ug/L	LT	<10.3
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.1500	ug/L	LT	<10.3
P39032	Pentachlorophenol	Water	5.1500	ug/L	LT	<10.3
P34461	Phenanthrene	Water	5.1500	ug/L	LT	<10.3
P34694	Phenol	Water	5.1500	ug/L	LT	<10.3
P34469	Pyrene	Water	5.1500	ug/L	LT	<10.3
PTEMP121	Pyridine	Water	5.1500	ug/L	LT	<10.3
P410	Total Alkalinity	Water	160.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.8800	mg/L		
P940	Chloride	Water	178.0000	mg/L		
P615	Nitrite	Water	0.2600	mg/L		
P630	Nitrate	Water	10.5000	mg/L		
P945	Sulfate	Water	329.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	29.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5800	mg/L		
P94	Specific Conductivity	Water	1403.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1026.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	2.4800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	1.0700	mg/m3		
P1082	STRONTIUM	Water	0.5850	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	59.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0960	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2100	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	76.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	25.0000	mg/L		
P1055	Manganese	Water	0.0210	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	16.5000	mg/L		
P1147	Selenium	Water	0.0450	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	235.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0240	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	189.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6800	mg/L		
P940	Chloride	Water	234.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	9.7000	mg/L		
P945	Sulfate	Water	239.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	37.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5000	mg/L		
P94	Specific Conductivity	Water	1501.0000	umhos/cm		
P745	Sulfide	Water		mg/L	ND	
P70300	TDS	Water	1048.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1000	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P1082	STRONTIUM	Water	0.5750	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0003	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	102.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0840	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2720	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	126.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	31.0000	mg/L		
P1055	Manganese	Water	0.0470	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.4000	mg/L		
P1147	Selenium	Water	0.0480	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	279.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0100	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	192.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.0800	mg/L		
P940	Chloride	Water	316.0000	mg/L		
P615	Nitrite	Water	0.4900	mg/L		
P630	Nitrate	Water	8.7400	mg/L		
P945	Sulfate	Water	447.0000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	33.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	1594.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1428.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0200	mg/L		
P32228	Chlorophyll a, Benthic	Water	83.6000	mg/m2		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	64.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	64.6000	mg/l		
P1082	STRONTIUM	Water	1.1500	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	62.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	60.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0350	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.3170	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	142.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	35.0000	mg/L		
P1055	Manganese	Water	0.0200	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	15.8000	mg/L		
P1147	Selenium	Water	0.0860	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	368.0000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0120	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	12.5000	ug/L		
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.9300	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	15.9500	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.8900	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	184.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7700	mg/L		
P940	Chloride	Water	390.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	7.4500	mg/L		
P945	Sulfate	Water	490.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	37.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	2724.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1808.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.1700	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	55.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.6000	mg/l		
P1082	STRONTIUM	Water	1.4100	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	59.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.4000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0550	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1860	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	109.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.4000	mg/L		
P1055	Manganese	Water	0.0380	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.0000	mg/L		
P1147	Selenium	Water	0.0370	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	218.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	12.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	12.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	207.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5400	mg/L		
P940	Chloride	Water	217.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.5700	mg/L		
P945	Sulfate	Water	386.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	26.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1700	mg/L		
P94	Specific Conductivity	Water	1835.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1344.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0100	mg/L		
P32230	Chlorophyll a, Sestonic	Water	6.4100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	26.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	26.5000	mg/l		
P1082	STRONTIUM	Water	0.8670	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	73.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	57.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0690	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2060	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	111.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0060	mg/L		
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.6000	mg/L		
P1055	Manganese	Water	0.0340	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.2000	mg/L		
P1147	Selenium	Water	0.0420	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	214.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0090	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	202.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6600	mg/L		
P940	Chloride	Water	230.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	5.9300	mg/L		
P945	Sulfate	Water	272.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	26.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	1567.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	448.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.4100	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	37.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	37.5000	mg/l		
P1082	STRONTIUM	Water	0.7960	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC06** RM: **4.60** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	60.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	39.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1940	mg/L		
P1002	Arsenic	Water	0.0100	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2520	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	115.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	31.3000	mg/L		
P1055	Manganese	Water	0.0740	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	14.0000	mg/L		
P1147	Selenium	Water	0.0600	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	226.0000	mg/L		
P985	Vanadium	Water	0.0060	mg/L		
P1092	Zinc	Water	0.0130	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	163.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.0300	mg/L		
P940	Chloride	Water	226.0000	mg/L		
P615	Nitrite	Water	0.3500	mg/L		
P630	Nitrate	Water	13.8900	mg/L		
P945	Sulfate	Water	421.0000	mg/L		
P310	BOD5	Water	12.0000	mg/L		
P335	Chemical Oxygen Demand	Water	33.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.6400	mg/L		
P94	Specific Conductivity	Water	1667.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1288.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	3.0900	mg/L		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	69.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.2000	mg/l		
P1082	STRONTIUM	Water	0.7170	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	68.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.4210	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1670	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	76.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.0000	mg/L		
P1055	Manganese	Water	0.0660	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.6000	mg/L		
P1147	Selenium	Water	0.0330	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	189.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0070	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	184.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5900	mg/L		
P940	Chloride	Water	184.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	7.9600	mg/L		
P945	Sulfate	Water	187.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	31.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4500	mg/L		
P94	Specific Conductivity	Water	1272.0000	umhos/cm		
P745	Sulfide	Water	0.1400	mg/L		
P70300	TDS	Water	958.0000	mg/L		
P530	TSS	Water	21.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	3.7400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	88.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	88.1000	mg/l		
P1082	STRONTIUM	Water	0.4920	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0004	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	98.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1030	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2510	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	120.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.6000	mg/L		
P1055	Manganese	Water	0.0470	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.5000	mg/L		
P1147	Selenium	Water	0.0460	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	253.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	191.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.0200	mg/L		
P940	Chloride	Water	281.0000	mg/L		
P615	Nitrite	Water	0.4000	mg/L		
P630	Nitrate	Water	2.7700	mg/L		
P945	Sulfate	Water	422.0000	mg/L		
P310	BOD5	Water	14.0000	mg/L		
P335	Chemical Oxygen Demand	Water	31.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	1422.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1326.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	1.1400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	70.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	70.7000	mg/l		
P1082	STRONTIUM	Water	0.9430	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	59.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		
P32228	Chlorophyll a, Benthic	Water	5.3100	mg/m2		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0810	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.3410	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	146.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	35.4000	mg/L		
P1055	Manganese	Water	0.0370	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.6000	mg/L		
P1147	Selenium	Water	0.0780	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	423.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0110	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.1400	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.6900	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	182.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.0200	mg/L		
P940	Chloride	Water	43.0000	mg/L		
P615	Nitrite	Water	0.6800	mg/L		
P630	Nitrate	Water	12.5400	mg/L		
P945	Sulfate	Water	51.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	5.0000	mg/L	LT	<10
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2800	mg/L		
P94	Specific Conductivity	Water	2834.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1804.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	1.2100	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	86.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	86.9000	mg/l		
P1082	STRONTIUM	Water	1.5500	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	91.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0580	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1940	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	103.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.1000	mg/L		
P1055	Manganese	Water	0.0340	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.1000	mg/L		
P1147	Selenium	Water	0.0340	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	228.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	193.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6200	mg/L		
P940	Chloride	Water	159.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.1700	mg/L		
P945	Sulfate	Water	310.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	29.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1600	mg/L		
P94	Specific Conductivity	Water	1782.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1136.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0100	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.6700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	73.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	73.1000	mg/l		
P1082	STRONTIUM	Water	0.7290	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	J	
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	103.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	76.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0720	mg/L		
P1002	Arsenic	Water	0.0090	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2170	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	117.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	30.7000	mg/L		
P1055	Manganese	Water	0.0370	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.3000	mg/L		
P1147	Selenium	Water	0.0460	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	246.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0070	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.5100	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	219.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7400	mg/L		
P940	Chloride	Water	279.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	6.1000	mg/L		
P945	Sulfate	Water	300.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	35.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2300	mg/L		
P94	Specific Conductivity	Water	1763.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1724.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.7600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	37.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	37.6000	mg/l		
P1082	STRONTIUM	Water	0.8920	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC07** RM: **3.30** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	56.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	37.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2680	mg/L		
P1002	Arsenic	Water	0.0100	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2640	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	124.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	33.4000	mg/L		
P1055	Manganese	Water	0.0910	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	14.5000	mg/L		
P1147	Selenium	Water	0.0660	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	251.0000	mg/L		
P985	Vanadium	Water	0.0060	mg/L		
P1092	Zinc	Water	0.0100	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	144.0000	mg/L		
P610	Ammonia	Water	0.2000	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	1.1200	mg/L		
P940	Chloride	Water	250.0000	mg/L		
P615	Nitrite	Water	0.4300	mg/L		
P630	Nitrate	Water	16.3500	mg/L		
P945	Sulfate	Water	504.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	36.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.5700	mg/L		
P94	Specific Conductivity	Water	1782.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1364.0000	mg/L		
P530	TSS	Water	12.0000	mg/L		
P625	TKN	Water	3.5700	mg/L		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	75.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.7000	mg/l		
P1082	STRONTIUM	Water	0.7400	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.9000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2440	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1560	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	69.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	21.4000	mg/L		
P1055	Manganese	Water	0.0550	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.2000	mg/L		
P1147	Selenium	Water	0.0260	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	162.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	156.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5300	mg/L		
P940	Chloride	Water	165.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	6.8200	mg/L		
P945	Sulfate	Water	164.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	29.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4100	mg/L		
P94	Specific Conductivity	Water	1156.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	864.0000	mg/L		
P530	TSS	Water	10.0000	mg/L		
P625	TKN	Water	1.0600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	1.6000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	83.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.9000	mg/l		
P1082	STRONTIUM	Water	0.4440	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0003	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	102.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0740	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2280	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	110.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	28.2000	mg/L		
P1055	Manganese	Water	0.0550	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	11.7000	mg/L		
P1147	Selenium	Water	0.0380	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	226.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0070	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	5.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	195.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.9500	mg/L		
P940	Chloride	Water	247.0000	mg/L		
P615	Nitrite	Water	0.3800	mg/L		
P630	Nitrate	Water	3.0900	mg/L		
P945	Sulfate	Water	368.0000	mg/L		
P310	BOD5	Water	14.0000	mg/L		
P335	Chemical Oxygen Demand	Water	30.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2500	mg/L		
P94	Specific Conductivity	Water	1304.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1164.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0700	mg/L		
P32228	Chlorophyll a, Benthic	Water	57.5000	mg/m2		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	63.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.3000	mg/l		
P1082	STRONTIUM	Water	0.8220	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	67.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0490	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.3400	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	144.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0050	mg/L		
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	35.7000	mg/L		
P1055	Manganese	Water	0.0440	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.6000	mg/L		
P1147	Selenium	Water	0.0740	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	428.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.7500	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	192.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.9700	mg/L		
P940	Chloride	Water	440.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	11.7600	mg/L		
P945	Sulfate	Water	510.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	36.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	2791.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1704.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.3600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	86.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	86.1000	mg/l		
P1082	STRONTIUM	Water	1.4900	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	98.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	86.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1690	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1820	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	107.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	28.4000	mg/L		
P1055	Manganese	Water	0.0460	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.3000	mg/L		
P1147	Selenium	Water	0.0350	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	211.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	207.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6400	mg/L		
P940	Chloride	Water	214.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.8200	mg/L		
P945	Sulfate	Water	388.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	23.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1800	mg/L		
P94	Specific Conductivity	Water	1867.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	440.0000	mg/L		
P530	TSS	Water	6.0000	mg/L		
P625	TKN	Water	0.8900	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	57.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	57.3000	mg/l		
P1082	STRONTIUM	Water	0.8140	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	74.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	60.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0800	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1970	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	105.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.5000	mg/L		
P1055	Manganese	Water	0.0390	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.6000	mg/L		
P1147	Selenium	Water	0.0330	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	212.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	229.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6700	mg/L		
P940	Chloride	Water	276.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	5.4400	mg/L		
P945	Sulfate	Water	292.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	26.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	1643.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	352.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.2700	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	44.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	44.1000	mg/l		
P1082	STRONTIUM	Water	0.7110	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC08** RM: **2.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	58.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	37.6000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1620	mg/L		
P1002	Arsenic	Water	0.0080	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2180	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	110.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.7000	mg/L		
P1055	Manganese	Water	0.1670	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.3000	mg/L		
P1147	Selenium	Water	0.0460	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	200.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0080	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0500	ug/L	LT	<10.1
P34571	1,4-Dichlorobenzene	Water	5.0500	ug/L	LT	<10.1
	1-Methylnaphthalene	Water	5.0500	ug/L	LT	<10.1
	2 Chloro 5 Methylphenol	Water	5.0500	ug/L	LT	<10.1
	2,3 Dichlorophenol	Water	5.0500	ug/L	LT	<10.1
	2,3,4,6-Tetrachlorophenol	Water	5.0500	ug/L	LT	<10.1
	2,4 & 2,5-Dichlorophenol	Water	5.0500	ug/L	LT	<10.1
	2,4,5-Trichlorophenol	Water	5.0500	ug/L	LT	<10.1
P34621	2,4,6-Trichlorophenol	Water	5.0500	ug/L	LT	<10.1
P34606	2,4-Dimethylphenol	Water	5.0500	ug/L	LT	<10.1
P34616	2,4-Dinitrophenol	Water	5.0500	ug/L	LT	<10.1
P34611	2,4-Dinitrotoluene	Water	5.0500	ug/L	LT	<10.1
	2,6-Dichlorophenol	Water	5.0500	ug/L	LT	<10.1
P34626	2,6-Dinitrotoluene	Water	5.0500	ug/L	LT	<10.1
P34581	2-Chloronaphthalene	Water	5.0500	ug/L	LT	<10.1
P34586	2-Chlorophenol	Water	5.0500	ug/L	LT	<10.1
	2-Methylnaphthalene	Water	5.0500	ug/L	LT	<10.1
	2-Methylphenol	Water	5.0500	ug/L	LT	<10.1
P34591	2-Nitrophenol	Water	5.0500	ug/L	LT	<10.1
	3 & 4-Chlorophenol	Water	10.1000	ug/L	LT	<20.2
	3 & 4-Methylphenol	Water	10.1000	ug/L	LT	<20.2
	4,6-Dinitro-2-methylphenol	Water	5.0500	ug/L	LT	<10.1
P34636	4-Bromophenyl phenyl ether	Water	5.0500	ug/L	LT	<10.1
P34452	4-Chloro-3-methylphenol	Water	5.0500	ug/L	LT	<10.1
P34641	4-Chlorophenyl phenyl ether	Water	5.0500	ug/L	LT	<10.1
P3760	4-Nitrophenol	Water	5.0500	ug/L	LT	<10.1
P34205	Acenaphthene	Water	5.0500	ug/L	LT	<10.1
P34200	Acenaphthylene	Water	5.0500	ug/L	LT	<10.1
PTEMP38	Aniline	Water	5.0500	ug/L	LT	<10.1
P34220	Anthracene	Water	5.0500	ug/L	LT	<10.1
	Azobenzene	Water	5.0500	ug/L	LT	<10.1
P34526	Benzo(a)anthracene	Water	5.0500	ug/L	LT	<10.1
P34247	Benzo(a)pyrene	Water	5.0500	ug/L	LT	<10.1
	Benzo(b&k)fluoranthene	Water	10.1000	ug/L	LT	<20.2
P34230	Benzo(b)fluoranthene	Water	5.0500	ug/L	LT	<10.1
P34521	Benzo(g,h,i)perylene	Water	5.0500	ug/L	LT	<10.1
P34242	Benzo(k)fluoranthene	Water	5.0500	ug/L	LT	<10.1
	Benzyl alcohol	Water	5.0500	ug/L	LT	<10.1
	Benzyl butyl phthalate	Water	5.0500	ug/L	LT	<10.1
	Biphenyl	Water	5.0500	ug/L	LT	<10.1
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0500	ug/L	LT	<10.1
	Bis(2-chloroethyl) ether	Water	5.0500	ug/L	LT	<10.1
	Bis(2-chloroisopropyl) ether	Water	5.0500	ug/L	LT	<10.1
	Bis(2-ethylhexyl) phthalate	Water	5.0500	ug/L	LT	<10.1
P34320	Chrysene	Water	5.0500	ug/L	LT	<10.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0500	ug/L	LT	<10.1
	Dibenzofuran	Water	5.0500	ug/L	LT	<10.1
P34336	Diethyl phthalate	Water	5.0500	ug/L	LT	<10.1
P34341	Dimethyl phthalate	Water	5.0500	ug/L	LT	<10.1
P39110	Di-n-butyl phthalate	Water	5.0500	ug/L	LT	<10.1
P34596	Di-n-octyl phthalate	Water	5.0500	ug/L	LT	<10.1
P34376	Fluoranthene	Water	5.0500	ug/L	LT	<10.1
P34381	Fluorene	Water	5.0500	ug/L	LT	<10.1
P39700	Hexachlorobenzene	Water	5.0500	ug/L	LT	<10.1
P34391	Hexachlorobutadiene	Water	5.0500	ug/L	LT	<10.1
P34386	Hexachlorocyclopentadiene	Water	5.0500	ug/L	LT	<10.1
P34396	Hexachloroethane	Water	5.0500	ug/L	LT	<10.1
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0500	ug/L	LT	<10.1
P34408	Isophorone	Water	5.0500	ug/L	LT	<10.1
P34696	Naphthalene	Water	5.0500	ug/L	LT	<10.1
P34447	Nitrobenzene	Water	5.0500	ug/L	LT	<10.1
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0500	ug/L	LT	<10.1
P39032	Pentachlorophenol	Water	5.0500	ug/L	LT	<10.1
P34461	Phenanthrene	Water	5.0500	ug/L	LT	<10.1
P34694	Phenol	Water	5.0500	ug/L	LT	<10.1
P34469	Pyrene	Water	5.0500	ug/L	LT	<10.1
PTEMP121	Pyridine	Water	5.0500	ug/L	LT	<10.1
P410	Total Alkalinity	Water	167.0000	mg/L		
P610	Ammonia	Water	0.1900	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.9100	mg/L		
P940	Chloride	Water	194.0000	mg/L		
P615	Nitrite	Water	0.3500	mg/L		
P630	Nitrate	Water	12.3700	mg/L		
P945	Sulfate	Water	373.0000	mg/L		
P310	BOD5	Water	11.0000	mg/L		
P335	Chemical Oxygen Demand	Water	30.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4900	mg/L		
P94	Specific Conductivity	Water	1541.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1166.0000	mg/L		
P530	TSS	Water	8.0000	mg/L		
P625	TKN	Water	2.4100	mg/L		
P1032	Hevavalent Chromium	Water	0.0280	ug/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	66.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.9000	mg/l		
P1082	STRONTIUM	Water	0.7270	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	68.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2530	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1010	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	58.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.4000	mg/L		
P1055	Manganese	Water	0.0920	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	8.8000	mg/L		
P1147	Selenium	Water	0.0130	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	93.2000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	150.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3700	mg/L		
P940	Chloride	Water	102.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	3.6800	mg/L		
P945	Sulfate	Water	99.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	22.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3200	mg/L		
P94	Specific Conductivity	Water	783.0000	umhos/cm		
P745	Sulfide	Water	0.2500	mg/L		
P70300	TDS	Water	528.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	0.9300	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		
P1082	STRONTIUM	Water	0.2910	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0001	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	93.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	74.0000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0990	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2040	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	104.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.5000	mg/L		
P1055	Manganese	Water	0.1050	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.9000	mg/L		
P1147	Selenium	Water	0.0320	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	197.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	200.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.8300	mg/L		
P940	Chloride	Water	216.0000	mg/L		
P615	Nitrite	Water	0.3500	mg/L		
P630	Nitrate	Water	3.1700	mg/L		
P945	Sulfate	Water	320.0000	mg/L		
P310	BOD5	Water	12.0000	mg/L		
P335	Chemical Oxygen Demand	Water	29.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	1193.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1000.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0400	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	64.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	64.2000	mg/l		
P1082	STRONTIUM	Water	0.7140	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	65.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	68.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		
P32228	Chlorophyll a, Benthic	Water	5.6800	mg/m2		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0470	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.3130	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	134.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	33.8000	mg/L		
P1055	Manganese	Water	0.0710	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.3000	mg/L		
P1147	Selenium	Water	0.0620	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	396.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.1200	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	191.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.9100	mg/L		
P940	Chloride	Water	390.0000	mg/L		
P615	Nitrite	Water	0.6300	mg/L		
P630	Nitrate	Water	10.5100	mg/L		
P945	Sulfate	Water	430.0000	mg/L		
P310	BOD5	Water	9.0000	mg/L		
P335	Chemical Oxygen Demand	Water	33.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2700	mg/L		
P94	Specific Conductivity	Water	2571.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1776.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	78.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	78.9000	mg/l		
P1082	STRONTIUM	Water	1.3600	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	91.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0840	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1630	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	92.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.5000	mg/L		
P1055	Manganese	Water	0.0660	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.4000	mg/L		
P1147	Selenium	Water	0.0280	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	190.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0050	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	199.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5300	mg/L		
P940	Chloride	Water	191.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.8400	mg/L		
P945	Sulfate	Water	340.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	21.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1700	mg/L		
P94	Specific Conductivity	Water	1562.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	956.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.0800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		
P1082	STRONTIUM	Water	0.6220	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	89.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	73.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0360	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1950	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	107.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.3000	mg/L		
P1055	Manganese	Water	0.0530	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.5000	mg/L		
P1147	Selenium	Water	0.0370	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	228.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	208.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7000	mg/L		
P940	Chloride	Water	252.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	6.1200	mg/L		
P945	Sulfate	Water	241.0000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	22.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2300	mg/L		
P94	Specific Conductivity	Water	1617.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1716.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.2700	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	40.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	40.5000	mg/l		
P1082	STRONTIUM	Water	0.7570	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **RC09** RM: **1.00** River Code - River [95-730] Robinson Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	70.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	44.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.6720	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0220	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	51.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.8000	mg/L		
P1055	Manganese	Water	0.0780	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	6.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	167.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2000	mg/L		
P940	Chloride	Water	25.4000	mg/L		
P615	Nitrite	Water	0.1200	mg/L		
P630	Nitrate	Water	4.1100	mg/L		
P945	Sulfate	Water	19.0000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	17.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2200	mg/L		
P94	Specific Conductivity	Water	387.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	262.0000	mg/L		
P530	TSS	Water	31.0000	mg/L		
P625	TKN	Water	0.8000	mg/L		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	75.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.2000	mg/l		
P1082	STRONTIUM	Water	0.1080	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	73.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	1.0400	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0250	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	33.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	1.1000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	12.4000	mg/L		
P1055	Manganese	Water	0.0980	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	6.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	7.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	105.0000	mg/L		
P610	Ammonia	Water	0.6200	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	18.1000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.5500	mg/L		
P945	Sulfate	Water	12.1000	mg/L		
P310	BOD5	Water	2.0000	mg/L		
P335	Chemical Oxygen Demand	Water	24.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3300	mg/L		
P94	Specific Conductivity	Water	300.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	274.0000	mg/L		
P530	TSS	Water	34.0000	mg/L		
P625	TKN	Water	1.5800	mg/L		
P32230	Chlorophyll a, Sestonic	Water	5.3400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	82.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.4000	mg/l		
P1082	STRONTIUM	Water	0.0752	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0004	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	97.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	88.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0070	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3790	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0310	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	59.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	19.4000	mg/L		
P1055	Manganese	Water	0.0850	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.4000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	13.9000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	6.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	205.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2000	mg/L		
P940	Chloride	Water	27.2000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.0500	mg/L		
P945	Sulfate	Water	24.4000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	5.0000	mg/L	LT	<10
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1400	mg/L		
P94	Specific Conductivity	Water	352.0000	umhos/cm		
P745	Sulfide	Water	0.0900	mg/L		
P70300	TDS	Water	288.0000	mg/L		
P530	TSS	Water	21.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	5.8700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.3000	mg/l		
P1082	STRONTIUM	Water	0.1390	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	57.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	64.2000	mg/l		
P32228	Chlorophyll a, Benthic	Water	13.3000	mg/m2		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.4230	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0300	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	57.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	18.8000	mg/L		
P1055	Manganese	Water	0.2450	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	10.8000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.4500	ug/L	LT	<10.9
P34571	1,4-Dichlorobenzene	Water	5.4500	ug/L	LT	<10.9
	1-Methylnaphthalene	Water	5.4500	ug/L	LT	<10.9
	2 Chloro 5 Methylphenol	Water	5.4500	ug/L	LT	<10.9
	2,3 Dichlorophenol	Water	5.4500	ug/L	LT	<10.9
	2,3,4,6-Tetrachlorophenol	Water	5.4500	ug/L	LT	<10.9
	2,4 & 2,5-Dichlorophenol	Water	5.4500	ug/L	LT	<10.9
	2,4,5-Trichlorophenol	Water	5.4500	ug/L	LT	<10.9
P34621	2,4,6-Trichlorophenol	Water	5.4500	ug/L	LT	<10.9
P34606	2,4-Dimethylphenol	Water	5.4500	ug/L	LT	<10.9
P34616	2,4-Dinitrophenol	Water	5.4500	ug/L	LT	<10.9
P34611	2,4-Dinitrotoluene	Water	5.4500	ug/L	LT	<10.9
	2,6-Dichlorophenol	Water	5.4500	ug/L	LT	<10.9
P34626	2,6-Dinitrotoluene	Water	5.4500	ug/L	LT	<10.9
P34581	2-Chloronaphthalene	Water	5.4500	ug/L	LT	<10.9
P34586	2-Chlorophenol	Water	5.4500	ug/L	LT	<10.9
	2-Methylnaphthalene	Water	5.4500	ug/L	LT	<10.9
	2-Methylphenol	Water	5.4500	ug/L	LT	<10.9
P34591	2-Nitrophenol	Water	5.4500	ug/L	LT	<10.9
	3 & 4-Chlorophenol	Water	10.9000	ug/L	LT	<21.8
	3 & 4-Methylphenol	Water	10.9000	ug/L	LT	<21.8
	4,6-Dinitro-2-methylphenol	Water	5.4500	ug/L	LT	<10.9
P34636	4-Bromophenyl phenyl ether	Water	5.4500	ug/L	LT	<10.9
P34452	4-Chloro-3-methylphenol	Water	5.4500	ug/L	LT	<10.9
P34641	4-Chlorophenyl phenyl ether	Water	5.4500	ug/L	LT	<10.9
P3760	4-Nitrophenol	Water	5.4500	ug/L	LT	<10.9
P34205	Acenaphthene	Water	5.4500	ug/L	LT	<10.9
P34200	Acenaphthylene	Water	5.4500	ug/L	LT	<10.9
PTEMP38	Aniline	Water	5.4500	ug/L	LT	<10.9
P34220	Anthracene	Water	5.4500	ug/L	LT	<10.9
	Azobenzene	Water	5.4500	ug/L	LT	<10.9
P34526	Benzo(a)anthracene	Water	5.4500	ug/L	LT	<10.9
P34247	Benzo(a)pyrene	Water	5.4500	ug/L	LT	<10.9
	Benzo(b&k)fluoranthene	Water	10.9000	ug/L	LT	<21.8
P34230	Benzo(b)fluoranthene	Water	5.4500	ug/L	LT	<10.9
P34521	Benzo(g,h,i)perylene	Water	5.4500	ug/L	LT	<10.9
P34242	Benzo(k)fluoranthene	Water	5.4500	ug/L	LT	<10.9
	Benzyl alcohol	Water	5.4500	ug/L	LT	<10.9
	Benzyl butyl phthalate	Water	5.4500	ug/L	LT	<10.9
	Biphenyl	Water	5.4500	ug/L	LT	<10.9
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.4500	ug/L	LT	<10.9
	Bis(2-chloroethyl) ether	Water	5.4500	ug/L	LT	<10.9
	Bis(2-chloroisopropyl) ether	Water	5.4500	ug/L	LT	<10.9
	Bis(2-ethylhexyl) phthalate	Water	5.4500	ug/L	LT	<10.9
P34320	Chrysene	Water	5.4500	ug/L	LT	<10.9

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.4500	ug/L	LT	<10.9
	Dibenzofuran	Water	5.4500	ug/L	LT	<10.9
P34336	Diethyl phthalate	Water	5.4500	ug/L	LT	<10.9
P34341	Dimethyl phthalate	Water	5.4500	ug/L	LT	<10.9
P39110	Di-n-butyl phthalate	Water	11.5700	ug/L		
P34596	Di-n-octyl phthalate	Water	5.4500	ug/L	LT	<10.9
P34376	Fluoranthene	Water	5.4500	ug/L	LT	<10.9
P34381	Fluorene	Water	5.4500	ug/L	LT	<10.9
P39700	Hexachlorobenzene	Water	5.4500	ug/L	LT	<10.9
P34391	Hexachlorobutadiene	Water	5.4500	ug/L	LT	<10.9
P34386	Hexachlorocyclopentadiene	Water	5.4500	ug/L	LT	<10.9
P34396	Hexachloroethane	Water	5.4500	ug/L	LT	<10.9
P34403	Indeno(1,2,3-cd)pyrene	Water	5.4500	ug/L	LT	<10.9
P34408	Isophorone	Water	5.4500	ug/L	LT	<10.9
P34696	Naphthalene	Water	5.4500	ug/L	LT	<10.9
P34447	Nitrobenzene	Water	5.4500	ug/L	LT	<10.9
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.4500	ug/L	LT	<10.9
P39032	Pentachlorophenol	Water	5.4500	ug/L	LT	<10.9
P34461	Phenanthrene	Water	5.4500	ug/L	LT	<10.9
P34694	Phenol	Water	5.4500	ug/L	LT	<10.9
P34469	Pyrene	Water	5.4500	ug/L	LT	<10.9
PTEMP121	Pyridine	Water	5.4500	ug/L	LT	<10.9
P410	Total Alkalinity	Water	189.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2000	mg/L		
P940	Chloride	Water	18.9000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	21.2000	mg/L		
P310	BOD5	Water	11.0000	mg/L		
P335	Chemical Oxygen Demand	Water	86.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1400	mg/L		
P94	Specific Conductivity	Water	443.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	140.0000	mg/L		
P530	TSS	Water	25.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	8.5400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		
P1082	STRONTIUM	Water	0.1250	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	92.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	86.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2730	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0250	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	55.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.5000	mg/L		
P1055	Manganese	Water	0.1100	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	5.7000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	8.6000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	1.0000	ug/L		
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	207.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	22.1000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.8500	mg/L		
P945	Sulfate	Water	19.5000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1400	mg/L		
P94	Specific Conductivity	Water	442.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	236.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.2700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	82.2000	mg/l		
P1082	STRONTIUM	Water	0.1130	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC01** RM: **5.90** River Code - River [95-731] Sugar Creek Collection Date 09/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	98.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	87.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1940	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1860	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	97.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.4000	mg/L		
P1055	Manganese	Water	0.0440	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.9000	mg/L		
P1147	Selenium	Water	0.0390	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	172.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.3000	ug/L	LT	<10.6
P34571	1,4-Dichlorobenzene	Water	5.3000	ug/L	LT	<10.6
	1-Methylnaphthalene	Water	5.3000	ug/L	LT	<10.6
	2 Chloro 5 Methylphenol	Water	5.3000	ug/L	LT	<10.6
	2,3 Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,3,4,6-Tetrachlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,4 & 2,5-Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
	2,4,5-Trichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34621	2,4,6-Trichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34606	2,4-Dimethylphenol	Water	5.3000	ug/L	LT	<10.6
P34616	2,4-Dinitrophenol	Water	5.3000	ug/L	LT	<10.6
P34611	2,4-Dinitrotoluene	Water	5.3000	ug/L	LT	<10.6
	2,6-Dichlorophenol	Water	5.3000	ug/L	LT	<10.6
P34626	2,6-Dinitrotoluene	Water	5.3000	ug/L	LT	<10.6
P34581	2-Chloronaphthalene	Water	5.3000	ug/L	LT	<10.6
P34586	2-Chlorophenol	Water	5.3000	ug/L	LT	<10.6
	2-Methylnaphthalene	Water	5.3000	ug/L	LT	<10.6
	2-Methylphenol	Water	5.3000	ug/L	LT	<10.6
P34591	2-Nitrophenol	Water	5.3000	ug/L	LT	<10.6
	3 & 4-Chlorophenol	Water	10.6000	ug/L	LT	<21.2
	3 & 4-Methylphenol	Water	10.6000	ug/L	LT	<21.2
	4,6-Dinitro-2-methylphenol	Water	5.3000	ug/L	LT	<10.6
P34636	4-Bromophenyl phenyl ether	Water	5.3000	ug/L	LT	<10.6
P34452	4-Chloro-3-methylphenol	Water	5.3000	ug/L	LT	<10.6
P34641	4-Chlorophenyl phenyl ether	Water	5.3000	ug/L	LT	<10.6
P3760	4-Nitrophenol	Water	5.3000	ug/L	LT	<10.6
P34205	Acenaphthene	Water	5.3000	ug/L	LT	<10.6
P34200	Acenaphthylene	Water	5.3000	ug/L	LT	<10.6
PTEMP38	Aniline	Water	5.3000	ug/L	LT	<10.6
P34220	Anthracene	Water	5.3000	ug/L	LT	<10.6
	Azobenzene	Water	5.3000	ug/L	LT	<10.6
P34526	Benzo(a)anthracene	Water	5.3000	ug/L	LT	<10.6
P34247	Benzo(a)pyrene	Water	5.3000	ug/L	LT	<10.6
	Benzo(b&k)fluoranthene	Water	10.6000	ug/L	LT	<21.2
P34230	Benzo(b)fluoranthene	Water	5.3000	ug/L	LT	<10.6
P34521	Benzo(g,h,i)perylene	Water	5.3000	ug/L	LT	<10.6
P34242	Benzo(k)fluoranthene	Water	5.3000	ug/L	LT	<10.6
	Benzyl alcohol	Water	5.3000	ug/L	LT	<10.6
	Benzyl butyl phthalate	Water	5.3000	ug/L	LT	<10.6
	Biphenyl	Water	5.3000	ug/L	LT	<10.6
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.3000	ug/L	LT	<10.6
	Bis(2-chloroethyl) ether	Water	5.3000	ug/L	LT	<10.6
	Bis(2-chloroisopropyl) ether	Water	5.3000	ug/L	LT	<10.6
	Bis(2-ethylhexyl) phthalate	Water	5.3000	ug/L	LT	<10.6
P34320	Chrysene	Water	5.3000	ug/L	LT	<10.6

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.3000	ug/L	LT	<10.6
	Dibenzofuran	Water	5.3000	ug/L	LT	<10.6
P34336	Diethyl phthalate	Water	5.3000	ug/L	LT	<10.6
P34341	Dimethyl phthalate	Water	5.3000	ug/L	LT	<10.6
P39110	Di-n-butyl phthalate	Water	5.3000	ug/L	LT	<10.6
P34596	Di-n-octyl phthalate	Water	5.3000	ug/L	LT	<10.6
P34376	Fluoranthene	Water	5.3000	ug/L	LT	<10.6
P34381	Fluorene	Water	5.3000	ug/L	LT	<10.6
P39700	Hexachlorobenzene	Water	5.3000	ug/L	LT	<10.6
P34391	Hexachlorobutadiene	Water	5.3000	ug/L	LT	<10.6
P34386	Hexachlorocyclopentadiene	Water	5.3000	ug/L	LT	<10.6
P34396	Hexachloroethane	Water	5.3000	ug/L	LT	<10.6
P34403	Indeno(1,2,3-cd)pyrene	Water	5.3000	ug/L	LT	<10.6
P34408	Isophorone	Water	5.3000	ug/L	LT	<10.6
P34696	Naphthalene	Water	5.3000	ug/L	LT	<10.6
P34447	Nitrobenzene	Water	5.3000	ug/L	LT	<10.6
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.3000	ug/L	LT	<10.6
P39032	Pentachlorophenol	Water	5.3000	ug/L	LT	<10.6
P34461	Phenanthrene	Water	5.3000	ug/L	LT	<10.6
P34694	Phenol	Water	5.3000	ug/L	LT	<10.6
P34469	Pyrene	Water	5.3000	ug/L	LT	<10.6
PTEMP121	Pyridine	Water	5.3000	ug/L	LT	<10.6
P410	Total Alkalinity	Water	138.0000	mg/L		
P610	Ammonia	Water	0.1600	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7800	mg/L		
P940	Chloride	Water	176.0000	mg/L		
P615	Nitrite	Water	0.3400	mg/L		
P630	Nitrate	Water	11.4600	mg/L		
P945	Sulfate	Water	337.0000	mg/L		
P310	BOD5	Water	9.0000	mg/L		
P335	Chemical Oxygen Demand	Water	28.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.4100	mg/L		
P94	Specific Conductivity	Water	1385.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1008.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	2.7500	mg/L		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		
P1082	STRONTIUM	Water	0.6410	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	75.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3480	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0710	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	44.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	13.5000	mg/L		
P1055	Manganese	Water	0.0300	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	7.1000	mg/L		
P1147	Selenium	Water	0.0070	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	52.7000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	137.0000	mg/L		
P610	Ammonia	Water	0.4200	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2900	mg/L		
P940	Chloride	Water	57.3000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.2200	mg/L		
P945	Sulfate	Water	43.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	21.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2900	mg/L		
P94	Specific Conductivity	Water	525.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	366.0000	mg/L		
P530	TSS	Water	8.0000	mg/L		
P625	TKN	Water	0.8800	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1082	STRONTIUM	Water	0.2010	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0001	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	99.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0670	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1620	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	86.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	22.6000	mg/L		
P1055	Manganese	Water	0.0330	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.6000	mg/L		
P1147	Selenium	Water	0.0240	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	150.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0050	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	209.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6340	mg/L		
P940	Chloride	Water	154.0000	mg/L		
P615	Nitrite	Water	0.2600	mg/L		
P630	Nitrate	Water	2.7000	mg/L		
P945	Sulfate	Water	224.0000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	20.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2500	mg/L		
P94	Specific Conductivity	Water	927.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	678.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.8400	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	68.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	68.9000	mg/l		
P1082	STRONTIUM	Water	0.5310	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	49.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	50.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0260	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2920	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	124.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	32.3000	mg/L		
P1055	Manganese	Water	0.0310	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	11.8000	mg/L		
P1147	Selenium	Water	0.0540	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	348.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	137.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.8500	mg/L		
P940	Chloride	Water	380.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	9.4100	mg/L		
P945	Sulfate	Water	390.0000	mg/L		
P310	BOD5	Water	10.0000	mg/L		
P335	Chemical Oxygen Demand	Water	12.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.0500	mg/L		
P94	Specific Conductivity	Water	2398.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1496.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.9200	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P1082	STRONTIUM	Water	1.2300	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	94.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	78.9000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0430	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1740	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	104.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	27.7000	mg/L		
P1055	Manganese	Water	0.0320	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.6000	mg/L		
P1147	Selenium	Water	0.0320	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	203.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0050	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	12.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.0000	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	281.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5800	mg/L		
P940	Chloride	Water	212.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.1600	mg/L		
P945	Sulfate	Water	302.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	26.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1800	mg/L		
P94	Specific Conductivity	Water	1753.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1296.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.9900	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	60.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	60.5000	mg/l		
P1082	STRONTIUM	Water	0.7830	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	J	
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	106.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0380	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1930	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	104.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.1000	mg/L		
P1055	Manganese	Water	0.0310	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	12.7000	mg/L		
P1147	Selenium	Water	0.0340	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	229.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	12.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	212.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7100	mg/L		
P940	Chloride	Water	292.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	5.8500	mg/L		
P945	Sulfate	Water	269.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2300	mg/L		
P94	Specific Conductivity	Water	1640.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	988.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.8600	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	40.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	40.2000	mg/l		
P1082	STRONTIUM	Water	0.7280	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC02** RM: **4.10** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	74.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	40.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/03/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P31616	Fecal coliforms	Water	110.0000	cfu/100ml		
P1106	Aluminum	Water	108.0000	ug/l		
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	91.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P900	Hardness, non-carbonate	Water	159.0000	mg/l		
P915	Calcium	Water	92.0000	mg/l		
P916	Calcium	Water	94.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P935	Potassium	Water	7.4000	mg/l		
P937	Potassium	Water	6.7000	mg/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	100.0000	ug/l		
P999	Boron	Water	100.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	5.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	160.0000	ug/l		
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	640.0000	ug/l		
P1083	Strontium	Water	650.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P82078	Turbidity	Water	0.5000	NTU		
P405	Carbon dioxide	Water	5.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/03/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P299	Oxygen	Water	11.2000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1750.0000	uS/cm		
P20	Temperature, air	Water	10.0000	deg C		
P10	Temperature, water	Water	0.7000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P931	Sodium adsorption ratio	Water	5.2300	None		
P932	Sodium, percent total cations	Water	58.0000	%		
P930	Sodium	Water	219.0000	mg/l		
P929	Sodium	Water	222.0000	mg/l		
P410	Alkalinity	Water	179.0000	mg/l		
P941	Chloride	Water	296.0000	mg/l		
P946	Sulfate	Water	268.0000	mg/l		
P70300	Total dissolved solids	Water	1020.0000	mg/l		
P70303	Total dissolved solids	Water	1.3800	tons/ac ft		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	3.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0750	mg/l as N		
P610	Ammonia and ammonium	Water	16.7000	mg/l NH4		
P610	Ammonia and ammonium	Water	13.0000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.3000	mg/l as N		
P666	Phosphorus	Water	0.3300	mg/l as P		
P665	Phosphorus	Water	0.3300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	32.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/04/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	2.0000	NTU		
P405	Carbon dioxide	Water	3.6000	mg/l		
P299	Oxygen	Water	12.7000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1960.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	0.5000	deg C		
P900	Hardness, non-carbonate	Water	288.0000	mg/l		
P916	Calcium	Water	112.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P937	Potassium	Water	8.3000	mg/l		
P929	Sodium	Water	290.0000	mg/l		
P410	Alkalinity	Water	116.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	310.0000	mg/l		
P946	Sulfate	Water	395.0000	mg/l		
P530	Fixed suspended solids	Water		mg/l	ND	
P530	Total suspended solids	Water	1.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	11.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	28.0000	mg/l		
P31616	Fecal coliforms	Water	470.0000	cfu/100ml		
P1105	Aluminum	Water	100.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P999	Boron	Water	200.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	19.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	110.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	510.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/04/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/04/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	1.3000	mg/l		
P299	Oxygen	Water	14.9000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	1510.0000	uS/cm		
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	3.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	320.0000	mg/l		
P900	Hardness, non-carbonate	Water	213.0000	mg/l		
P915	Calcium	Water	86.0000	mg/l		
P916	Calcium	Water	90.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P935	Potassium	Water	5.7000	mg/l		
P937	Potassium	Water	6.1000	mg/l		
P931	Sodium adsorption ratio	Water	4.3300	None		
P932	Sodium, percent total cations	Water	55.0000	%		
P930	Sodium	Water	174.0000	mg/l		
P929	Sodium	Water	185.0000	mg/l		
P410	Alkalinity	Water	107.0000	mg/l		
P941	Chloride	Water	284.0000	mg/l		
P946	Sulfate	Water	204.0000	mg/l		
P70300	Total dissolved solids	Water	841.0000	mg/l		
P70303	Total dissolved solids	Water	1.1400	tons/ac ft		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.1800	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.3000	mg/l as N		
P666	Phosphorus	Water	0.5800	mg/l as P		
P665	Phosphorus	Water	0.6500	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P1080	Strontium	Water	500.0000	ug/l		
P1083	Strontium	Water	540.0000	ug/l		
P1085	Vanadium	Water	5.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/04/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	LT	10
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	220.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	2.5000	ug/l	ND	5
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	510.0000	cfu/100ml		
P1106	Aluminum	Water	110.0000	ug/l		
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	85.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P82078	Turbidity	Water	6.7000	NTU		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/07/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	26.0000	mg/l		
P31616	Fecal coliforms	Water	*****.****	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P10	Temperature, water	Water	7.4000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P915	Calcium	Water	86.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	6.6000	mg/l		
P937	Potassium	Water	8.0000	mg/l		
P931	Sodium adsorption ratio	Water	3.7100	None		
P932	Sodium, percent total cations	Water	51.0000	%		
P930	Sodium	Water	150.0000	mg/l		
P929	Sodium	Water	180.0000	mg/l		
P1005	Barium	Water	70.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	150.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	30.0000	ug/l		
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	480.0000	ug/l		
P1083	Strontium	Water	580.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/07/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.4000	NTU		
P299	Oxygen	Water	12.0000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	1490.0000	uS/cm		
P20	Temperature, air	Water	8.0000	deg C		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0170	mg/l as N		
P610	Ammonia and ammonium	Water	0.8630	mg/l NH4		
P610	Ammonia and ammonium	Water	0.6700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.6000	mg/l as N		
P665	Phosphorus	Water	1.6000	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 01/08/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P82078	Turbidity	Water	4.0000	NTU		
P405	Carbon dioxide	Water	18.0000	mg/l		
P299	Oxygen	Water	10.7000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1440.0000	uS/cm		
P20	Temperature, air	Water	-3.0000	deg C		
P10	Temperature, water	Water	1.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P900	Hardness, non-carbonate	Water	181.0000	mg/l		
P916	Calcium	Water	99.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P937	Potassium	Water	5.4000	mg/l		
P929	Sodium	Water	164.0000	mg/l		
P410	Alkalinity	Water	182.0000	mg/l		
P941	Chloride	Water	212.0000	mg/l		
P946	Sulfate	Water	220.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.2000	mg/l as N		
P666	Phosphorus	Water	0.5000	mg/l as P		
P665	Phosphorus	Water	0.6000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	23.0000	mg/l		
P31616	Fecal coliforms	Water	2.5000	cfu/100ml	ND	5
P1105	Aluminum	Water	50.0000	ug/l	LT	100
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	270.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	320.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	330.0000	ug/l		
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	370.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 01/08/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/10/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	11.7000	mg/l as N		
P666	Phosphorus	Water	2.2000	mg/l as P		
P665	Phosphorus	Water	2.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	400.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	50.0000	ug/l	ND	100
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	100.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	3.0000	ug/l		
P1079	Silver	Water	4.0000	ug/l		
P1080	Strontium	Water	790.0000	ug/l		
P1083	Strontium	Water	790.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P82078	Turbidity	Water	5.0000	NTU		
P405	Carbon dioxide	Water	2.1000	mg/l		
P299	Oxygen	Water	10.7000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	1980.0000	uS/cm		
P20	Temperature, air	Water	-2.0000	deg C		
P10	Temperature, water	Water	3.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	480.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/10/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Hardness, non-carbonate	Water	299.0000	mg/l		
P915	Calcium	Water	130.0000	mg/l		
P916	Calcium	Water	130.0000	mg/l		
P925	Magnesium	Water	36.0000	mg/l		
P927	Magnesium	Water	36.0000	mg/l		
P935	Potassium	Water	8.0000	mg/l		
P937	Potassium	Water	8.0000	mg/l		
P929	Sodium	Water	240.0000	mg/l		
P410	Alkalinity	Water	175.0000	mg/l		
P946	Sulfate	Water	230.0000	mg/l		
P70300	Total dissolved solids	Water	1200.0000	mg/l		
P1005	Barium	Water	100.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	190.0000	ug/l		
P999	Boron	Water	190.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P70303	Total dissolved solids	Water	1.6300	tons/ac ft		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/17/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P999	Boron	Water	120.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	270.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	210.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.6000	NTU		
P405	Carbon dioxide	Water	3.7000	mg/l		
P299	Oxygen	Water	11.3000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	1000.0000	uS/cm		
P20	Temperature, air	Water	-5.0000	deg C		
P10	Temperature, water	Water		deg C	ND	
P900	Hardness, non-carbonate	Water	126.0000	mg/l		
P916	Calcium	Water	84.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P937	Potassium	Water	5.0000	mg/l		
P929	Sodium	Water	91.0000	mg/l		
P410	Alkalinity	Water	191.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	68.0000	mg/l		
P946	Sulfate	Water	92.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water		mg/l	ND	
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.0000	mg/l as N		
P666	Phosphorus	Water	0.8000	mg/l as P		
P665	Phosphorus	Water	0.8600	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	10.0000	mg/l		
P31616	Fecal coliforms	Water	2700.0000	cfu/100ml		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/17/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	100.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/21/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Hardness, non-carbonate	Water	280.0000	mg/l		
P916	Calcium	Water	121.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P937	Potassium	Water	8.5000	mg/l		
P929	Sodium	Water	360.0000	mg/l		
P410	Alkalinity	Water	161.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	398.0000	mg/l		
P946	Sulfate	Water	451.0000	mg/l		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia and ammonium	Water	12.5000	mg/l NH4		
P610	Ammonia and ammonium	Water	9.7000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	13.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	66.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	240.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	30.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	150.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	300.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	650.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	70.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P405	Carbon dioxide	Water	2.5000	mg/l		
P400	pH	Water	8.1000	std units		
P403	pH, lab	Water	7.4000	std units		
P94	Specific conductance	Water	720.0000	uS/cm		
P20	Temperature, air	Water	4.0000	deg C		
P10	Temperature, water	Water	1.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/21/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	210.0000	ug/l		
P1083	Strontium	Water	210.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P299	Oxygen	Water	13.8000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1120.0000	uS/cm		
P20	Temperature, air	Water	2.0000	deg C		
P10	Temperature, water	Water	0.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	290.0000	mg/l		
P900	Hardness, non-carbonate	Water	144.0000	mg/l		
P915	Calcium	Water	78.0000	mg/l		
P916	Calcium	Water	79.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	5.0000	mg/l		
P937	Potassium	Water	5.1000	mg/l		
P931	Sodium adsorption ratio	Water	3.0400	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	119.0000	mg/l		
P929	Sodium	Water	119.0000	mg/l		
P410	Alkalinity	Water	152.0000	mg/l		
P941	Chloride	Water	188.0000	mg/l		
P946	Sulfate	Water	122.0000	mg/l		
P70300	Total dissolved solids	Water	627.0000	mg/l		
P70303	Total dissolved solids	Water	0.8500	tons/ac ft		
P530	Fixed suspended solids	Water	11.0000	mg/l		
P530	Total suspended solids	Water	13.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P82078	Turbidity	Water	5.3000	NTU		
P405	Carbon dioxide	Water	2.3000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.3000	mg/l as N		
P666	Phosphorus	Water	0.6700	mg/l as P		
P665	Phosphorus	Water	0.7500	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	21.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/21/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P31616	Fecal coliforms	Water	290.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	61.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	70.0000	ug/l		
P999	Boron	Water	70.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium(VI)	Water	25.0000	ug/l	ND	50
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	350.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	120.0000	ug/l		
P1055	Manganese	Water	130.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/22/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	149.0000	mg/l		
P946	Sulfate	Water	129.0000	mg/l		
P70300	Total dissolved solids	Water	581.0000	mg/l		
P70303	Total dissolved solids	Water	0.7900	tons/ac ft		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	90.0000	ug/l		
P999	Boron	Water	90.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P937	Potassium	Water	3.8000	mg/l		
P931	Sodium adsorption ratio	Water	2.1800	None		
P932	Sodium, percent total cations	Water	37.0000	%		
P82078	Turbidity	Water	3.5000	NTU		
P405	Carbon dioxide	Water	4.8000	mg/l		
P299	Oxygen	Water	12.7000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1070.0000	uS/cm		
P20	Temperature, air	Water	-5.0000	deg C		
P10	Temperature, water	Water	0.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	320.0000	mg/l		
P900	Hardness, non-carbonate	Water	164.0000	mg/l		
P915	Calcium	Water	93.0000	mg/l		
P916	Calcium	Water	92.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	3.5000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1930	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.7000	mg/l as N		
P666	Phosphorus	Water	0.3800	mg/l as P		
P665	Phosphorus	Water	0.4150	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	11.0000	mg/l		
P31616	Fecal coliforms	Water	150.0000	cfu/100ml		
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	88.0000	ug/l		
P1220	Chromium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/22/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	440.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1055	Manganese	Water	150.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	330.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	120.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P930	Sodium	Water	90.0000	mg/l		
P929	Sodium	Water	89.0000	mg/l		
P410	Alkalinity	Water	157.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/23/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P927	Magnesium	Water	12.0000	mg/l		
P935	Potassium	Water	5.5000	mg/l		
P937	Potassium	Water	6.6000	mg/l		
P931	Sodium adsorption ratio	Water	0.9000	None		
P932	Sodium, percent total cations	Water	27.0000	%		
P930	Sodium	Water	24.0000	mg/l		
P929	Sodium	Water	26.0000	mg/l		
P410	Alkalinity	Water	110.0000	mg/l		
P941	Chloride	Water	48.8000	mg/l		
P946	Sulfate	Water	48.1000	mg/l		
P70300	Total dissolved solids	Water	240.0000	mg/l		
P70303	Total dissolved solids	Water	0.3400	tons/ac ft		
P70300	Total dissolved solids	Water	250.0000	mg/l		
P530	Fixed suspended solids	Water	80.0000	mg/l		
P530	Total suspended solids	Water	90.0000	mg/l		
P549	Volatile Suspended Solids	Water	10.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.3480	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.4000	mg/l as N		
P666	Phosphorus	Water	0.2200	mg/l as P		
P665	Phosphorus	Water	0.3800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P20	Temperature, air	Water	-2.0000	deg C		
P10	Temperature, water	Water	2.5000	deg C		
P82078	Turbidity	Water	6.2000	NTU		
P405	Carbon dioxide	Water	4.3000	mg/l		
P299	Oxygen	Water	13.0000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	421.0000	uS/cm		
P31616	Fecal coliforms	Water	560.0000	cfu/100ml		
P1106	Aluminum	Water	260.0000	ug/l		
P1105	Aluminum	Water	4000.0000	ug/l		
P1005	Barium	Water	45.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	30.0000	ug/l		
P999	Boron	Water	30.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/23/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	240.0000	ug/l		
P1045	Iron	Water	4400.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	110.0000	ug/l		
P1083	Strontium	Water	130.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	10.0000	ug/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P900	Total hardness -- SDWA NPDWR	Water	150.0000	mg/l		
P900	Hardness, non-carbonate	Water	42.0000	mg/l		
P915	Calcium	Water	36.0000	mg/l		
P916	Calcium	Water	41.0000	mg/l		
P925	Magnesium	Water	11.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/26/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	9.3000	mg/l		
P299	Oxygen	Water	11.3000	mg/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	1090.0000	uS/cm		
P20	Temperature, air	Water	-10.0000	deg C		
P10	Temperature, water	Water		deg C	ND	
P900	Total hardness -- SDWA NPDWR	Water	270.0000	mg/l		
P900	Hardness, non-carbonate	Water	150.0000	mg/l		
P916	Calcium	Water	72.0000	mg/l		
P927	Magnesium	Water	21.0000	mg/l		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	35.0000	mg/l		
P31616	Fecal coliforms	Water	15000.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	110.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	9.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	740.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	260.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	250.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l	ND	200
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	95.0000	ug/l		
P937	Potassium	Water	7.2000	mg/l		
P929	Sodium	Water	126.0000	mg/l		
P410	Alkalinity	Water	120.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	177.0000	mg/l		
P946	Sulfate	Water	130.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	1.9300	mg/l NH4		
P610	Ammonia and ammonium	Water	1.5000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.4000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/27/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	36000.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	90.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	20.0000	ug/l		
P82078	Turbidity	Water	4.9000	NTU		
P405	Carbon dioxide	Water	2.8000	mg/l		
P299	Oxygen	Water	10.3000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	1060.0000	uS/cm		
P20	Temperature, air	Water		deg C	ND	
P10	Temperature, water	Water	3.0000	deg C		
P900	Hardness, non-carbonate	Water	138.0000	mg/l		
P916	Calcium	Water	74.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P937	Potassium	Water	4.8000	mg/l		
P929	Sodium	Water	133.0000	mg/l		
P410	Alkalinity	Water	146.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	88.0000	mg/l		
P946	Sulfate	Water	227.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	13.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0070	mg/l as N		
P610	Ammonia and ammonium	Water	0.7980	mg/l NH4		
P610	Ammonia and ammonium	Water	0.6200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.6000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	260.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	180.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	210.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	5.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/27/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	5.4000	NTU		
P405	Carbon dioxide	Water	8.8000	mg/l		
P299	Oxygen	Water	14.5000	mg/l		
P400	pH	Water	7.5000	std units		
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	270.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	160.0000	ug/l		
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	400.0000	ug/l		
P1083	Strontium	Water	420.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P94	Specific conductance	Water	1530.0000	uS/cm		
P20	Temperature, air	Water		deg C	ND	
P10	Temperature, water	Water		deg C	ND	
P900	Total hardness -- SDWA NPDWR	Water	310.0000	mg/l		
P900	Hardness, non-carbonate	Water	175.0000	mg/l		
P915	Calcium	Water	85.0000	mg/l		
P916	Calcium	Water	87.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	7.7000	mg/l		
P937	Potassium	Water	7.8000	mg/l		
P931	Sodium adsorption ratio	Water	4.7200	None		
P932	Sodium, percent total cations	Water	57.0000	%		
P930	Sodium	Water	190.0000	mg/l		
P929	Sodium	Water	196.0000	mg/l		
P410	Alkalinity	Water	142.0000	mg/l		
P941	Chloride	Water	246.0000	mg/l		
P946	Sulfate	Water	234.0000	mg/l		
P70300	Total dissolved solids	Water	872.0000	mg/l		
P70303	Total dissolved solids	Water	1.1900	tons/ac ft		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/27/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	3.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0120	mg/l as N		
P610	Ammonia and ammonium	Water	5.8000	mg/l NH4		
P610	Ammonia and ammonium	Water	4.5000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.4000	mg/l as N		
P666	Phosphorus	Water	0.5000	mg/l as P		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P665	Phosphorus	Water	0.5400	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	26.0000	mg/l		
P31616	Fecal coliforms	Water	320.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	86.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/31/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	50.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	400.0000	ug/l		
P1083	Strontium	Water	410.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	120.0000	ug/l		
P931	Sodium adsorption ratio	Water	3.2000	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	130.0000	mg/l		
P929	Sodium	Water	130.0000	mg/l		
P410	Alkalinity	Water	178.0000	mg/l		
P941	Chloride	Water	209.0000	mg/l		
P946	Sulfate	Water	137.0000	mg/l		
P70300	Total dissolved solids	Water	698.0000	mg/l		
P70303	Total dissolved solids	Water	1.0300	tons/ac ft		
P70300	Total dissolved solids	Water	759.0000	mg/l		
P530	Fixed suspended solids	Water	9.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2960	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.9000	mg/l as N		
P666	Phosphorus	Water	0.8300	mg/l as P		
P665	Phosphorus	Water	0.9000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	800.0000	cfu/100ml		
P1106	Aluminum	Water	140.0000	ug/l		
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	110.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P82078	Turbidity	Water	2.8000	NTU		
P405	Carbon dioxide	Water	11.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 01/31/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P299	Oxygen	Water	12.3000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	1250.0000	uS/cm		
P20	Temperature, air	Water	-14.0000	deg C		
P10	Temperature, water	Water	0.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	320.0000	mg/l		
P900	Hardness, non-carbonate	Water	147.0000	mg/l		
P915	Calcium	Water	84.0000	mg/l		
P916	Calcium	Water	87.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	5.7000	mg/l		
P937	Potassium	Water	6.1000	mg/l		
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	360.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/01/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P935	Potassium	Water	6.5000	mg/l		
P937	Potassium	Water	6.6000	mg/l		
P931	Sodium adsorption ratio	Water	4.8500	None		
P932	Sodium, percent total cations	Water	54.0000	%		
P930	Sodium	Water	225.0000	mg/l		
P929	Sodium	Water	226.0000	mg/l		
P410	Alkalinity	Water	134.0000	mg/l		
P941	Chloride	Water	362.0000	mg/l		
P946	Sulfate	Water	279.0000	mg/l		
P70300	Total dissolved solids	Water	1100.0000	mg/l		
P70303	Total dissolved solids	Water	1.4900	tons/ac ft		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0025	mg/l as N	ND	0.005
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.2000	mg/l as N		
P666	Phosphorus	Water	0.5500	mg/l as P		
P665	Phosphorus	Water	0.5600	mg/l as P		
P191	Hydrogen ion	Water	0.0005	mg/l	LT	0.001
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	220.0000	cfu/100ml		
P1106	Aluminum	Water	82.0000	ug/l		
P82078	Turbidity	Water	1.2000	NTU		
P405	Carbon dioxide	Water	1.0000	mg/l		
P299	Oxygen	Water	12.3000	mg/l		
P400	pH	Water	8.4000	std units		
P94	Specific conductance	Water	1950.0000	uS/cm		
P20	Temperature, air	Water	14.0000	deg C		
P10	Temperature, water	Water	11.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	410.0000	mg/l		
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	105.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	5.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/01/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	120.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	50.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	680.0000	ug/l		
P1083	Strontium	Water	690.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P900	Hardness, non-carbonate	Water	275.0000	mg/l		
P915	Calcium	Water	114.0000	mg/l		
P916	Calcium	Water	114.0000	mg/l		
P925	Magnesium	Water	30.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 02/11/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	80.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P935	Potassium	Water	4.7000	mg/l		
P937	Potassium	Water	4.7000	mg/l		
P931	Sodium adsorption ratio	Water	2.5700	None		
P932	Sodium, percent total cations	Water	42.0000	%		
P930	Sodium	Water	101.0000	mg/l		
P929	Sodium	Water	103.0000	mg/l		
P410	Alkalinity	Water	144.0000	mg/l		
P941	Chloride	Water	127.0000	mg/l		
P946	Sulfate	Water	157.0000	mg/l		
P70300	Total dissolved solids	Water	579.0000	mg/l		
P70303	Total dissolved solids	Water	0.7900	tons/ac ft		
P1085	Vanadium	Water	6.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.7000	mg/l as N		
P666	Phosphorus	Water	0.4200	mg/l as P		
P665	Phosphorus	Water	0.4800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	17.0000	mg/l		
P31616	Fecal coliforms	Water	5.0000	cfu/100ml	ND	10
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	50.0000	ug/l	LT	100
P1005	Barium	Water	82.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	1.0000	ug/l	ND	2
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	200.0000	ug/l		
P999	Boron	Water	200.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	9.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 02/11/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1035	Cobalt	Water	5.0000	ug/l	LT	10
P1037	Cobalt	Water	5.0000	ug/l	LT	10
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	210.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	110.0000	ug/l		
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	7.0000	ug/l		
P1079	Silver	Water	5.0000	ug/l		
P1080	Strontium	Water	370.0000	ug/l		
P1083	Strontium	Water	380.0000	ug/l		
P82078	Turbidity	Water	5.2000	NTU		
P405	Carbon dioxide	Water	4.4000	mg/l		
P299	Oxygen	Water	14.6000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1020.0000	uS/cm		
P20	Temperature, air	Water	-8.0000	deg C		
P10	Temperature, water	Water		deg C	ND	
P900	Total hardness -- SDWA NPDWR	Water	290.0000	mg/l		
P900	Hardness, non-carbonate	Water	151.0000	mg/l		
P915	Calcium	Water	79.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/13/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P937	Potassium	Water	5.4000	mg/l		
P931	Sodium adsorption ratio	Water	4.1600	None		
P932	Sodium, percent total cations	Water	53.0000	%		
P930	Sodium	Water	172.0000	mg/l		
P929	Sodium	Water	174.0000	mg/l		
P410	Alkalinity	Water	146.0000	mg/l		
P941	Chloride	Water	252.0000	mg/l		
P946	Sulfate	Water	213.0000	mg/l		
P70300	Total dissolved solids	Water	844.0000	mg/l		
P70303	Total dissolved solids	Water	1.1500	tons/ac ft		
P530	Fixed suspended solids	Water	9.0000	mg/l		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.6000	mg/l as N		
P666	Phosphorus	Water	0.7000	mg/l as P		
P82078	Turbidity	Water	2.2000	NTU		
P405	Carbon dioxide	Water	4.5000	mg/l		
P299	Oxygen	Water	11.1000	mg/l		
P900	Total hardness -- SDWA NPDWR	Water	330.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1400.0000	uS/cm		
P20	Temperature, air	Water	17.0000	deg C		
P10	Temperature, water	Water	11.4000	deg C		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P665	Phosphorus	Water	0.7800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	23.0000	mg/l		
P31616	Fecal coliforms	Water	370.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	105.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	90.0000	ug/l		
P999	Boron	Water	100.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/13/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	240.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	600.0000	ug/l		
P1083	Strontium	Water	610.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P900	Hardness, non-carbonate	Water	184.0000	mg/l		
P915	Calcium	Water	87.0000	mg/l		
P916	Calcium	Water	89.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	5.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/17/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	6.2000	mg/l		
P929	Sodium	Water	235.0000	mg/l		
P410	Alkalinity	Water	158.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	209.0000	mg/l		
P946	Sulfate	Water	284.0000	mg/l		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0040	mg/l as N	ND	0.008
P610	Ammonia and ammonium	Water	0.6950	mg/l NH4		
P610	Ammonia and ammonium	Water	0.5400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.6000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	27.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	140.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	11.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	30.0000	ug/l		
P1045	Iron	Water	310.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	290.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P82078	Turbidity	Water	2.0000	NTU		
P405	Carbon dioxide	Water	2.4000	mg/l		
P299	Oxygen	Water	10.1000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1620.0000	uS/cm		
P20	Temperature, air	Water	4.0000	deg C		
P10	Temperature, water	Water	4.5000	deg C		
P900	Hardness, non-carbonate	Water	217.0000	mg/l		
P916	Calcium	Water	99.0000	mg/l		
P927	Magnesium	Water	31.0000	mg/l		
P1083	Strontium	Water	470.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	170.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	6.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/17/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	110.0000	ug/l		
P927	Magnesium	Water	29.0000	mg/l		
P935	Potassium	Water	5.4000	mg/l		
P937	Potassium	Water	5.7000	mg/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	130.0000	ug/l		
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	470.0000	ug/l		
P1083	Strontium	Water	470.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	290.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P931	Sodium adsorption ratio	Water	4.5300	None		
P932	Sodium, percent total cations	Water	54.0000	%		
P930	Sodium	Water	200.0000	mg/l		
P929	Sodium	Water	200.0000	mg/l		
P410	Alkalinity	Water	161.0000	mg/l		
P941	Chloride	Water	243.0000	mg/l		
P946	Sulfate	Water	260.0000	mg/l		
P70300	Total dissolved solids	Water	935.0000	mg/l		
P70303	Total dissolved solids	Water	1.3600	tons/ac ft		
P70300	Total dissolved solids	Water	1000.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P82078	Turbidity	Water	3.2000	NTU		
P405	Carbon dioxide	Water	2.5000	mg/l		
P299	Oxygen	Water	10.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/17/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1660.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	6.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	370.0000	mg/l		
P900	Hardness, non-carbonate	Water	209.0000	mg/l		
P915	Calcium	Water	100.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P925	Magnesium	Water	29.0000	mg/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.6000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P665	Phosphorus	Water	1.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	100.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/18/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	912.0000	uS/cm		
P20	Temperature, air	Water	7.0000	deg C		
P10	Temperature, water	Water	5.5000	deg C		
P916	Calcium	Water	64.0000	mg/l		
P927	Magnesium	Water	19.0000	mg/l		
P937	Potassium	Water	7.0000	mg/l		
P929	Sodium	Water	101.0000	mg/l		
P610	Ammonia and ammonium	Water	1.2900	mg/l NH4		
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	230.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	40.0000	ug/l		
P610	Ammonia and ammonium	Water	1.0000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.4000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	35.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	10.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	20.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	790.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/26/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1045	Iron	Water	1510.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	140.0000	ug/l		
P82078	Turbidity	Water	36.0000	NTU		
P405	Carbon dioxide	Water	8.7000	mg/l		
P299	Oxygen	Water	10.3000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	454.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	6.5000	deg C		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P900	Hardness, non-carbonate	Water	67.0000	mg/l		
P916	Calcium	Water	37.0000	mg/l		
P927	Magnesium	Water	11.0000	mg/l		
P937	Potassium	Water	4.7000	mg/l		
P929	Sodium	Water	34.0000	mg/l		
P410	Alkalinity	Water	71.0000	mg/l		
P941	Chloride	Water	46.0000	mg/l		
P946	Sulfate	Water	55.0000	mg/l		
P530	Fixed suspended solids	Water	26.0000	mg/l		
P530	Total suspended solids	Water	31.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.4640	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.9000	mg/l as N		
P666	Phosphorus	Water	0.1900	mg/l as P		
P665	Phosphorus	Water	0.2900	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		
P31616	Fecal coliforms	Water	1100.0000	cfu/100ml		
P1105	Aluminum	Water	1100.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	70.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 02/26/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/03/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	1.0000	deg C		
P900	Hardness, non-carbonate	Water	98.0000	mg/l		
P916	Calcium	Water	73.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P937	Potassium	Water	7.3000	mg/l		
P941	Chloride	Water	230.0000	mg/l		
P946	Sulfate	Water	254.0000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P20	Temperature, air	Water	0.5000	deg C		
P530	Total suspended solids	Water	7.0000	mg/l		
P549	Volatile Suspended Solids	Water		mg/l	ND	
P610	Ammonia and ammonium	Water	1.5500	mg/l NH4		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	190.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P405	Carbon dioxide	Water	2.7000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	680.0000	uS/cm		
P929	Sodium	Water	205.0000	mg/l		
P410	Alkalinity	Water	179.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P1130	Lithium	Water	20.0000	ug/l	ND	40
P1055	Manganese	Water	110.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	250.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	1.2000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.9000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	28.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	120.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	20.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/05/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P299	Oxygen	Water	13.0000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	370.0000	uS/cm		
P20	Temperature, air	Water	3.0000	deg C		
P10	Temperature, water	Water	3.0000	deg C		
P900	Hardness, non-carbonate	Water	99.0000	mg/l		
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P530	Fixed suspended solids	Water	416.0000	mg/l		
P82078	Turbidity	Water	11.0000	NTU		
P405	Carbon dioxide	Water	6.2000	mg/l		
P916	Calcium	Water	38.0000	mg/l		
P927	Magnesium	Water	13.0000	mg/l		
P937	Potassium	Water	4.4000	mg/l		
P929	Sodium	Water	27.0000	mg/l		
P410	Alkalinity	Water	50.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	36.0000	mg/l		
P946	Sulfate	Water	50.0000	mg/l		
P530	Total suspended solids	Water	460.0000	mg/l		
P549	Volatile Suspended Solids	Water	44.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2960	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.3000	mg/l as N		
P666	Phosphorus	Water	0.1000	mg/l as P		
P665	Phosphorus	Water	0.3500	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	50.0000	mg/l		
P31616	Fecal coliforms	Water	1100.0000	cfu/100ml		
P1105	Aluminum	Water	6200.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P999	Boron	Water	25.0000	ug/l	ND	50
P1027	Cadmium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	16.0000	ug/l		
P1037	Cobalt	Water	10.0000	ug/l		
P1042	Copper	Water	20.0000	ug/l		
P1045	Iron	Water	7010.0000	ug/l		
P1051	Lead	Water	50.0000	ug/l	ND	100
P1055	Manganese	Water	420.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/05/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	120.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/06/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	520.0000	ug/l		
P1083	Strontium	Water	520.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	70.0000	ug/l		
P999	Boron	Water	70.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	520.0000	ug/l		
P665	Phosphorus	Water	1.1800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	17.0000	mg/l		
P31616	Fecal coliforms	Water	350.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	86.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P82078	Turbidity	Water	3.2000	NTU		
P405	Carbon dioxide	Water	2.0000	mg/l		
P299	Oxygen	Water	10.3000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	1340.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	9.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P900	Hardness, non-carbonate	Water	170.0000	mg/l		
P915	Calcium	Water	92.0000	mg/l		
P916	Calcium	Water	92.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/06/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	2.9000	mg/l		
P937	Potassium	Water	2.7000	mg/l		
P931	Sodium adsorption ratio	Water	3.3400	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	141.0000	mg/l		
P929	Sodium	Water	141.0000	mg/l		
P410	Alkalinity	Water	167.0000	mg/l		
P941	Chloride	Water	208.0000	mg/l		
P946	Sulfate	Water	209.0000	mg/l		
P70300	Total dissolved solids	Water	780.0000	mg/l		
P70303	Total dissolved solids	Water	1.0600	tons/ac ft		
P530	Fixed suspended solids	Water	14.0000	mg/l		
P530	Total suspended solids	Water	16.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.1550	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.5000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	100.0000	ug/l		
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/09/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P70303	Total dissolved solids	Water	1.0100	tons/ac ft		
P405	Carbon dioxide	Water	6.8000	mg/l		
P299	Oxygen	Water	10.1000	mg/l		
P400	pH	Water	7.6000	std units		
P403	pH, lab	Water	7.4000	std units		
P94	Specific conductance	Water	1330.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	3.5000	deg C		
P900	Hardness, non-carbonate	Water	180.0000	mg/l		
P916	Calcium	Water	84.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P937	Potassium	Water	6.0000	mg/l		
P929	Sodium	Water	158.0000	mg/l		
P410	Alkalinity	Water	140.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	195.0000	mg/l		
P946	Sulfate	Water	185.0000	mg/l		
P70300	Total dissolved solids	Water	740.0000	mg/l		
P530	Fixed suspended solids	Water	11.0000	mg/l		
P530	Total suspended solids	Water	13.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	1.1600	mg/l NH4		
P610	Ammonia and ammonium	Water	0.9000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.7000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	27.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	120.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	290.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	320.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	20.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/09/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P71900	Mercury	Water	0.1000	ug/l		
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	310.0000	ug/l		
P1083	Strontium	Water	310.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	0.5000	mg/l	ND	1
P32730	Phenols and phenolic compounds	Water	575.0000	ug/l		
P935	Potassium	Water	4.4000	mg/l		
P937	Potassium	Water	4.4000	mg/l		
P931	Sodium adsorption ratio	Water	2.6700	None		
P932	Sodium, percent total cations	Water	44.0000	%		
P930	Sodium	Water	101.0000	mg/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P929	Sodium	Water	100.0000	mg/l		
P410	Alkalinity	Water	149.0000	mg/l		
P941	Chloride	Water	133.0000	mg/l		
P946	Sulfate	Water	138.0000	mg/l		
P70300	Total dissolved solids	Water	560.0000	mg/l		
P70303	Total dissolved solids	Water	0.7600	tons/ac ft		
P530	Fixed suspended solids	Water	6.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.9000	mg/l as N		
P666	Phosphorus	Water	0.2600	mg/l as P		
P665	Phosphorus	Water	0.2900	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	200.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	82.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/09/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1020	Boron	Water	25.0000	ug/l	ND	50
P999	Boron	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	1.9000	NTU		
P405	Carbon dioxide	Water	5.8000	mg/l		
P299	Oxygen	Water	9.7000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	979.0000	uS/cm		
P20	Temperature, air	Water	8.0000	deg C		
P10	Temperature, water	Water	11.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	270.0000	mg/l		
P900	Hardness, non-carbonate	Water	119.0000	mg/l		
P915	Calcium	Water	72.0000	mg/l		
P916	Calcium	Water	71.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	280.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/10/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P31616	Fecal coliforms	Water	1100.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	90.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	16.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	50.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	230.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l	ND	200
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P299	Oxygen	Water	10.4000	mg/l		
P94	Specific conductance	Water	204.0000	uS/cm		
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	4.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	240.0000	mg/l		
P900	Hardness, non-carbonate	Water	120.0000	mg/l		
P916	Calcium	Water	64.0000	mg/l		
P927	Magnesium	Water	19.0000	mg/l		
P937	Potassium	Water	4.8000	mg/l		
P929	Sodium	Water	100.0000	mg/l		
P410	Alkalinity	Water	120.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	108.0000	mg/l		
P946	Sulfate	Water	153.0000	mg/l		
P530	Fixed suspended solids	Water	12.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water		mg/l	ND	
P610	Ammonia and ammonium	Water	1.0200	mg/l NH4		
P610	Ammonia and ammonium	Water	0.7900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.6000	mg/l as N		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/11/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	1800.0000	ug/l		
P1005	Barium	Water	63.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	60.0000	ug/l		
P999	Boron	Water	60.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	60.0000	ug/l		
P1045	Iron	Water	1600.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	190.0000	ug/l		
P1083	Strontium	Water	210.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.1900	mg/l as N		
P666	Phosphorus	Water	0.2400	mg/l as P		
P665	Phosphorus	Water	0.3300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	1800.0000	cfu/100ml		
P530	Total suspended solids	Water	33.0000	mg/l		
P82078	Turbidity	Water	69.0000	NTU		
P405	Carbon dioxide	Water	8.9000	mg/l		
P299	Oxygen	Water	8.8000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	583.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/11/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P20	Temperature, air	Water	6.0000	deg C		
P10	Temperature, water	Water	9.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	200.0000	mg/l		
P900	Hardness, non-carbonate	Water	56.0000	mg/l		
P915	Calcium	Water	52.0000	mg/l		
P916	Calcium	Water	54.0000	mg/l		
P925	Magnesium	Water	15.0000	mg/l		
P927	Magnesium	Water	16.0000	mg/l		
P935	Potassium	Water	12.0000	mg/l		
P937	Potassium	Water	13.0000	mg/l		
P931	Sodium adsorption ratio	Water	1.2600	None		
P932	Sodium, percent total cations	Water	30.0000	%		
P930	Sodium	Water	40.0000	mg/l		
P929	Sodium	Water	41.0000	mg/l		
P410	Alkalinity	Water	145.0000	mg/l		
P941	Chloride	Water	92.5000	mg/l		
P946	Sulfate	Water	66.0000	mg/l		
P70300	Total dissolved solids	Water	365.0000	mg/l		
P70303	Total dissolved solids	Water	0.4800	tons/ac ft		
P70300	Total dissolved solids	Water	352.0000	mg/l		
P530	Fixed suspended solids	Water	27.0000	mg/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/12/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P930	Sodium	Water	210.0000	mg/l		
P929	Sodium	Water	250.0000	mg/l		
P410	Alkalinity	Water	136.0000	mg/l		
P941	Chloride	Water	341.0000	mg/l		
P946	Sulfate	Water	285.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0410	mg/l as N		
P610	Ammonia and ammonium	Water	2.7000	mg/l NH4		
P610	Ammonia and ammonium	Water	2.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.4000	mg/l as N		
P666	Phosphorus	Water	1.9000	mg/l as P		
P665	Phosphorus	Water	2.0200	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P31616	Fecal coliforms	Water	2300.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P1005	Barium	Water	73.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	150.0000	ug/l		
P999	Boron	Water	150.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	140.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	160.0000	ug/l		
P1055	Manganese	Water	160.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/12/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1080	Strontium	Water	790.0000	ug/l		
P1083	Strontium	Water	880.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	60.0000	ug/l		
P1092	Zinc	Water	90.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l	ND	20
P82078	Turbidity	Water	1.8000	NTU		
P405	Carbon dioxide	Water	1.7000	mg/l		
P299	Oxygen	Water	10.5000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	1800.0000	uS/cm		
P20	Temperature, air	Water	-4.0000	deg C		
P10	Temperature, water	Water	4.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P900	Hardness, non-carbonate	Water	206.0000	mg/l		
P916	Calcium	Water	97.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	5.6000	mg/l		
P937	Potassium	Water	6.3000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/12/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	160.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	620.0000	ug/l		
P1083	Strontium	Water	640.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P82078	Turbidity	Water	3.7000	NTU		
P405	Carbon dioxide	Water	2.6000	mg/l		
P299	Oxygen	Water	10.9000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	2100.0000	uS/cm		
P20	Temperature, air	Water	2.0000	deg C		
P10	Temperature, water	Water	4.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P900	Hardness, non-carbonate	Water	200.0000	mg/l		
P915	Calcium	Water	100.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	32.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P935	Potassium	Water	40.0000	mg/l		
P937	Potassium	Water	41.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.2300	None		
P932	Sodium, percent total cations	Water	49.0000	%		
P930	Sodium	Water	190.0000	mg/l		
P929	Sodium	Water	200.0000	mg/l		
P410	Alkalinity	Water	211.0000	mg/l		
P941	Chloride	Water	279.0000	mg/l		
P946	Sulfate	Water	172.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/12/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70300	Total dissolved solids	Water	940.0000	mg/l		
P70303	Total dissolved solids	Water	1.7000	tons/ac ft		
P70300	Total dissolved solids	Water	1250.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.1000	mg/l as N		
P666	Phosphorus	Water	0.7300	mg/l as P		
P665	Phosphorus	Water	0.7900	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	40.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	99.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	150.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/15/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	74.0000	mg/l		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	27.0000	mg/l		
P31616	Fecal coliforms	Water	270.0000	cfu/100ml		
P1106	Aluminum	Water	355.0000	ug/l		
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	29.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	110.0000	ug/l		
P925	Magnesium	Water	20.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	4.8000	mg/l		
P937	Potassium	Water	5.2000	mg/l		
P931	Sodium adsorption ratio	Water	3.6800	None		
P932	Sodium, percent total cations	Water	53.0000	%		
P930	Sodium	Water	135.0000	mg/l		
P929	Sodium	Water	146.0000	mg/l		
P410	Alkalinity	Water	136.0000	mg/l		
P941	Chloride	Water	157.0000	mg/l		
P946	Sulfate	Water	169.0000	mg/l		
P70300	Total dissolved solids	Water	637.0000	mg/l		
P70303	Total dissolved solids	Water	0.8700	tons/ac ft		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.4380	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.1000	mg/l as N		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	120.0000	ug/l		
P1045	Iron	Water	390.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/15/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	360.0000	ug/l		
P1083	Strontium	Water	390.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P82078	Turbidity	Water	3.8000	NTU		
P405	Carbon dioxide	Water	3.3000	mg/l		
P299	Oxygen	Water	11.5000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1120.0000	uS/cm		
P20	Temperature, air	Water	6.0000	deg C		
P10	Temperature, water	Water	8.4000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	270.0000	mg/l		
P900	Hardness, non-carbonate	Water	140.0000	mg/l		
P915	Calcium	Water	69.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/15/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	370.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P900	Hardness, non-carbonate	Water	165.0000	mg/l		
P915	Calcium	Water	88.0000	mg/l		
P916	Calcium	Water	90.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	5.5000	mg/l		
P937	Potassium	Water	5.8000	mg/l		
P931	Sodium adsorption ratio	Water	2.3500	None		
P932	Sodium, percent total cations	Water	39.0000	%		
P930	Sodium	Water	97.0000	mg/l		
P929	Sodium	Water	98.0000	mg/l		
P410	Alkalinity	Water	167.0000	mg/l		
P941	Chloride	Water	138.0000	mg/l		
P946	Sulfate	Water	153.0000	mg/l		
P70300	Total dissolved solids	Water	607.0000	mg/l		
P70303	Total dissolved solids	Water	0.9100	tons/ac ft		
P70300	Total dissolved solids	Water	670.0000	mg/l		
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.2500	ug/l	ND	0.5
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	420.0000	ug/l		
P1083	Strontium	Water	430.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	5.1000	NTU		
P405	Carbon dioxide	Water	6.5000	mg/l		
P299	Oxygen	Water	8.5000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	1110.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/15/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	14.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	330.0000	mg/l		
P530	Fixed suspended solids	Water	24.0000	mg/l		
P530	Total suspended solids	Water	31.0000	mg/l		
P549	Volatile Suspended Solids	Water	7.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.1000	mg/l as N		
P666	Phosphorus	Water	0.4700	mg/l as P		
P665	Phosphorus	Water	0.5100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	620.0000	cfu/100ml		
P1106	Aluminum	Water	130.0000	ug/l		
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	81.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/16/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	190.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	0.4000	NTU		
P405	Carbon dioxide	Water	13.0000	mg/l		
P299	Oxygen	Water	11.5000	mg/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	1440.0000	uS/cm		
P20	Temperature, air	Water	2.0000	deg C		
P10	Temperature, water	Water	6.7000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	330.0000	mg/l		
P900	Hardness, non-carbonate	Water	164.0000	mg/l		
P915	Calcium	Water	86.0000	mg/l		
P916	Calcium	Water	91.0000	mg/l		
P925	Magnesium	Water	24.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	420.0000	ug/l		
P1083	Strontium	Water	450.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P935	Potassium	Water	3.4000	mg/l		
P937	Potassium	Water	3.6000	mg/l		
P931	Sodium adsorption ratio	Water	3.6900	None		
P932	Sodium, percent total cations	Water	51.0000	%		
P930	Sodium	Water	150.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/16/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P929	Sodium	Water	160.0000	mg/l		
P410	Alkalinity	Water	167.0000	mg/l		
P941	Chloride	Water	232.0000	mg/l		
P946	Sulfate	Water	167.0000	mg/l		
P70300	Total dissolved solids	Water	763.0000	mg/l		
P70303	Total dissolved solids	Water	1.2000	tons/ac ft		
P70300	Total dissolved solids	Water	886.0000	mg/l		
P530	Fixed suspended solids	Water	20.0000	mg/l		
P530	Total suspended solids	Water	24.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.4000	mg/l as N		
P666	Phosphorus	Water	0.8700	mg/l as P		
P665	Phosphorus	Water	0.9100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	20.0000	mg/l		
P31616	Fecal coliforms	Water	25.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P1005	Barium	Water	68.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	80.0000	ug/l		
P999	Boron	Water	100.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/20/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70303	Total dissolved solids	Water	0.9200	tons/ac ft		
P530	Fixed suspended solids	Water	13.0000	mg/l		
P530	Total suspended solids	Water	16.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.5800	mg/l NH4		
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	440.0000	ug/l		
P1083	Strontium	Water	440.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	3.3000	NTU		
P405	Carbon dioxide	Water	14.0000	mg/l		
P299	Oxygen	Water	7.9000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	948.0000	uS/cm		
P20	Temperature, air	Water	2.0000	deg C		
P10	Temperature, water	Water	8.2000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	310.0000	mg/l		
P900	Hardness, non-carbonate	Water	170.0000	mg/l		
P915	Calcium	Water	84.0000	mg/l		
P916	Calcium	Water	85.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	4.8000	mg/l		
P937	Potassium	Water	5.3000	mg/l		
P931	Sodium adsorption ratio	Water	3.0200	None		
P932	Sodium, percent total cations	Water	46.0000	%		
P930	Sodium	Water	121.0000	mg/l		
P929	Sodium	Water	122.0000	mg/l		
P410	Alkalinity	Water	142.0000	mg/l		
P610	Ammonia and ammonium	Water	0.4500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.8000	mg/l as N		
P666	Phosphorus	Water	0.4000	mg/l as P		
P665	Phosphorus	Water	0.4000	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/20/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	60.0000	cfu/100ml		
P1106	Aluminum	Water	87.0000	ug/l		
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	88.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	100.0000	ug/l		
P999	Boron	Water	100.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	360.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P941	Chloride	Water	182.0000	mg/l		
P946	Sulfate	Water	177.0000	mg/l		
P70300	Total dissolved solids	Water	678.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/29/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	11.0000	NTU		
P405	Carbon dioxide	Water	2.5000	mg/l		
P299	Oxygen	Water	10.9000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1730.0000	uS/cm		
P1080	Strontium	Water	500.0000	ug/l		
P1083	Strontium	Water	500.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	790.0000	ug/l		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.0000	mg/l as N		
P666	Phosphorus	Water	0.8400	mg/l as P		
P665	Phosphorus	Water	0.8800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	50.0000	ug/l	ND	100
P1005	Barium	Water	86.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	150.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	90.0000	ug/l		
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P20	Temperature, air	Water	3.0000	deg C		
P10	Temperature, water	Water	7.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	350.0000	mg/l		
P900	Hardness, non-carbonate	Water	188.0000	mg/l		
P915	Calcium	Water	93.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 03/29/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	94.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P935	Potassium	Water	5.4000	mg/l		
P937	Potassium	Water	5.4000	mg/l		
P931	Sodium adsorption ratio	Water	4.9300	None		
P932	Sodium, percent total cations	Water	57.0000	%		
P930	Sodium	Water	210.0000	mg/l		
P929	Sodium	Water	210.0000	mg/l		
P410	Alkalinity	Water	163.0000	mg/l		
P941	Chloride	Water	261.0000	mg/l		
P946	Sulfate	Water	310.0000	mg/l		
P70300	Total dissolved solids	Water	1000.0000	mg/l		
P70303	Total dissolved solids	Water	1.4100	tons/ac ft		
P70300	Total dissolved solids	Water	1040.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0040	mg/l as N		
P610	Ammonia and ammonium	Water	0.2830	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2200	mg/l as N		
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/02/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P405	Carbon dioxide	Water	1.4000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	740.0000	uS/cm		
P20	Temperature, air	Water	18.0000	deg C		
P10	Temperature, water	Water	8.0000	deg C		
P900	Hardness, non-carbonate	Water	78.0000	mg/l		
P916	Calcium	Water	52.0000	mg/l		
P927	Magnesium	Water	16.0000	mg/l		
P937	Potassium	Water	4.2000	mg/l		
P929	Sodium	Water	52.0000	mg/l		
P410	Alkalinity	Water	118.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	77.0000	mg/l		
P946	Sulfate	Water	90.0000	mg/l		
P530	Fixed suspended solids	Water	26.0000	mg/l		
P530	Total suspended solids	Water	30.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P1083	Strontium	Water	200.0000	ug/l		
P985	Vanadium	Water	1.5000	ug/l	ND	3
P1092	Zinc	Water	20.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.1000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	19.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	110.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	10.0000	ug/l		
P1037	Cobalt	Water	1.5000	ug/l	ND	3
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	870.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1130	Lithium	Water	40.0000	ug/l		
P1055	Manganese	Water	100.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/04/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P20	Temperature, air	Water	3.0000	deg C		
P10	Temperature, water	Water	13.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	216.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	32.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P935	Potassium	Water	7.1000	mg/l		
P937	Potassium	Water	7.3000	mg/l		
P931	Sodium adsorption ratio	Water	3.0200	None		
P932	Sodium, percent total cations	Water	42.0000	%		
P930	Sodium	Water	140.0000	mg/l		
P929	Sodium	Water	150.0000	mg/l		
P410	Alkalinity	Water	195.0000	mg/l		
P941	Chloride	Water	213.0000	mg/l		
P946	Sulfate	Water	424.0000	mg/l		
P70300	Total dissolved solids	Water	1040.0000	mg/l		
P70303	Total dissolved solids	Water	1.1100	tons/ac ft		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	180.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	50.0000	ug/l	LT	100
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	570.0000	ug/l		
P1083	Strontium	Water	580.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	43.0000	ug/l		
P82078	Turbidity	Water	4.1000	NTU		
P70300	Total dissolved solids	Water	818.0000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P530	Total suspended solids	Water	9.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/04/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.1160	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.4000	mg/l as N		
P666	Phosphorus	Water	0.9700	mg/l as P		
P665	Phosphorus	Water	1.0000	mg/l as P		
P191	Hydrogen ion	Water	0.0005	mg/l	LT	0.001
P31616	Fecal coliforms	Water	400.0000	cfu/100ml		
P1106	Aluminum	Water	120.0000	ug/l		
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	99.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	170.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P405	Carbon dioxide	Water	1.5000	mg/l		
P299	Oxygen	Water	9.7000	mg/l		
P400	pH	Water	8.4000	std units		
P94	Specific conductance	Water	1350.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/05/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	100.0000	ug/l		
P985	Vanadium	Water	20.0000	ug/l		
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2830	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.4000	mg/l as N		
P666	Phosphorus	Water	0.1400	mg/l as P		
P665	Phosphorus	Water	0.4800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	52.0000	mg/l		
P31616	Fecal coliforms	Water	3800.0000	cfu/100ml		
P1105	Aluminum	Water	8300.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	50.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	20.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	10200.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	410.0000	ug/l		
P82078	Turbidity	Water	13.0000	NTU		
P405	Carbon dioxide	Water	4.8000	mg/l		
P299	Oxygen	Water	9.9000	mg/l		
P400	pH	Water	7.1000	std units		
P94	Specific conductance	Water	276.0000	uS/cm		
P20	Temperature, air	Water	7.0000	deg C		
P10	Temperature, water	Water	8.5000	deg C		
P900	Hardness, non-carbonate	Water	79.0000	mg/l		
P916	Calcium	Water	29.0000	mg/l		
P927	Magnesium	Water	9.0000	mg/l		
P937	Potassium	Water	4.2000	mg/l		
P929	Sodium	Water	21.0000	mg/l		
P410	Alkalinity	Water	31.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	24.0000	mg/l		
P946	Sulfate	Water	49.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/05/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Fixed suspended solids	Water	415.0000	mg/l		
P530	Total suspended solids	Water	435.0000	mg/l		
P549	Volatile Suspended Solids	Water	20.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/06/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Hardness, non-carbonate	Water	106.0000	mg/l		
P915	Calcium	Water	25.0000	mg/l		
P916	Calcium	Water	35.0000	mg/l		
P925	Magnesium	Water	7.2000	mg/l		
P927	Magnesium	Water	12.0000	mg/l		
P935	Potassium	Water	3.8000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	110.0000	mg/l		
P31616	Fecal coliforms	Water	8000.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	16900.0000	ug/l		
P1005	Barium	Water	37.0000	ug/l		
P1007	Barium	Water	300.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P1020	Boron	Water	25.0000	ug/l	ND	50
P999	Boron	Water	25.0000	ug/l	ND	50
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	30.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	10.0000	ug/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	20.0000	ug/l		
P1046	Iron	Water	70.0000	ug/l		
P1045	Iron	Water	22600.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	50.0000	ug/l	ND	100
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	1040.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	90.0000	ug/l		
P1083	Strontium	Water	120.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	40.0000	ug/l		
P1090	Zinc	Water	25.0000	ug/l	ND	50
P405	Carbon dioxide	Water	7.6000	mg/l		
P299	Oxygen	Water	8.6000	mg/l		
P400	pH	Water	6.9000	std units		
P937	Potassium	Water	5.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/06/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P931	Sodium adsorption ratio	Water	0.9100	None		
P932	Sodium, percent total cations	Water	31.0000	%		
P930	Sodium	Water	20.0000	mg/l		
P929	Sodium	Water	20.0000	mg/l		
P410	Alkalinity	Water	31.0000	mg/l		
P941	Chloride	Water	29.0000	mg/l		
P946	Sulfate	Water	38.0000	mg/l		
P70300	Total dissolved solids	Water	142.0000	mg/l		
P70303	Total dissolved solids	Water	0.1900	tons/ac ft		
P530	Fixed suspended solids	Water	1080.0000	mg/l		
P530	Total suspended solids	Water	1170.0000	mg/l		
P549	Volatile Suspended Solids	Water	90.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2830	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.2000	mg/l as N		
P666	Phosphorus	Water	0.4000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P1092	Zinc	Water	120.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P94	Specific conductance	Water	314.0000	uS/cm		
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	13.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	140.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/07/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	140.0000	ug/l		
P82078	Turbidity	Water	26.0000	NTU		
P405	Carbon dioxide	Water	13.0000	mg/l		
P299	Oxygen	Water	9.3000	mg/l		
P400	pH	Water	7.1000	std units		
P94	Specific conductance	Water	495.0000	uS/cm		
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	10.0000	deg C		
P900	Hardness, non-carbonate	Water	75.0000	mg/l		
P916	Calcium	Water	42.0000	mg/l		
P927	Magnesium	Water	13.0000	mg/l		
P937	Potassium	Water	4.9000	mg/l		
P929	Sodium	Water	36.0000	mg/l		
P410	Alkalinity	Water	84.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	51.0000	mg/l		
P946	Sulfate	Water	61.0000	mg/l		
P530	Fixed suspended solids	Water	108.0000	mg/l		
P530	Total suspended solids	Water	140.0000	mg/l		
P549	Volatile Suspended Solids	Water	32.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.3220	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.9000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	54.0000	mg/l		
P31616	Fecal coliforms	Water	13500.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	60.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	8.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1045	Iron	Water	1600.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	150.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/08/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	6.6000	NTU		
P405	Carbon dioxide	Water	14.0000	mg/l		
P299	Oxygen	Water	9.8000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1000.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	5.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	290.0000	mg/l		
P900	Hardness, non-carbonate	Water	150.0000	mg/l		
P916	Calcium	Water	77.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P937	Potassium	Water	5.6000	mg/l		
P929	Sodium	Water	143.0000	mg/l		
P410	Alkalinity	Water	140.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	134.0000	mg/l		
P946	Sulfate	Water	211.0000	mg/l		
P530	Fixed suspended solids	Water	12.0000	mg/l		
P530	Total suspended solids	Water	20.0000	mg/l		
P549	Volatile Suspended Solids	Water	8.0000	mg/l		
P610	Ammonia and ammonium	Water	0.9140	mg/l NH4		
P610	Ammonia and ammonium	Water	0.7100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	32.0000	mg/l		
P31616	Fecal coliforms	Water	5500.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	110.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	25.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	430.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	310.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	250.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l	ND	200
P556	Oil and grease -- CWA 304B	Water	4.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 04/09/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	150.0000	ug/l		
P1055	Manganese	Water	170.0000	ug/l		
P1005	Barium	Water	94.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	170.0000	ug/l		
P999	Boron	Water	170.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	400.0000	ug/l		
P900	Hardness, non-carbonate	Water	191.0000	mg/l		
P915	Calcium	Water	94.0000	mg/l		
P916	Calcium	Water	95.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	6.0000	mg/l		
P937	Potassium	Water	6.1000	mg/l		
P931	Sodium adsorption ratio	Water	3.2700	None		
P932	Sodium, percent total cations	Water	46.0000	%		
P930	Sodium	Water	139.0000	mg/l		
P929	Sodium	Water	146.0000	mg/l		
P410	Alkalinity	Water	158.0000	mg/l		
P941	Chloride	Water	183.0000	mg/l		
P946	Sulfate	Water	198.0000	mg/l		
P70300	Total dissolved solids	Water	742.0000	mg/l		
P70303	Total dissolved solids	Water	1.0100	tons/ac ft		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 04/09/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P666	Phosphorus	Water	0.5400	mg/l as P		
P665	Phosphorus	Water	0.6000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	18.0000	mg/l		
P31616	Fecal coliforms	Water	220.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	300.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	430.0000	ug/l		
P1083	Strontium	Water	440.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	6.1000	NTU		
P405	Carbon dioxide	Water	3.9000	mg/l		
P299	Oxygen	Water	11.7000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1250.0000	uS/cm		
P20	Temperature, air	Water	13.0000	deg C		
P10	Temperature, water	Water	13.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/10/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	4.4000	mg/l		
P931	Sodium adsorption ratio	Water	3.9000	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	159.0000	mg/l		
P929	Sodium	Water	163.0000	mg/l		
P410	Alkalinity	Water	142.0000	mg/l		
P941	Chloride	Water	190.0000	mg/l		
P946	Sulfate	Water	350.0000	mg/l		
P70300	Total dissolved solids	Water	900.0000	mg/l		
P70303	Total dissolved solids	Water	1.2200	tons/ac ft		
P530	Fixed suspended solids	Water	9.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.1800	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.6000	mg/l as N		
P665	Phosphorus	Water	1.4000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	16.0000	mg/l		
P31616	Fecal coliforms	Water	620.0000	cfu/100ml		
P1106	Aluminum	Water	68.0000	ug/l		
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	67.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	100.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	320.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	130.0000	ug/l		
P1055	Manganese	Water	150.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/10/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	500.0000	ug/l		
P1083	Strontium	Water	520.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.9000	NTU		
P405	Carbon dioxide	Water	3.5000	mg/l		
P299	Oxygen	Water	10.3000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1320.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	13.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	320.0000	mg/l		
P900	Hardness, non-carbonate	Water	185.0000	mg/l		
P915	Calcium	Water	88.0000	mg/l		
P916	Calcium	Water	91.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	3.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/13/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	0.7730	mg/l NH4		
P610	Ammonia and ammonium	Water	0.6000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.4000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	48.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	340.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	15.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	390.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	270.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	270.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		
P1092	Zinc	Water	10.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	85.0000	mg/l		
P405	Carbon dioxide	Water	10.0000	mg/l		
P299	Oxygen	Water	6.9000	mg/l		
P400	pH	Water	7.4000	std units		
P403	pH, lab	Water	7.9000	std units		
P94	Specific conductance	Water	1440.0000	uS/cm		
P20	Temperature, air	Water	25.0000	deg C		
P10	Temperature, water	Water	22.0000	deg C		
P900	Hardness, non-carbonate	Water	190.0000	mg/l		
P916	Calcium	Water	85.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P929	Sodium	Water	206.0000	mg/l		
P410	Alkalinity	Water	130.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	220.0000	mg/l		
P946	Sulfate	Water	255.0000	mg/l		
P70303	Total dissolved solids	Water	1.1600	tons/ac ft		
P70300	Total dissolved solids	Water	856.0000	mg/l		
P530	Fixed suspended solids	Water	15.0000	mg/l		
P530	Total suspended solids	Water	17.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/15/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	150.0000	ug/l		
P1083	Strontium	Water	160.0000	ug/l		
P925	Magnesium	Water	13.0000	mg/l		
P927	Magnesium	Water	14.0000	mg/l		
P935	Potassium	Water	4.7000	mg/l		
P937	Potassium	Water	5.3000	mg/l		
P931	Sodium adsorption ratio	Water	1.2300	None		
P932	Sodium, percent total cations	Water	32.0000	%		
P930	Sodium	Water	36.0000	mg/l		
P929	Sodium	Water	40.0000	mg/l		
P410	Alkalinity	Water	73.0000	mg/l		
P941	Chloride	Water	66.0000	mg/l		
P946	Sulfate	Water	69.0000	mg/l		
P70300	Total dissolved solids	Water	277.0000	mg/l		
P70303	Total dissolved solids	Water	0.3800	tons/ac ft		
P530	Fixed suspended solids	Water	74.0000	mg/l		
P530	Total suspended solids	Water	86.0000	mg/l		
P549	Volatile Suspended Solids	Water	12.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.5150	mg/l NH4		
P610	Ammonia and ammonium	Water	0.4000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P666	Phosphorus	Water	0.5900	mg/l as P		
P665	Phosphorus	Water	0.7900	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	39.0000	mg/l		
P31616	Fecal coliforms	Water	4900.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	1500.0000	ug/l		
P1005	Barium	Water	49.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	50.0000	ug/l		
P999	Boron	Water	60.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium(VI)	Water	25.0000	ug/l	ND	50
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/15/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P82078	Turbidity	Water	84.0000	NTU		
P405	Carbon dioxide	Water	5.7000	mg/l		
P299	Oxygen	Water	9.0000	mg/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	580.0000	uS/cm		
P20	Temperature, air	Water	12.0000	deg C		
P10	Temperature, water	Water	12.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	180.0000	mg/l		
P900	Hardness, non-carbonate	Water	105.0000	mg/l		
P915	Calcium	Water	44.0000	mg/l		
P916	Calcium	Water	48.0000	mg/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1910.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	150.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/15/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	16.0000	mg/l		
P937	Potassium	Water	16.0000	mg/l		
P931	Sodium adsorption ratio	Water	1.9300	None		
P932	Sodium, percent total cations	Water	36.0000	%		
P930	Sodium	Water	72.0000	mg/l		
P70303	Total dissolved solids	Water	0.7500	tons/ac ft		
P70300	Total dissolved solids	Water	555.0000	mg/l		
P530	Fixed suspended solids	Water	17.0000	mg/l		
P530	Total suspended solids	Water	20.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.2580	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.8000	mg/l as N		
P666	Phosphorus	Water	0.4400	mg/l as P		
P665	Phosphorus	Water	0.4700	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	98.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	76.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	80.0000	ug/l		
P999	Boron	Water	80.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	360.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/15/1997

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	180.0000	ug/l		
P1083	Strontium	Water	190.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P929	Sodium	Water	75.0000	mg/l		
P410	Alkalinity	Water	179.0000	mg/l		
P941	Chloride	Water	127.0000	mg/l		
P946	Sulfate	Water	101.0000	mg/l		
P70300	Total dissolved solids	Water	516.0000	mg/l		
P82078	Turbidity	Water	11.0000	NTU		
P405	Carbon dioxide	Water	5.5000	mg/l		
P299	Oxygen	Water	9.2000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	923.0000	uS/cm		
P20	Temperature, air	Water	6.0000	deg C		
P10	Temperature, water	Water	9.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	270.0000	mg/l		
P900	Hardness, non-carbonate	Water	94.0000	mg/l		
P915	Calcium	Water	71.0000	mg/l		
P916	Calcium	Water	73.0000	mg/l		
P925	Magnesium	Water	21.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/16/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	295.0000	mg/l		
P946	Sulfate	Water	168.0000	mg/l		
P70300	Total dissolved solids	Water	913.0000	mg/l		
P70303	Total dissolved solids	Water	1.3300	tons/ac ft		
P70300	Total dissolved solids	Water	975.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	16.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.0000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	5400.0000	cfu/100ml		
P1106	Aluminum	Water	120.0000	ug/l		
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	140.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	170.0000	ug/l		
P1045	Iron	Water	200.0000	ug/l		
P1051	Lead	Water	2.5000	ug/l	ND	5
P405	Carbon dioxide	Water	3.2000	mg/l		
P299	Oxygen	Water	8.9000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1640.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	8.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P900	Hardness, non-carbonate	Water	179.0000	mg/l		
P915	Calcium	Water	100.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P925	Magnesium	Water	32.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P999	Boron	Water	180.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/16/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P935	Potassium	Water	12.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.0100	None		
P932	Sodium, percent total cations	Water	50.0000	%		
P930	Sodium	Water	180.0000	mg/l		
P82078	Turbidity	Water	9.2000	NTU		
P1056	Manganese	Water	50.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	820.0000	ug/l		
P1083	Strontium	Water	850.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P929	Sodium	Water	190.0000	mg/l		
P410	Alkalinity	Water	208.0000	mg/l		
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/18/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1045	Iron	Water	910.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	190.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	240.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	0.5000	mg/l	ND	1
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	8.1000	NTU		
P405	Carbon dioxide	Water	19.0000	mg/l		
P299	Oxygen	Water	7.0000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	899.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	15.0000	deg C		
P900	Hardness, non-carbonate	Water	128.0000	mg/l		
P916	Calcium	Water	75.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P937	Potassium	Water	4.2000	mg/l		
P929	Sodium	Water	84.0000	mg/l		
P410	Alkalinity	Water	154.0000	mg/l		
P941	Chloride	Water	80.0000	mg/l		
P946	Sulfate	Water	150.0000	mg/l		
P530	Fixed suspended solids	Water	25.0000	mg/l		
P530	Total suspended solids	Water	28.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.7000	mg/l as N		
P666	Phosphorus	Water	0.2800	mg/l as P		
P665	Phosphorus	Water	0.3300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	20.0000	mg/l		
P31616	Fecal coliforms	Water	0.5000	cfu/100ml	ND	1
P1105	Aluminum	Water	700.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	90.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/18/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/22/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70300	Total dissolved solids	Water	400.0000	mg/l		
P70303	Total dissolved solids	Water	0.6100	tons/ac ft		
P70300	Total dissolved solids	Water	451.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	15.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.2190	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.9000	mg/l as N		
P666	Phosphorus	Water	0.6000	mg/l as P		
P665	Phosphorus	Water	0.7100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P31616	Fecal coliforms	Water	980.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	59.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	60.0000	ug/l		
P999	Boron	Water	60.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	430.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	260.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/22/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1083	Strontium	Water	270.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P82078	Turbidity	Water	4.9000	NTU		
P405	Carbon dioxide	Water	3.7000	mg/l		
P299	Oxygen	Water	10.8000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	763.0000	uS/cm		
P20	Temperature, air	Water	16.0000	deg C		
P10	Temperature, water	Water	14.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	240.0000	mg/l		
P900	Hardness, non-carbonate	Water	122.0000	mg/l		
P915	Calcium	Water	63.0000	mg/l		
P916	Calcium	Water	66.0000	mg/l		
P925	Magnesium	Water	18.0000	mg/l		
P927	Magnesium	Water	19.0000	mg/l		
P935	Potassium	Water	4.4000	mg/l		
P937	Potassium	Water	4.7000	mg/l		
P931	Sodium adsorption ratio	Water	1.6600	None		
P932	Sodium, percent total cations	Water	35.0000	%		
P930	Sodium	Water	58.0000	mg/l		
P929	Sodium	Water	59.0000	mg/l		
P410	Alkalinity	Water	121.0000	mg/l		
P941	Chloride	Water	85.0000	mg/l		
P946	Sulfate	Water	99.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 04/27/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Fixed suspended solids	Water	19.0000	mg/l		
P530	Total suspended solids	Water	41.0000	mg/l		
P400	pH	Water	7.5000	std units		
P403	pH, lab	Water	8.0000	std units		
P94	Specific conductance	Water	438.0000	uS/cm		
P20	Temperature, air	Water	28.0000	deg C		
P405	Carbon dioxide	Water	7.4000	mg/l		
P299	Oxygen	Water	6.3000	mg/l		
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	280.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	210.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	450.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	30.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	11.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	20.0000	ug/l		
P549	Volatile Suspended Solids	Water	22.0000	mg/l		
P610	Ammonia and ammonium	Water	0.6440	mg/l NH4		
P610	Ammonia and ammonium	Water	0.5000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.5000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	54.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	200.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	6.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P10	Temperature, water	Water	24.5000	deg C		
P900	Hardness, non-carbonate	Water	240.0000	mg/l		
P916	Calcium	Water	97.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P937	Potassium	Water	9.2000	mg/l		
P929	Sodium	Water	250.0000	mg/l		
P410	Alkalinity	Water	120.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	260.0000	mg/l		
P946	Sulfate	Water	285.0000	mg/l		
P70303	Total dissolved solids	Water	1.4400	tons/ac ft		
P70300	Total dissolved solids	Water	1060.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/06/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P900	Hardness, non-carbonate	Water	230.0000	mg/l		
P916	Calcium	Water	108.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P937	Potassium	Water	8.9000	mg/l		
P929	Sodium	Water	217.0000	mg/l		
P410	Alkalinity	Water	180.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	237.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia and ammonium	Water	0.3730	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.1000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	32.0000	mg/l		
P31616	Fecal coliforms	Water	710.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	200.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	480.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	520.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	450.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l	ND	200
P556	Oil and grease -- CWA 304B	Water	3.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P20	Temperature, air	Water	25.0000	deg C		
P10	Temperature, water	Water	17.0000	deg C		
P82078	Turbidity	Water	4.2000	NTU		
P405	Carbon dioxide	Water	11.0000	mg/l		
P299	Oxygen	Water	4.7000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	1660.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/09/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P31616	Fecal coliforms	Water	510.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	81.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	90.0000	ug/l		
P999	Boron	Water	90.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P932	Sodium, percent total cations	Water	41.0000	%		
P930	Sodium	Water	97.0000	mg/l		
P929	Sodium	Water	96.0000	mg/l		
P410	Alkalinity	Water	167.0000	mg/l		
P941	Chloride	Water	130.0000	mg/l		
P946	Sulfate	Water	115.0000	mg/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	720.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	90.0000	ug/l		
P405	Carbon dioxide	Water	5.1000	mg/l		
P299	Oxygen	Water	9.5000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	976.0000	uS/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	17.7000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	290.0000	mg/l		
P900	Hardness, non-carbonate	Water	128.0000	mg/l		
P915	Calcium	Water	79.0000	mg/l		
P916	Calcium	Water	80.0000	mg/l		
P925	Magnesium	Water	23.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P935	Potassium	Water	5.1000	mg/l		
P937	Potassium	Water	5.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/09/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P931	Sodium adsorption ratio	Water	2.4700	None		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	320.0000	ug/l		
P1083	Strontium	Water	320.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P70300	Total dissolved solids	Water	550.0000	mg/l		
P70303	Total dissolved solids	Water	0.7500	tons/ac ft		
P530	Fixed suspended solids	Water	24.0000	mg/l		
P530	Total suspended solids	Water	26.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.3000	mg/l as N		
P666	Phosphorus	Water	0.4300	mg/l as P		
P665	Phosphorus	Water	0.5100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	13.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/13/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	35.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	180.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	220.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1130	Lithium	Water	60.0000	ug/l		
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	230.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	10.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P405	Carbon dioxide	Water	2.3000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	690.0000	uS/cm		
P20	Temperature, air	Water	23.5000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Hardness, non-carbonate	Water	120.0000	mg/l		
P916	Calcium	Water	73.0000	mg/l		
P927	Magnesium	Water	21.0000	mg/l		
P937	Potassium	Water	6.8000	mg/l		
P929	Sodium	Water	126.0000	mg/l		
P410	Alkalinity	Water	152.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	139.0000	mg/l		
P946	Sulfate	Water	219.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia and ammonium	Water	0.9010	mg/l NH4		
P610	Ammonia and ammonium	Water	0.7000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P405	Carbon dioxide	Water	1.9000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	690.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/13/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P20	Temperature, air	Water	23.5000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Hardness, non-carbonate	Water	110.0000	mg/l		
P916	Calcium	Water	72.0000	mg/l		
P927	Magnesium	Water	20.0000	mg/l		
P937	Potassium	Water	6.8000	mg/l		
P929	Sodium	Water	128.0000	mg/l		
P410	Alkalinity	Water	154.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	137.0000	mg/l		
P946	Sulfate	Water	216.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	10.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia and ammonium	Water	0.9010	mg/l NH4		
P610	Ammonia and ammonium	Water	0.7000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	32.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	180.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	200.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1130	Lithium	Water	60.0000	ug/l		
P1055	Manganese	Water	190.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	230.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	10.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/13/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	10.0000	ug/l		
P1045	Iron	Water	4400.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	50.0000	ug/l	LT	100
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	460.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	120.0000	ug/l		
P1083	Strontium	Water	160.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	110.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	92.0000	NTU		
P405	Carbon dioxide	Water	5.2000	mg/l		
P299	Oxygen	Water	8.8000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	450.0000	uS/cm		
P20	Temperature, air	Water	7.0000	deg C		
P10	Temperature, water	Water	14.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	150.0000	mg/l		
P900	Hardness, non-carbonate	Water	66.0000	mg/l		
P915	Calcium	Water	29.0000	mg/l		
P916	Calcium	Water	40.0000	mg/l		
P925	Magnesium	Water	8.2000	mg/l		
P927	Magnesium	Water	12.0000	mg/l		
P935	Potassium	Water	7.4000	mg/l		
P937	Potassium	Water	9.8000	mg/l		
P931	Sodium adsorption ratio	Water	1.0100	None		
P932	Sodium, percent total cations	Water	31.0000	%		
P930	Sodium	Water	24.0000	mg/l		
P929	Sodium	Water	29.0000	mg/l		
P410	Alkalinity	Water	84.0000	mg/l		
P941	Chloride	Water	52.0000	mg/l		
P946	Sulfate	Water	50.0000	mg/l		
P70300	Total dissolved solids	Water	221.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/13/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70303	Total dissolved solids	Water	0.4500	tons/ac ft		
P70300	Total dissolved solids	Water	333.0000	mg/l		
P530	Fixed suspended solids	Water	320.0000	mg/l		
P530	Total suspended solids	Water	380.0000	mg/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	20.0000	ug/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	60.0000	ug/l		
P549	Volatile Suspended Solids	Water	60.0000	mg/l		
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.7600	mg/l NH4		
P610	Ammonia and ammonium	Water	0.5900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.4000	mg/l as N		
P666	Phosphorus	Water	0.9600	mg/l as P		
P665	Phosphorus	Water	1.7000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	71.0000	mg/l		
P31616	Fecal coliforms	Water	*****.****	cfu/100ml	DT	200000
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	3300.0000	ug/l		
P1005	Barium	Water	40.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	30.0000	ug/l		
P999	Boron	Water	30.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/15/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.6000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		
P31616	Fecal coliforms	Water	1600.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	77.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P935	Potassium	Water	6.7000	mg/l		
P937	Potassium	Water	6.4000	mg/l		
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	580.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	490.0000	ug/l		
P1083	Strontium	Water	520.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	950.0000	ug/l		
P82078	Turbidity	Water	5.6000	NTU		
P405	Carbon dioxide	Water	7.1000	mg/l		
P299	Oxygen	Water	6.4000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/15/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	1540.0000	uS/cm		
P20	Temperature, air	Water	32.0000	deg C		
P10	Temperature, water	Water	23.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	350.0000	mg/l		
P900	Hardness, non-carbonate	Water	212.0000	mg/l		
P915	Calcium	Water	93.0000	mg/l		
P916	Calcium	Water	98.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.2800	None		
P932	Sodium, percent total cations	Water	53.0000	%		
P930	Sodium	Water	180.0000	mg/l		
P929	Sodium	Water	190.0000	mg/l		
P410	Alkalinity	Water	145.0000	mg/l		
P941	Chloride	Water	247.0000	mg/l		
P946	Sulfate	Water	263.0000	mg/l		
P70300	Total dissolved solids	Water	902.0000	mg/l		
P70303	Total dissolved solids	Water	1.2300	tons/ac ft		
P530	Fixed suspended solids	Water	22.0000	mg/l		
P530	Total suspended solids	Water	25.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0060	mg/l as N		
P610	Ammonia and ammonium	Water	0.3610	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2800	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/16/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0040	mg/l as N		
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.2000	mg/l as N		
P666	Phosphorus	Water	0.7300	mg/l as P		
P665	Phosphorus	Water	0.7600	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	890.0000	cfu/100ml		
P1106	Aluminum	Water	189.0000	ug/l		
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	112.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	100.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P82078	Turbidity	Water	6.8000	NTU		
P405	Carbon dioxide	Water	3.1000	mg/l		
P299	Oxygen	Water	10.1000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	2110.0000	uS/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	18.6000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	380.0000	mg/l		
P900	Hardness, non-carbonate	Water	225.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/16/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	8.0000	mg/l		
P937	Potassium	Water	8.2000	mg/l		
P931	Sodium adsorption ratio	Water	6.8900	None		
P932	Sodium, percent total cations	Water	63.0000	%		
P930	Sodium	Water	311.0000	mg/l		
P929	Sodium	Water	310.0000	mg/l		
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	790.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	3.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	0.5000	ug/l	LT	1.
P410	Alkalinity	Water	162.0000	mg/l		
P941	Chloride	Water	365.0000	mg/l		
P946	Sulfate	Water	374.0000	mg/l		
P70300	Total dissolved solids	Water	1290.0000	mg/l		
P70303	Total dissolved solids	Water	1.7600	tons/ac ft		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/17/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	18.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	100.0000	mg/l		
P900	Hardness, non-carbonate	Water	79.0000	mg/l		
P915	Calcium	Water	12.0000	mg/l		
P916	Calcium	Water	26.0000	mg/l		
P925	Magnesium	Water	2.9000	mg/l		
P927	Magnesium	Water	8.8000	mg/l		
P935	Potassium	Water	4.9000	mg/l		
P937	Potassium	Water	8.9000	mg/l		
P931	Sodium adsorption ratio	Water	0.2600	None		
P932	Sodium, percent total cations	Water	15.0000	%		
P930	Sodium	Water	3.9000	mg/l		
P929	Sodium	Water	5.3000	mg/l		
P410	Alkalinity	Water	22.0000	mg/l		
P941	Chloride	Water	13.9000	mg/l		
P946	Sulfate	Water	13.0000	mg/l		
P70300	Total dissolved solids	Water	65.0000	mg/l		
P70303	Total dissolved solids	Water	0.1300	tons/ac ft		
P70300	Total dissolved solids	Water	93.0000	mg/l		
P530	Fixed suspended solids	Water	300.0000	mg/l		
P530	Total suspended solids	Water	336.0000	mg/l		
P549	Volatile Suspended Solids	Water	36.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.3480	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.9000	mg/l as N		
P666	Phosphorus	Water	0.2900	mg/l as P		
P665	Phosphorus	Water	1.0500	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P31616	Fecal coliforms	Water	37000.0000	cfu/100ml		
P405	Carbon dioxide	Water	5.4000	mg/l		
P299	Oxygen	Water	7.1000	mg/l		
P400	pH	Water	6.9000	std units		
P1051	Lead	Water	50.0000	ug/l	LT	100
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	920.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	40.0000	ug/l		
P1083	Strontium	Water	80.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/17/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P985	Vanadium	Water	30.0000	ug/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1105	Aluminum	Water	15000.0000	ug/l		
P1005	Barium	Water	24.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	5.0000	ug/l	LT	10
P1020	Boron	Water	20.0000	ug/l		
P999	Boron	Water	30.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	23.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	20.0000	ug/l		
P1040	Copper	Water	10.0000	ug/l		
P1042	Copper	Water	20.0000	ug/l		
P1046	Iron	Water	300.0000	ug/l		
P1045	Iron	Water	19000.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1106	Aluminum	Water	330.0000	ug/l		
P82078	Turbidity	Water	53.0000	NTU		
P94	Specific conductance	Water	160.0000	uS/cm		
P20	Temperature, air	Water	18.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/19/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P410	Alkalinity	Water	173.0000	mg/l		
P941	Chloride	Water	165.0000	mg/l		
P946	Sulfate	Water	150.0000	mg/l		
P70300	Total dissolved solids	Water	630.0000	mg/l		
P70303	Total dissolved solids	Water	0.8600	tons/ac ft		
P530	Fixed suspended solids	Water	18.0000	mg/l		
P530	Total suspended solids	Water	22.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.1030	mg/l NH4		
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	470.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	50.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	290.0000	ug/l		
P1083	Strontium	Water	300.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1020	Boron	Water	90.0000	ug/l		
P999	Boron	Water	90.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P610	Ammonia and ammonium	Water	0.0800	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.5000	mg/l as N		
P666	Phosphorus	Water	0.7200	mg/l as P		
P665	Phosphorus	Water	0.7700	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	864.0000	cfu/100ml		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/19/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	75.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P82078	Turbidity	Water	5.9000	NTU		
P405	Carbon dioxide	Water	5.3000	mg/l		
P299	Oxygen	Water	8.0000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1180.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	14.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	280.0000	mg/l		
P900	Hardness, non-carbonate	Water	110.0000	mg/l		
P915	Calcium	Water	75.0000	mg/l		
P916	Calcium	Water	77.0000	mg/l		
P925	Magnesium	Water	21.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	4.8000	mg/l		
P937	Potassium	Water	5.0000	mg/l		
P931	Sodium adsorption ratio	Water	2.8900	None		
P932	Sodium, percent total cations	Water	46.0000	%		
P930	Sodium	Water	110.0000	mg/l		
P929	Sodium	Water	110.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/20/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	296.0000	mg/l		
P946	Sulfate	Water	354.0000	mg/l		
P70300	Total dissolved solids	Water	1080.0000	mg/l		
P70303	Total dissolved solids	Water	1.5100	tons/ac ft		
P70300	Total dissolved solids	Water	1110.0000	mg/l		
P530	Fixed suspended solids	Water	13.0000	mg/l		
P530	Total suspended solids	Water	18.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0070	mg/l as N		
P610	Ammonia and ammonium	Water	0.2450	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.8000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	27.0000	mg/l		
P31616	Fecal coliforms	Water	2500.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P1005	Barium	Water	88.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	140.0000	ug/l		
P999	Boron	Water	150.0000	ug/l		
P410	Alkalinity	Water	139.0000	mg/l		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	285.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	28.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P935	Potassium	Water	8.4000	mg/l		
P937	Potassium	Water	9.5000	mg/l		
P931	Sodium adsorption ratio	Water	4.4100	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	200.0000	mg/l		
P929	Sodium	Water	220.0000	mg/l		
P82078	Turbidity	Water	3.7000	NTU		
P405	Carbon dioxide	Water	3.4000	mg/l		
P299	Oxygen	Water	8.7000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1850.0000	uS/cm		
P20	Temperature, air	Water	26.5000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/20/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	22.1000	deg C		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	170.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	540.0000	ug/l		
P1083	Strontium	Water	580.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	120.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/26/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	7.1000	NTU		
P405	Carbon dioxide	Water	9.3000	mg/l		
P299	Oxygen	Water	6.7000	mg/l		
P400	pH	Water	7.6000	std units		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	17.0000	mg/l		
P31616	Fecal coliforms	Water	350.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	150.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	7.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	430.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	190.0000	ug/l		
P71900	Mercury	Water	0.2000	ug/l		
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	170.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P94	Specific conductance	Water	1020.0000	uS/cm		
P20	Temperature, air	Water	13.0000	deg C		
P10	Temperature, water	Water	13.5000	deg C		
P900	Hardness, non-carbonate	Water	124.0000	mg/l		
P916	Calcium	Water	85.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P937	Potassium	Water	5.9000	mg/l		
P929	Sodium	Water	99.0000	mg/l		
P410	Alkalinity	Water	191.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	109.0000	mg/l		
P946	Sulfate	Water	153.0000	mg/l		
P530	Fixed suspended solids	Water	32.0000	mg/l		
P530	Total suspended solids	Water	37.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0015	mg/l as N	ND	0.003
P610	Ammonia and ammonium	Water	0.3860	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/26/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	250.0000	ug/l		
P1083	Strontium	Water	280.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P937	Potassium	Water	6.9000	mg/l		
P931	Sodium adsorption ratio	Water	2.7800	None		
P932	Sodium, percent total cations	Water	49.0000	%		
P930	Sodium	Water	90.0000	mg/l		
P929	Sodium	Water	111.0000	mg/l		
P410	Alkalinity	Water	97.0000	mg/l		
P941	Chloride	Water	114.0000	mg/l		
P946	Sulfate	Water	194.0000	mg/l		
P70300	Total dissolved solids	Water	532.0000	mg/l		
P70303	Total dissolved solids	Water	0.7200	tons/ac ft		
P530	Fixed suspended solids	Water	43.0000	mg/l		
P530	Total suspended solids	Water	51.0000	mg/l		
P549	Volatile Suspended Solids	Water	8.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.3090	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.3000	mg/l as N		
P666	Phosphorus	Water	0.6700	mg/l as P		
P665	Phosphorus	Water	0.8000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		
P31616	Fecal coliforms	Water	2100.0000	cfu/100ml		
P1106	Aluminum	Water	55.0000	ug/l		
P1105	Aluminum	Water	1200.0000	ug/l		
P1005	Barium	Water	51.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	100.0000	ug/l		
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium(VI)	Water	25.0000	ug/l	ND	50
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	8.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P20	Temperature, air	Water	28.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/26/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	24.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	240.0000	mg/l		
P900	Hardness, non-carbonate	Water	151.0000	mg/l		
P915	Calcium	Water	55.0000	mg/l		
P916	Calcium	Water	68.0000	mg/l		
P925	Magnesium	Water	15.0000	mg/l		
P927	Magnesium	Water	19.0000	mg/l		
P935	Potassium	Water	5.0000	mg/l		
P82078	Turbidity	Water	11.0000	NTU		
P405	Carbon dioxide	Water	12.0000	mg/l		
P299	Oxygen	Water	5.6000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	987.0000	uS/cm		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1470.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	130.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/26/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	4.3000	NTU		
P405	Carbon dioxide	Water	8.7000	mg/l		
P299	Oxygen	Water	7.3000	mg/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	1360.0000	uS/cm		
P20	Temperature, air	Water	17.0000	deg C		
P10	Temperature, water	Water	15.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	290.0000	mg/l		
P900	Hardness, non-carbonate	Water	181.0000	mg/l		
P915	Calcium	Water	82.0000	mg/l		
P916	Calcium	Water	81.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	6.3000	mg/l		
P937	Potassium	Water	6.3000	mg/l		
P931	Sodium adsorption ratio	Water	3.7200	None		
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	790.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	340.0000	ug/l		
P932	Sodium, percent total cations	Water	51.0000	%		
P930	Sodium	Water	147.0000	mg/l		
P929	Sodium	Water	145.0000	mg/l		
P70303	Total dissolved solids	Water	1.0600	tons/ac ft		
P530	Fixed suspended solids	Water	19.0000	mg/l		
P530	Total suspended solids	Water	22.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.3730	mg/l NH4		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/26/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.2900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.8000	mg/l as N		
P666	Phosphorus	Water	0.8000	mg/l as P		
P665	Phosphorus	Water	0.8500	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	20.0000	mg/l		
P31616	Fecal coliforms	Water	2700.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	800.0000	ug/l		
P1005	Barium	Water	78.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1083	Strontium	Water	330.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P410	Alkalinity	Water	112.0000	mg/l		
P941	Chloride	Water	202.0000	mg/l		
P946	Sulfate	Water	251.0000	mg/l		
P70300	Total dissolved solids	Water	778.0000	mg/l		
P1020	Boron	Water	90.0000	ug/l		
P999	Boron	Water	90.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 05/27/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Total hardness -- SDWA NPDWR	Water	240.0000	mg/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	9.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	100.0000	ug/l		
P1045	Iron	Water	1630.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	90.0000	ug/l		
P900	Hardness, non-carbonate	Water	135.0000	mg/l		
P915	Calcium	Water	64.0000	mg/l		
P916	Calcium	Water	66.0000	mg/l		
P925	Magnesium	Water	19.0000	mg/l		
P927	Magnesium	Water	20.0000	mg/l		
P935	Potassium	Water	5.1000	mg/l		
P937	Potassium	Water	5.3000	mg/l		
P931	Sodium adsorption ratio	Water	1.9500	None		
P932	Sodium, percent total cations	Water	38.0000	%		
P930	Sodium	Water	69.0000	mg/l		
P929	Sodium	Water	71.0000	mg/l		
P410	Alkalinity	Water	113.0000	mg/l		
P941	Chloride	Water	100.0000	mg/l		
P946	Sulfate	Water	120.0000	mg/l		
P70300	Total dissolved solids	Water	446.0000	mg/l		
P70303	Total dissolved solids	Water	0.6100	tons/ac ft		
P530	Fixed suspended solids	Water	185.0000	mg/l		
P530	Total suspended solids	Water	217.0000	mg/l		
P549	Volatile Suspended Solids	Water	32.0000	mg/l		
P610	Ammonia	Water	0.0040	mg/l as N		
P610	Ammonia and ammonium	Water	0.5540	mg/l NH4		
P610	Ammonia and ammonium	Water	0.4300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.0000	mg/l as N		
P666	Phosphorus	Water	0.3900	mg/l as P		
P665	Phosphorus	Water	0.5600	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	5700.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 05/27/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	42.0000	NTU		
P405	Carbon dioxide	Water	11.0000	mg/l		
P299	Oxygen	Water	7.0000	mg/l		
P1055	Manganese	Water	180.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	100.0000	ug/l		
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	280.0000	ug/l		
P1083	Strontium	Water	290.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	120.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	577.0000	uS/cm		
P20	Temperature, air	Water	26.0000	deg C		
P10	Temperature, water	Water	20.0000	deg C		
P1105	Aluminum	Water	1300.0000	ug/l		
P1005	Barium	Water	81.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	90.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/28/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P935	Potassium	Water	4.7000	mg/l		
P937	Potassium	Water	4.9000	mg/l		
P931	Sodium adsorption ratio	Water	1.2000	None		
P932	Sodium, percent total cations	Water	30.0000	%		
P930	Sodium	Water	37.0000	mg/l		
P929	Sodium	Water	37.0000	mg/l		
P410	Alkalinity	Water	123.0000	mg/l		
P946	Sulfate	Water	57.2000	mg/l		
P70300	Total dissolved solids	Water	296.0000	mg/l		
P70303	Total dissolved solids	Water	0.4500	tons/ac ft		
P70300	Total dissolved solids	Water	333.0000	mg/l		
P530	Fixed suspended solids	Water	76.0000	mg/l		
P530	Total suspended solids	Water	88.0000	mg/l		
P549	Volatile Suspended Solids	Water	12.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.1930	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.1000	mg/l as N		
P666	Phosphorus	Water	0.2200	mg/l as P		
P665	Phosphorus	Water	0.3300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	3800.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	2200.0000	ug/l		
P1005	Barium	Water	70.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	50.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	80.0000	ug/l		
P1045	Iron	Water	2600.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l	ND	0.2
P1066	Nickel	Water	12.5000	ug/l	ND	25

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/28/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	180.0000	ug/l		
P1083	Strontium	Water	190.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P941	Chloride	Water	59.9000	mg/l		
P1056	Manganese	Water	20.0000	ug/l		
P82078	Turbidity	Water	36.0000	NTU		
P405	Carbon dioxide	Water	7.6000	mg/l		
P299	Oxygen	Water	7.5000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	551.0000	uS/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	19.6000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	190.0000	mg/l		
P900	Hardness, non-carbonate	Water	64.0000	mg/l		
P915	Calcium	Water	49.0000	mg/l		
P916	Calcium	Water	50.0000	mg/l		
P925	Magnesium	Water	14.0000	mg/l		
P927	Magnesium	Water	15.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/29/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P946	Sulfate	Water	254.0000	mg/l		
P530	Fixed suspended solids	Water	21.0000	mg/l		
P530	Total suspended solids	Water	24.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2190	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.3000	mg/l as N		
P666	Phosphorus	Water	0.5500	mg/l as P		
P665	Phosphorus	Water	0.6400	mg/l as P		
P82078	Turbidity	Water	2.1000	NTU		
P405	Carbon dioxide	Water	17.0000	mg/l		
P299	Oxygen	Water	6.3000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1740.0000	uS/cm		
P20	Temperature, air	Water	18.0000	deg C		
P10	Temperature, water	Water	16.5000	deg C		
P900	Hardness, non-carbonate	Water	259.0000	mg/l		
P916	Calcium	Water	112.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P937	Potassium	Water	7.2000	mg/l		
P929	Sodium	Water	234.0000	mg/l		
P410	Alkalinity	Water	137.0000	mg/l		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	21.0000	mg/l		
P31616	Fecal coliforms	Water	500.0000	cfu/100ml		
P1105	Aluminum	Water	500.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	170.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	7.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	730.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	740.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	0.5000	mg/l	ND	1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/29/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P941	Chloride	Water	302.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 05/30/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	5.0000	ug/l	LT	10
P999	Boron	Water	130.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P82078	Turbidity	Water	2.0000	NTU		
P405	Carbon dioxide	Water	19.0000	mg/l		
P1220	Chromium	Water	6.0000	ug/l		
P1037	Cobalt	Water	10.0000	ug/l		
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	130.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1083	Strontium	Water	500.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P299	Oxygen	Water	6.3000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1430.0000	uS/cm		
P20	Temperature, air	Water	12.0000	deg C		
P10	Temperature, water	Water	14.0000	deg C		
P900	Hardness, non-carbonate	Water	220.0000	mg/l		
P916	Calcium	Water	101.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P937	Potassium	Water	6.0000	mg/l		
P929	Sodium	Water	171.0000	mg/l		
P410	Alkalinity	Water	152.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	216.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.4000	mg/l as N		
P666	Phosphorus	Water	0.2100	mg/l as P		
P665	Phosphorus	Water	0.2400	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	19.0000	mg/l		
P31616	Fecal coliforms	Water	360.0000	cfu/100ml		
P1105	Aluminum	Water	200.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/04/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P930	Sodium	Water	270.0000	mg/l		
P929	Sodium	Water	280.0000	mg/l		
P410	Alkalinity	Water	180.0000	mg/l		
P941	Chloride	Water	375.0000	mg/l		
P1045	Iron	Water	590.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	180.0000	ug/l		
P1055	Manganese	Water	230.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	580.0000	ug/l		
P1083	Strontium	Water	620.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	70.0000	ug/l		
P1092	Zinc	Water	60.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P946	Sulfate	Water	445.0000	mg/l		
P70300	Total dissolved solids	Water	1360.0000	mg/l		
P70303	Total dissolved solids	Water	1.8400	tons/ac ft		
P530	Fixed suspended solids	Water	12.0000	mg/l		
P530	Total suspended solids	Water	16.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.0900	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.8000	mg/l as N		
P666	Phosphorus	Water	2.5000	mg/l as P		
P665	Phosphorus	Water	2.6000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	3100.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	81.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	150.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/04/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	4.6000	NTU		
P405	Carbon dioxide	Water	4.4000	mg/l		
P299	Oxygen	Water	7.7000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	2120.0000	uS/cm		
P20	Temperature, air	Water	30.0000	deg C		
P10	Temperature, water	Water	24.6000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	460.0000	mg/l		
P900	Hardness, non-carbonate	Water	281.0000	mg/l		
P915	Calcium	Water	120.0000	mg/l		
P916	Calcium	Water	130.0000	mg/l		
P925	Magnesium	Water	31.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P935	Potassium	Water	6.4000	mg/l		
P937	Potassium	Water	7.2000	mg/l		
P931	Sodium adsorption ratio	Water	5.6800	None		
P932	Sodium, percent total cations	Water	57.0000	%		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/09/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water	50.0000	ug/l	LT	100
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P405	Carbon dioxide	Water	7.8000	mg/l		
P299	Oxygen	Water	6.6000	mg/l		
P400	pH	Water	7.4000	std units		
P403	pH, lab	Water	7.0000	std units		
P94	Specific conductance	Water	1420.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P10	Temperature, water	Water	26.5000	deg C		
P900	Hardness, non-carbonate	Water	280.0000	mg/l		
P916	Calcium	Water	108.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P937	Potassium	Water	7.7000	mg/l		
P929	Sodium	Water	183.0000	mg/l		
P410	Alkalinity	Water	100.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	168.0000	mg/l		
P946	Sulfate	Water	335.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	20.0000	mg/l		
P549	Volatile Suspended Solids	Water	15.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.5000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	35.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	220.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	10.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	360.0000	ug/l		
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	340.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	2.5000	ug/l	ND	5
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/11/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	2.0000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	670.0000	uS/cm		
P20	Temperature, air	Water	22.0000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Hardness, non-carbonate	Water	92.0000	mg/l		
P916	Calcium	Water	54.0000	mg/l		
P927	Magnesium	Water	14.0000	mg/l		
P937	Potassium	Water	4.2000	mg/l		
P929	Sodium	Water	51.0000	mg/l		
P410	Alkalinity	Water	101.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	76.0000	mg/l		
P946	Sulfate	Water	98.0000	mg/l		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	22.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	100.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	1800.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1130	Lithium	Water	40.0000	ug/l		
P1055	Manganese	Water	210.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	180.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		
P1092	Zinc	Water	10.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P530	Fixed suspended solids	Water	21.0000	mg/l		
P530	Total suspended solids	Water	24.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.1000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/12/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P82078	Turbidity	Water	1.8000	NTU		
P405	Carbon dioxide	Water	28.0000	mg/l		
P299	Oxygen	Water	4.9000	mg/l		
P400	pH	Water	7.1000	std units		
P94	Specific conductance	Water	1810.0000	uS/cm		
P20	Temperature, air	Water	26.0000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Hardness, non-carbonate	Water	290.0000	mg/l		
P916	Calcium	Water	126.0000	mg/l		
P927	Magnesium	Water	37.0000	mg/l		
P937	Potassium	Water	8.8000	mg/l		
P929	Sodium	Water	240.0000	mg/l		
P410	Alkalinity	Water	178.0000	mg/l		
P666	Phosphorus	Water	1.3000	mg/l as P		
P665	Phosphorus	Water	1.4000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	17.0000	mg/l		
P31616	Fecal coliforms	Water	1400.0000	cfu/100ml		
P1105	Aluminum	Water	400.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	230.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	440.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	180.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	610.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	296.0000	mg/l		
P946	Sulfate	Water	281.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/12/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	13.0000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/20/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.9000	mg/l as N		
P666	Phosphorus	Water	0.8100	mg/l as P		
P665	Phosphorus	Water	0.9300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	80.0000	cfu/100ml		
P1106	Aluminum	Water	1620.0000	ug/l		
P1105	Aluminum	Water	2000.0000	ug/l		
P1005	Barium	Water	172.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P10	Temperature, water	Water	22.9000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	480.0000	mg/l		
P900	Hardness, non-carbonate	Water	352.0000	mg/l		
P915	Calcium	Water	135.0000	mg/l		
P916	Calcium	Water	138.0000	mg/l		
P925	Magnesium	Water	33.0000	mg/l		
P927	Magnesium	Water	34.0000	mg/l		
P935	Potassium	Water	8.7000	mg/l		
P937	Potassium	Water	9.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.3800	None		
P932	Sodium, percent total cations	Water	59.0000	%		
P930	Sodium	Water	319.0000	mg/l		
P929	Sodium	Water	326.0000	mg/l		
P410	Alkalinity	Water	134.0000	mg/l		
P941	Chloride	Water	439.0000	mg/l		
P946	Sulfate	Water	368.0000	mg/l		
P70300	Total dissolved solids	Water	1390.0000	mg/l		
P70303	Total dissolved solids	Water	1.8900	tons/ac ft		
P530	Fixed suspended solids	Water	27.0000	mg/l		
P530	Total suspended solids	Water	30.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P82078	Turbidity	Water	0.9000	NTU		
P405	Carbon dioxide	Water	6.6000	mg/l		
P299	Oxygen	Water	7.1000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	1990.0000	uS/cm		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/20/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P20	Temperature, air	Water	31.0000	deg C		
P1010	Beryllium	Water	5.0000	ug/l	LT	10
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	210.0000	ug/l		
P999	Boron	Water	210.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	10.0000	ug/l		
P1042	Copper	Water	10.0000	ug/l		
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	890.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	160.0000	ug/l		
P1055	Manganese	Water	190.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	960.0000	ug/l		
P1083	Strontium	Water	990.0000	ug/l		
P1085	Vanadium	Water	7.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/21/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.1000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	23000.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	200.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	17.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	1020.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	300.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	9.9000	NTU		
P405	Carbon dioxide	Water	21.0000	mg/l		
P299	Oxygen	Water	6.6000	mg/l		
P400	pH	Water	7.1000	std units		
P1092	Zinc	Water	210.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P94	Specific conductance	Water	1140.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Hardness, non-carbonate	Water	189.0000	mg/l		
P916	Calcium	Water	88.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P937	Potassium	Water	8.2000	mg/l		
P929	Sodium	Water	123.0000	mg/l		
P410	Alkalinity	Water	134.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	122.0000	mg/l		
P946	Sulfate	Water	240.0000	mg/l		
P530	Fixed suspended solids	Water	19.0000	mg/l		
P530	Total suspended solids	Water	28.0000	mg/l		
P549	Volatile Suspended Solids	Water	9.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/24/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1085	Vanadium	Water	6.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P82078	Turbidity	Water	24.0000	NTU		
P405	Carbon dioxide	Water	17.0000	mg/l		
P299	Oxygen	Water	5.5000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1910.0000	uS/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	22.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	500.0000	mg/l		
P900	Hardness, non-carbonate	Water	361.0000	mg/l		
P915	Calcium	Water	118.0000	mg/l		
P549	Volatile Suspended Solids	Water	14.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.2190	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.6000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P916	Calcium	Water	138.0000	mg/l		
P925	Magnesium	Water	31.0000	mg/l		
P927	Magnesium	Water	37.0000	mg/l		
P935	Potassium	Water	7.5000	mg/l		
P937	Potassium	Water	8.7000	mg/l		
P931	Sodium adsorption ratio	Water	4.5700	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	216.0000	mg/l		
P929	Sodium	Water	239.0000	mg/l		
P410	Alkalinity	Water	137.0000	mg/l		
P941	Chloride	Water	281.0000	mg/l		
P946	Sulfate	Water	401.0000	mg/l		
P745	Sulfide	Water	0.0100	mg/l	ND	0.02
P70300	Total dissolved solids	Water	1140.0000	mg/l		
P70303	Total dissolved solids	Water	0.2400	tons/ac ft		
P70300	Total dissolved solids	Water	178.0000	mg/l		
P530	Fixed suspended solids	Water	61.0000	mg/l		
P530	Total suspended solids	Water	75.0000	mg/l		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	3200.0000	cfu/100ml		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/24/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	1200.0000	ug/l		
P1002	Arsenic	Water	20.0000	ug/l		
P1005	Barium	Water	99.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	5.0000	ug/l	LT	10
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P1020	Boron	Water	240.0000	ug/l		
P999	Boron	Water	270.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	13.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	5.0000	ug/l	LT	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P720	Cyanide	Water	0.0025	mg/l	ND	0.005
P1046	Iron	Water	90.0000	ug/l		
P1045	Iron	Water	1640.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	200.0000	ug/l		
P1055	Manganese	Water	270.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	6.0000	ug/l		
P1080	Strontium	Water	700.0000	ug/l		
P1083	Strontium	Water	800.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/25/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1045	Iron	Water	1750.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P20	Temperature, air	Water	22.0000	deg C		
P10	Temperature, water	Water	20.0000	deg C		
P900	Hardness, non-carbonate	Water	238.0000	mg/l		
P916	Calcium	Water	104.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P937	Potassium	Water	6.5000	mg/l		
P929	Sodium	Water	158.0000	mg/l		
P410	Alkalinity	Water	138.0000	mg/l		
P941	Chloride	Water	163.0000	mg/l		
P946	Sulfate	Water	267.0000	mg/l		
P530	Fixed suspended solids	Water	51.0000	mg/l		
P530	Total suspended solids	Water	58.0000	mg/l		
P549	Volatile Suspended Solids	Water	7.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.9000	mg/l as N		
P666	Phosphorus	Water	0.6000	mg/l as P		
P665	Phosphorus	Water	0.7200	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	23.0000	mg/l		
P31616	Fecal coliforms	Water	3100.0000	cfu/100ml		
P1105	Aluminum	Water	1700.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	170.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	25.0000	ug/l		
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	430.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P82078	Turbidity	Water	8.7000	NTU		
P405	Carbon dioxide	Water	13.0000	mg/l		
P299	Oxygen	Water	6.4000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1350.0000	uS/cm		
P1037	Cobalt	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/25/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1042	Copper	Water	5.0000	ug/l	LT	10
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/26/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	9.3000	NTU		
P405	Carbon dioxide	Water	8.7000	mg/l		
P299	Oxygen	Water	8.0000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	1150.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P10	Temperature, water	Water	19.6000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	310.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	70.0000	ug/l		
P900	Hardness, non-carbonate	Water	172.0000	mg/l		
P915	Calcium	Water	89.0000	mg/l		
P916	Calcium	Water	89.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	3.5000	mg/l		
P937	Potassium	Water	4.3000	mg/l		
P931	Sodium adsorption ratio	Water	2.6100	None		
P932	Sodium, percent total cations	Water	42.0000	%		
P930	Sodium	Water	106.0000	mg/l		
P929	Sodium	Water	106.0000	mg/l		
P410	Alkalinity	Water	141.0000	mg/l		
P941	Chloride	Water	149.0000	mg/l		
P946	Sulfate	Water	173.0000	mg/l		
P70300	Total dissolved solids	Water	628.0000	mg/l		
P70303	Total dissolved solids	Water	0.8500	tons/ac ft		
P530	Fixed suspended solids	Water	45.0000	mg/l		
P530	Total suspended solids	Water	49.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.0000	mg/l as N		
P666	Phosphorus	Water	0.4300	mg/l as P		
P665	Phosphorus	Water	0.5000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	23.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/26/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P31616	Fecal coliforms	Water	830.0000	cfu/100ml		
P1106	Aluminum	Water	105.0000	ug/l		
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	97.0000	ug/l		
P999	Boron	Water	70.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	450.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	90.0000	ug/l		
P1055	Manganese	Water	110.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	320.0000	ug/l		
P1083	Strontium	Water	320.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/26/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	10.0000	ug/l		
P1046	Iron	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	6.9000	NTU		
P405	Carbon dioxide	Water	3.0000	mg/l		
P299	Oxygen	Water	6.3000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	1540.0000	uS/cm		
P1045	Iron	Water	1300.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	110.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	460.0000	ug/l		
P1083	Strontium	Water	460.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P20	Temperature, air	Water	28.0000	deg C		
P10	Temperature, water	Water	24.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P900	Hardness, non-carbonate	Water	203.0000	mg/l		
P915	Calcium	Water	98.0000	mg/l		
P916	Calcium	Water	99.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	18.0000	mg/l		
P937	Potassium	Water	18.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.1500	None		
P932	Sodium, percent total cations	Water	51.0000	%		
P930	Sodium	Water	180.0000	mg/l		
P929	Sodium	Water	180.0000	mg/l		
P410	Alkalinity	Water	156.0000	mg/l		
P941	Chloride	Water	242.0000	mg/l		
P946	Sulfate	Water	42.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/26/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70300	Total dissolved solids	Water	701.0000	mg/l		
P70303	Total dissolved solids	Water	1.2500	tons/ac ft		
P70300	Total dissolved solids	Water	920.0000	mg/l		
P530	Fixed suspended solids	Water	48.0000	mg/l		
P530	Total suspended solids	Water	54.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.4000	mg/l as N		
P666	Phosphorus	Water	0.8500	mg/l as P		
P665	Phosphorus	Water	0.9200	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	4700.0000	cfu/100ml		
P1106	Aluminum	Water	130.0000	ug/l		
P1105	Aluminum	Water	1500.0000	ug/l		
P1005	Barium	Water	120.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	5.0000	ug/l	LT	10
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	5.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/28/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P666	Phosphorus	Water	5.5000	mg/l as P		
P665	Phosphorus	Water	5.6000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	34.0000	mg/l		
P31616	Fecal coliforms	Water	2500.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	600.0000	ug/l		
P1005	Barium	Water	98.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	170.0000	ug/l		
P999	Boron	Water	170.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	730.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P82078	Turbidity	Water	9.2000	NTU		
P405	Carbon dioxide	Water	5.8000	mg/l		
P299	Oxygen	Water	8.1000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	2510.0000	uS/cm		
P1080	Strontium	Water	610.0000	ug/l		
P1083	Strontium	Water	620.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/28/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P20	Temperature, air	Water	29.0000	deg C		
P10	Temperature, water	Water	23.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	510.0000	mg/l		
P900	Hardness, non-carbonate	Water	395.0000	mg/l		
P915	Calcium	Water	143.0000	mg/l		
P916	Calcium	Water	146.0000	mg/l		
P925	Magnesium	Water	35.0000	mg/l		
P927	Magnesium	Water	36.0000	mg/l		
P935	Potassium	Water	11.0000	mg/l		
P937	Potassium	Water	11.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.4900	None		
P932	Sodium, percent total cations	Water	59.0000	%		
P930	Sodium	Water	334.0000	mg/l		
P929	Sodium	Water	336.0000	mg/l		
P410	Alkalinity	Water	119.0000	mg/l		
P941	Chloride	Water	360.0000	mg/l		
P946	Sulfate	Water	684.0000	mg/l		
P70300	Total dissolved solids	Water	1640.0000	mg/l		
P70303	Total dissolved solids	Water	2.2300	tons/ac ft		
P530	Fixed suspended solids	Water	50.0000	mg/l		
P530	Total suspended solids	Water	57.0000	mg/l		
P549	Volatile Suspended Solids	Water	7.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	21.0000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.3340	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1750	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	97.1000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	25.8000	mg/L		
P1055	Manganese	Water	0.0540	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	10.6000	mg/L		
P1147	Selenium	Water	0.0340	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	164.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0050	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.1000	ug/L	LT	<10.2
P34571	1,4-Dichlorobenzene	Water	5.1000	ug/L	LT	<10.2
	1-Methylnaphthalene	Water	5.1000	ug/L	LT	<10.2
	2 Chloro 5 Methylphenol	Water	5.1000	ug/L	LT	<10.2
	2,3 Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,3,4,6-Tetrachlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,4 & 2,5-Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
	2,4,5-Trichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34621	2,4,6-Trichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34606	2,4-Dimethylphenol	Water	5.1000	ug/L	LT	<10.2
P34616	2,4-Dinitrophenol	Water	5.1000	ug/L	LT	<10.2
P34611	2,4-Dinitrotoluene	Water	5.1000	ug/L	LT	<10.2
	2,6-Dichlorophenol	Water	5.1000	ug/L	LT	<10.2
P34626	2,6-Dinitrotoluene	Water	5.1000	ug/L	LT	<10.2
P34581	2-Chloronaphthalene	Water	5.1000	ug/L	LT	<10.2
P34586	2-Chlorophenol	Water	5.1000	ug/L	LT	<10.2
	2-Methylnaphthalene	Water	5.1000	ug/L	LT	<10.2
	2-Methylphenol	Water	5.1000	ug/L	LT	<10.2
P34591	2-Nitrophenol	Water	5.1000	ug/L	LT	<10.2
	3 & 4-Chlorophenol	Water	10.2000	ug/L	LT	<20.4
	3 & 4-Methylphenol	Water	10.2000	ug/L	LT	<20.4
	4,6-Dinitro-2-methylphenol	Water	5.1000	ug/L	LT	<10.2
P34636	4-Bromophenyl phenyl ether	Water	5.1000	ug/L	LT	<10.2
P34452	4-Chloro-3-methylphenol	Water	5.1000	ug/L	LT	<10.2
P34641	4-Chlorophenyl phenyl ether	Water	5.1000	ug/L	LT	<10.2
P3760	4-Nitrophenol	Water	5.1000	ug/L	LT	<10.2
P34205	Acenaphthene	Water	5.1000	ug/L	LT	<10.2
P34200	Acenaphthylene	Water	5.1000	ug/L	LT	<10.2
PTEMP38	Aniline	Water	5.1000	ug/L	LT	<10.2
P34220	Anthracene	Water	5.1000	ug/L	LT	<10.2
	Azobenzene	Water	5.1000	ug/L	LT	<10.2
P34526	Benzo(a)anthracene	Water	5.1000	ug/L	LT	<10.2
P34247	Benzo(a)pyrene	Water	5.1000	ug/L	LT	<10.2
	Benzo(b&k)fluoranthene	Water	10.2000	ug/L	LT	<20.4
P34230	Benzo(b)fluoranthene	Water	5.1000	ug/L	LT	<10.2
P34521	Benzo(g,h,i)perylene	Water	5.1000	ug/L	LT	<10.2
P34242	Benzo(k)fluoranthene	Water	5.1000	ug/L	LT	<10.2
	Benzyl alcohol	Water	5.1000	ug/L	LT	<10.2
	Benzyl butyl phthalate	Water	5.1000	ug/L	LT	<10.2
	Biphenyl	Water	5.1000	ug/L	LT	<10.2
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.1000	ug/L	LT	<10.2
	Bis(2-chloroethyl) ether	Water	5.1000	ug/L	LT	<10.2
	Bis(2-chloroisopropyl) ether	Water	5.1000	ug/L	LT	<10.2

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.1000	ug/L	LT	<10.2
P34320	Chrysene	Water	5.1000	ug/L	LT	<10.2
P34556	Dibenz(a,h)anthracene	Water	5.1000	ug/L	LT	<10.2
	Dibenzofuran	Water	5.1000	ug/L	LT	<10.2
P34336	Diethyl phthalate	Water	5.1000	ug/L	LT	<10.2
P34341	Dimethyl phthalate	Water	5.1000	ug/L	LT	<10.2
P39110	Di-n-butyl phthalate	Water	5.1000	ug/L	LT	<10.2
P34596	Di-n-octyl phthalate	Water	5.1000	ug/L	LT	<10.2
P34376	Fluoranthene	Water	5.1000	ug/L	LT	<10.2
P34381	Fluorene	Water	5.1000	ug/L	LT	<10.2
P39700	Hexachlorobenzene	Water	5.1000	ug/L	LT	<10.2
P34391	Hexachlorobutadiene	Water	5.1000	ug/L	LT	<10.2
P34386	Hexachlorocyclopentadiene	Water	5.1000	ug/L	LT	<10.2
P34396	Hexachloroethane	Water	5.1000	ug/L	LT	<10.2
P34403	Indeno(1,2,3-cd)pyrene	Water	5.1000	ug/L	LT	<10.2
P34408	Isophorone	Water	5.1000	ug/L	LT	<10.2
P34696	Naphthalene	Water	5.1000	ug/L	LT	<10.2
P34447	Nitrobenzene	Water	5.1000	ug/L	LT	<10.2
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.1000	ug/L	LT	<10.2
P39032	Pentachlorophenol	Water	5.1000	ug/L	LT	<10.2
P34461	Phenanthrene	Water	5.1000	ug/L	LT	<10.2
P34694	Phenol	Water	5.1000	ug/L	LT	<10.2
P34469	Pyrene	Water	5.1000	ug/L	LT	<10.2
PTEMP121	Pyridine	Water	5.1000	ug/L	LT	<10.2
P410	Total Alkalinity	Water	135.0000	mg/L		
P610	Ammonia	Water	0.2000	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7100	mg/L		
P940	Chloride	Water	166.0000	mg/L		
P615	Nitrite	Water	0.3200	mg/L		
P630	Nitrate	Water	12.1000	mg/L		
P945	Sulfate	Water	327.0000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	29.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3800	mg/L		
P94	Specific Conductivity	Water	1309.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	976.0000	mg/L		
P530	TSS	Water	16.0000	mg/L		
P625	TKN	Water	2.6600	mg/L		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P877098W	TETRACHLORO-M-XYLENE	Water	66.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.3000	mg/l		
P1082	STRONTIUM	Water	0.6130	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	77.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/30/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P999	Boron	Water	100.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	6.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	2950.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	220.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	260.0000	ug/l		
P82078	Turbidity	Water	57.0000	NTU		
P405	Carbon dioxide	Water	12.0000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	828.0000	uS/cm		
P20	Temperature, air	Water	24.0000	deg C		
P10	Temperature, water	Water	21.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	230.0000	mg/l		
P900	Hardness, non-carbonate	Water	140.0000	mg/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	100.0000	ug/l	ND	200
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P916	Calcium	Water	64.0000	mg/l		
P927	Magnesium	Water	18.0000	mg/l		
P937	Potassium	Water	6.6000	mg/l		
P929	Sodium	Water	86.0000	mg/l		
P410	Alkalinity	Water	97.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	97.0000	mg/l		
P946	Sulfate	Water	135.0000	mg/l		
P530	Fixed suspended solids	Water	99.0000	mg/l		
P530	Total suspended solids	Water	125.0000	mg/l		
P549	Volatile Suspended Solids	Water	26.0000	mg/l		
P610	Ammonia and ammonium	Water	0.2960	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.8000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	35.0000	mg/l		
P31616	Fecal coliforms	Water	35000.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/30/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1083	Strontium	Water	480.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	6.1000	NTU		
P405	Carbon dioxide	Water	4.5000	mg/l		
P299	Oxygen	Water	6.3000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	2000.0000	uS/cm		
P10	Temperature, water	Water	20.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	282.0000	mg/l		
P915	Calcium	Water	120.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	31.0000	mg/l		
P927	Magnesium	Water	31.0000	mg/l		
P935	Potassium	Water	6.6000	mg/l		
P937	Potassium	Water	6.9000	mg/l		
P931	Sodium adsorption ratio	Water	5.2600	None		
P932	Sodium, percent total cations	Water	56.0000	%		
P930	Sodium	Water	250.0000	mg/l		
P929	Sodium	Water	250.0000	mg/l		
P410	Alkalinity	Water	146.0000	mg/l		
P941	Chloride	Water	267.0000	mg/l		
P946	Sulfate	Water	540.0000	mg/l		
P70300	Total dissolved solids	Water	1300.0000	mg/l		
P70303	Total dissolved solids	Water	1.6500	tons/ac ft		
P70300	Total dissolved solids	Water	1210.0000	mg/l		
P530	Fixed suspended solids	Water	22.0000	mg/l		
P530	Total suspended solids	Water	28.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.0640	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	12.7000	mg/l as N		
P666	Phosphorus	Water	1.9000	mg/l as P		
P665	Phosphorus	Water	2.0000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	4800.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	92.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 06/30/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	130.0000	ug/l		
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	5.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	490.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	50.0000	ug/l	LT	100
P1056	Manganese	Water	140.0000	ug/l		
P1055	Manganese	Water	160.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	480.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/01/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Total suspended solids	Water	25.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0040	mg/l as N		
P610	Ammonia and ammonium	Water	0.2060	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.9000	mg/l as N		
P666	Phosphorus	Water	1.4000	mg/l as P		
P665	Phosphorus	Water	1.5000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	22.0000	mg/l		
P31616	Fecal coliforms	Water	2800.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	81.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P82078	Turbidity	Water	3.3000	NTU		
P405	Carbon dioxide	Water	6.0000	mg/l		
P299	Oxygen	Water	5.8000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	1390.0000	uS/cm		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	440.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/01/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	450.0000	ug/l		
P1083	Strontium	Water	470.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P20	Temperature, air	Water	25.0000	deg C		
P10	Temperature, water	Water	23.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P900	Hardness, non-carbonate	Water	202.0000	mg/l		
P915	Calcium	Water	96.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	7.4000	mg/l		
P937	Potassium	Water	7.3000	mg/l		
P931	Sodium adsorption ratio	Water	3.5300	None		
P932	Sodium, percent total cations	Water	48.0000	%		
P930	Sodium	Water	150.0000	mg/l		
P929	Sodium	Water	160.0000	mg/l		
P410	Alkalinity	Water	155.0000	mg/l		
P941	Chloride	Water	189.0000	mg/l		
P946	Sulfate	Water	216.0000	mg/l		
P70300	Total dissolved solids	Water	777.0000	mg/l		
P70303	Total dissolved solids	Water	0.6900	tons/ac ft		
P70300	Total dissolved solids	Water	505.0000	mg/l		
P530	Fixed suspended solids	Water	19.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/02/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1200.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	100.0000	ug/l		
P1055	Manganese	Water	150.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P405	Carbon dioxide	Water	7.3000	mg/l		
P299	Oxygen	Water	5.7000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	1820.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	22.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	243.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	30.0000	mg/l		
P927	Magnesium	Water	32.0000	mg/l		
P935	Potassium	Water	9.1000	mg/l		
P937	Potassium	Water	9.5000	mg/l		
P931	Sodium adsorption ratio	Water	4.5800	None		
P932	Sodium, percent total cations	Water	53.0000	%		
P930	Sodium	Water	210.0000	mg/l		
P929	Sodium	Water	210.0000	mg/l		
P410	Alkalinity	Water	189.0000	mg/l		
P941	Chloride	Water	242.0000	mg/l		
P946	Sulfate	Water	305.0000	mg/l		
P70300	Total dissolved solids	Water	1020.0000	mg/l		
P70303	Total dissolved solids	Water	1.4700	tons/ac ft		
P70300	Total dissolved solids	Water	1080.0000	mg/l		
P530	Fixed suspended solids	Water	54.0000	mg/l		
P530	Total suspended solids	Water	64.0000	mg/l		
P549	Volatile Suspended Solids	Water	10.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/02/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.3000	mg/l as N		
P666	Phosphorus	Water	0.7200	mg/l as P		
P665	Phosphorus	Water	0.7700	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	1990.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	1000.0000	ug/l		
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	630.0000	ug/l		
P1083	Strontium	Water	660.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P82078	Turbidity	Water	26.0000	NTU		
P1005	Barium	Water	170.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	170.0000	ug/l		
P999	Boron	Water	180.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/06/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	0.2000	NTU		
P405	Carbon dioxide	Water	6.4000	mg/l		
P299	Oxygen	Water	8.3000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	1890.0000	uS/cm		
P20	Temperature, air	Water	25.5000	deg C		
P10	Temperature, water	Water	24.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	259.0000	mg/l		
P915	Calcium	Water	120.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	29.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P935	Potassium	Water	6.2000	mg/l		
P937	Potassium	Water	6.5000	mg/l		
P931	Sodium adsorption ratio	Water	4.2500	None		
P932	Sodium, percent total cations	Water	50.0000	%		
P930	Sodium	Water	200.0000	mg/l		
P929	Sodium	Water	210.0000	mg/l		
P1080	Strontium	Water	640.0000	ug/l		
P1083	Strontium	Water	650.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P410	Alkalinity	Water	165.0000	mg/l		
P941	Chloride	Water	321.0000	mg/l		
P946	Sulfate	Water	259.0000	mg/l		
P70300	Total dissolved solids	Water	1030.0000	mg/l		
P70303	Total dissolved solids	Water	1.6200	tons/ac ft		
P70300	Total dissolved solids	Water	1190.0000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P530	Total suspended solids	Water	9.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0090	mg/l as N		
P610	Ammonia and ammonium	Water	0.4120	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.2000	mg/l as N		
P666	Phosphorus	Water	1.7000	mg/l as P		
P665	Phosphorus	Water	1.8000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	1020.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/06/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1005	Barium	Water	76.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	170.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	80.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/07/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P549	Volatile Suspended Solids	Water	20.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.3000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P405	Carbon dioxide	Water	5.9000	mg/l		
P299	Oxygen	Water	5.0000	mg/l		
P400	pH	Water	7.3000	std units		
P403	pH, lab	Water	7.7000	std units		
P94	Specific conductance	Water	1700.0000	uS/cm		
P20	Temperature, air	Water	23.5000	deg C		
P10	Temperature, water	Water	23.5000	deg C		
P900	Hardness, non-carbonate	Water	350.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P31616	Fecal coliforms	Water	3600.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	230.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	109.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	650.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	420.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	20.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	6.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P916	Calcium	Water	118.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P937	Potassium	Water	8.5000	mg/l		
P929	Sodium	Water	220.0000	mg/l		
P410	Alkalinity	Water	60.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	235.0000	mg/l		
P946	Sulfate	Water	415.0000	mg/l		
P70303	Total dissolved solids	Water	1.5300	tons/ac ft		
P70300	Total dissolved solids	Water	1120.0000	mg/l		
P530	Fixed suspended solids	Water	30.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/07/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Total suspended solids	Water	50.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/08/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1045	Iron	Water	570.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	200.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	240.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	10.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	540.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	10.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P405	Carbon dioxide	Water	2.1000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	690.0000	uS/cm		
P20	Temperature, air	Water	33.5000	deg C		
P10	Temperature, water	Water	29.0000	deg C		
P900	Hardness, non-carbonate	Water	200.0000	mg/l		
P916	Calcium	Water	93.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P937	Potassium	Water	7.0000	mg/l		
P929	Sodium	Water	220.0000	mg/l		
P410	Alkalinity	Water	134.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	304.0000	mg/l		
P946	Sulfate	Water	245.0000	mg/l		
P530	Fixed suspended solids	Water	23.0000	mg/l		
P530	Total suspended solids	Water	29.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia and ammonium	Water	0.3860	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.9000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	44.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/13/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1005	Barium	Water	51.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	50.0000	ug/l		
P999	Boron	Water	60.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	15.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P82078	Turbidity	Water	8.0000	NTU		
P405	Carbon dioxide	Water	16.0000	mg/l		
P299	Oxygen	Water	6.1000	mg/l		
P932	Sodium, percent total cations	Water	38.0000	%		
P930	Sodium	Water	39.0000	mg/l		
P929	Sodium	Water	42.0000	mg/l		
P410	Alkalinity	Water	64.0000	mg/l		
P941	Chloride	Water	66.0000	mg/l		
P946	Sulfate	Water	57.0000	mg/l		
P70300	Total dissolved solids	Water	252.0000	mg/l		
P70303	Total dissolved solids	Water	0.3400	tons/ac ft		
P530	Fixed suspended solids	Water	150.0000	mg/l		
P530	Total suspended solids	Water	168.0000	mg/l		
P549	Volatile Suspended Solids	Water	18.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.8000	mg/l as N		
P400	pH	Water	6.9000	std units		
P94	Specific conductance	Water	490.0000	uS/cm		
P20	Temperature, air	Water	24.0000	deg C		
P10	Temperature, water	Water	24.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	150.0000	mg/l		
P900	Hardness, non-carbonate	Water	86.0000	mg/l		
P915	Calcium	Water	36.0000	mg/l		
P916	Calcium	Water	40.0000	mg/l		
P925	Magnesium	Water	9.8000	mg/l		
P927	Magnesium	Water	12.0000	mg/l		
P935	Potassium	Water	5.2000	mg/l		
P937	Potassium	Water	6.3000	mg/l		
P931	Sodium adsorption ratio	Water	1.4900	None		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/13/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	5800.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	280.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	120.0000	ug/l		
P1083	Strontium	Water	140.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P666	Phosphorus	Water	0.3500	mg/l as P		
P665	Phosphorus	Water	0.5800	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P335	Chemical oxygen demand, (low level)	Water	41.0000	mg/l		
P31616	Fecal coliforms	Water	2000.0000	cfu/100ml	DT	4000
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	5400.0000	ug/l		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/23/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P530	Total suspended solids	Water	34.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.7000	mg/l as N		
P666	Phosphorus	Water	0.9200	mg/l as P		
P665	Phosphorus	Water	1.0000	mg/l as P		
P82078	Turbidity	Water	12.0000	NTU		
P405	Carbon dioxide	Water	12.0000	mg/l		
P299	Oxygen	Water	6.1000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1490.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	31.0000	mg/l		
P31616	Fecal coliforms	Water	3600.0000	cfu/100ml		
P1105	Aluminum	Water	900.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	180.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	11.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1045	Iron	Water	1040.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	400.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P10	Temperature, water	Water	20.0000	deg C		
P900	Hardness, non-carbonate	Water	307.0000	mg/l		
P916	Calcium	Water	119.0000	mg/l		
P927	Magnesium	Water	32.0000	mg/l		
P937	Potassium	Water	7.0000	mg/l		
P929	Sodium	Water	164.0000	mg/l		
P410	Alkalinity	Water	122.0000	mg/l		
P941	Chloride	Water	172.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/23/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P946	Sulfate	Water	406.0000	mg/l		
P530	Fixed suspended solids	Water	29.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/23/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	980.0000	ug/l		
P1083	Strontium	Water	980.0000	ug/l		
P1085	Vanadium	Water	7.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P82078	Turbidity	Water	17.0000	NTU		
P405	Carbon dioxide	Water	18.0000	mg/l		
P299	Oxygen	Water	6.1000	mg/l		
P400	pH	Water	7.1000	std units		
P94	Specific conductance	Water	2750.0000	uS/cm		
P20	Temperature, air	Water	26.0000	deg C		
P10	Temperature, water	Water	23.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	600.0000	mg/l		
P900	Hardness, non-carbonate	Water	482.0000	mg/l		
P915	Calcium	Water	172.0000	mg/l		
P916	Calcium	Water	170.0000	mg/l		
P925	Magnesium	Water	43.0000	mg/l		
P927	Magnesium	Water	42.0000	mg/l		
P935	Potassium	Water	11.0000	mg/l		
P937	Potassium	Water	11.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.3300	None		
P932	Sodium, percent total cations	Water	56.0000	%		
P930	Sodium	Water	358.0000	mg/l		
P929	Sodium	Water	374.0000	mg/l		
P410	Alkalinity	Water	117.0000	mg/l		
P941	Chloride	Water	560.0000	mg/l		
P946	Sulfate	Water	380.0000	mg/l		
P745	Sulfide	Water	0.0100	mg/l	ND	0.02
P70300	Total dissolved solids	Water	1600.0000	mg/l		
P70303	Total dissolved solids	Water	2.2600	tons/ac ft		
P70300	Total dissolved solids	Water	1660.0000	mg/l		
P530	Total suspended solids	Water	40.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	11.0000	mg/l as N		
P666	Phosphorus	Water	1.0000	mg/l as P		
P665	Phosphorus	Water	1.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P310	Biochemical oxygen demand, standard conditions	Water	2.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/23/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P80082	Carbonaceous biochemical oxygen demand, standard	Water	2.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P31616	Fecal coliforms	Water	1300.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	600.0000	ug/l		
P1002	Arsenic	Water	18.0000	ug/l		
P1005	Barium	Water	143.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	260.0000	ug/l		
P999	Boron	Water	260.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	LT	10
P1037	Cobalt	Water	5.0000	ug/l	LT	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P720	Cyanide	Water	0.0025	mg/l	ND	0.005
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	790.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	140.0000	ug/l		
P1055	Manganese	Water	160.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	3.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/23/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	410.0000	ug/l		
P530	Fixed suspended solids	Water	26.0000	mg/l		
P530	Total suspended solids	Water	32.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.1100	mg/l as N		
P610	Ammonia and ammonium	Water	7.3400	mg/l NH4		
P610	Ammonia and ammonium	Water	5.7000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.6000	mg/l as N		
P666	Phosphorus	Water	2.5000	mg/l as P		
P665	Phosphorus	Water	2.5000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	3900.0000	cfu/100ml		
P1106	Aluminum	Water	131.0000	ug/l		
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	118.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P82078	Turbidity	Water	7.2000	NTU		
P405	Carbon dioxide	Water	6.0000	mg/l		
P299	Oxygen	Water	6.8000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	159.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P10	Temperature, water	Water	22.2000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	380.0000	mg/l		
P900	Hardness, non-carbonate	Water	264.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	5.9000	mg/l		
P937	Potassium	Water	5.5000	mg/l		
P931	Sodium adsorption ratio	Water	4.2300	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	190.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/23/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P929	Sodium	Water	190.0000	mg/l		
P410	Alkalinity	Water	122.0000	mg/l		
P941	Chloride	Water	238.0000	mg/l		
P946	Sulfate	Water	298.0000	mg/l		
P70300	Total dissolved solids	Water	942.0000	mg/l		
P70303	Total dissolved solids	Water	1.2800	tons/ac ft		
P1083	Strontium	Water	410.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P1020	Boron	Water	110.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	310.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/25/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P299	Oxygen	Water	7.4000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	1520.0000	uS/cm		
P20	Temperature, air	Water	28.0000	deg C		
P10	Temperature, water	Water	23.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	350.0000	mg/l		
P900	Hardness, non-carbonate	Water	215.0000	mg/l		
P915	Calcium	Water	82.0000	mg/l		
P916	Calcium	Water	95.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	1.6000	mg/l		
P937	Potassium	Water	6.1000	mg/l		
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P930	Sodium	Water	7.1000	mg/l		
P929	Sodium	Water	188.0000	mg/l		
P410	Alkalinity	Water	130.0000	mg/l		
P941	Chloride	Water	226.0000	mg/l		
P946	Sulfate	Water	283.0000	mg/l		
P530	Fixed suspended solids	Water	17.0000	mg/l		
P530	Total suspended solids	Water	20.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.3000	mg/l as N		
P666	Phosphorus	Water	0.5900	mg/l as P		
P665	Phosphorus	Water	0.6700	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	1700.0000	cfu/100ml		
P1106	Aluminum	Water	397.0000	ug/l		
P1105	Aluminum	Water	600.0000	ug/l		
P1005	Barium	Water	67.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	25.0000	ug/l	ND	50
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/25/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	470.0000	ug/l		
P1045	Iron	Water	480.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	130.0000	ug/l		
P1083	Strontium	Water	390.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	5.4000	NTU		
P405	Carbon dioxide	Water	6.4000	mg/l		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/26/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P191	Hydrogen ion	Water	0.0002	mg/l		
P335	Chemical oxygen demand, (low level)	Water	42.0000	mg/l		
P31616	Fecal coliforms	Water	600.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	400.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	32.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	200.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	280.0000	ug/l		
P985	Vanadium	Water	20.0000	ug/l		
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P82078	Turbidity	Water	4.2000	NTU		
P405	Carbon dioxide	Water	56.0000	mg/l		
P299	Oxygen	Water	5.7000	mg/l		
P400	pH	Water	6.7000	std units		
P94	Specific conductance	Water	1500.0000	uS/cm		
P20	Temperature, air	Water	25.0000	deg C		
P10	Temperature, water	Water	27.0000	deg C		
P900	Hardness, non-carbonate	Water	221.0000	mg/l		
P916	Calcium	Water	101.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P937	Potassium	Water	16.0000	mg/l		
P929	Sodium	Water	198.0000	mg/l		
P410	Alkalinity	Water	143.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	140.0000	mg/l		
P946	Sulfate	Water	320.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	13.0000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/26/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P666	Phosphorus	Water	1.0000	mg/l as P		
P665	Phosphorus	Water	1.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	22.0000	mg/l		
P31616	Fecal coliforms	Water	640.0000	cfu/100ml		
P1105	Aluminum	Water	600.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P82078	Turbidity	Water	7.9000	NTU		
P405	Carbon dioxide	Water	21.0000	mg/l		
P299	Oxygen	Water	5.6000	mg/l		
P999	Boron	Water	230.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	31.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	510.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	520.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	2080.0000	uS/cm		
P20	Temperature, air	Water	26.0000	deg C		
P10	Temperature, water	Water	22.0000	deg C		
P900	Hardness, non-carbonate	Water	314.0000	mg/l		
P916	Calcium	Water	143.0000	mg/l		
P927	Magnesium	Water	42.0000	mg/l		
P937	Potassium	Water	8.8000	mg/l		
P929	Sodium	Water	235.0000	mg/l		
P410	Alkalinity	Water	217.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	289.0000	mg/l		
P946	Sulfate	Water	442.0000	mg/l		
P530	Fixed suspended solids	Water	13.0000	mg/l		
P530	Total suspended solids	Water	15.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 07/26/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	12.0000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.5270	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0640	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	39.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	11.6000	mg/L		
P1055	Manganese	Water	0.0390	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	6.6000	mg/L		
P1147	Selenium	Water	0.0060	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	43.8000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water		ug/L	ND	
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	12.5600	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	111.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2700	mg/L		
P940	Chloride	Water	61.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.8800	mg/L		
P945	Sulfate	Water	47.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	21.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.3100	mg/L		
P94	Specific Conductivity	Water	445.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	322.0000	mg/L		
P530	TSS	Water	15.0000	mg/L		
P625	TKN	Water	0.8300	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	77.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	77.0000	mg/l		
P1082	STRONTIUM	Water	0.1800	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 07/27/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0001	mg/l	J	
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	94.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1032	Hevavalent Chromium	Water	0.0060	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/04/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	24.0000	mg/l		
P31616	Fecal coliforms	Water	3700.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	100.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P10	Temperature, water	Water	21.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	350.0000	mg/l		
P900	Hardness, non-carbonate	Water	234.0000	mg/l		
P915	Calcium	Water	95.0000	mg/l		
P1049	Lead	Water	50.0000	ug/l	LT	100
P1051	Lead	Water	50.0000	ug/l	LT	100
P1056	Manganese	Water	100.0000	ug/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	600.0000	ug/l		
P916	Calcium	Water	97.0000	mg/l		
P925	Magnesium	Water	25.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	6.7000	mg/l		
P937	Potassium	Water	6.9000	mg/l		
P931	Sodium adsorption ratio	Water	5.4300	None		
P932	Sodium, percent total cations	Water	59.0000	%		
P930	Sodium	Water	230.0000	mg/l		
P929	Sodium	Water	230.0000	mg/l		
P410	Alkalinity	Water	116.0000	mg/l		
P941	Chloride	Water	293.0000	mg/l		
P946	Sulfate	Water	320.0000	mg/l		
P70300	Total dissolved solids	Water	1040.0000	mg/l		
P70303	Total dissolved solids	Water	8.5400	tons/ac ft		
P70300	Total dissolved solids	Water	6280.0000	mg/l		
P530	Fixed suspended solids	Water	24.0000	mg/l		
P530	Total suspended solids	Water	28.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P82078	Turbidity	Water	8.7000	NTU		
P405	Carbon dioxide	Water	7.1000	mg/l		
P299	Oxygen	Water	6.4000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	1830.0000	uS/cm		
P20	Temperature, air	Water	19.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/04/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	4.0000	ug/l		
P1079	Silver	Water	6.0000	ug/l		
P1080	Strontium	Water	560.0000	ug/l		
P1083	Strontium	Water	570.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	50.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P610	Ammonia and ammonium	Water	0.1930	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.5000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/06/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P929	Sodium	Water	162.0000	mg/l		
P410	Alkalinity	Water	158.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	223.0000	mg/l		
P1092	Zinc	Water		ug/l	ND	
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P946	Sulfate	Water	262.0000	mg/l		
P530	Fixed suspended solids	Water	14.0000	mg/l		
P405	Carbon dioxide	Water	1.9000	mg/l		
P400	pH	Water	8.2000	std units		
P94	Specific conductance	Water	700.0000	uS/cm		
P20	Temperature, air	Water	32.0000	deg C		
P10	Temperature, water	Water	26.5000	deg C		
P900	Hardness, non-carbonate	Water	140.0000	mg/l		
P916	Calcium	Water	82.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P937	Potassium	Water	5.7000	mg/l		
P530	Total suspended solids	Water	20.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia and ammonium	Water	0.5150	mg/l NH4		
P610	Ammonia and ammonium	Water	0.4000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.1000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	45.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	200.0000	ug/l		
P1027	Cadmium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	60.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	700.0000	ug/l		
P1051	Lead	Water	50.0000	ug/l	LT	100
P1130	Lithium	Water	540.0000	ug/l		
P1055	Manganese	Water	220.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	300.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/06/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	20.0000	NTU		
P405	Carbon dioxide	Water	3.5000	mg/l		
P299	Oxygen	Water	6.0000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	1800.0000	uS/cm		
P20	Temperature, air	Water	25.0000	deg C		
P10	Temperature, water	Water	23.5000	deg C		
P530	Fixed suspended solids	Water	44.0000	mg/l		
P530	Total suspended solids	Water	54.0000	mg/l		
P549	Volatile Suspended Solids	Water	10.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.0260	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	12.6000	mg/l as N		
P666	Phosphorus	Water	0.9700	mg/l as P		
P665	Phosphorus	Water	1.0000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	1140.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	160.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	190.0000	ug/l		
P999	Boron	Water	190.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P900	Total hardness -- SDWA NPDWR	Water	440.0000	mg/l		
P900	Hardness, non-carbonate	Water	262.0000	mg/l		
P915	Calcium	Water	120.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	35.0000	mg/l		
P927	Magnesium	Water	35.0000	mg/l		
P935	Potassium	Water	14.0000	mg/l		
P937	Potassium	Water	14.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/06/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P931	Sodium adsorption ratio	Water	3.9300	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	190.0000	mg/l		
P929	Sodium	Water	190.0000	mg/l		
P410	Alkalinity	Water	183.0000	mg/l		
P941	Chloride	Water	273.0000	mg/l		
P946	Sulfate	Water	260.0000	mg/l		
P70300	Total dissolved solids	Water	1000.0000	mg/l		
P70303	Total dissolved solids	Water	1.4600	tons/ac ft		
P70300	Total dissolved solids	Water	1070.0000	mg/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	480.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	610.0000	ug/l		
P1083	Strontium	Water	620.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/07/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	34.0000	mg/l		
P31616	Fecal coliforms	Water	12000.0000	cfu/100ml		
P1106	Aluminum	Water	112.0000	ug/l		
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	91.0000	ug/l		
P1055	Manganese	Water	280.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	540.0000	ug/l		
P1083	Strontium	Water	570.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	130.0000	ug/l		
P999	Boron	Water	130.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	460.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	230.0000	ug/l		
P82078	Turbidity	Water	4.2000	NTU		
P405	Carbon dioxide	Water	5.4000	mg/l		
P299	Oxygen	Water	6.5000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	1770.0000	uS/cm		
P20	Temperature, air	Water	28.0000	deg C		
P10	Temperature, water	Water	25.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/07/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P900	Hardness, non-carbonate	Water	236.0000	mg/l		
P915	Calcium	Water	93.0000	mg/l		
P916	Calcium	Water	99.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	4.7000	mg/l		
P937	Potassium	Water	5.3000	mg/l		
P931	Sodium adsorption ratio	Water	5.5200	None		
P932	Sodium, percent total cations	Water	60.0000	%		
P930	Sodium	Water	228.0000	mg/l		
P929	Sodium	Water	245.0000	mg/l		
P410	Alkalinity	Water	111.0000	mg/l		
P941	Chloride	Water	295.0000	mg/l		
P946	Sulfate	Water	420.0000	mg/l		
P70300	Total dissolved solids	Water	1130.0000	mg/l		
P70303	Total dissolved solids	Water	1.5400	tons/ac ft		
P530	Fixed suspended solids	Water	27.0000	mg/l		
P530	Total suspended solids	Water	31.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0090	mg/l as N		
P610	Ammonia and ammonium	Water	0.5020	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.1000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/09/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P930	Sodium	Water	9.9000	mg/l		
P929	Sodium	Water	13.0000	mg/l		
P410	Alkalinity	Water	17.0000	mg/l		
P941	Chloride	Water	19.9000	mg/l		
P946	Sulfate	Water	25.0000	mg/l		
P70300	Total dissolved solids	Water	87.0000	mg/l		
P70303	Total dissolved solids	Water	0.1700	tons/ac ft		
P70300	Total dissolved solids	Water	124.0000	mg/l		
P530	Fixed suspended solids	Water	1060.0000	mg/l		
P530	Total suspended solids	Water	1140.0000	mg/l		
P549	Volatile Suspended Solids	Water	80.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.4380	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.2000	mg/l as N		
P666	Phosphorus	Water	0.5500	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P82078	Turbidity	Water	47.0000	NTU		
P31616	Fecal coliforms	Water	30000.0000	cfu/100ml	DT	60000
P1106	Aluminum	Water	290.0000	ug/l		
P1105	Aluminum	Water	36000.0000	ug/l		
P1005	Barium	Water	21.0000	ug/l		
P1007	Barium	Water	300.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	5.0000	ug/l	LT	10
P1020	Boron	Water	40.0000	ug/l		
P999	Boron	Water	60.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	40.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	10.0000	ug/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	30.0000	ug/l		
P1046	Iron	Water	250.0000	ug/l		
P1045	Iron	Water	30000.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	910.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/09/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	40.0000	ug/l		
P1083	Strontium	Water	90.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	70.0000	ug/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	170.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P405	Carbon dioxide	Water	1.7000	mg/l		
P299	Oxygen	Water	6.2000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	213.0000	uS/cm		
P20	Temperature, air	Water	16.0000	deg C		
P10	Temperature, water	Water	20.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	99.0000	mg/l		
P900	Hardness, non-carbonate	Water	83.0000	mg/l		
P915	Calcium	Water	13.0000	mg/l		
P916	Calcium	Water	24.0000	mg/l		
P925	Magnesium	Water	3.2000	mg/l		
P927	Magnesium	Water	9.7000	mg/l		
P935	Potassium	Water	5.4000	mg/l		
P937	Potassium	Water	13.0000	mg/l		
P931	Sodium adsorption ratio	Water	0.6400	None		
P932	Sodium, percent total cations	Water	29.0000	%		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/10/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.1800	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.2000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	300.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	20.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	660.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	490.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	20.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P299	Oxygen	Water	7.2000	mg/l		
P400	pH	Water	8.0000	std units		
P405	Carbon dioxide	Water	2.2000	mg/l		
P94	Specific conductance	Water	1900.0000	uS/cm		
P20	Temperature, air	Water	27.5000	deg C		
P10	Temperature, water	Water	24.5000	deg C		
P900	Hardness, non-carbonate	Water	270.0000	mg/l		
P916	Calcium	Water	109.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P929	Sodium	Water	294.0000	mg/l		
P410	Alkalinity	Water	115.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	280.0000	mg/l		
P946	Sulfate	Water	375.0000	mg/l		
P530	Fixed suspended solids	Water	39.0000	mg/l		
P530	Total suspended solids	Water	44.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia and ammonium	Water	0.2320	mg/l NH4		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/12/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	1.4000	NTU		
P405	Carbon dioxide	Water	2.1000	mg/l		
P299	Oxygen	Water	8.7000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	2530.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P10	Temperature, water	Water	24.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	480.0000	mg/l		
P900	Hardness, non-carbonate	Water	344.0000	mg/l		
P915	Calcium	Water	130.0000	mg/l		
P916	Calcium	Water	140.0000	mg/l		
P925	Magnesium	Water	30.0000	mg/l		
P927	Magnesium	Water	32.0000	mg/l		
P935	Potassium	Water	8.9000	mg/l		
P937	Potassium	Water	9.2000	mg/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P931	Sodium adsorption ratio	Water	6.1700	None		
P932	Sodium, percent total cations	Water	59.0000	%		
P930	Sodium	Water	300.0000	mg/l		
P929	Sodium	Water	320.0000	mg/l		
P410	Alkalinity	Water	139.0000	mg/l		
P941	Chloride	Water	492.0000	mg/l		
P946	Sulfate	Water	59.0000	mg/l		
P70300	Total dissolved solids	Water	1100.0000	mg/l		
P70303	Total dissolved solids	Water	2.0700	tons/ac ft		
P70300	Total dissolved solids	Water	1520.0000	mg/l		
P530	Fixed suspended solids	Water	6.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0080	mg/l as N		
P610	Ammonia and ammonium	Water	0.1550	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.9000	mg/l as N		
P666	Phosphorus	Water	1.8500	mg/l as P		
P665	Phosphorus	Water	1.9000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P31616	Fecal coliforms	Water	2000.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	120.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/12/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	220.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	30.0000	ug/l		
P1220	Chromium	Water	30.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	980.0000	ug/l		
P1083	Strontium	Water	1000.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	120.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	12.0000	ug/l		
P1045	Iron	Water	150.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	50.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/15/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P1055	Manganese	Water	40.0000	ug/l		
P82078	Turbidity	Water	6.6000	NTU		
P405	Carbon dioxide	Water	8.1000	mg/l		
P299	Oxygen	Water	5.9000	mg/l		
P400	pH	Water	7.6000	std units		
P530	Fixed suspended solids	Water	31.0000	mg/l		
P530	Total suspended solids	Water	36.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0130	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.2000	mg/l as N		
P666	Phosphorus	Water	0.8800	mg/l as P		
P665	Phosphorus	Water	0.9300	mg/l as P		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	4.0000	ug/l		
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	680.0000	ug/l		
P1083	Strontium	Water	710.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P941	Chloride	Water	241.0000	mg/l		
P946	Sulfate	Water	102.0000	mg/l		
P70300	Total dissolved solids	Water	760.0000	mg/l		
P70303	Total dissolved solids	Water	1.2200	tons/ac ft		
P70300	Total dissolved solids	Water	899.0000	mg/l		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	1260.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	150.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/15/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P94	Specific conductance	Water	1490.0000	uS/cm		
P20	Temperature, air	Water	24.0000	deg C		
P10	Temperature, water	Water	26.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	420.0000	mg/l		
P900	Hardness, non-carbonate	Water	263.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	120.0000	mg/l		
P925	Magnesium	Water	30.0000	mg/l		
P927	Magnesium	Water	31.0000	mg/l		
P935	Potassium	Water	7.2000	mg/l		
P937	Potassium	Water	7.7000	mg/l		
P931	Sodium adsorption ratio	Water	3.7100	None		
P932	Sodium, percent total cations	Water	48.0000	%		
P930	Sodium	Water	170.0000	mg/l		
P929	Sodium	Water	180.0000	mg/l		
P410	Alkalinity	Water	165.0000	mg/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	360.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/17/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P925	Magnesium	Water	41.0000	mg/l		
P927	Magnesium	Water	41.0000	mg/l		
P935	Potassium	Water	12.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P931	Sodium adsorption ratio	Water	7.4800	None		
P932	Sodium, percent total cations	Water	61.0000	%		
P930	Sodium	Water	400.0000	mg/l		
P929	Sodium	Water	399.0000	mg/l		
P410	Alkalinity	Water	129.0000	mg/l		
P941	Chloride	Water	479.0000	mg/l		
P946	Sulfate	Water	600.0000	mg/l		
P70300	Total dissolved solids	Water	1760.0000	mg/l		
P70303	Total dissolved solids	Water	2.3900	tons/ac ft		
P530	Fixed suspended solids	Water	21.0000	mg/l		
P530	Total suspended solids	Water	26.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N	ND	0.006
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	15.0000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	34.0000	mg/l		
P31616	Fecal coliforms	Water	1000.0000	cfu/100ml		
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	3.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.8000	NTU		
P405	Carbon dioxide	Water	3.2000	mg/l		
P299	Oxygen	Water	8.4000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	771.0000	uS/cm		
P20	Temperature, air	Water	36.0000	deg C		
P10	Temperature, water	Water	30.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	540.0000	mg/l		
P900	Hardness, non-carbonate	Water	415.0000	mg/l		
P915	Calcium	Water	149.0000	mg/l		
P916	Calcium	Water	150.0000	mg/l		
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	190.0000	ug/l		
P999	Boron	Water	190.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/17/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	900.0000	ug/l		
P1005	Barium	Water	123.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1220	Chromium	Water	10.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	560.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	720.0000	ug/l		
P1083	Strontium	Water	730.0000	ug/l		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/25/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	2.3000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	670.0000	uS/cm		
P941	Chloride	Water	264.0000	mg/l		
P946	Sulfate	Water	519.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	15.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.7000	mg/l as N		
P20	Temperature, air	Water	30.5000	deg C		
P10	Temperature, water	Water	25.5000	deg C		
P900	Hardness, non-carbonate	Water	280.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P937	Potassium	Water	7.2000	mg/l		
P929	Sodium	Water	230.0000	mg/l		
P410	Alkalinity	Water	119.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	45.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	300.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	30.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	200.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	130.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	400.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	30.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/25/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	1.5500	mg/l NH4		
P610	Ammonia and ammonium	Water	1.2000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	13.0000	mg/l as N		
P666	Phosphorus	Water	1.9000	mg/l as P		
P665	Phosphorus	Water	2.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P31616	Fecal coliforms	Water	8600.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	1100.0000	ug/l		
P1005	Barium	Water	113.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P916	Calcium	Water	138.0000	mg/l		
P925	Magnesium	Water	39.0000	mg/l		
P927	Magnesium	Water	39.0000	mg/l		
P935	Potassium	Water	12.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P931	Sodium adsorption ratio	Water	5.3600	None		
P932	Sodium, percent total cations	Water	54.0000	%		
P930	Sodium	Water	276.0000	mg/l		
P929	Sodium	Water	282.0000	mg/l		
P410	Alkalinity	Water	130.0000	mg/l		
P941	Chloride	Water	235.0000	mg/l		
P946	Sulfate	Water	499.0000	mg/l		
P70300	Total dissolved solids	Water	1280.0000	mg/l		
P530	Total suspended solids	Water	47.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P70303	Total dissolved solids	Water	1.7400	tons/ac ft		
P530	Fixed suspended solids	Water	43.0000	mg/l		
P82078	Turbidity	Water	7.4000	NTU		
P405	Carbon dioxide	Water	25.0000	mg/l		
P299	Oxygen	Water	6.7000	mg/l		
P400	pH	Water	7.0000	std units		
P94	Specific conductance	Water	1890.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	19.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	500.0000	mg/l		
P900	Hardness, non-carbonate	Water	376.0000	mg/l		
P915	Calcium	Water	137.0000	mg/l		
P1020	Boron	Water	240.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/25/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	10.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1190.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	90.0000	ug/l		
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	590.0000	ug/l		
P1083	Strontium	Water	590.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P610	Ammonia	Water	0.0050	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/27/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P620	Inorganic nitrogen (nitrate and nitrite)	Water	17.0000	mg/l as N		
P666	Phosphorus	Water	1.7000	mg/l as P		
P665	Phosphorus	Water	1.8000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P310	Biochemical oxygen demand, standard conditions	Water	2.0000	mg/l		
P80082	Carbonaceous biochemical oxygen demand, standard	Water	1.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	2900.0000	cfu/100ml		
P1106	Aluminum	Water	68.0000	ug/l		
P1105	Aluminum	Water	700.0000	ug/l		
P1002	Arsenic	Water	26.0000	ug/l		
P1005	Barium	Water	116.0000	ug/l		
P1030	Chromium	Water	10.0000	ug/l		
P1220	Chromium	Water	12.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	LT	10
P1037	Cobalt	Water	5.0000	ug/l	LT	10
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	5.0000	ug/l	LT	10
P720	Cyanide	Water	0.0025	mg/l	ND	0.005
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	590.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P82078	Turbidity	Water	9.0000	NTU		
P405	Carbon dioxide	Water	16.0000	mg/l		
P299	Oxygen	Water	5.5000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1960.0000	uS/cm		
P20	Temperature, air	Water	18.0000	deg C		
P10	Temperature, water	Water	22.1000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	520.0000	mg/l		
P900	Hardness, non-carbonate	Water	365.0000	mg/l		
P915	Calcium	Water	142.0000	mg/l		
P916	Calcium	Water	135.0000	mg/l		
P71900	Mercury	Water	0.2000	ug/l		
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	580.0000	ug/l		
P1083	Strontium	Water	550.0000	ug/l		
P1085	Vanadium	Water	9.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/27/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	250.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P925	Magnesium	Water	39.0000	mg/l		
P927	Magnesium	Water	38.0000	mg/l		
P935	Potassium	Water	12.0000	mg/l		
P937	Potassium	Water	11.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.8300	None		
P932	Sodium, percent total cations	Water	51.0000	%		
P930	Sodium	Water	252.0000	mg/l		
P929	Sodium	Water	239.0000	mg/l		
P410	Alkalinity	Water	129.0000	mg/l		
P941	Chloride	Water	258.0000	mg/l		
P946	Sulfate	Water	426.0000	mg/l		
P745	Sulfide	Water	0.0100	mg/l	ND	0.02
P70300	Total dissolved solids	Water	1210.0000	mg/l		
P70303	Total dissolved solids	Water	1.5500	tons/ac ft		
P70300	Total dissolved solids	Water	1140.0000	mg/l		
P530	Fixed suspended solids	Water	19.0000	mg/l		
P530	Total suspended solids	Water	24.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/28/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P665	Phosphorus	Water	0.7400	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	41.0000	mg/l		
P31616	Fecal coliforms	Water	1700.0000	cfu/100ml		
P1106	Aluminum	Water	104.0000	ug/l		
P82078	Turbidity	Water	3.9000	NTU		
P405	Carbon dioxide	Water	5.1000	mg/l		
P299	Oxygen	Water	6.6000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1770.0000	uS/cm		
P20	Temperature, air	Water	31.0000	deg C		
P10	Temperature, water	Water	26.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P900	Hardness, non-carbonate	Water	132.0000	mg/l		
P915	Calcium	Water	92.0000	mg/l		
P916	Calcium	Water	92.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	6.5000	mg/l		
P937	Potassium	Water	7.6000	mg/l		
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	108.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	250.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 08/28/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	420.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	110.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	20.0000	ug/l		
P929	Sodium	Water	259.0000	mg/l		
P410	Alkalinity	Water	209.0000	mg/l		
P941	Chloride	Water	264.0000	mg/l		
P946	Sulfate	Water	290.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	10.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0240	mg/l as N		
P610	Ammonia and ammonium	Water	0.6310	mg/l NH4		
P610	Ammonia and ammonium	Water	0.4900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.1000	mg/l as N		
P666	Phosphorus	Water	0.6700	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2370	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1290	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	74.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	19.3000	mg/L		
P1055	Manganese	Water	0.0420	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	8.6000	mg/L		
P1147	Selenium	Water	0.0180	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	116.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	170.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5100	mg/L		
P940	Chloride	Water	116.0000	mg/L		
P615	Nitrite	Water	0.2100	mg/L		
P630	Nitrate	Water	2.1900	mg/L		
P945	Sulfate	Water	172.0000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2800	mg/L		
P94	Specific Conductivity	Water	785.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	610.0000	mg/L		
P530	TSS	Water	10.0000	mg/L		
P625	TKN	Water	0.7500	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	50.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	50.3000	mg/l		
P1082	STRONTIUM	Water	0.4080	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 08/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	53.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	50.4000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/02/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	11.0000	mg/l		
P299	Oxygen	Water	6.2000	mg/l		
P400	pH	Water	6.5000	std units		
P610	Ammonia and ammonium	Water	0.1900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.2000	mg/l as N		
P191	Hydrogen ion	Water	0.0003	mg/l		
P335	Chemical oxygen demand, (low level)	Water	49.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	5.0000	ug/l	LT	10
P999	Boron	Water	50.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	5.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	4920.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P94	Specific conductance	Water	295.0000	uS/cm		
P20	Temperature, air	Water	23.5000	deg C		
P10	Temperature, water	Water	22.0000	deg C		
P900	Hardness, non-carbonate	Water	58.0000	mg/l		
P937	Potassium	Water	5.4000	mg/l		
P929	Sodium	Water	18.0000	mg/l		
P410	Alkalinity	Water	18.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	25.0000	mg/l		
P946	Sulfate	Water	30.0000	mg/l		
P530	Fixed suspended solids	Water	275.0000	mg/l		
P1055	Manganese	Water	380.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	80.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		
P1092	Zinc	Water	40.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P916	Calcium	Water	21.0000	mg/l		
P927	Magnesium	Water	5.8000	mg/l		
P530	Total suspended solids	Water	315.0000	mg/l		
P549	Volatile Suspended Solids	Water	40.0000	mg/l		
P610	Ammonia and ammonium	Water	0.2450	mg/l NH4		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/02/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Fixed suspended solids	Water	4.5000	mg/l	ND	9
P10	Temperature, water	Water	20.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	510.0000	mg/l		
P900	Hardness, non-carbonate	Water	380.0000	mg/l		
P915	Calcium	Water	140.0000	mg/l		
P916	Calcium	Water	150.0000	mg/l		
P925	Magnesium	Water	35.0000	mg/l		
P1080	Strontium	Water	900.0000	ug/l		
P1083	Strontium	Water	920.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l		
P1092	Zinc	Water	80.0000	ug/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P31616	Fecal coliforms	Water	510.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	120.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	260.0000	ug/l		
P999	Boron	Water	260.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	10.0000	ug/l		
P1220	Chromium	Water	13.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	130.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P1055	Manganese	Water	70.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P927	Magnesium	Water	36.0000	mg/l		
P935	Potassium	Water	9.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/02/1992

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	10.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.2700	None		
P932	Sodium, percent total cations	Water	58.0000	%		
P930	Sodium	Water	320.0000	mg/l		
P929	Sodium	Water	330.0000	mg/l		
P410	Alkalinity	Water	144.0000	mg/l		
P941	Chloride	Water	454.0000	mg/l		
P946	Sulfate	Water	393.0000	mg/l		
P70300	Total dissolved solids	Water	1440.0000	mg/l		
P70303	Total dissolved solids	Water	2.0400	tons/ac ft		
P70300	Total dissolved solids	Water	1500.0000	mg/l		
P530	Total suspended solids	Water	9.0000	mg/l		
P549	Volatile Suspended Solids	Water	0.5000	mg/l	ND	1
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.0600	mg/l as N		
P666	Phosphorus	Water	1.7000	mg/l as P		
P665	Phosphorus	Water	1.7000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P82078	Turbidity	Water	0.1000	NTU		
P405	Carbon dioxide	Water	2.8000	mg/l		
P299	Oxygen	Water	8.6000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	2430.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/07/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1045	Iron	Water	160.0000	ug/l		
P1051	Lead	Water	100.0000	ug/l		
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	610.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1092	Zinc	Water	150.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P82078	Turbidity	Water	3.1000	NTU		
P405	Carbon dioxide	Water	14.0000	mg/l		
P299	Oxygen	Water	6.1000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1900.0000	uS/cm		
P20	Temperature, air	Water	28.0000	deg C		
P10	Temperature, water	Water	22.5000	deg C		
P900	Hardness, non-carbonate	Water	442.0000	mg/l		
P916	Calcium	Water	152.0000	mg/l		
P927	Magnesium	Water	43.0000	mg/l		
P937	Potassium	Water	9.5000	mg/l		
P929	Sodium	Water	314.0000	mg/l		
P410	Alkalinity	Water	115.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	325.0000	mg/l		
P946	Sulfate	Water	600.0000	mg/l		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	17.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	46.0000	mg/l		
P31616	Fecal coliforms	Water	590.0000	cfu/100ml		
P1105	Aluminum	Water	300.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P999	Boron	Water	260.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	43.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	LT	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/07/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/08/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	190.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	32.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	360.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P937	Potassium	Water	8.5000	mg/l		
P929	Sodium	Water	230.0000	mg/l		
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	390.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	3.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P82078	Turbidity	Water	3.5000	NTU		
P299	Oxygen	Water	7.4000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	1830.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	19.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	410.0000	mg/l		
P916	Calcium	Water	114.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P941	Chloride	Water	287.0000	mg/l		
P946	Sulfate	Water	339.0000	mg/l		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	10.0000	mg/l		
P549	Volatile Suspended Solids	Water	8.0000	mg/l		
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.3000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	41.0000	mg/l		
P31616	Fecal coliforms	Water	3900.0000	cfu/100ml		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/11/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	70.0000	mg/l		
P925	Magnesium	Water	21.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P935	Potassium	Water	120.0000	mg/l		
P937	Potassium	Water	130.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.8900	None		
P932	Sodium, percent total cations	Water	49.0000	%		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	140.0000	ug/l		
P999	Boron	Water	150.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	8.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.7000	mg/l as N		
P666	Phosphorus	Water	0.7900	mg/l as P		
P665	Phosphorus	Water	0.8400	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	1290.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	1400.0000	ug/l		
P1005	Barium	Water	180.0000	ug/l		
P930	Sodium	Water	180.0000	mg/l		
P929	Sodium	Water	180.0000	mg/l		
P410	Alkalinity	Water	187.0000	mg/l		
P941	Chloride	Water	296.0000	mg/l		
P946	Sulfate	Water	199.0000	mg/l		
P70300	Total dissolved solids	Water	997.0000	mg/l		
P70303	Total dissolved solids	Water	1.3900	tons/ac ft		
P70300	Total dissolved solids	Water	1020.0000	mg/l		
P530	Fixed suspended solids	Water	86.0000	mg/l		
P530	Total suspended solids	Water	94.0000	mg/l		
P549	Volatile Suspended Solids	Water	8.0000	mg/l		
P610	Ammonia	Water	0.0050	mg/l as N		
P610	Ammonia and ammonium	Water	0.2700	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2100	mg/l as N		
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1000.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/11/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	420.0000	ug/l		
P1083	Strontium	Water	430.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	16.0000	NTU		
P405	Carbon dioxide	Water	5.8000	mg/l		
P299	Oxygen	Water	6.8000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1710.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	20.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	260.0000	mg/l		
P900	Hardness, non-carbonate	Water	79.0000	mg/l		
P915	Calcium	Water	68.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/12/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	22.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	370.0000	mg/l		
P610	Ammonia and ammonium	Water	0.0700	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.6000	mg/l as N		
P900	Hardness, non-carbonate	Water	242.0000	mg/l		
P915	Calcium	Water	101.0000	mg/l		
P916	Calcium	Water	104.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	3.5000	mg/l		
P937	Potassium	Water	4.7000	mg/l		
P931	Sodium adsorption ratio	Water	4.5700	None		
P932	Sodium, percent total cations	Water	54.0000	%		
P930	Sodium	Water	199.0000	mg/l		
P929	Sodium	Water	208.0000	mg/l		
P410	Alkalinity	Water	125.0000	mg/l		
P941	Chloride	Water	271.0000	mg/l		
P946	Sulfate	Water	307.0000	mg/l		
P70300	Total dissolved solids	Water	983.0000	mg/l		
P70303	Total dissolved solids	Water	1.3400	tons/ac ft		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P666	Phosphorus	Water	1.8000	mg/l as P		
P665	Phosphorus	Water	1.8100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	18.0000	mg/l		
P31616	Fecal coliforms	Water	1200.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	105.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	320.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/12/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	80.0000	ug/l		
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	480.0000	ug/l		
P1083	Strontium	Water	490.0000	ug/l		
P1085	Vanadium	Water	5.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.5000	NTU		
P405	Carbon dioxide	Water	3.8000	mg/l		
P299	Oxygen	Water	7.5000	mg/l		
P400	pH	Water	7.8000	std units		
P94	Specific conductance	Water	1680.0000	uS/cm		
P20	Temperature, air	Water	27.0000	deg C		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.0900	mg/l NH4		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/13/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P299	Oxygen	Water	6.1000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	2230.0000	uS/cm		
P20	Temperature, air	Water	23.0000	deg C		
P10	Temperature, water	Water	21.5000	deg C		
P900	Hardness, non-carbonate	Water	395.0000	mg/l		
P916	Calcium	Water	148.0000	mg/l		
P927	Magnesium	Water	39.0000	mg/l		
P937	Potassium	Water	243.0000	mg/l		
P929	Sodium	Water	275.0000	mg/l		
P410	Alkalinity	Water	136.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	296.0000	mg/l		
P946	Sulfate	Water	441.0000	mg/l		
P530	Fixed suspended solids	Water	9.0000	mg/l		
P530	Total suspended solids	Water	12.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	12.0000	mg/l as N		
P666	Phosphorus	Water	0.8800	mg/l as P		
P665	Phosphorus	Water	0.9700	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	33.0000	mg/l		
P31616	Fecal coliforms	Water	650.0000	cfu/100ml		
P1105	Aluminum	Water	300.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	2410.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1083	Strontium	Water	620.0000	ug/l		
P985	Vanadium	Water	30.0000	ug/l		
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	14.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	10.0000	ug/l		
P1045	Iron	Water	260.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/13/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P82078	Turbidity	Water	3.8000	NTU		
P405	Carbon dioxide	Water	6.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1510	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.2560	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	111.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.3000	mg/L		
P1055	Manganese	Water	0.0440	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	11.1000	mg/L		
P1147	Selenium	Water	0.0440	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	307.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	179.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7800	mg/L		
P940	Chloride	Water	350.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	7.7100	mg/L		
P945	Sulfate	Water	370.0000	mg/L		
P310	BOD5	Water	11.0000	mg/L		
P335	Chemical Oxygen Demand	Water	30.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2700	mg/L		
P94	Specific Conductivity	Water	2189.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1240.0000	mg/L		
P530	TSS	Water	12.0000	mg/L		
P625	TKN	Water	1.1700	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	85.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	85.9000	mg/l		
P1082	STRONTIUM	Water	1.0800	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/13/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	94.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/16/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P929	Sodium	Water	190.0000	mg/l		
P410	Alkalinity	Water	99.0000	mg/l		
P941	Chloride	Water	292.0000	mg/l		
P946	Sulfate	Water	255.0000	mg/l		
P70300	Total dissolved solids	Water	904.0000	mg/l		
P70303	Total dissolved solids	Water	0.7100	tons/ac ft		
P70300	Total dissolved solids	Water	521.0000	mg/l		
P530	Fixed suspended solids	Water	33.0000	mg/l		
P82078	Turbidity	Water	5.5000	NTU		
P405	Carbon dioxide	Water	7.7000	mg/l		
P299	Oxygen	Water	7.3000	mg/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	300.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	50.0000	ug/l		
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	510.0000	ug/l		
P1083	Strontium	Water	520.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P530	Total suspended solids	Water	39.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0770	mg/l NH4		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/16/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.8000	mg/l as N		
P666	Phosphorus	Water	1.0000	mg/l as P		
P665	Phosphorus	Water	1.0000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	22.0000	mg/l		
P31616	Fecal coliforms	Water	350.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	100.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	1640.0000	uS/cm		
P20	Temperature, air	Water	14.0000	deg C		
P10	Temperature, water	Water	17.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	320.0000	mg/l		
P900	Hardness, non-carbonate	Water	221.0000	mg/l		
P915	Calcium	Water	88.0000	mg/l		
P916	Calcium	Water	90.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P935	Potassium	Water	6.9000	mg/l		
P937	Potassium	Water	7.3000	mg/l		
P931	Sodium adsorption ratio	Water	4.4500	None		
P932	Sodium, percent total cations	Water	55.0000	%		
P930	Sodium	Water	180.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/21/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P665	Phosphorus	Water	0.8900	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P31616	Fecal coliforms	Water	600.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	88.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	4.2000	NTU		
P405	Carbon dioxide	Water	5.5000	mg/l		
P299	Oxygen	Water	9.4000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	2410.0000	uS/cm		
P20	Temperature, air	Water	26.0000	deg C		
P10	Temperature, water	Water	19.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	500.0000	mg/l		
P900	Hardness, non-carbonate	Water	358.0000	mg/l		
P915	Calcium	Water	140.0000	mg/l		
P916	Calcium	Water	142.0000	mg/l		
P925	Magnesium	Water	34.0000	mg/l		
P927	Magnesium	Water	35.0000	mg/l		
P935	Potassium	Water	9.5000	mg/l		
P937	Potassium	Water	9.6000	mg/l		
P931	Sodium adsorption ratio	Water	6.7300	None		
P932	Sodium, percent total cations	Water	60.0000	%		
P930	Sodium	Water	342.0000	mg/l		
P929	Sodium	Water	346.0000	mg/l		
P410	Alkalinity	Water	142.0000	mg/l		
P941	Chloride	Water	356.0000	mg/l		
P946	Sulfate	Water	581.0000	mg/l		
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P70300	Total dissolved solids	Water	1550.0000	mg/l		
P70303	Total dissolved solids	Water	2.1100	tons/ac ft		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	7.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/21/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N	ND	0.002
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	50.0000	ug/l		
P1045	Iron	Water	460.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	50.0000	ug/l	LT	100
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	640.0000	ug/l		
P1083	Strontium	Water	650.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	3.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	13.0000	mg/l as N		
P666	Phosphorus	Water	0.8400	mg/l as P		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/21/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	12.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.5300	None		
P932	Sodium, percent total cations	Water	58.0000	%		
P930	Sodium	Water	350.0000	mg/l		
P929	Sodium	Water	370.0000	mg/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	290.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	40.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	7.0000	ug/l		
P1079	Silver	Water	6.0000	ug/l		
P1080	Strontium	Water	690.0000	ug/l		
P1083	Strontium	Water	720.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P620	Inorganic nitrogen (nitrate and nitrite)	Water	0.0050	mg/l as N	ND	0.010
P666	Phosphorus	Water	2.7000	mg/l as P		
P665	Phosphorus	Water	2.7000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	940.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	94.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	210.0000	ug/l		
P999	Boron	Water	220.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/21/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P410	Alkalinity	Water	158.0000	mg/l		
P941	Chloride	Water	475.0000	mg/l		
P946	Sulfate	Water	540.0000	mg/l		
P70300	Total dissolved solids	Water	1660.0000	mg/l		
P70303	Total dissolved solids	Water	2.0700	tons/ac ft		
P70300	Total dissolved solids	Water	1520.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	10.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P82078	Turbidity	Water	3.2000	NTU		
P405	Carbon dioxide	Water	6.1000	mg/l		
P299	Oxygen	Water	7.6000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	2640.0000	uS/cm		
P20	Temperature, air	Water	15.0000	deg C		
P10	Temperature, water	Water	16.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	580.0000	mg/l		
P900	Hardness, non-carbonate	Water	420.0000	mg/l		
P915	Calcium	Water	150.0000	mg/l		
P916	Calcium	Water	160.0000	mg/l		
P925	Magnesium	Water	41.0000	mg/l		
P927	Magnesium	Water	43.0000	mg/l		
P935	Potassium	Water	11.0000	mg/l		
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/22/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P931	Sodium adsorption ratio	Water	5.2600	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	284.0000	mg/l		
P929	Sodium	Water	287.0000	mg/l		
P410	Alkalinity	Water	118.0000	mg/l		
P941	Chloride	Water	320.0000	mg/l		
P946	Sulfate	Water	550.0000	mg/l		
P70300	Total dissolved solids	Water	1430.0000	mg/l		
P70303	Total dissolved solids	Water	1.9400	tons/ac ft		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	14.0000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	28.0000	mg/l		
P31616	Fecal coliforms	Water	500.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	340.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/22/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	610.0000	ug/l		
P82078	Turbidity	Water	2.6000	NTU		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	115.0000	ug/l		
P1083	Strontium	Water	620.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P405	Carbon dioxide	Water	12.0000	mg/l		
P299	Oxygen	Water	8.9000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	2240.0000	uS/cm		
P20	Temperature, air	Water	20.0000	deg C		
P10	Temperature, water	Water	17.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	560.0000	mg/l		
P900	Hardness, non-carbonate	Water	437.0000	mg/l		
P915	Calcium	Water	155.0000	mg/l		
P916	Calcium	Water	156.0000	mg/l		
P925	Magnesium	Water	40.0000	mg/l		
P927	Magnesium	Water	40.0000	mg/l		
P935	Potassium	Water	9.4000	mg/l		
P937	Potassium	Water	9.6000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/23/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	478.0000	mg/l		
P946	Sulfate	Water	355.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water		mg/l	ND	
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.7000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	44.0000	mg/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water		ug/l	ND	
P999	Boron	Water	340.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water	30.0000	ug/l		
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	1600.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	240.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	350.0000	ug/l		
P985	Vanadium	Water	20.0000	ug/l		
P1092	Zinc	Water	60.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P405	Carbon dioxide	Water	2.2000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	670.0000	uS/cm		
P20	Temperature, air	Water	21.0000	deg C		
P10	Temperature, water	Water	24.5000	deg C		
P900	Hardness, non-carbonate	Water	220.0000	mg/l		
P916	Calcium	Water	95.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P937	Potassium	Water	10.0000	mg/l		
P929	Sodium	Water	350.0000	mg/l		
P410	Alkalinity	Water	113.0000	mg/l		
P435	Acidity	Water		mg/l	ND	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/23/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	3.4000	mg/l		
P299	Oxygen	Water	9.8000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	2150.0000	uS/cm		
P20	Temperature, air	Water	18.5000	deg C		
P10	Temperature, water	Water	16.0000	deg C		
P900	Hardness, non-carbonate	Water	310.0000	mg/l		
P916	Calcium	Water	125.0000	mg/l		
P927	Magnesium	Water	33.0000	mg/l		
P937	Potassium	Water	11.0000	mg/l		
P929	Sodium	Water	159.0000	mg/l		
P410	Alkalinity	Water	140.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	333.0000	mg/l		
P946	Sulfate	Water	363.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	0.2700	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	14.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P999	Boron	Water	340.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P335	Chemical oxygen demand, (low level)	Water	30.0000	mg/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	1.0000	ug/l	ND	2
P1220	Chromium	Water	32.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	160.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	820.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1092	Zinc	Water	5.0000	ug/l	LT	10
P556	Oil and grease -- CWA 304B	Water	7.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/24/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.1000	NTU		
P405	Carbon dioxide	Water	3.3000	mg/l		
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	560.0000	ug/l		
P1083	Strontium	Water	600.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	110.0000	ug/l		
P299	Oxygen	Water	9.5000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1980.0000	uS/cm		
P20	Temperature, air	Water	17.0000	deg C		
P10	Temperature, water	Water	14.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	410.0000	mg/l		
P900	Hardness, non-carbonate	Water	271.0000	mg/l		
P915	Calcium	Water	101.0000	mg/l		
P916	Calcium	Water	113.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P935	Potassium	Water	4.6000	mg/l		
P937	Potassium	Water	6.1000	mg/l		
P931	Sodium adsorption ratio	Water	6.2200	None		
P932	Sodium, percent total cations	Water	62.0000	%		
P930	Sodium	Water	271.0000	mg/l		
P929	Sodium	Water	297.0000	mg/l		
P410	Alkalinity	Water	135.0000	mg/l		
P941	Chloride	Water	300.0000	mg/l		
P946	Sulfate	Water	440.0000	mg/l		
P70300	Total dissolved solids	Water	1220.0000	mg/l		
P70303	Total dissolved solids	Water	1.6600	tons/ac ft		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.0770	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.0000	mg/l as N		
P666	Phosphorus	Water	2.7000	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/24/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P665	Phosphorus	Water	2.8000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	26.0000	mg/l		
P31616	Fecal coliforms	Water	910.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	71.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	320.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	16.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	5.0000	ug/l	LT	10
P1042	Copper	Water	5.0000	ug/l	LT	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	160.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	90.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/26/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P82078	Turbidity	Water	11.0000	NTU		
P405	Carbon dioxide	Water	13.0000	mg/l		
P299	Oxygen	Water	8.0000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1740.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	13.5000	deg C		
P900	Hardness, non-carbonate	Water	143.0000	mg/l		
P916	Calcium	Water	74.0000	mg/l		
P927	Magnesium	Water	22.0000	mg/l		
P937	Potassium	Water	25.0000	mg/l		
P929	Sodium	Water	229.0000	mg/l		
P410	Alkalinity	Water	133.0000	mg/l		
P941	Chloride	Water	293.0000	mg/l		
P946	Sulfate	Water	250.0000	mg/l		
P530	Fixed suspended solids	Water	23.0000	mg/l		
P530	Total suspended solids	Water	29.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.6000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	600.0000	cfu/100ml		
P1105	Aluminum	Water	800.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	240.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	8.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	770.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	90.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	12.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/26/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1083	Strontium	Water	360.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/28/2005

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P945	Sulfate as SO4	Water	193.0000	mg/l		10
P665	Phosphate-phosphorus as P	Water	0.9620	mg/l		0.01
P10	Temperature, sample	Water	2.4000	deg C		
P620	Inorganic nitrogen (nitrate and nitrite) as N	Water	8.7200	mg/l		0.004
P940	Chloride	Water	331.0000	mg/l		3
	Total volatile solids	Water	2.8500	mg/l	ND	5.7
P410	Alkalinity, Carbonate as CaCO3	Water	164.0000	mg/l		0
P34694	Phenol	Water	0.0018	mg/l	ND	0.0036
P530	Total suspended solids	Water	12.0000	mg/l		5
P666	Phosphate-phosphorus as P	Water	0.9850	mg/l		0.05
P625	Kjeldahl nitrogen	Water	1.4300	mg/l		0.4

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0890	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1650	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	98.6000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.9000	mg/L		
P1055	Manganese	Water	0.0260	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	9.6000	mg/L		
P1147	Selenium	Water	0.0280	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	195.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	10.0000	ug/L		
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	10.0000	ug/L		
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	15.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39100	Bis(2-ethylhexyl) phthalate	Water	13.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	14.0000	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	11.0000	ug/L		
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	12.0000	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	11.0000	ug/L		
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	212.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5500	mg/L		
P940	Chloride	Water	139.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.2700	mg/L		
P945	Sulfate	Water	256.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	25.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2100	mg/L		
P94	Specific Conductivity	Water	1677.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	1076.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.8600	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	80.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.0000	mg/l		
P1082	STRONTIUM	Water	0.7360	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	89.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	66.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/29/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P925	Magnesium	Water	39.0000	mg/l		
P927	Magnesium	Water	40.0000	mg/l		
P935	Potassium	Water	10.0000	mg/l		
P937	Potassium	Water	10.0000	mg/l		
P931	Sodium adsorption ratio	Water	4.9400	None		
P932	Sodium, percent total cations	Water	52.0000	%		
P930	Sodium	Water	250.0000	mg/l		
P929	Sodium	Water	260.0000	mg/l		
P410	Alkalinity	Water	220.0000	mg/l		
P941	Chloride	Water	486.0000	mg/l		
P946	Sulfate	Water	262.0000	mg/l		
P70300	Total dissolved solids	Water	1310.0000	mg/l		
P70303	Total dissolved solids	Water	1.8400	tons/ac ft		
P70300	Total dissolved solids	Water	1350.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.1800	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.0000	mg/l as N		
P666	Phosphorus	Water	2.1000	mg/l as P		
P665	Phosphorus	Water	2.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P31616	Fecal coliforms	Water	1300.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	50.0000	ug/l	ND	100
P1005	Barium	Water	190.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	240.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 09/29/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	900.0000	ug/l		
P1083	Strontium	Water	920.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P32730	Phenols and phenolic compounds	Water	20.0000	ug/l		
P82078	Turbidity	Water	3.6000	NTU		
P405	Carbon dioxide	Water	8.5000	mg/l		
P299	Oxygen	Water	7.6000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	2230.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	15.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	500.0000	mg/l		
P900	Hardness, non-carbonate	Water	296.0000	mg/l		
P915	Calcium	Water	130.0000	mg/l		
P916	Calcium	Water	140.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/07/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P94	Specific conductance	Water	1160.0000	uS/cm		
P20	Temperature, air	Water	18.0000	deg C		
P10	Temperature, water	Water	15.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	300.0000	mg/l		
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	180.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	40.0000	ug/l		
P1055	Manganese	Water	40.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	320.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1083	Strontium	Water	320.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1005	Barium	Water	86.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	110.0000	ug/l		
P900	Hardness, non-carbonate	Water	143.0000	mg/l		
P915	Calcium	Water	82.0000	mg/l		
P916	Calcium	Water	83.0000	mg/l		
P925	Magnesium	Water	22.0000	mg/l		
P927	Magnesium	Water	23.0000	mg/l		
P935	Potassium	Water	6.4000	mg/l		
P937	Potassium	Water	6.4000	mg/l		
P931	Sodium adsorption ratio	Water	3.2900	None		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/07/1993

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P932	Sodium, percent total cations	Water	48.0000	%		
P930	Sodium	Water	130.0000	mg/l		
P929	Sodium	Water	130.0000	mg/l		
P410	Alkalinity	Water	159.0000	mg/l		
P941	Chloride	Water	128.0000	mg/l		
P946	Sulfate	Water	150.0000	mg/l		
P70300	Total dissolved solids	Water	614.0000	mg/l		
P70303	Total dissolved solids	Water	0.9000	tons/ac ft		
P70300	Total dissolved solids	Water	659.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	7.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0260	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.3000	mg/l as N		
P666	Phosphorus	Water	0.7500	mg/l as P		
P665	Phosphorus	Water	0.7800	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	21.0000	mg/l		
P31616	Fecal coliforms	Water	470.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	50.0000	ug/l	ND	100
P82078	Turbidity	Water	2.7000	NTU		
P405	Carbon dioxide	Water	9.8000	mg/l		
P299	Oxygen	Water	7.8000	mg/l		
P400	pH	Water	7.5000	std units		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/08/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia	Water	0.0060	mg/l as N		
P610	Ammonia and ammonium	Water	0.2960	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.9000	mg/l as N		
P665	Phosphorus	Water	1.1000	mg/l as P		
P310	Biochemical oxygen demand, standard conditions	Water	2.0000	mg/l		
P80082	Carbonaceous biochemical oxygen demand, standard	Water	2.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	240.0000	mg/l		
P299	Oxygen	Water	6.3000	mg/l		
P403	pH, lab	Water	8.0000	std units		
P94	Specific conductance	Water	1720.0000	uS/cm		
P20	Temperature, air	Water	15.0000	deg C		
P10	Temperature, water	Water	14.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	410.0000	mg/l		
P900	Hardness, non-carbonate	Water	283.0000	mg/l		
P916	Calcium	Water	118.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P937	Potassium	Water	7.3000	mg/l		
P929	Sodium	Water	175.0000	mg/l		
P410	Alkalinity	Water	132.0000	mg/l		
P941	Chloride	Water	287.0000	mg/l		
P946	Sulfate	Water	254.0000	mg/l		
P745	Sulfide	Water	0.0100	mg/l	ND	0.02
P70300	Total dissolved solids	Water	1030.0000	mg/l		
P31616	Fecal coliforms	Water	1800.0000	cfu/100ml		
P1105	Aluminum	Water	300.0000	ug/l		
P1002	Arsenic	Water	10.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	120.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P720	Cyanide	Water	0.0025	mg/l	ND	0.005
P1045	Iron	Water	260.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	370.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/08/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P530	Total suspended solids	Water	10.0000	mg/l		
P70303	Total dissolved solids	Water	1.4000	tons/ac ft		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/08/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P946	Sulfate	Water	197.0000	mg/l		
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	10.0000	ug/l	ND	20
P1055	Manganese	Water	10.0000	ug/l	ND	20
P1042	Copper	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	20.0000	NTU		
P405	Carbon dioxide	Water	12.0000	mg/l		
P299	Oxygen	Water	6.9000	mg/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	740.0000	ug/l		
P1083	Strontium	Water	740.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P70300	Total dissolved solids	Water	1290.0000	mg/l		
P70303	Total dissolved solids	Water	1.7500	tons/ac ft		
P70300	Total dissolved solids	Water	1290.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	9.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.6000	mg/l as N		
P666	Phosphorus	Water	1.0000	mg/l as P		
P665	Phosphorus	Water	1.0000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	310.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	150.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	220.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/08/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	2140.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	15.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	430.0000	mg/l		
P900	Hardness, non-carbonate	Water	183.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	35.0000	mg/l		
P927	Magnesium	Water	35.0000	mg/l		
P935	Potassium	Water	24.0000	mg/l		
P937	Potassium	Water	24.0000	mg/l		
P931	Sodium adsorption ratio	Water	5.7400	None		
P932	Sodium, percent total cations	Water	57.0000	%		
P930	Sodium	Water	270.0000	mg/l		
P929	Sodium	Water	270.0000	mg/l		
P410	Alkalinity	Water	237.0000	mg/l		
P941	Chloride	Water	513.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0640	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1970	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	105.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	29.1000	mg/L		
P1055	Manganese	Water	0.0240	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	13.4000	mg/L		
P1147	Selenium	Water	0.0310	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	242.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	211.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.7600	mg/L		
P940	Chloride	Water	292.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	4.6400	mg/L		
P945	Sulfate	Water	327.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	27.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	1745.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	564.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	1.6400	mg/L		
P877098W	TETRACHLORO-M-XYLENE	Water	43.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	43.8000	mg/l		
P1082	STRONTIUM	Water	0.7810	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **SC03** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 10/11/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	67.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	40.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/12/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P82078	Turbidity	Water	1.8000	NTU		
P405	Carbon dioxide	Water	19.0000	mg/l		
P299	Oxygen	Water	6.4000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	2180.0000	uS/cm		
P20	Temperature, air	Water	19.0000	deg C		
P10	Temperature, water	Water	16.5000	deg C		
P900	Hardness, non-carbonate	Water	308.0000	mg/l		
P916	Calcium	Water	124.0000	mg/l		
P927	Magnesium	Water	37.0000	mg/l		
P937	Potassium	Water	18.0000	mg/l		
P929	Sodium	Water	343.0000	mg/l		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	33.0000	mg/l		
P31616	Fecal coliforms	Water	350.0000	cfu/100ml		
P1105	Aluminum	Water	400.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	260.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	70.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	420.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	110.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P410	Alkalinity	Water	155.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	385.0000	mg/l		
P946	Sulfate	Water	380.0000	mg/l		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	2.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/12/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/13/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	8.3000	mg/l		
P299	Oxygen	Water	8.7000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	2600.0000	uS/cm		
P20	Temperature, air	Water	22.0000	deg C		
P10	Temperature, water	Water	17.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	480.0000	mg/l		
P900	Hardness, non-carbonate	Water	350.0000	mg/l		
P916	Calcium	Water	135.0000	mg/l		
P927	Magnesium	Water	36.0000	mg/l		
P937	Potassium	Water	23.0000	mg/l		
P929	Sodium	Water	518.0000	mg/l		
P410	Alkalinity	Water	135.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	355.0000	mg/l		
P946	Sulfate	Water	621.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	15.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia and ammonium	Water	0.3350	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	14.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	5.0000	ug/l	LT	10
P999	Boron	Water	610.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	28.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	90.0000	ug/l		
P1051	Lead	Water	50.0000	ug/l	LT	100
P1055	Manganese	Water	50.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	100.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	LT	10
P1092	Zinc	Water	80.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	30.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/14/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	393.0000	mg/l		
P946	Sulfate	Water	365.0000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P530	Total suspended solids	Water	18.0000	mg/l		
P549	Volatile Suspended Solids	Water	11.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.7000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P31616	Fecal coliforms	Water	5600.0000	cfu/100ml		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	350.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	27.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	230.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	240.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	410.0000	ug/l		
P985	Vanadium	Water	20.0000	ug/l		
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P82078	Turbidity	Water	2.8000	NTU		
P405	Carbon dioxide	Water	17.0000	mg/l		
P299	Oxygen	Water	8.1000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	2330.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	13.0000	deg C		
P900	Hardness, non-carbonate	Water	365.0000	mg/l		
P916	Calcium	Water	146.0000	mg/l		
P927	Magnesium	Water	34.0000	mg/l		
P937	Potassium	Water	14.0000	mg/l		
P929	Sodium	Water	287.0000	mg/l		
P410	Alkalinity	Water	140.0000	mg/l		
P435	Acidity	Water		mg/l	ND	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/19/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	90.0000	ug/l		
P1045	Iron	Water	390.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	110.0000	ug/l		
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	480.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P925	Magnesium	Water	29.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P82078	Turbidity	Water	0.2000	NTU		
P405	Carbon dioxide	Water	1.2000	mg/l		
P299	Oxygen	Water	7.8000	mg/l		
P400	pH	Water	8.5000	std units		
P94	Specific conductance	Water	1700.0000	uS/cm		
P20	Temperature, air	Water		deg C	ND	
P10	Temperature, water	Water	8.4000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	380.0000	mg/l		
P900	Hardness, non-carbonate	Water	186.0000	mg/l		
P915	Calcium	Water	105.0000	mg/l		
P916	Calcium	Water	105.0000	mg/l		
P935	Potassium	Water	8.0000	mg/l		
P937	Potassium	Water	8.6000	mg/l		
P931	Sodium adsorption ratio	Water	5.0300	None		
P932	Sodium, percent total cations	Water	56.0000	%		
P930	Sodium	Water	226.0000	mg/l		
P929	Sodium	Water	226.0000	mg/l		
P410	Alkalinity	Water	196.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/19/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	269.0000	mg/l		
P946	Sulfate	Water	286.0000	mg/l		
P70300	Total dissolved solids	Water	1040.0000	mg/l		
P70303	Total dissolved solids	Water	1.4200	tons/ac ft		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	6.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0025	mg/l as N	ND	0.005
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.2000	mg/l as N		
P666	Phosphorus	Water	0.7500	mg/l as P		
P665	Phosphorus	Water	0.7800	mg/l as P		
P191	Hydrogen ion	Water	0.0005	mg/l	LT	0.001
P335	Chemical oxygen demand, (low level)	Water	37.0000	mg/l		
P31616	Fecal coliforms	Water	260.0000	cfu/100ml		
P1106	Aluminum	Water	81.0000	ug/l		
P1105	Aluminum	Water	300.0000	ug/l		
P1005	Barium	Water	102.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	160.0000	ug/l		
P999	Boron	Water	160.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/20/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Fixed suspended solids	Water	6.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia and ammonium	Water	0.5150	mg/l NH4		
P610	Ammonia and ammonium	Water	0.4000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	8.7000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	48.0000	mg/l		
P1005	Barium	Water	95.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	230.0000	ug/l		
P999	Boron	Water	250.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water		ug/l	ND	
P1030	Chromium	Water	5.0000	ug/l	ND	10
P1220	Chromium	Water	20.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1046	Iron	Water	30.0000	ug/l		
P1045	Iron	Water	220.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water		ug/l	ND	
P1056	Manganese	Water	140.0000	ug/l		
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water		ug/l	ND	
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water		ug/l	ND	
P1080	Strontium	Water	480.0000	ug/l		
P1083	Strontium	Water	500.0000	ug/l		
P1085	Vanadium	Water	5.0000	ug/l	ND	10.0
P400	pH	Water	8.1000	std units		
P403	pH, lab	Water	7.3000	std units		
P94	Specific conductance	Water	670.0000	uS/cm		
P20	Temperature, air	Water	18.5000	deg C		
P10	Temperature, water	Water	17.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P900	Hardness, non-carbonate	Water	290.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/20/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	29.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P935	Potassium	Water	7.5000	mg/l		
P937	Potassium	Water	7.5000	mg/l		
P931	Sodium adsorption ratio	Water	6.8000	None		
P932	Sodium, percent total cations	Water	63.0000	%		
P930	Sodium	Water	310.0000	mg/l		
P929	Sodium	Water	320.0000	mg/l		
P410	Alkalinity	Water	108.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	312.0000	mg/l		
P946	Sulfate	Water	429.0000	mg/l		
P70300	Total dissolved solids	Water	1260.0000	mg/l		
P70303	Total dissolved solids	Water	1.7200	tons/ac ft		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	30.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P405	Carbon dioxide	Water	1.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/25/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P937	Potassium	Water	8.7000	mg/l		
P931	Sodium adsorption ratio	Water	8.1400	None		
P932	Sodium, percent total cations	Water	66.0000	%		
P930	Sodium	Water	375.0000	mg/l		
P929	Sodium	Water	381.0000	mg/l		
P410	Alkalinity	Water	155.0000	mg/l		
P941	Chloride	Water	525.0000	mg/l		
P946	Sulfate	Water	364.0000	mg/l		
P70300	Total dissolved solids	Water	1510.0000	mg/l		
P70303	Total dissolved solids	Water	2.0500	tons/ac ft		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	7.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.5000	mg/l as N		
P666	Phosphorus	Water	0.8200	mg/l as P		
P665	Phosphorus	Water	0.8400	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	40.0000	mg/l		
P31616	Fecal coliforms	Water	750.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	98.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	230.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	820.0000	ug/l		
P1083	Strontium	Water	830.0000	ug/l		
P1085	Vanadium	Water	109.0000	ug/l		
P985	Vanadium	Water	180.0000	ug/l		
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	6.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/25/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	80.0000	ug/l		
P1045	Iron	Water	190.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	100.0000	ug/l		
P1055	Manganese	Water	100.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	6.6000	NTU		
P405	Carbon dioxide	Water	9.6000	mg/l		
P299	Oxygen	Water	9.3000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	2450.0000	uS/cm		
P20	Temperature, air	Water	8.0000	deg C		
P10	Temperature, water	Water	8.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P900	Hardness, non-carbonate	Water	248.0000	mg/l		
P915	Calcium	Water	113.0000	mg/l		
P916	Calcium	Water	113.0000	mg/l		
P925	Magnesium	Water	29.0000	mg/l		
P927	Magnesium	Water	29.0000	mg/l		
P935	Potassium	Water	8.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/26/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	2030.0000	uS/cm		
P20	Temperature, air	Water	15.0000	deg C		
P10	Temperature, water	Water	13.3000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	520.0000	mg/l		
P900	Hardness, non-carbonate	Water	297.0000	mg/l		
P915	Calcium	Water	140.0000	mg/l		
P916	Calcium	Water	140.0000	mg/l		
P925	Magnesium	Water	39.0000	mg/l		
P927	Magnesium	Water	40.0000	mg/l		
P935	Potassium	Water	9.1000	mg/l		
P937	Potassium	Water	9.5000	mg/l		
P931	Sodium adsorption ratio	Water	4.0500	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	210.0000	mg/l		
P929	Sodium	Water	220.0000	mg/l		
P410	Alkalinity	Water	218.0000	mg/l		
P941	Chloride	Water	441.0000	mg/l		
P946	Sulfate	Water	593.0000	mg/l		
P70300	Total dissolved solids	Water	1560.0000	mg/l		
P70303	Total dissolved solids	Water	1.6600	tons/ac ft		
P70300	Total dissolved solids	Water	1220.0000	mg/l		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	2.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	160.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/26/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1080	Strontium	Water	680.0000	ug/l		
P1083	Strontium	Water	680.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.5000	mg/l as N		
P666	Phosphorus	Water	1.4000	mg/l as P		
P665	Phosphorus	Water	1.5000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	980.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	170.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	100.0000	ug/l		
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1020	Boron	Water	200.0000	ug/l		
P999	Boron	Water	200.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	1.8000	NTU		
P405	Carbon dioxide	Water	11.0000	mg/l		
P299	Oxygen	Water	7.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/26/2005

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P666	Phosphate-phosphorus as P	Water	0.9900	mg/l		0.01
P530	Total suspended solids	Water	2.5000	mg/l	ND	5
P665	Phosphate-phosphorus as P	Water	1.2800	mg/l		0.05
P940	Chloride	Water	351.0000	mg/l		3
P620	Inorganic nitrogen (nitrate and nitrite) as N	Water	7.1200	mg/l		0.004
P625	Kjeldahl nitrogen	Water	1.0300	mg/l		0.4
P34694	Phenol	Water	0.0140	mg/l		0.0036
P945	Sulfate as SO4	Water	318.0000	mg/l		10
P410	Alkalinity, Carbonate as CaCO3	Water	249.0000	mg/l		0
P10	Temperature, sample	Water	3.8000	deg C		
	Total volatile solids	Water	2.8500	mg/l	ND	5.7

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/28/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P941	Chloride	Water	525.0000	mg/l		
P946	Sulfate	Water	434.0000	mg/l		
P530	Fixed suspended solids	Water	1.0000	mg/l		
P530	Total suspended solids	Water	3.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	14.0000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	28.0000	mg/l		
P31616	Fecal coliforms	Water	180.0000	cfu/100ml		
P1105	Aluminum	Water	100.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	340.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	7.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1045	Iron	Water	120.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	980.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	20.0000	ug/l		
P82078	Turbidity	Water	1.5000	NTU		
P405	Carbon dioxide	Water	14.0000	mg/l		
P299	Oxygen	Water	9.2000	mg/l		
P400	pH	Water	7.2000	std units		
P94	Specific conductance	Water	2680.0000	uS/cm		
P20	Temperature, air	Water	16.0000	deg C		
P10	Temperature, water	Water	13.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	580.0000	mg/l		
P900	Hardness, non-carbonate	Water	464.0000	mg/l		
P916	Calcium	Water	162.0000	mg/l		
P927	Magnesium	Water	42.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 10/28/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	11.0000	mg/l		
P929	Sodium	Water	417.0000	mg/l		
P410	Alkalinity	Water	115.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/06/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P941	Chloride	Water	377.0000	mg/l		
P946	Sulfate	Water	513.0000	mg/l		
P70300	Total dissolved solids	Water	1600.0000	mg/l		
P70303	Total dissolved solids	Water	2.1700	tons/ac ft		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia and ammonium	Water		mg/l NH4	ND	
P610	Ammonia and ammonium	Water		mg/l as N	ND	
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.4000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	50.0000	mg/l		
P1005	Barium	Water	80.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	230.0000	ug/l		
P999	Boron	Water	240.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water		ug/l	ND	
P1030	Chromium	Water	5.0000	ug/l	ND	10
P1220	Chromium	Water	60.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1046	Iron	Water	120.0000	ug/l		
P1045	Iron	Water	150.0000	ug/l		
P1049	Lead	Water	50.0000	ug/l	ND	100
P1051	Lead	Water		ug/l	ND	
P1056	Manganese	Water	95.0000	ug/l	ND	190
P1055	Manganese	Water	200.0000	ug/l		
P71900	Mercury	Water		ug/l	ND	
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water		ug/l	ND	
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water		ug/l	ND	
P1080	Strontium	Water	460.0000	ug/l		
P1083	Strontium	Water	470.0000	ug/l		
P1085	Vanadium	Water	5.0000	ug/l	ND	10.0
P985	Vanadium	Water	5.0000	ug/l	ND	10
P403	pH, lab	Water	7.9000	std units		
P94	Specific conductance	Water	590.0000	uS/cm		
P20	Temperature, air	Water	13.5000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/06/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	11.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	450.0000	mg/l		
P900	Hardness, non-carbonate	Water	260.0000	mg/l		
P915	Calcium	Water	125.0000	mg/l		
P916	Calcium	Water	125.0000	mg/l		
P925	Magnesium	Water	32.0000	mg/l		
P927	Magnesium	Water	32.0000	mg/l		
P935	Potassium	Water	8.0000	mg/l		
P937	Potassium	Water	8.0000	mg/l		
P931	Sodium adsorption ratio	Water	8.9000	None		
P932	Sodium, percent total cations	Water	67.0000	%		
P930	Sodium	Water	430.0000	mg/l		
P929	Sodium	Water	440.0000	mg/l		
P410	Alkalinity	Water	183.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P405	Carbon dioxide	Water	4.5000	mg/l		
P400	pH	Water	7.9000	std units		
P1092	Zinc	Water	20.0000	ug/l		
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/08/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P927	Magnesium	Water	26.0000	mg/l		
P937	Potassium	Water	7.7000	mg/l		
P929	Sodium	Water	249.0000	mg/l		
P410	Alkalinity	Water	101.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	300.0000	mg/l		
P946	Sulfate	Water	248.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0020	mg/l as N	ND	0.004
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.0000	mg/l as N		
P666	Phosphorus	Water	0.7400	mg/l as P		
P665	Phosphorus	Water	0.8000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	19.0000	mg/l		
P31616	Fecal coliforms	Water	390.0000	cfu/100ml		
P1105	Aluminum	Water	200.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	210.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	14.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	210.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	460.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	3.2000	NTU		
P405	Carbon dioxide	Water	1.0000	mg/l		
P299	Oxygen	Water	9.4000	mg/l		
P400	pH	Water	8.3000	std units		
P94	Specific conductance	Water	1700.0000	uS/cm		
P20	Temperature, air	Water	12.0000	deg C		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/08/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	9.0000	deg C		
P900	Hardness, non-carbonate	Water	241.0000	mg/l		
P916	Calcium	Water	94.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/09/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P930	Sodium	Water	319.0000	mg/l		
P929	Sodium	Water	316.0000	mg/l		
P410	Alkalinity	Water	135.0000	mg/l		
P941	Chloride	Water	374.0000	mg/l		
P946	Sulfate	Water	491.0000	mg/l		
P70300	Total dissolved solids	Water	1450.0000	mg/l		
P70303	Total dissolved solids	Water	1.9700	tons/ac ft		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	3.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1420	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1100	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.4000	mg/l as N		
P666	Phosphorus	Water	1.1000	mg/l as P		
P665	Phosphorus	Water	1.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		
P31616	Fecal coliforms	Water	60.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	25.0000	ug/l	ND	50
P1005	Barium	Water	113.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	220.0000	ug/l		
P999	Boron	Water	220.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	20.0000	ug/l		
P1220	Chromium	Water	18.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	15.0000	ug/l		
P1045	Iron	Water	120.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/09/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	840.0000	ug/l		
P1083	Strontium	Water	820.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P82078	Turbidity	Water	4.3000	NTU		
P405	Carbon dioxide	Water	8.3000	mg/l		
P299	Oxygen	Water	9.9000	mg/l		
P400	pH	Water	7.5000	std units		
P94	Specific conductance	Water	2350.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	13.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	470.0000	mg/l		
P900	Hardness, non-carbonate	Water	336.0000	mg/l		
P915	Calcium	Water	133.0000	mg/l		
P916	Calcium	Water	132.0000	mg/l		
P925	Magnesium	Water	34.0000	mg/l		
P927	Magnesium	Water	34.0000	mg/l		
P935	Potassium	Water	17.0000	mg/l		
P937	Potassium	Water	17.0000	mg/l		
P931	Sodium adsorption ratio	Water	6.3900	None		
P932	Sodium, percent total cations	Water	58.0000	%		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/13/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1055	Manganese	Water	190.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	1000.0000	ug/l		
P1083	Strontium	Water	1020.0000	ug/l		
P1085	Vanadium	Water	6.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	0.5000	NTU		
P405	Carbon dioxide	Water	6.6000	mg/l		
P299	Oxygen	Water	11.0000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	3230.0000	uS/cm		
P20	Temperature, air	Water	11.0000	deg C		
P10	Temperature, water	Water	7.6000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	720.0000	mg/l		
P900	Hardness, non-carbonate	Water	554.0000	mg/l		
P915	Calcium	Water	205.0000	mg/l		
P916	Calcium	Water	205.0000	mg/l		
P925	Magnesium	Water	51.0000	mg/l		
P927	Magnesium	Water	51.0000	mg/l		
P935	Potassium	Water	10.0000	mg/l		
P937	Potassium	Water	12.0000	mg/l		
P931	Sodium adsorption ratio	Water	7.4300	None		
P932	Sodium, percent total cations	Water	58.0000	%		
P930	Sodium	Water	459.0000	mg/l		
P929	Sodium	Water	467.0000	mg/l		
P410	Alkalinity	Water	169.0000	mg/l		
P941	Chloride	Water	136.0000	mg/l		
P946	Sulfate	Water	467.0000	mg/l		
P70300	Total dissolved solids	Water	1430.0000	mg/l		
P70303	Total dissolved solids	Water	1.9500	tons/ac ft		
P530	Fixed suspended solids	Water	2.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	2.0000	mg/l		
P31616	Fecal coliforms	Water	240.0000	cfu/100ml		
P1106	Aluminum	Water	98.0000	ug/l		
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	163.0000	ug/l		
P1007	Barium	Water	200.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/13/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1020	Boron	Water	220.0000	ug/l		
P999	Boron	Water	220.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	9.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1045	Iron	Water	120.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	190.0000	ug/l		
P335	Chemical oxygen demand, (low level)	Water	37.0000	mg/l		
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.1670	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.2000	mg/l as N		
P666	Phosphorus	Water	1.4000	mg/l as P		
P665	Phosphorus	Water	1.4000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/13/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	25.0000	ug/l		
P405	Carbon dioxide	Water	5.2000	mg/l		
P299	Oxygen	Water	11.2000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	2540.0000	uS/cm		
P1220	Chromium	Water	11.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	150.0000	ug/l		
P1055	Manganese	Water	160.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	5.4000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	520.0000	mg/l		
P900	Hardness, non-carbonate	Water	391.0000	mg/l		
P915	Calcium	Water	140.0000	mg/l		
P916	Calcium	Water	150.0000	mg/l		
P925	Magnesium	Water	34.0000	mg/l		
P927	Magnesium	Water	36.0000	mg/l		
P935	Potassium	Water	7.0000	mg/l		
P937	Potassium	Water	7.4000	mg/l		
P931	Sodium adsorption ratio	Water	7.6700	None		
P932	Sodium, percent total cations	Water	63.0000	%		
P930	Sodium	Water	390.0000	mg/l		
P929	Sodium	Water	410.0000	mg/l		
P410	Alkalinity	Water	133.0000	mg/l		
P530	Fixed suspended solids	Water	4.0000	mg/l		
P530	Total suspended solids	Water	5.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0390	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0300	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.7000	mg/l as N		
P665	Phosphorus	Water	3.3000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	23.0000	mg/l		
P31616	Fecal coliforms	Water	1240.0000	cfu/100ml		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/13/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P1005	Barium	Water	95.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	320.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	10.0000	ug/l		
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	960.0000	ug/l		
P1083	Strontium	Water	1000.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/15/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	16.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	200.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	470.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water		mg/l	ND	
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P929	Sodium	Water	249.0000	mg/l		
P410	Alkalinity	Water	116.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	275.0000	mg/l		
P946	Sulfate	Water	350.0000	mg/l		
P82078	Turbidity	Water	4.1000	NTU		
P405	Carbon dioxide	Water	9.0000	mg/l		
P299	Oxygen	Water	8.9000	mg/l		
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	1820.0000	uS/cm		
P20	Temperature, air	Water	8.0000	deg C		
P10	Temperature, water	Water	8.0000	deg C		
P900	Hardness, non-carbonate	Water	290.0000	mg/l		
P916	Calcium	Water	113.0000	mg/l		
P927	Magnesium	Water	30.0000	mg/l		
P937	Potassium	Water	9.4000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P530	Total suspended solids	Water	8.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	11.0000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	29.0000	mg/l		
P31616	Fecal coliforms	Water	50.0000	cfu/100ml		
P1105	Aluminum	Water	200.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	1.0000	ug/l	ND	2

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/15/1983

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P999	Boron	Water	200.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/15/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	95.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	180.0000	ug/l		
P999	Boron	Water	180.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P82078	Turbidity	Water	6.6000	NTU		
P405	Carbon dioxide	Water	8.6000	mg/l		
P299	Oxygen	Water	6.8000	mg/l		
P400	pH	Water	7.5000	std units		
P1079	Silver	Water	6.0000	ug/l		
P1080	Strontium	Water	600.0000	ug/l		
P1083	Strontium	Water	600.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	180.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P900	Hardness, non-carbonate	Water	248.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	27.0000	mg/l		
P935	Potassium	Water	14.0000	mg/l		
P937	Potassium	Water	15.0000	mg/l		
P931	Sodium adsorption ratio	Water	5.9800	None		
P932	Sodium, percent total cations	Water	59.0000	%		
P930	Sodium	Water	270.0000	mg/l		
P929	Sodium	Water	270.0000	mg/l		
P410	Alkalinity	Water	139.0000	mg/l		
P941	Chloride	Water	323.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/15/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P946	Sulfate	Water	440.0000	mg/l		
P70300	Total dissolved solids	Water	1270.0000	mg/l		
P70303	Total dissolved solids	Water	1.7000	tons/ac ft		
P70300	Total dissolved solids	Water	1250.0000	mg/l		
P530	Fixed suspended solids	Water	9.0000	mg/l		
P530	Total suspended solids	Water	13.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.2060	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	10.0000	mg/l as N		
P666	Phosphorus	Water	1.2000	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	70.0000	ug/l		
P1055	Manganese	Water	80.0000	ug/l		
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	4.0000	ug/l		
P94	Specific conductance	Water	2070.0000	uS/cm		
P20	Temperature, air	Water	9.0000	deg C		
P10	Temperature, water	Water	14.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	390.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/20/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	100.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	140.0000	ug/l		
P1055	Manganese	Water	150.0000	ug/l		
P71900	Mercury	Water	0.1000	ug/l		
P1066	Nickel	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	2.7000	NTU		
P405	Carbon dioxide	Water	37.0000	mg/l		
P299	Oxygen	Water	10.6000	mg/l		
P400	pH	Water	7.0000	std units		
P94	Specific conductance	Water	1650.0000	uS/cm		
P20	Temperature, air	Water	6.0000	deg C		
P10	Temperature, water	Water	9.6000	deg C		
P925	Magnesium	Water	28.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P935	Potassium	Water	4.3000	mg/l		
P937	Potassium	Water	4.8000	mg/l		
P931	Sodium adsorption ratio	Water	4.5200	None		
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	460.0000	ug/l		
P1083	Strontium	Water	460.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P900	Total hardness -- SDWA NPDWR	Water	370.0000	mg/l		
P900	Hardness, non-carbonate	Water	182.0000	mg/l		
P915	Calcium	Water	102.0000	mg/l		
P916	Calcium	Water	102.0000	mg/l		
P932	Sodium, percent total cations	Water	54.0000	%		
P930	Sodium	Water	200.0000	mg/l		
P929	Sodium	Water	198.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/20/1989

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P410	Alkalinity	Water	189.0000	mg/l		
P941	Chloride	Water	214.0000	mg/l		
P946	Sulfate	Water	353.0000	mg/l		
P70300	Total dissolved solids	Water	1020.0000	mg/l		
P70303	Total dissolved solids	Water	1.3800	tons/ac ft		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.2830	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2200	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	3.4000	mg/l as N		
P666	Phosphorus	Water	0.4100	mg/l as P		
P665	Phosphorus	Water	0.4400	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P335	Chemical oxygen demand, (low level)	Water	38.0000	mg/l		
P31616	Fecal coliforms	Water	110.0000	cfu/100ml		
P1106	Aluminum	Water	65.0000	ug/l		
P1105	Aluminum	Water	50.0000	ug/l	LT	100
P1005	Barium	Water	96.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	170.0000	ug/l		
P999	Boron	Water	170.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/21/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	92.0000	NTU		
P405	Carbon dioxide	Water	5.5000	mg/l		
P299	Oxygen	Water	9.0000	mg/l		
P400	pH	Water	7.0000	std units		
P94	Specific conductance	Water	318.0000	uS/cm		
P20	Temperature, air	Water	-2.0000	deg C		
P10	Temperature, water	Water	6.5000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	110.0000	mg/l		
P900	Hardness, non-carbonate	Water	80.0000	mg/l		
P916	Calcium	Water	29.0000	mg/l		
P927	Magnesium	Water	8.5000	mg/l		
P937	Potassium	Water	5.6000	mg/l		
P929	Sodium	Water	24.0000	mg/l		
P410	Alkalinity	Water	28.0000	mg/l		
P941	Chloride	Water	29.0000	mg/l		
P946	Sulfate	Water	46.0000	mg/l		
P530	Fixed suspended solids	Water	70.0000	mg/l		
P530	Total suspended solids	Water	79.0000	mg/l		
P549	Volatile Suspended Solids	Water	9.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.3220	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2500	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	1.2000	mg/l as N		
P666	Phosphorus	Water	0.2900	mg/l as P		
P665	Phosphorus	Water	0.4600	mg/l as P		
P191	Hydrogen ion	Water	0.0001	mg/l		
P335	Chemical oxygen demand, (low level)	Water	41.0000	mg/l		
P31616	Fecal coliforms	Water	15000.0000	cfu/100ml		
P1105	Aluminum	Water	7700.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	80.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	34.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	5.0000	ug/l	LT	10
P1045	Iron	Water	6780.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0050	ug/l	ND	0.01
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	100.0000	ug/l		
P985	Vanadium	Water	10.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/21/1985

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	530.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/29/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	25.0000	ug/l	ND	50
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	130.0000	ug/l		
P1055	Manganese	Water	130.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P935	Potassium	Water	7.6000	mg/l		
P937	Potassium	Water	7.6000	mg/l		
P931	Sodium adsorption ratio	Water	6.5400	None		
P932	Sodium, percent total cations	Water	62.0000	%		
P930	Sodium	Water	293.0000	mg/l		
P929	Sodium	Water	292.0000	mg/l		
P410	Alkalinity	Water	109.0000	mg/l		
P941	Chloride	Water	340.0000	mg/l		
P946	Sulfate	Water	372.0000	mg/l		
P70300	Total dissolved solids	Water	1210.0000	mg/l		
P70303	Total dissolved solids	Water	1.6500	tons/ac ft		
P530	Fixed suspended solids	Water		mg/l	ND	
P530	Total suspended solids	Water	3.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0110	mg/l as N		
P610	Ammonia and ammonium	Water	3.8600	mg/l NH4		
P610	Ammonia and ammonium	Water	3.0000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	14.0000	mg/l as N		
P666	Phosphorus	Water	0.6300	mg/l as P		
P665	Phosphorus	Water	0.6600	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	42.0000	mg/l		
P31616	Fecal coliforms	Water	280.0000	cfu/100ml		
P1106	Aluminum	Water	81.0000	ug/l		
P1105	Aluminum	Water	100.0000	ug/l		
P1005	Barium	Water	117.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P82078	Turbidity	Water	9.3000	NTU		
P405	Carbon dioxide	Water	8.5000	mg/l		
P299	Oxygen	Water	12.7000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 11/29/1988

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P400	pH	Water	7.4000	std units		
P94	Specific conductance	Water	2060.0000	uS/cm		
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	700.0000	ug/l		
P1083	Strontium	Water	700.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	6.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	380.0000	mg/l		
P900	Hardness, non-carbonate	Water	272.0000	mg/l		
P915	Calcium	Water	106.0000	mg/l		
P916	Calcium	Water	106.0000	mg/l		
P925	Magnesium	Water	28.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P1020	Boron	Water	180.0000	ug/l		
P999	Boron	Water	180.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/02/1981

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	260.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	20.0000	ug/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	165.0000	mg/l		
P946	Sulfate	Water	190.0000	mg/l		
P530	Fixed suspended solids	Water	5.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	6.0000	mg/l		
P610	Ammonia and ammonium	Water	1.1100	mg/l NH4		
P610	Ammonia and ammonium	Water	0.8600	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.2000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P299	Oxygen	Water	8.1000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	1210.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	5.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	250.0000	mg/l		
P900	Hardness, non-carbonate	Water	120.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	36.0000	mg/l		
P31616	Fecal coliforms	Water	55000.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	130.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	12.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P405	Carbon dioxide	Water	12.0000	mg/l		
P916	Calcium	Water	68.0000	mg/l		
P927	Magnesium	Water	19.0000	mg/l		
P937	Potassium	Water	8.1000	mg/l		
P929	Sodium	Water	131.0000	mg/l		
P410	Alkalinity	Water	125.0000	mg/l		
P1045	Iron	Water	860.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	170.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/09/1980

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P405	Carbon dioxide	Water	1.8000	mg/l		
P400	pH	Water	8.2000	std units		
P403	pH, lab	Water	7.1000	std units		
P94	Specific conductance	Water	730.0000	uS/cm		
P20	Temperature, air	Water	3.5000	deg C		
P10	Temperature, water	Water	6.0000	deg C		
P900	Hardness, non-carbonate	Water	77.0000	mg/l		
P916	Calcium	Water	62.0000	mg/l		
P610	Ammonia and ammonium	Water	0.9010	mg/l NH4		
P610	Ammonia and ammonium	Water	0.7000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	2.8000	mg/l as N		
P191	Hydrogen ion	Water	0.0000	mg/l		
P927	Magnesium	Water	17.0000	mg/l		
P937	Potassium	Water	5.1000	mg/l		
P929	Sodium	Water	100.0000	mg/l		
P410	Alkalinity	Water	148.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	95.0000	mg/l		
P946	Sulfate	Water	141.0000	mg/l		
P530	Fixed suspended solids	Water	7.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	4.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	33.0000	mg/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	120.0000	ug/l		
P1027	Cadmium	Water		ug/l	ND	
P1220	Chromium	Water		ug/l	ND	
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1042	Copper	Water		ug/l	ND	
P1045	Iron	Water	600.0000	ug/l		
P1051	Lead	Water		ug/l	ND	
P1055	Manganese	Water	150.0000	ug/l		
P1067	Nickel	Water		ug/l	ND	
P1079	Silver	Water		ug/l	ND	
P1083	Strontium	Water	180.0000	ug/l		
P985	Vanadium	Water	5.0000	ug/l	ND	10
P1092	Zinc	Water	40.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 12/09/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P94	Specific conductance	Water	1160.0000	uS/cm		
P20	Temperature, air	Water	8.0000	deg C		
P1056	Manganese	Water	100.0000	ug/l		
P1055	Manganese	Water	120.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	310.0000	ug/l		
P1083	Strontium	Water	320.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P10	Temperature, water	Water	8.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	310.0000	mg/l		
P900	Hardness, non-carbonate	Water	170.0000	mg/l		
P915	Calcium	Water	84.0000	mg/l		
P916	Calcium	Water	85.0000	mg/l		
P925	Magnesium	Water	24.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P935	Potassium	Water	5.4000	mg/l		
P937	Potassium	Water	5.6000	mg/l		
P931	Sodium adsorption ratio	Water	3.1500	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	127.0000	mg/l		
P929	Sodium	Water	131.0000	mg/l		
P410	Alkalinity	Water	142.0000	mg/l		
P941	Chloride	Water	160.0000	mg/l		
P946	Sulfate	Water	200.0000	mg/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	2.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P70300	Total dissolved solids	Water	686.0000	mg/l		
P70303	Total dissolved solids	Water	0.9300	tons/ac ft		
P530	Fixed suspended solids	Water	15.0000	mg/l		
P530	Total suspended solids	Water	22.0000	mg/l		
P549	Volatile Suspended Solids	Water	7.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.1290	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.7000	mg/l as N		
P666	Phosphorus	Water	0.6200	mg/l as P		
P665	Phosphorus	Water	0.6800	mg/l as P		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Sugar Creek Collection Date 12/09/1986

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	21.0000	mg/l		
P31616	Fecal coliforms	Water	2600.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	400.0000	ug/l		
P1005	Barium	Water	64.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	80.0000	ug/l		
P999	Boron	Water	80.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	3.7000	NTU		
P405	Carbon dioxide	Water	5.5000	mg/l		
P299	Oxygen	Water	9.5000	mg/l		
P400	pH	Water	7.7000	std units		
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	500.0000	ug/l		
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/09/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P70303	Total dissolved solids	Water	1.0400	tons/ac ft		
P610	Ammonia and ammonium	Water	0.0065	mg/l NH4	ND	0.013
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P82078	Turbidity	Water	6.0000	NTU		
P405	Carbon dioxide	Water	4.5000	mg/l		
P299	Oxygen	Water	12.2000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1260.0000	uS/cm		
P20	Temperature, air	Water	4.0000	deg C		
P10	Temperature, water	Water	5.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P900	Hardness, non-carbonate	Water	182.0000	mg/l		
P915	Calcium	Water	94.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0050	mg/l as N	ND	0.010
P620	Inorganic nitrogen (nitrate and nitrite)	Water	5.1000	mg/l as N		
P666	Phosphorus	Water	0.6000	mg/l as P		
P665	Phosphorus	Water	0.6300	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	300.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	200.0000	ug/l		
P1005	Barium	Water	96.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	150.0000	ug/l		
P999	Boron	Water	150.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	400.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/09/1996

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	30.0000	ug/l		
P1055	Manganese	Water	40.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	470.0000	ug/l		
P1083	Strontium	Water	500.0000	ug/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P935	Potassium	Water	6.9000	mg/l		
P937	Potassium	Water	7.5000	mg/l		
P931	Sodium adsorption ratio	Water	3.0600	None		
P932	Sodium, percent total cations	Water	45.0000	%		
P930	Sodium	Water	130.0000	mg/l		
P929	Sodium	Water	140.0000	mg/l		
P410	Alkalinity	Water	184.0000	mg/l		
P70300	Total dissolved solids	Water	763.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/12/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P410	Alkalinity	Water	155.0000	mg/l		
P941	Chloride	Water	243.0000	mg/l		
P946	Sulfate	Water	293.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0090	mg/l as N		
P610	Ammonia and ammonium	Water	0.7470	mg/l NH4		
P610	Ammonia and ammonium	Water	0.5800	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.8000	mg/l as N		
P666	Phosphorus	Water	2.8000	mg/l as P		
P665	Phosphorus	Water	2.9000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	20.0000	mg/l		
P31616	Fecal coliforms	Water	1100.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1090	Zinc	Water	25.0000	ug/l	ND	50
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	100.0000	ug/l		
P999	Boron	Water	110.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	7.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	230.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	160.0000	ug/l		
P1055	Manganese	Water	160.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	5.0000	ug/l	ND	10
P1067	Nickel	Water	5.0000	ug/l	ND	10
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1083	Strontium	Water	610.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	5.0000	ug/l	LT	10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/12/1990

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P82078	Turbidity	Water	0.1000	NTU		
P405	Carbon dioxide	Water	3.8000	mg/l		
P299	Oxygen	Water	9.6000	mg/l		
P400	pH	Water	7.9000	std units		
P94	Specific conductance	Water	1590.0000	uS/cm		
P20	Temperature, air	Water	14.0000	deg C		
P10	Temperature, water	Water	9.4000	deg C		
P1105	Aluminum	Water	200.0000	ug/l		
P1007	Barium	Water	100.0000	ug/l		
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P900	Total hardness -- SDWA NPDWR	Water	360.0000	mg/l		
P900	Hardness, non-carbonate	Water	211.0000	mg/l		
P916	Calcium	Water	100.0000	mg/l		
P925	Magnesium	Water	29.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P935	Potassium	Water	4.7000	mg/l		
P937	Potassium	Water	5.1000	mg/l		
P930	Sodium	Water	149.0000	mg/l		
P929	Sodium	Water	146.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/16/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	1720.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P941	Chloride	Water	136.0000	mg/l		
P946	Sulfate	Water	167.0000	mg/l		
P70300	Total dissolved solids	Water	531.0000	mg/l		
P70303	Total dissolved solids	Water	0.7200	tons/ac ft		
P530	Fixed suspended solids	Water	34.0000	mg/l		
P530	Total suspended solids	Water	39.0000	mg/l		
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.5000	mg/l as N		
P666	Phosphorus	Water	0.5300	mg/l as P		
P665	Phosphorus	Water	0.6500	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	26.0000	mg/l		
P31616	Fecal coliforms	Water	4200.0000	cfu/100ml		
P1106	Aluminum	Water	25.0000	ug/l	ND	50
P1105	Aluminum	Water	1600.0000	ug/l		
P1005	Barium	Water	58.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.2500	ug/l	ND	0.5
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P1020	Boron	Water	90.0000	ug/l		
P82078	Turbidity	Water	39.0000	NTU		
P405	Carbon dioxide	Water	7.0000	mg/l		
P299	Oxygen	Water	12.4000	mg/l		
P400	pH	Water	7.3000	std units		
P94	Specific conductance	Water	945.0000	uS/cm		
P20	Temperature, air	Water		deg C	ND	
P10	Temperature, water	Water	2.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	240.0000	mg/l		
P900	Hardness, non-carbonate	Water	169.0000	mg/l		
P915	Calcium	Water	66.0000	mg/l		
P916	Calcium	Water	68.0000	mg/l		
P925	Magnesium	Water	16.0000	mg/l		
P927	Magnesium	Water	17.0000	mg/l		
P935	Potassium	Water	5.6000	mg/l		
P937	Potassium	Water	5.8000	mg/l		
P931	Sodium adsorption ratio	Water	2.7800	None		
P932	Sodium, percent total cations	Water	47.0000	%		
P930	Sodium	Water	97.0000	mg/l		
P929	Sodium	Water	100.0000	mg/l		
P410	Alkalinity	Water	71.0000	mg/l		
P435	Acidity	Water	0.5000	mg/l	ND	1.0

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/16/1987

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1049	Lead	Water	25.0000	ug/l	ND	50
P1051	Lead	Water	25.0000	ug/l	ND	50
P1056	Manganese	Water	100.0000	ug/l		
P1055	Manganese	Water	140.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	2.5000	ug/l	ND	5
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	230.0000	ug/l		
P1083	Strontium	Water	240.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l		
P999	Boron	Water	80.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	5.0000	ug/l	LT	10
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/17/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1055	Manganese	Water	60.0000	ug/l		
P71900	Mercury	Water	0.2000	ug/l		
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	6.0000	ug/l		
P1079	Silver	Water	2.5000	ug/l	ND	5.00
P1080	Strontium	Water	670.0000	ug/l		
P1083	Strontium	Water	760.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	90.0000	ug/l		
P1092	Zinc	Water	25.0000	ug/l	ND	50
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P610	Ammonia	Water	0.0020	mg/l as N		
P610	Ammonia and ammonium	Water	0.1160	mg/l NH4		
P610	Ammonia and ammonium	Water	0.0900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	4.9000	mg/l as N		
P666	Phosphorus	Water	2.0000	mg/l as P		
P665	Phosphorus	Water	2.1000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	25.0000	mg/l		
P31616	Fecal coliforms	Water	130.0000	cfu/100ml		
P1106	Aluminum	Water	75.0000	ug/l	ND	150
P1105	Aluminum	Water	100.0000	ug/l	ND	200
P1005	Barium	Water	67.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	190.0000	ug/l		
P999	Boron	Water	200.0000	ug/l		
P1025	Cadmium	Water	2.5000	ug/l	ND	5
P1027	Cadmium	Water	2.5000	ug/l	ND	5
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	6.0000	ug/l		
P1035	Cobalt	Water	2.5000	ug/l	ND	5
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	130.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	60.0000	ug/l		
P82078	Turbidity	Water	2.2000	NTU		
P299	Oxygen	Water	13.3000	mg/l		
P400	pH	Water	8.2000	std units		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/17/1991

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P94	Specific conductance	Water	1920.0000	uS/cm		
P20	Temperature, air	Water	5.0000	deg C		
P10	Temperature, water	Water	5.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	400.0000	mg/l		
P915	Calcium	Water	110.0000	mg/l		
P916	Calcium	Water	110.0000	mg/l		
P925	Magnesium	Water	27.0000	mg/l		
P927	Magnesium	Water	28.0000	mg/l		
P935	Potassium	Water	5.9000	mg/l		
P937	Potassium	Water	5.8000	mg/l		
P931	Sodium adsorption ratio	Water	5.3200	None		
P932	Sodium, percent total cations	Water	57.0000	%		
P930	Sodium	Water	240.0000	mg/l		
P929	Sodium	Water	280.0000	mg/l		
P941	Chloride	Water	340.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/18/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	310.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	30.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	2.5000	ug/l	ND	5
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1083	Strontium	Water	270.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	25.0000	ug/l	ND	50
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	2.5000	ug/l	ND	5
P82078	Turbidity	Water	5.6000	NTU		
P405	Carbon dioxide	Water	6.1000	mg/l		
P299	Oxygen	Water	10.0000	mg/l		
P400	pH	Water	7.6000	std units		
P94	Specific conductance	Water	1110.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	8.0000	deg C		
P900	Hardness, non-carbonate	Water	167.0000	mg/l		
P916	Calcium	Water	77.0000	mg/l		
P927	Magnesium	Water	24.0000	mg/l		
P937	Potassium	Water	5.7000	mg/l		
P929	Sodium	Water	123.0000	mg/l		
P410	Alkalinity	Water	124.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	142.0000	mg/l		
P946	Sulfate	Water	172.0000	mg/l		
P530	Fixed suspended solids	Water	8.0000	mg/l		
P530	Total suspended solids	Water	11.0000	mg/l		
P549	Volatile Suspended Solids	Water	3.0000	mg/l		
P610	Ammonia	Water	0.0005	mg/l as N	ND	0.001
P610	Ammonia and ammonium	Water	0.0500	mg/l as N	ND	0.100
P620	Inorganic nitrogen (nitrate and nitrite)	Water	7.1000	mg/l as N		
P666	Phosphorus	Water	0.3800	mg/l as P		
P665	Phosphorus	Water	0.4100	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	22.0000	mg/l		
P31616	Fecal coliforms	Water	550.0000	cfu/100ml		
P1105	Aluminum	Water	200.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.2500	ug/l	ND	0.5
P999	Boron	Water	90.0000	ug/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/18/1984

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	8.0000	ug/l		
P610	Ammonia and ammonium	Water	0.0645	mg/l NH4	ND	0.129

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/19/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P549	Volatile Suspended Solids	Water	5.0000	mg/l		
P610	Ammonia	Water	0.0010	mg/l as N		
P610	Ammonia and ammonium	Water	0.2580	mg/l NH4		
P610	Ammonia and ammonium	Water	0.2000	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.1000	mg/l as N		
P666	Phosphorus	Water	1.1300	mg/l as P		
P665	Phosphorus	Water	1.2000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	6450.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	500.0000	ug/l		
P1005	Barium	Water	82.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P1020	Boron	Water	120.0000	ug/l		
P999	Boron	Water	120.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	540.0000	ug/l		
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	5.0000	ug/l	ND	10
P1042	Copper	Water	5.0000	ug/l	ND	10
P1046	Iron	Water	25.0000	ug/l	ND	50
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P82078	Turbidity	Water	1.9000	NTU		
P405	Carbon dioxide	Water	5.0000	mg/l		
P299	Oxygen	Water	10.3000	mg/l		
P400	pH	Water	7.7000	std units		
P94	Specific conductance	Water	1230.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	4.8000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	270.0000	mg/l		
P900	Hardness, non-carbonate	Water	145.0000	mg/l		
P915	Calcium	Water	74.0000	mg/l		
P916	Calcium	Water	77.0000	mg/l		
P925	Magnesium	Water	20.0000	mg/l		
P927	Magnesium	Water	20.0000	mg/l		
P935	Potassium	Water	6.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/19/1995

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P937	Potassium	Water	5.8000	mg/l		
P931	Sodium adsorption ratio	Water	3.7300	None		
P932	Sodium, percent total cations	Water	53.0000	%		
P930	Sodium	Water	140.0000	mg/l		
P929	Sodium	Water	140.0000	mg/l		
P410	Alkalinity	Water	130.0000	mg/l		
P941	Chloride	Water	223.0000	mg/l		
P946	Sulfate	Water	114.0000	mg/l		
P70300	Total dissolved solids	Water	656.0000	mg/l		
P70303	Total dissolved solids	Water	0.9800	tons/ac ft		
P70300	Total dissolved solids	Water	721.0000	mg/l		
P530	Fixed suspended solids	Water	22.0000	mg/l		
P1055	Manganese	Water	40.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	12.5000	ug/l	ND	25
P1067	Nickel	Water	12.5000	ug/l	ND	25
P1075	Silver	Water	1.5000	ug/l	ND	3
P1079	Silver	Water	1.5000	ug/l	ND	3.00
P1080	Strontium	Water	380.0000	ug/l		
P1083	Strontium	Water	380.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1090	Zinc	Water	50.0000	ug/l	ND	100
P1092	Zinc	Water	50.0000	ug/l	ND	100
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P530	Total suspended solids	Water	27.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/21/1982

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P191	Hydrogen ion	Water	0.0000	mg/l		
P335	Chemical oxygen demand, (low level)	Water	21.0000	mg/l		
P31616	Fecal coliforms	Water	6100.0000	cfu/100ml		
P1007	Barium	Water	50.0000	ug/l	LT	100
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	150.0000	ug/l		
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1220	Chromium	Water	14.0000	ug/l		
P1037	Cobalt	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1045	Iron	Water	320.0000	ug/l		
P1051	Lead	Water	25.0000	ug/l	ND	50
P1055	Manganese	Water	180.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1067	Nickel	Water	50.0000	ug/l	LT	100
P1079	Silver	Water	3.0000	ug/l		
P1083	Strontium	Water	250.0000	ug/l		
P985	Vanadium	Water	2.5000	ug/l	ND	5
P1092	Zinc	Water	50.0000	ug/l	ND	100
P556	Oil and grease -- CWA 304B	Water	1.0000	mg/l		
P32730	Phenols and phenolic compounds	Water	10.0000	ug/l		
P82078	Turbidity	Water	3.6000	NTU		
P405	Carbon dioxide	Water	3.1000	mg/l		
P299	Oxygen	Water	11.3000	mg/l		
P400	pH	Water	8.0000	std units		
P94	Specific conductance	Water	1120.0000	uS/cm		
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	4.0000	deg C		
P900	Hardness, non-carbonate	Water	148.0000	mg/l		
P916	Calcium	Water	82.0000	mg/l		
P927	Magnesium	Water	25.0000	mg/l		
P937	Potassium	Water	6.0000	mg/l		
P929	Sodium	Water	129.0000	mg/l		
P410	Alkalinity	Water	160.0000	mg/l		
P435	Acidity	Water		mg/l	ND	
P941	Chloride	Water	107.0000	mg/l		
P946	Sulfate	Water	233.0000	mg/l		
P530	Fixed suspended solids	Water	10.0000	mg/l		
P530	Total suspended solids	Water	18.0000	mg/l		
P549	Volatile Suspended Solids	Water	8.0000	mg/l		
P610	Ammonia	Water	0.0040	mg/l as N		
P610	Ammonia and ammonium	Water	0.4380	mg/l NH4		
P610	Ammonia and ammonium	Water	0.3400	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	6.2000	mg/l as N		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/21/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P530	Total suspended solids	Water	4.0000	mg/l		
P549	Volatile Suspended Solids	Water	1.0000	mg/l		
P610	Ammonia	Water	0.0030	mg/l as N		
P610	Ammonia and ammonium	Water	0.2450	mg/l NH4		
P610	Ammonia and ammonium	Water	0.1900	mg/l as N		
P620	Inorganic nitrogen (nitrate and nitrite)	Water	9.3000	mg/l as N		
P666	Phosphorus	Water	1.7000	mg/l as P		
P665	Phosphorus	Water	1.7000	mg/l as P		
P191	Hydrogen ion	Water	0.0000	mg/l		
P31616	Fecal coliforms	Water	2130.0000	cfu/100ml		
P1106	Aluminum	Water	50.0000	ug/l	ND	100
P1105	Aluminum	Water	50.0000	ug/l	ND	100
P1005	Barium	Water	63.0000	ug/l		
P1007	Barium	Water	50.0000	ug/l	LT	100
P82078	Turbidity	Water	3.0000	NTU		
P405	Carbon dioxide	Water	2.5000	mg/l		
P299	Oxygen	Water	10.4000	mg/l		
P400	pH	Water	8.1000	std units		
P94	Specific conductance	Water	1670.0000	uS/cm		
P1010	Beryllium	Water	0.5000	ug/l	ND	1
P1012	Beryllium	Water	0.5000	ug/l	ND	1
P999	Boron	Water	140.0000	ug/l		
P1025	Cadmium	Water	1.5000	ug/l	ND	3
P1027	Cadmium	Water	1.5000	ug/l	ND	3
P1030	Chromium	Water	2.5000	ug/l	ND	5
P1220	Chromium	Water	2.5000	ug/l	ND	5
P1035	Cobalt	Water	5.0000	ug/l	ND	10
P1037	Cobalt	Water	5.0000	ug/l	ND	10
P1040	Copper	Water	2.5000	ug/l	ND	5
P1042	Copper	Water	2.5000	ug/l	ND	5
P1046	Iron	Water	25.0000	ug/l	ND	50
P1045	Iron	Water	110.0000	ug/l		
P1049	Lead	Water	2.5000	ug/l	ND	5
P1051	Lead	Water	2.5000	ug/l	ND	5
P1056	Manganese	Water	20.0000	ug/l		
P1055	Manganese	Water	20.0000	ug/l		
P71900	Mercury	Water	0.0500	ug/l	ND	0.1
P1066	Nickel	Water	7.5000	ug/l	ND	15
P1067	Nickel	Water	7.5000	ug/l	ND	15
P1075	Silver	Water	5.0000	ug/l		
P1079	Silver	Water	4.0000	ug/l		
P1083	Strontium	Water	450.0000	ug/l		
P1085	Vanadium	Water	2.5000	ug/l	ND	5.0
P985	Vanadium	Water	2.5000	ug/l	ND	5

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BF-01** RM: **1.60** River Code - River [95-731] Collection Date 12/21/1994

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1090	Zinc	Water	75.0000	ug/l	ND	150
P1092	Zinc	Water	75.0000	ug/l	ND	150
P32730	Phenols and phenolic compounds	Water	5.0000	ug/l	ND	10
P20	Temperature, air	Water	1.0000	deg C		
P10	Temperature, water	Water	5.0000	deg C		
P900	Total hardness -- SDWA NPDWR	Water	340.0000	mg/l		
P900	Hardness, non-carbonate	Water	178.0000	mg/l		
P915	Calcium	Water	94.0000	mg/l		
P916	Calcium	Water	94.0000	mg/l		
P925	Magnesium	Water	26.0000	mg/l		
P927	Magnesium	Water	26.0000	mg/l		
P935	Potassium	Water	7.4000	mg/l		
P937	Potassium	Water	7.2000	mg/l		
P929	Sodium	Water	210.0000	mg/l		
P410	Alkalinity	Water	164.0000	mg/l		
P941	Chloride	Water	255.0000	mg/l		
P946	Sulfate	Water	280.0000	mg/l		
P70300	Total dissolved solids	Water	1060.0000	mg/l		
P530	Fixed suspended solids	Water	3.0000	mg/l		
P70303	Total dissolved solids	Water	1.4400	tons/ac ft		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1960	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0320	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	51.9000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0070	mg/L		
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	19.2000	mg/L		
P1055	Manganese	Water	0.0510	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	1.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	16.3000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	195.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	29.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.2300	mg/L		
P945	Sulfate	Water	34.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.0500	mg/L		
P94	Specific Conductivity	Water	429.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	260.0000	mg/L		
P530	TSS	Water	17.0000	mg/L		
P625	TKN	Water	0.7200	mg/L		
P32230	Chlorophyll a, Sestonic	Water	7.3400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	69.8000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	69.8000	mg/l		
P1082	STRONTIUM	Water	0.1020	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	74.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	74.7000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	1.0600	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0320	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	61.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	1.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	26.5000	mg/L		
P1055	Manganese	Water	0.2100	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	2.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	51.9000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0050	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	208.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5400	mg/L		
P940	Chloride	Water	111.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	2.5600	mg/L		
P945	Sulfate	Water	24.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	13.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1300	mg/L		
P94	Specific Conductivity	Water	783.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	412.0000	mg/L		
P530	TSS	Water	95.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	2.6700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	55.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.4000	mg/l		
P1082	STRONTIUM	Water	0.1790	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT01** RM: **0.10** River Code - River [95-732] Unnamed Trib to Robinson Cr at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	61.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2460	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0460	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	50.0000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	18.8000	mg/L		
P1055	Manganese	Water	0.0770	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.2000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	31.2000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	11.0900	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	251.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2400	mg/L		
P940	Chloride	Water	56.2000	mg/L		
P615	Nitrite	Water	0.1300	mg/L		
P630	Nitrate	Water	2.1700	mg/L		
P945	Sulfate	Water	26.4000	mg/L		
P310	BOD5	Water	9.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2200	mg/L		
P94	Specific Conductivity	Water	496.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	308.0000	mg/L		
P530	TSS	Water	20.0000	mg/L		
P625	TKN	Water	0.7600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	65.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	65.6000	mg/l		
P1082	STRONTIUM	Water	0.1030	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.2000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0480	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0640	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	54.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	22.5000	mg/L		
P1055	Manganese	Water	0.3740	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	31.1000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	185.0000	mg/L		
P610	Ammonia	Water	0.2400	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2900	mg/L		
P940	Chloride	Water	53.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	51.0000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	19.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2300	mg/L		
P94	Specific Conductivity	Water	598.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	268.0000	mg/L		
P530	TSS	Water	2.6250	mg/L	LT	<5.25
P625	TKN	Water	0.8600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	3.3400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	80.5000	mg/l		
P1082	STRONTIUM	Water	0.1630	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **UT02** RM: **0.10** River Code - River [95-733] Unnamed Trib to Robinson Cr. at Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	50.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	55.6000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **BFCA-2** RM: **0.76** River Code - River [95-734] Collection Date 09/12/2013

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P10	Temperature, water	Water	22.3000	deg C		
P94	Specific conductance	Water	1140.0000	umho/cm		
P299	Dissolved oxygen (DO)	Water	7.8000	mg/l		
P301	Dissolved oxygen saturation	Water	91.0000	%		
P400	pH	Water	7.6000	None		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.6360	mg/L		
P1002	Arsenic	Water	0.0070	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1100	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	80.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	1.2000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	23.4000	mg/L		
P1055	Manganese	Water	0.2190	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	6.0000	mg/L		
P1147	Selenium	Water	0.0180	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	95.3000	mg/L		
P985	Vanadium	Water	0.0050	mg/L		
P1092	Zinc	Water	0.0060	mg/L		
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	190.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.5100	mg/L		
P940	Chloride	Water	97.0000	mg/L		
P615	Nitrite	Water	0.1600	mg/L		
P630	Nitrate	Water	3.7700	mg/L		
P945	Sulfate	Water	158.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	17.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2400	mg/L		
P94	Specific Conductivity	Water	901.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	616.0000	mg/L		
P530	TSS	Water	28.0000	mg/L		
P625	TKN	Water	1.4000	mg/L		
P32230	Chlorophyll a, Sestonic	Water	6.4100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	56.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.0000	mg/l		
P1082	STRONTIUM	Water	0.3660	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 06/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	57.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.8000	mg/l		
P1032	Hevavalent Chromium	Water	0.0050	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2070	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.1170	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	74.7000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	24.0000	mg/L		
P1055	Manganese	Water	0.0970	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	7.9000	mg/L		
P1147	Selenium	Water	0.0140	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	115.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	220.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.6000	mg/L		
P940	Chloride	Water	112.0000	mg/L		
P615	Nitrite	Water	0.4600	mg/L		
P630	Nitrate	Water	3.2600	mg/L		
P945	Sulfate	Water	160.0000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	20.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1600	mg/L		
P94	Specific Conductivity	Water	973.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	734.0000	mg/L		
P530	TSS	Water	10.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.8100	mg/m3		
P1032	Hevavalent Chromium	Water	0.0050	ug/L	BD	

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1260	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0630	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	62.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.8000	mg/L		
P1055	Manganese	Water	0.1210	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.8000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	54.9000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	5.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	246.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2800	mg/L		
P940	Chloride	Water	66.0000	mg/L		
P615	Nitrite	Water	0.1200	mg/L		
P630	Nitrate	Water	1.1200	mg/L		
P945	Sulfate	Water	77.9000	mg/L		
P310	BOD5	Water	12.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1300	mg/L		
P94	Specific Conductivity	Water	487.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	344.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	59.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	59.1000	mg/l		
P1082	STRONTIUM	Water	0.2290	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	63.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	63.2000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1370	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0770	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	72.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	19.1000	mg/L		
P1055	Manganese	Water	0.1430	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.4000	mg/L		
P1147	Selenium	Water	0.0050	mg/L		
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	79.6000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	207.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.3300	mg/L		
P940	Chloride	Water	83.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	1.2100	mg/L		
P945	Sulfate	Water	109.0000	mg/L		
P310	BOD5	Water	4.0000	mg/L		
P335	Chemical Oxygen Demand	Water	18.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1300	mg/L		
P94	Specific Conductivity	Water	921.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	524.0000	mg/L		
P530	TSS	Water	9.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	2.1400	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	61.4000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	61.4000	mg/l		
P1082	STRONTIUM	Water	0.3040	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/14/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	68.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	62.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0030	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1300	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0430	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	45.6000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	11.6000	mg/L		
P1055	Manganese	Water	0.1090	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	24.3000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
P34292	Benzyl butyl phthalate	Water	11.0000	ug/L		
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	11.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	208.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2300	mg/L		
P940	Chloride	Water	26.8000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.5000	mg/L		
P945	Sulfate	Water	37.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1900	mg/L		
P94	Specific Conductivity	Water	435.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	348.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	4.2700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	46.1000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	46.1000	mg/l		
P1082	STRONTIUM	Water	0.1530	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 09/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT J3	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	32.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	26.5000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.1260	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0680	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	68.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	19.2000	mg/L		
P1055	Manganese	Water	0.1370	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	63.4000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	221.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2100	mg/L		
P940	Chloride	Water	63.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	98.0000	mg/L		
P310	BOD5	Water	6.0000	mg/L		
P335	Chemical Oxygen Demand	Water	5.0000	mg/L	LT	<10
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1300	mg/L		
P94	Specific Conductivity	Water	711.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	268.0000	mg/L		
P530	TSS	Water	6.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.5000	mg/l		
P1082	STRONTIUM	Water	0.2550	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **MC01** RM: **0.16** River Code - River [95-734] Marathon Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	66.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	57.8000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0870	mg/L		
P1002	Arsenic	Water	0.0050	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0410	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	56.8900	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.7000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	17.3000	mg/L		
P1055	Manganese	Water	0.5580	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.9000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	24.5000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	10.9300	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	216.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2400	mg/L		
P940	Chloride	Water	27.1000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	15.8000	mg/L		
P310	BOD5	Water	8.0000	mg/L		
P335	Chemical Oxygen Demand	Water	20.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1500	mg/L		
P94	Specific Conductivity	Water	449.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	286.0000	mg/L		
P530	TSS	Water	8.0000	mg/L		
P625	TKN	Water	0.7500	mg/L		
P32230	Chlorophyll a, Sestonic	Water	6.4100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	74.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	74.7000	mg/l		
P1082	STRONTIUM	Water	0.1300	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 06/30/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	74.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	75.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0020	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.2670	mg/L		
P1002	Arsenic	Water	0.0060	mg/L		
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0370	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	50.4000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.7000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	14.8000	mg/L		
P1055	Manganese	Water	0.4880	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	19.3000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	17.5800	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	164.0000	mg/L		
P610	Ammonia	Water	0.2400	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	38.3000	mg/L		
P615	Nitrite	Water	0.4300	mg/L		
P630	Nitrate	Water	0.5500	mg/L		
P945	Sulfate	Water	14.0000	mg/L		
P310	BOD5	Water		mg/L	ND	
P335	Chemical Oxygen Demand	Water	26.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.2600	mg/L		
P94	Specific Conductivity	Water	401.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	158.0000	mg/L		
P530	TSS	Water	18.0000	mg/L		
P625	TKN	Water	0.8900	mg/L		
P32230	Chlorophyll a, Sestonic	Water	7.4800	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	90.0000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	90.0000	mg/l		
P1082	STRONTIUM	Water	0.1190	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 07/28/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	72.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	72.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0010	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0640	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0360	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	42.2000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	13.2000	mg/L		
P1055	Manganese	Water	0.4690	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.8000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	16.2000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	5.0000	ug/L		
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	153.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2100	mg/L		
P940	Chloride	Water	28.7800	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	17.2000	mg/L		
P310	BOD5	Water	13.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1500	mg/L		
P94	Specific Conductivity	Water	278.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	162.0000	mg/L		
P530	TSS	Water	7.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	11.2000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	60.3000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	60.3000	mg/l		
P1082	STRONTIUM	Water	0.1080	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 08/31/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	58.9000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	59.1000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0630	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0310	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	45.8000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	13.4000	mg/L		
P1055	Manganese	Water	0.3150	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.3000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	16.0000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	1.0000	ug/L		
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	11.2200	ug/L		
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	13.8000	ug/L		
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	10.9200	ug/L		
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	163.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2100	mg/L		
P940	Chloride	Water	37.3000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	18.1000	mg/L		
P310	BOD5	Water	5.0000	mg/L		
P335	Chemical Oxygen Demand	Water	13.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1000	mg/L		
P94	Specific Conductivity	Water	428.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	272.0000	mg/L		
P530	TSS	Water	5.0000	mg/L		
P625	TKN	Water	0.3250	mg/L	LT	<0.65
P32230	Chlorophyll a, Sestonic	Water	2.6700	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	56.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	56.2000	mg/l		
P1082	STRONTIUM	Water	0.1090	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/15/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	69.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	68.1000	mg/l		
P1032	Hevavalent Chromium	Water	0.0040	ug/L		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0460	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0340	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	50.6000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.6000	mg/L		
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	15.0000	mg/L		
P1055	Manganese	Water	0.2850	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	4.5000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	22.1000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-ethylhexyl) phthalate	Water	5.0000	ug/L	LT	<10
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	255.0000	mg/L		
P610	Ammonia	Water	0.1700	mg/L		
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.2000	mg/L		
P940	Chloride	Water	27.6000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	11.0000	mg/L		
P310	BOD5	Water	1.0000	mg/L	LT	<2
P335	Chemical Oxygen Demand	Water	14.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1100	mg/L		
P94	Specific Conductivity	Water	460.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	336.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.7300	mg/L		
P32230	Chlorophyll a, Sestonic	Water	0.5000	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	71.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	71.2000	mg/l		
P1082	STRONTIUM	Water	0.1250	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 09/29/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	87.7000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	83.0000	mg/l		

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P1105	Aluminum	Water	0.0300	mg/L		
P1002	Arsenic	Water	0.0025	mg/L	LT	<0.005
P1012	Beryllium	Water	0.0025	mg/L	LT	<0.005
P999	Boron	Water	0.0310	mg/L		
P1027	Cadmium	Water	0.0025	mg/L	LT	<0.005
P916	Calcium	Water	43.3000	mg/L		
P1220	Chromium	Water	0.0025	mg/L	LT	<0.005
P1037	Cobalt	Water	0.0025	mg/L	LT	<0.005
P1042	Copper	Water	0.0025	mg/L	LT	<0.005
P1045	Iron	Water	0.2500	mg/L	LT	<0.5
P1051	Lead	Water	0.0025	mg/L	LT	<0.005
P927	Magnesium	Water	15.3000	mg/L		
P1055	Manganese	Water	0.1790	mg/L		
P1067	Nickel	Water	0.0025	mg/L	LT	<0.005
P937	Potassium	Water	3.6000	mg/L		
P1147	Selenium	Water	0.0025	mg/L	LT	<0.005
P1079	Silver	Water	0.0025	mg/L	LT	<0.005
P929	Sodium	Water	20.2000	mg/L		
P985	Vanadium	Water	0.0025	mg/L	LT	<0.005
P1092	Zinc	Water	0.0025	mg/L	LT	<0.005
P34506	1,1,1,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34506	1,1,1-Trichloroethane	Water	0.5000	ug/L	LT	<1
P34516	1,1,2,2-Tetrachloroethane	Water	0.5000	ug/L	LT	<1
P34511	1,1,2-Trichloroethane	Water	0.5000	ug/L	LT	<1
	Trichlorotrifluoroethane	Water	0.5000	ug/L	LT	<1
P34496	1,1-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34501	1,1-Dichloroethene	Water	0.5000	ug/L	LT	<1
	1,1-Dichloropropene	Water	0.5000	ug/L	LT	<1
	1,2,3-Trichloropropane	Water	0.5000	ug/L	LT	<1
	1,2,3-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
	1,2,4-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P38440W	1,2-Dibromo-3-chloropropane	Water	2.5000	ug/L	LT	<5
	1,2-Dibromoethane	Water	0.5000	ug/L	LT	<1
P34536	1,2-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
P34531	1,2-Dichloroethane	Water	0.5000	ug/L	LT	<1
P34541	1,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	1,3 Butadiene	Water	0.5000	ug/L	LT	<1
	1,3,5-Trimethylbenzene	Water	0.5000	ug/L	LT	<1
P34566	1,3-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	1,3-Dichloropropane	Water	0.5000	ug/L	LT	<1
P34571	1,4-Dichlorobenzene	Water	0.5000	ug/L	LT	<1
	2,2,4 Trimethylpentane	Water	0.5000	ug/L	LT	<1
	2,2-Dichloropropane	Water	0.5000	ug/L	LT	<1
	2-Chlorotoluene	Water	0.5000	ug/L	LT	<1
P77103	2-Hexanone	Water	2.5000	ug/L	LT	<5
	4-Chlorotoluene	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P81552	Acetone	Water	2.5000	ug/L	LT	<5
P78124	Benzene	Water	0.5000	ug/L	LT	<1
	Bromobenzene	Water	0.5000	ug/L	LT	<1
P70009	Bromochloromethane	Water	0.5000	ug/L	LT	<1
P32101	Bromodichloromethane	Water	0.5000	ug/L	LT	<1
P32104	Bromoform	Water	0.5000	ug/L	LT	<1
P34413	Bromomethane	Water	0.5000	ug/L	LT	<1
P77041	Carbon disulfide	Water	0.5000	ug/L	LT	<1
P32102	Carbon tetrachloride	Water	0.5000	ug/L	LT	<1
P34301	Chlorobenzene	Water	0.5000	ug/L	LT	<1
P34306	Chlorodibromomethane	Water	0.5000	ug/L	LT	<1
P34311	Chloroethane	Water	0.5000	ug/L	LT	<1
P32106	Chloroform	Water	0.5000	ug/L	LT	<1
P34418	Chloromethane	Water	0.5000	ug/L	LT	<1
	cis-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34704	cis-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
	Cumene	Water	0.5000	ug/L	LT	<1
	Cyclohexane	Water	0.5000	ug/L	LT	<1
	Dibromomethane	Water	0.5000	ug/L	LT	<1
P34333	Dichlorodifluoromethane	Water	0.5000	ug/L	LT	<1
	Dichlorofluoromethane	Water	0.5000	ug/L	LT	<1
	Diethyl ether	Water	0.5000	ug/L	LT	<1
P78113	Ethylbenzene	Water	0.5000	ug/L	LT	<1
	Hexane	Water	0.5000	ug/L	LT	<1
	Diisopropyl Ether	Water	0.5000	ug/L	LT	<1
	m- and p-Xylenes	Water	1.0000	ug/L	LT	<2
	Methyl Ethyl Ketone	Water	2.5000	ug/L	LT	<5
P34423	Methylene chloride	Water	0.5000	ug/L	LT	<1
	Methyl-isobutyl-ketone	Water	2.5000	ug/L	LT	<5
	Methyl-tert-butyl ether	Water	0.5000	ug/L	LT	<1
P34696	Naphthalene	Water	2.5000	ug/L	LT	<5
	n-Butylbenzene	Water	0.5000	ug/L	LT	<1
	n-Propylbenzene	Water	0.5000	ug/L	LT	<1
	o-Xylene	Water	0.5000	ug/L	LT	<1
	p-Isopropyltoluene	Water	0.5000	ug/L	LT	<1
	sec-Butylbenzene	Water	0.5000	ug/L	LT	<1
	Styrene	Water	0.5000	ug/L	LT	<1
	tert-Butylbenzene	Water	0.5000	ug/L	LT	<1
P34475	Tetrachloroethene	Water	0.5000	ug/L	LT	<1
	Tetrahydrofuran	Water	2.5000	ug/L	LT	<5
P78131	Toluene	Water	0.5000	ug/L	LT	<1
PTEMP102	trans-1,2-Dichloroethene	Water	0.5000	ug/L	LT	<1
P34699	trans-1,3-Dichloropropene	Water	0.5000	ug/L	LT	<1
P39180	Trichloroethene	Water	0.5000	ug/L	LT	<1
P34488	Trichlorofluoromethane	Water	0.5000	ug/L	LT	<1
PTEMP105	Vinyl chloride	Water	0.5000	ug/L	LT	<1

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
	Xylenes (Total)	Water	1.5000	ug/L	LT	<3
P34551	1,2,4-Trichlorobenzene	Water	5.0000	ug/L	LT	<10
P34571	1,4-Dichlorobenzene	Water	5.0000	ug/L	LT	<10
	1-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2 Chloro 5 Methylphenol	Water	5.0000	ug/L	LT	<10
	2,3 Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,3,4,6-Tetrachlorophenol	Water	5.0000	ug/L	LT	<10
	2,4 & 2,5-Dichlorophenol	Water	5.0000	ug/L	LT	<10
	2,4,5-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34621	2,4,6-Trichlorophenol	Water	5.0000	ug/L	LT	<10
P34606	2,4-Dimethylphenol	Water	5.0000	ug/L	LT	<10
P34616	2,4-Dinitrophenol	Water	5.0000	ug/L	LT	<10
P34611	2,4-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
	2,6-Dichlorophenol	Water	5.0000	ug/L	LT	<10
P34626	2,6-Dinitrotoluene	Water	5.0000	ug/L	LT	<10
P34581	2-Chloronaphthalene	Water	5.0000	ug/L	LT	<10
P34586	2-Chlorophenol	Water	5.0000	ug/L	LT	<10
	2-Methylnaphthalene	Water	5.0000	ug/L	LT	<10
	2-Methylphenol	Water	5.0000	ug/L	LT	<10
P34591	2-Nitrophenol	Water	5.0000	ug/L	LT	<10
	3 & 4-Chlorophenol	Water	10.0000	ug/L	LT	<20
	3 & 4-Methylphenol	Water	10.0000	ug/L	LT	<20
	4,6-Dinitro-2-methylphenol	Water	5.0000	ug/L	LT	<10
P34636	4-Bromophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P34452	4-Chloro-3-methylphenol	Water	5.0000	ug/L	LT	<10
P34641	4-Chlorophenyl phenyl ether	Water	5.0000	ug/L	LT	<10
P3760	4-Nitrophenol	Water	5.0000	ug/L	LT	<10
P34205	Acenaphthene	Water	5.0000	ug/L	LT	<10
P34200	Acenaphthylene	Water	5.0000	ug/L	LT	<10
PTEMP38	Aniline	Water	5.0000	ug/L	LT	<10
P34220	Anthracene	Water	5.0000	ug/L	LT	<10
	Azobenzene	Water	5.0000	ug/L	LT	<10
P34526	Benzo(a)anthracene	Water	5.0000	ug/L	LT	<10
P34247	Benzo(a)pyrene	Water	5.0000	ug/L	LT	<10
	Benzo(b&k)fluoranthene	Water	10.0000	ug/L	LT	<20
P34230	Benzo(b)fluoranthene	Water	5.0000	ug/L	LT	<10
P34521	Benzo(g,h,i)perylene	Water	5.0000	ug/L	LT	<10
P34242	Benzo(k)fluoranthene	Water	5.0000	ug/L	LT	<10
	Benzyl alcohol	Water	5.0000	ug/L	LT	<10
	Benzyl butyl phthalate	Water	5.0000	ug/L	LT	<10
	Biphenyl	Water	5.0000	ug/L	LT	<10
PTEMP109	Bis(2-chloroethoxy)methane	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroethyl) ether	Water	5.0000	ug/L	LT	<10
	Bis(2-chloroisopropyl) ether	Water	5.0000	ug/L	LT	<10
P39100	Bis(2-ethylhexyl) phthalate	Water	10.0000	ug/L		
P34320	Chrysene	Water	5.0000	ug/L	LT	<10

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P34556	Dibenz(a,h)anthracene	Water	5.0000	ug/L	LT	<10
	Dibenzofuran	Water	5.0000	ug/L	LT	<10
P34336	Diethyl phthalate	Water	5.0000	ug/L	LT	<10
P34341	Dimethyl phthalate	Water	5.0000	ug/L	LT	<10
P39110	Di-n-butyl phthalate	Water	5.0000	ug/L	LT	<10
P34596	Di-n-octyl phthalate	Water	5.0000	ug/L	LT	<10
P34376	Fluoranthene	Water	5.0000	ug/L	LT	<10
P34381	Fluorene	Water	5.0000	ug/L	LT	<10
P39700	Hexachlorobenzene	Water	5.0000	ug/L	LT	<10
P34391	Hexachlorobutadiene	Water	5.0000	ug/L	LT	<10
P34386	Hexachlorocyclopentadiene	Water	5.0000	ug/L	LT	<10
P34396	Hexachloroethane	Water	5.0000	ug/L	LT	<10
P34403	Indeno(1,2,3-cd)pyrene	Water	5.0000	ug/L	LT	<10
P34408	Isophorone	Water	5.0000	ug/L	LT	<10
P34696	Naphthalene	Water	5.0000	ug/L	LT	<10
P34447	Nitrobenzene	Water	5.0000	ug/L	LT	<10
PTEMP115	N-Nitrosodi-n-propylamine	Water	5.0000	ug/L	LT	<10
P39032	Pentachlorophenol	Water	5.0000	ug/L	LT	<10
P34461	Phenanthrene	Water	5.0000	ug/L	LT	<10
P34694	Phenol	Water	5.0000	ug/L	LT	<10
P34469	Pyrene	Water	5.0000	ug/L	LT	<10
PTEMP121	Pyridine	Water	5.0000	ug/L	LT	<10
P410	Total Alkalinity	Water	678.0000	mg/L		
P610	Ammonia	Water	0.0800	mg/L	LT	<0.16
P720	Cyanide, Available	Water		mg/L	ND	
P951	Fluoride	Water	0.1000	mg/L	LT	<0.2
P940	Chloride	Water	24.0000	mg/L		
P615	Nitrite	Water	0.0600	mg/L	LT	<0.12
P630	Nitrate	Water	0.2500	mg/L	LT	<0.5
P945	Sulfate	Water	18.0000	mg/L		
P310	BOD5	Water	7.0000	mg/L		
P335	Chemical Oxygen Demand	Water	15.0000	mg/L		
P32730	Phenols, Total	Water	0.0050	mg/L	LT	<0.01
P665	Total Phosphorus	Water	0.1200	mg/L		
P94	Specific Conductivity	Water	378.0000	umhos/cm		
P745	Sulfide	Water	0.0250	mg/L	LT	<0.05
P70300	TDS	Water	88.0000	mg/L		
P530	TSS	Water	2.5000	mg/L	LT	<5
P625	TKN	Water	0.6600	mg/L		
P32230	Chlorophyll a, Sestonic	Water	4.8100	mg/m3		
P877098W	TETRACHLORO-M-XYLENE	Water	70.2000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	70.2000	mg/l		
P1082	STRONTIUM	Water	0.1100	mg/l		
P39330	ALDRIN	Water	0.0000	mg/l	LT	<0.00005
P39337	ALPHA BHC	Water	0.0000	mg/l	LT J4	<0.00005
P39338	BETA BHC	Water	0.0000	mg/l	LT	<0.00005

Appendix Table A-1. Water chemistry data collected from the Robihnson Creek study area in 2016.

Site ID: **QC01** RM: **0.25** River Code - River [95-735] Quail Creek Collection Date 10/12/2016

Parameter Code or Abbrev.	Parameter Name	Matrix	Value	Units	Detect. Code	MDL
P39259	DELTA BHC	Water	0.0000	mg/l	LT	<0.00005
P39340	GAMMA BHC	Water	0.0000	mg/l	LT	<0.00005
P39350	CHLORDANE	Water	0.0002	mg/l	LT	<0.0005
P39310	4,4-DDD	Water	0.0000	mg/l	LT	<0.00005
P39320	4,4-DDE	Water	0.0000	mg/l	LT	<0.00005
P39300	4,4-DDT	Water	0.0000	mg/l	LT	<0.00005
P39380	DIELDRIN	Water	0.0000	mg/l	LT J3	<0.00005
P34361	ENDOSULFAN I	Water	0.0000	mg/l	LT	<0.00005
P34356	ENDOSULFAN II	Water	0.0000	mg/l	LT J3	<0.00005
P34351	ENDOSULFAN SULFATE	Water	0.0000	mg/l	LT	<0.00005
P39390	ENDRIN	Water	0.0000	mg/l	LT	<0.00005
P34366	ENDRIN ALDEHYDE	Water	0.0000	mg/l	LT	<0.00005
P78008	ENDRIN KETONE	Water	0.0000	mg/l	LT	<0.00005
P39700	HEXACHLOROBENZENE	Water	0.0000	mg/l	LT	<0.00005
P39410	HEPTACHLOR	Water	0.0000	mg/l	LT	<0.00005
P39420	HEPTACHLOR EPOXIDE	Water	0.0000	mg/l	LT	<0.00005
P39480	METHOXYCHLOR	Water	0.0000	mg/l	LT	<0.00005
P39400	TOXAPHENE	Water	0.0002	mg/l	LT	<0.0005
P75750	DECACHLOROBIPHENYL	Water	69.6000	mg/l		
P877098W	TETRACHLORO-M-XYLENE	Water	57.1000	mg/l		

APPENDIX A-2

Appendix A-2: Sediment Chemical Data from Robinson, Sugar, and Lamotte Creeks 2017.

Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

Account: MARATHONIL SDG: L888307 Matrices:																		
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
2540 G-2011	TOTAL SOLIDS	%	79.7		73.7		72.6		76.5		73.1		66.4		74.8		71.4		67.7	
6010B	ALUMINUM	mg/kg	3240		4140		3450		4570		7050		4860		4290		3790		3360	
6010B	ARSENIC	mg/kg	2.72		3.18		2.88		3.41		5.71		6.01		3.12		3.45		3.51	
6010B	BERYLLIUM	mg/kg	0.218	J	0.308		0.269	J	0.293		0.459		0.397		0.264	J	0.298		0.255	J
6010B	BORON	mg/kg	2.84	J	2.51	J	3.36	J	3.67	J	7.73	J	3.54	J	3.98	J	2.87	J	3.49	J
6010B	CADMIUM	mg/kg	<0.627		<0.678		0.14	J	0.108	J	0.196	J	0.132	J	0.112	J	0.113	J	0.149	J
6010B	CHROMIUM	mg/kg	5.75		6.9		6.31		9.27		12		8.95		10		6.63		6.74	
6010B	COBALT	mg/kg	2.8		3.87		3.56		3.92		6.82		5.05		3.44		3.55		3.69	
6010B	COPPER	mg/kg	3.53		5.54		6.62		6.76		13.2		6.62		7.16		6.72		9.44	
6010B	IRON	mg/kg	6300		8130		8420		7810		13000		14100		7680		8480		8060	
6010B	LEAD	mg/kg	5.17		7.36		24.7		15.3		66.9		11		18		12.7		27.7	
6010B	MANGANESE	mg/kg	266		343		314		292		438		268		259		315		442	
6010B	NICKEL	mg/kg	5.08		6.62		5.57		7.18		13.2		7.34		6.85		6.04		5.91	
6010B	SELENIUM	mg/kg	<2.51		<2.71		<2.76		<2.61		<2.74		<3.01		<2.67		<2.8		<2.96	
6010B	STRONTIUM	mg/kg	6.79		6.58		13.3		12.8		25.5		9.66		13.8		8.52		14.3	
6010B	VANADIUM	mg/kg	9.17		12.1		11.3		13.7		18.6		15.6		12.3		10.4		9.07	
6010B	ZINC	mg/kg	18.3	B	23.5	B	54.5		30		44.2		33.4		33.6		34.9		58.4	
8081	ALDRIN	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ALPHA BHC	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	BETA BHC	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	DELTA BHC	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	GAMMA BHC	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	CHLORDANE	mg/kg	<0.251		<0.271		<0.276		<0.261		<0.274		<0.301		<0.267		<0.28		<0.296	
8081	4,4-DDD	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	4,4-DDE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	4,4-DDT	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	DIELDRIN	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDOSULFAN I	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDOSULFAN II	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDOSULFAN SULFATE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDRIN	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDRIN ALDEHYDE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	ENDRIN KETONE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	HEPTACHLOR	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	HEPTACHLOR EPOXIDE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	HEXACHLOROBENZENE	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	METHOXYCHLOR	mg/kg	<0.0251		<0.0271		<0.0276		<0.0261		<0.0274		<0.0301		<0.0267		<0.028		<0.0296	
8081	TOXAPHENE	mg/kg	<0.502		<0.543		<0.551		<0.523		<0.547		<0.603		<0.535		<0.56		<0.591	
8081/8082	DECACHLOROBIPHENYL	% Rec	71.4 70.5		71.7 69.1		55.7 53.7		61.3 69.5		75.7 72.3		57.0 62.0		61.4 44.7		58.8 67.0		63.8 63.8	
8081/8082	TETRACHLORO-M-XYLENE	% Rec	81.2 65.5		63.8 78.6		64.5 47.2		79.5 59.6		68.9 83.0		55.7 73.3		61.0 43.0		62.3 76.0		60.9 73.7	
8082	PCB 1016	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1221	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1232	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1242	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1248	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1254	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8082	PCB 1260	mg/kg	<0.0213		<0.0231		<0.0234		<0.0222		<0.0233		<0.0256		<0.0227		<0.0238		<0.0251	
8260B	ACETONE	mg/kg	0.0618	J	0.0612	J	<0.224		<0.376		<0.462		<0.565		<0.485		<0.385		<0.443	

Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

8260B	ACRYLONITRILE	mg/kg	<0.0125		<0.0136		<0.0448		<0.0752		<0.0923		<0.113		<0.0969		<0.077		<0.0887	
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
8260B	BENZENE	mg/kg	0.000716	J	<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	BROMOBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	BROMODICHLOROMETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	BROMOFORM	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	BROMOMETHANE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	N-BUTYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	SEC-BUTYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TERT-BUTYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CARBON TETRACHLORIDE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CHLORODIBROMOMETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CHLOROETHANE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	CHLOROFORM	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	CHLOROMETHANE	mg/kg	<0.00314		<0.00339		<0.0112		<0.0188		<0.0231		<0.0283		<0.0242		<0.0193		<0.0222	
8260B	2-CHLOROTOLUENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	4-CHLOROTOLUENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	1,2-DIBROMOETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	DIBROMOMETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2-DICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,3-DICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,4-DICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	DICHLORODIFLUOROMETHANE	mg/kg	<0.00627	J3	<0.00678	J3	<0.0224	J3	<0.0376	J3	<0.0462	J3	<0.0565	J3	<0.0485	J3	<0.0385		<0.0443	
8260B	1,1-DICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2-DICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1-DICHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CIS-1,2-DICHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRANS-1,2-DICHLOROETHENE	mg/kg	<0.00125	J3	<0.00136	J3	<0.00448	J3	<0.00752	J3	<0.00923	J3	<0.0113	J3	<0.00969	J3	<0.0077		<0.00887	
8260B	1,2-DICHLOROPROPANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1-DICHLOROPROPENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,3-DICHLOROPROPANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	CIS-1,3-DICHLOROPROPENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRANS-1,3-DICHLOROPROPENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	2,2-DICHLOROPROPANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	DI-ISOPROPYL ETHER	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	ETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	HEXACHLORO-1,3-BUTADIENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	ISOPROPYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	P-ISOPROPYLTOLUENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	2-BUTANONE (MEK)	mg/kg	0.0113	J	0.0153		<0.0448		<0.0752		<0.0923		<0.113		<0.0969		<0.077		<0.0887	
8260B	METHYLENE CHLORIDE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	4-METHYL-2-PENTANONE (MIBK)	mg/kg	<0.0125	J4	<0.0136	J4	<0.0448	J4	<0.0752	J4	<0.0923	J4	<0.113	J4	<0.0969	J4	<0.077		<0.0887	
8260B	METHYL TERT-BUTYL ETHER	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	NAPHTHALENE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	N-PROPYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	STYRENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,1,2-TETRACHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,2,2-TETRACHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	

Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

8260B	1,1,2-TRICHLOROTRIFLUOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TETRACHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
8260B	TOLUENE	mg/kg	0.00095	J	<0.00678		<0.0224		<0.0376		0.0046	J	<0.0565		<0.0485		<0.0385		<0.0443	
8260B	1,2,3-TRICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2,4-TRICHLOROBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,1-TRICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,1,2-TRICHLOROETHANE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRICHLOROETHENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	TRICHLOROFLUOROMETHANE	mg/kg	<0.00627		<0.00678		<0.0224		<0.0376		<0.0462		<0.0565		<0.0485		<0.0385		<0.0443	
8260B	1,2,3-TRICHLOROPROPANE	mg/kg	<0.00314		<0.00339		<0.0112		<0.0188		<0.0231		<0.0283		<0.0242		<0.0193		<0.0222	
8260B	1,2,4-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,2,3-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	1,3,5-TRIMETHYLBENZENE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	VINYL CHLORIDE	mg/kg	<0.00125		<0.00136		<0.00448		<0.00752		<0.00923		<0.0113		<0.00969		<0.0077		<0.00887	
8260B	XYLENES, TOTAL	mg/kg	<0.00376		<0.00407		<0.0134		<0.0226		<0.0277		<0.0339		<0.0291		<0.0231		<0.0266	
8260B	TOLUENE-D8	% Rec	102		103		109		107		107		108		105		105		108	
8260B	DIBROMOFLUOROMETHANE	% Rec	117		119		92.3		94.9		94.7		95.4		94.6		101		101	
8260B	4-BROMOFLUOROBENZENE	% Rec	80.5		83.2		104		104		103		102		106		102		102	
8270C	ACENAPHTHENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.103		<0.0441		<0.0462		0.0213	J
8270C	ACENAPHTHYLENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	ANTHRACENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.246		<0.0441		<0.0462		0.0799	
8270C	BENZIDINE	mg/kg	<0.418	J4	<0.452	J4	<0.459	J4	<0.435	J4	<0.456	J4	<0.502	J4	<0.445	J4	<0.466	J4	<0.492	J4
8270C	BENZO(A)ANTHRACENE	mg/kg	<0.0414		<0.0448		0.0299	J	<0.0431		<0.0451		0.798		<0.0441		0.00875	J	0.163	
8270C	BENZO(B)FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0539		<0.0431		<0.0451		1		<0.0441		0.0137	J	0.212	
8270C	BENZO(K)FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0198	J	<0.0431		<0.0451		0.329		<0.0441		<0.0462		0.0542	
8270C	BENZO(G,H,I)PERYLENE	mg/kg	<0.0414		<0.0448		0.0232	J	<0.0431		<0.0451		0.388		<0.0441		<0.0462		0.0863	
8270C	BENZO(A)PYRENE	mg/kg	<0.0414		<0.0448		0.0352	J	<0.0431		<0.0451		0.738		<0.0441		0.00879	J	0.149	
8270C	BIS(2-CHLORETHOXY)METHANE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-CHLOROETHYL)ETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-CHLOROISOPROPYL)ETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-BROMOPHENYL-PHENYLETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-CHLORONAPHTHALENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	4-CHLOROPHENYL-PHENYLETHER	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	CHRYSENE	mg/kg	<0.0414		<0.0448		0.0436	J	<0.0431		<0.0451		0.791		<0.0441		0.0144	J	0.174	
8270C	DIBENZ(A,H)ANTHRACENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.0964		<0.0441		<0.0462		0.023	J
8270C	3,3-DICHLOROBENZIDINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DINITROTOLUENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,6-DINITROTOLUENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	FLUORANTHENE	mg/kg	<0.0414		<0.0448		0.0867		<0.0431		<0.0451		1.97		<0.0441		0.0159	J	0.432	
8270C	FLUORENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		0.081		<0.0441		<0.0462		0.0327	J
8270C	HEXACHLOROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLORO-1,3-BUTADIENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLOROCYCLOPENTADIENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	HEXACHLOROETHANE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	INDENO(1,2,3-CD)PYRENE	mg/kg	<0.0414		<0.0448		0.0214	J	<0.0431		<0.0451		0.361		<0.0441		<0.0462		0.0785	
8270C	ISOPHORONE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	NAPHTHALENE	mg/kg	<0.0414		<0.0448		<0.0455		<0.0431		<0.0451		<0.0497		<0.0441		<0.0462		<0.0488	
8270C	NITROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	N-NITROSODIMETHYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	

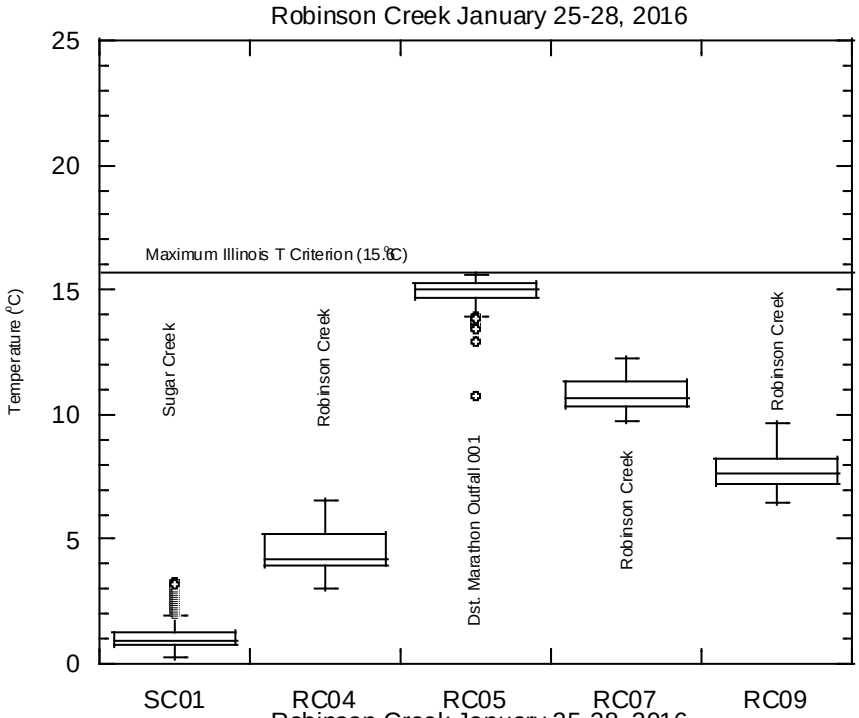
Appendix Table A-2. Sediment chemical analytical results for Robinson, Sugar, and Lamotte Creeks.

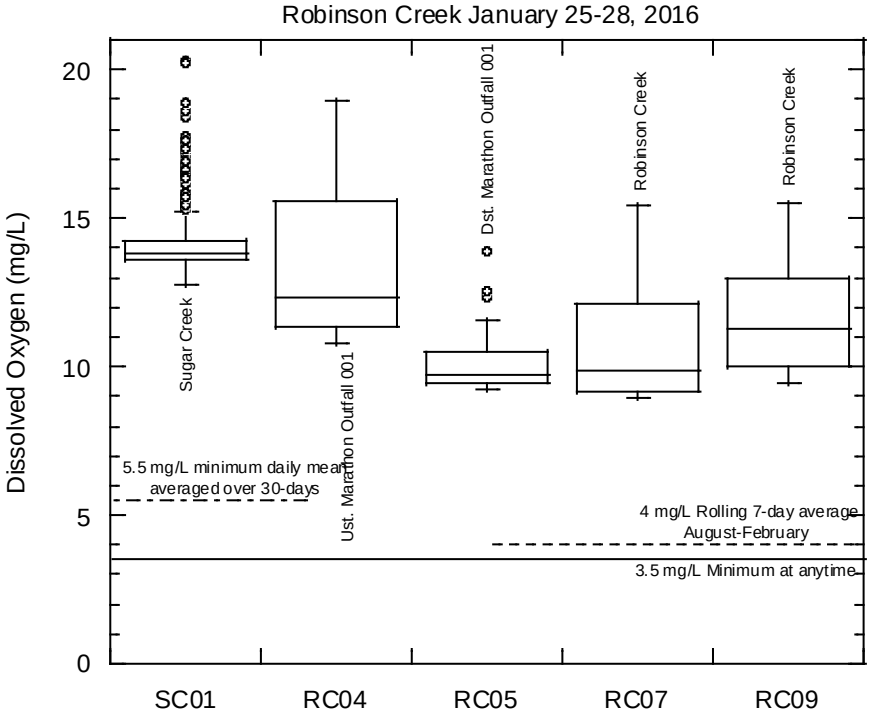
8270C	N-NITROSODIPHENYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	N-NITROSODI-N-PROPYLAMINE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PHENANTHRENE	mg/kg	<0.0414		<0.0448		0.0323	J	<0.0431		<0.0451		1.08		<0.0441		<0.0462		0.34	
Lab Sample ID			L888307-01		L888307-02		L888307-03		L888307-04		L888307-05		L888307-06		L888307-07		L888307-08		L888307-09	
Client Sample ID			LC01		SC01		RC01		SC02		RC07		QC01		RC09		RC03		RC02	
Date Collected			02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017		02/04/2017	
Method	Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
8270C	BENZYLBUTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DI-N-BUTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DIETHYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DIMETHYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	DI-N-OCTYL PHTHALATE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PYRENE	mg/kg	<0.0414		<0.0448		0.0686		<0.0431		<0.0451		1.45		<0.0441		<0.0462		0.313	
8270C	1,2,4-TRICHLOROBENZENE	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-CHLORO-3-METHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-CHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DICHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DIMETHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4,6-DINITRO-2-METHYLPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4-DINITROPHENOL	mg/kg	<0.418	J3	<0.452	J3	<0.459	J3	<0.435	J3	<0.456	J3	<0.502	J3	<0.445	J3	<0.466	J3	<0.492	J3
8270C	2-NITROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	4-NITROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PENTACHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	PHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2,4,6-TRICHLOROPHENOL	mg/kg	<0.418		<0.452		<0.459		<0.435		<0.456		<0.502		<0.445		<0.466		<0.492	
8270C	2-FLUOROPHENOL	% Rec	60.6		47.3		60.3		61.1		57.4		70		51.5		57.2		59.3	
8270C	PHENOL-D5	% Rec	62.2		51.9		64.9		65.9		58.5		70.1		55.9		60.1		62.5	
8270C	NITROBENZENE-D5	% Rec	57.4		48.2		63.4		64.4		56.8		66.5		54.3		57.6		58.6	
8270C	2-FLUOROBIPHENYL	% Rec	70.4		67.4		77.2		76.6		70.1		75.4		70.5		72.7		71.6	
8270C	2,4,6-TRIBROMOPHENOL	% Rec	86.6		79		91.6		86.8		80.5		89.8		78.7		85.2		86.9	
8270C	P-TERPHENYL-D14	% Rec	67.1		69.1		70.3		71.5		68.3		63.9		67.2		73.1		67.1	

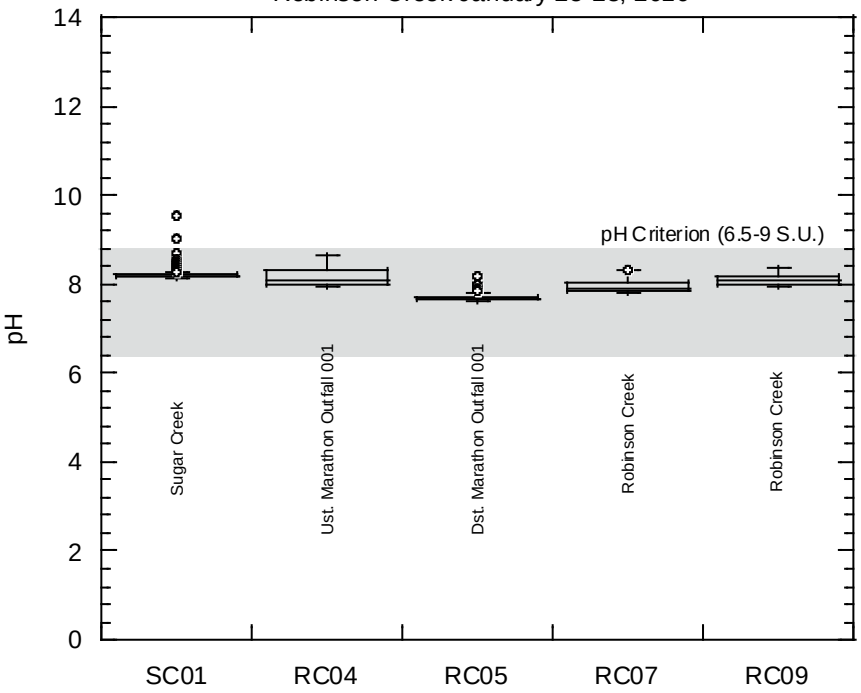
Qualifiers:B: The same analyte is found in the associated blank.J: The identification of the analyte is acceptable; the reported value is an estimate.J3: The associated batch QC was outside the established quality control range for precision.J4: The asso

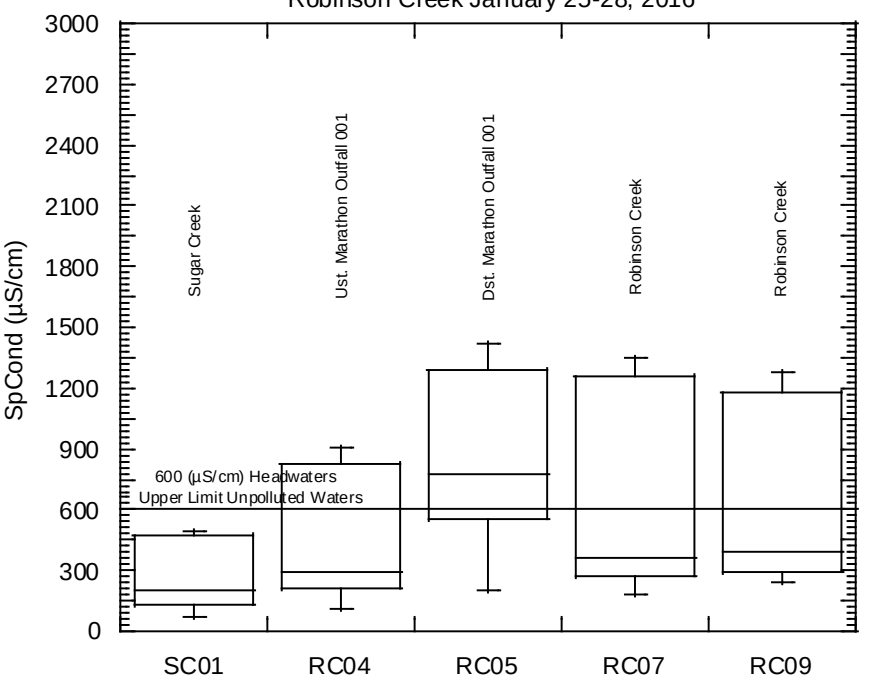
APPENDIX A-3

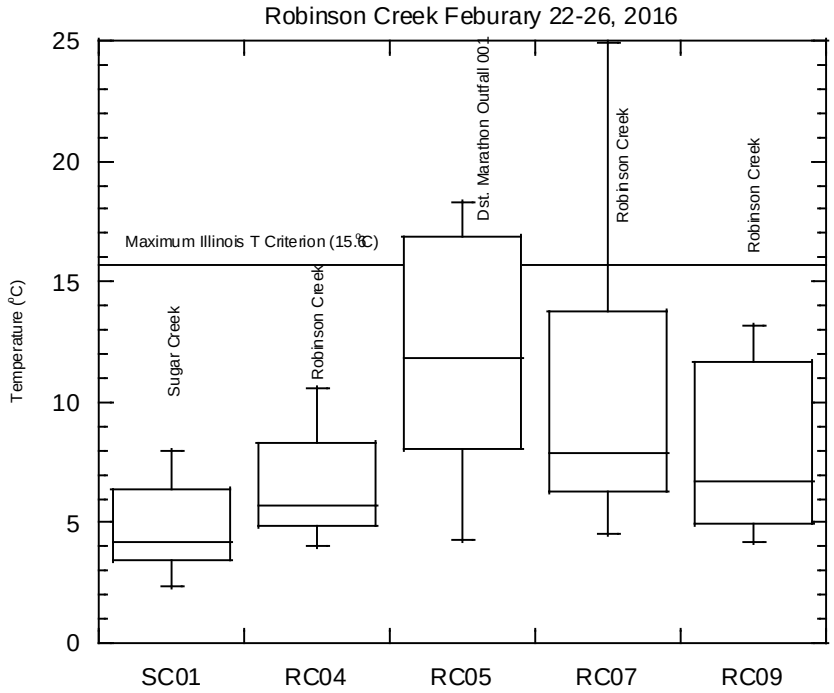
Appendix A-3: Monthly Continuous Monitoring Data for D.O., Temperature, pH, and Specific Conductance from Robinson and Sugar Creeks 2016.

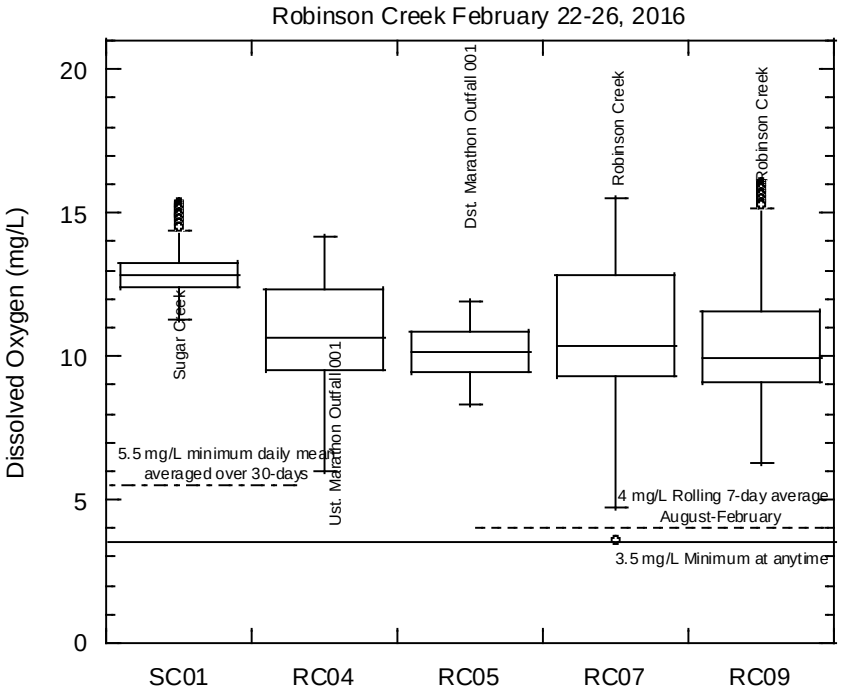

Robinson Creek January 25-28, 2016
Temperature (°C)
Maximum Illinois T Criterion (15.8°C)
Sugar Creek
Robinson Creek
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

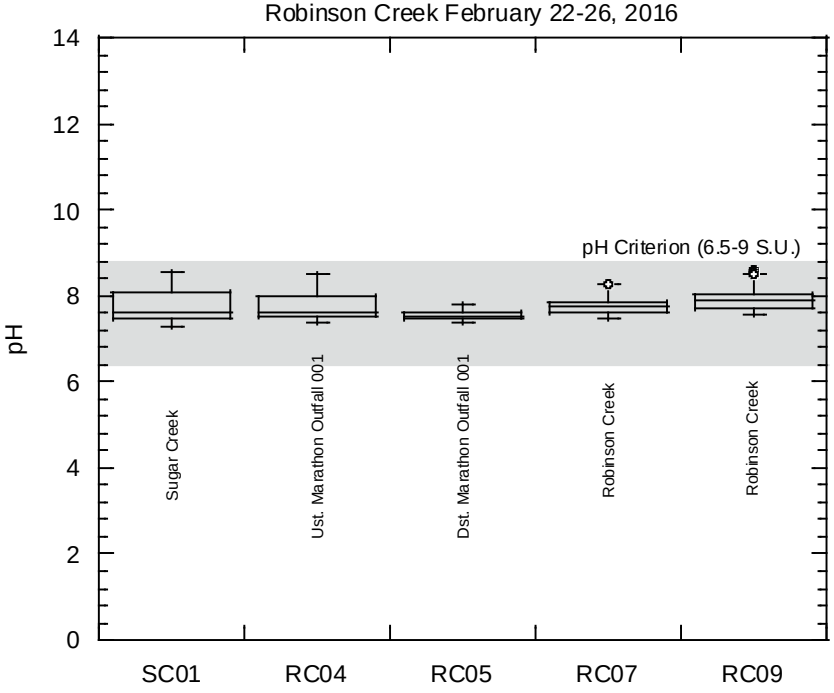

Robinson Creek January 25-28, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

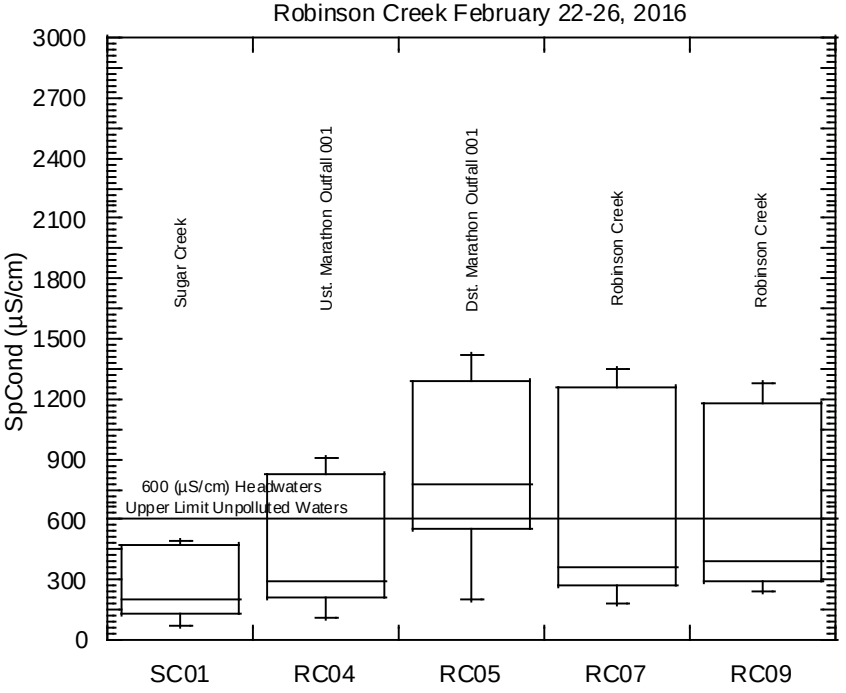

Robinson Creek January 25-28, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

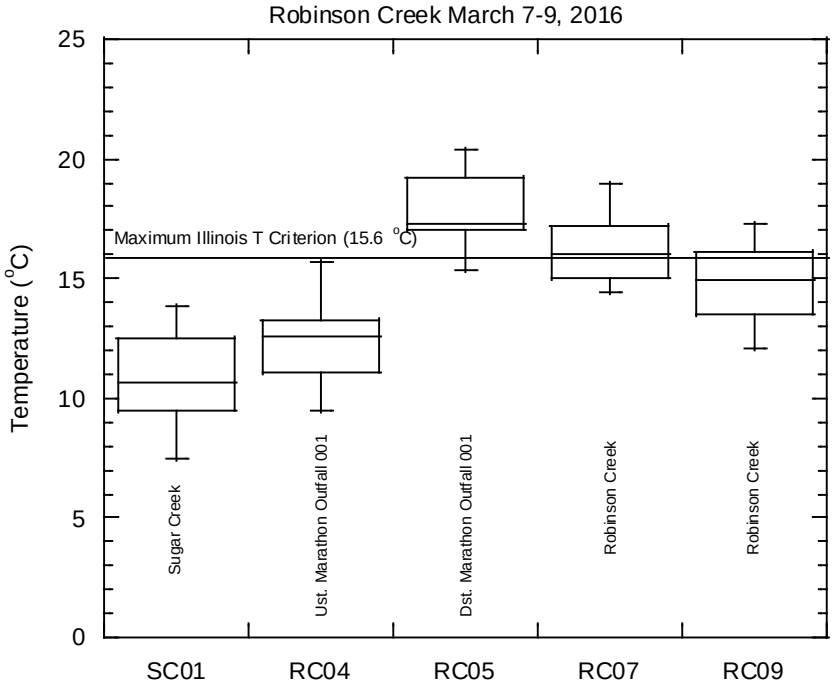

Robinson Creek January 25-28, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

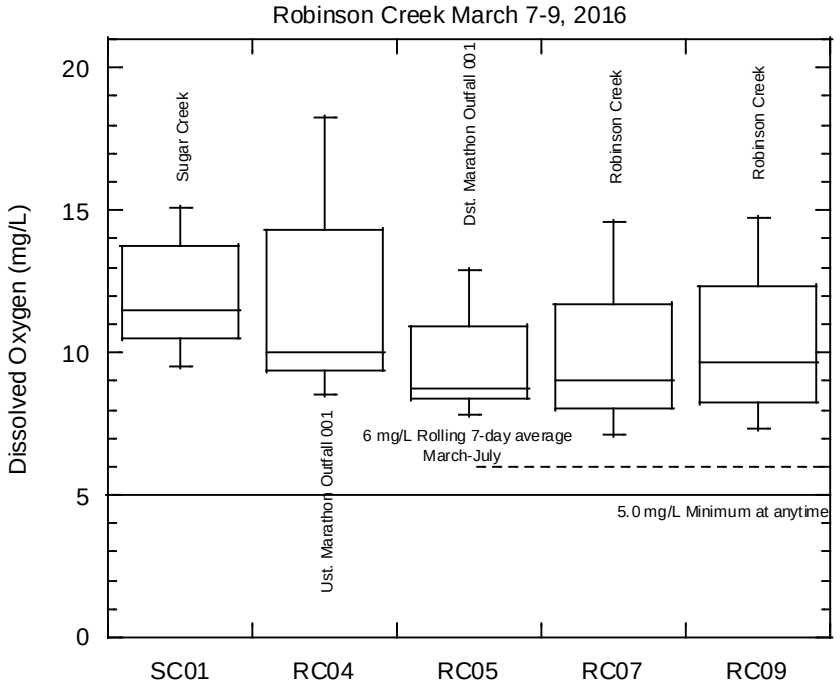

Robinson Creek Feburary 22-26, 2016
Temperature (°C)
Maximum Illinois T Criterion (15.6°C)
Sugar Creek
Robinson Creek
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

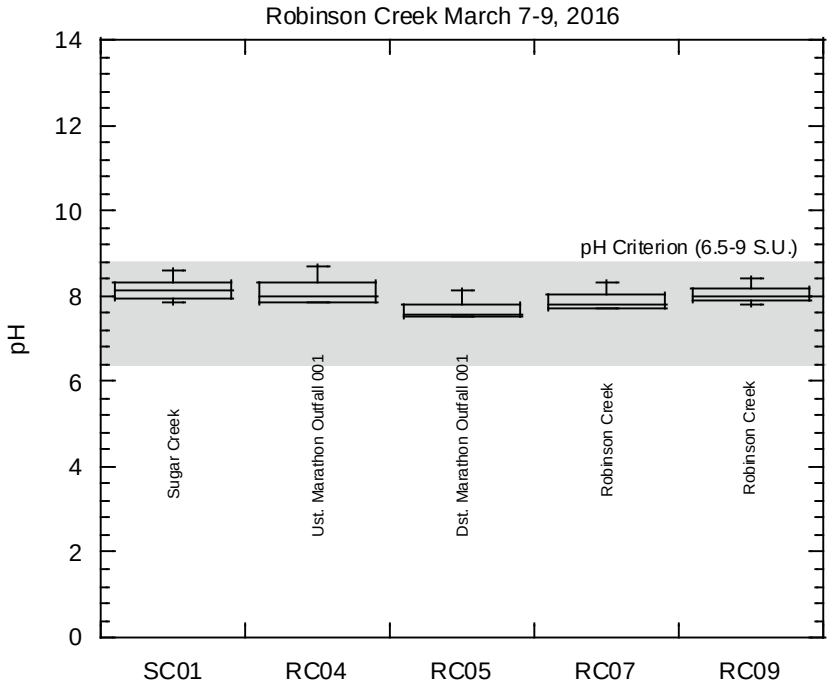

Robinson Creek February 22-26, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

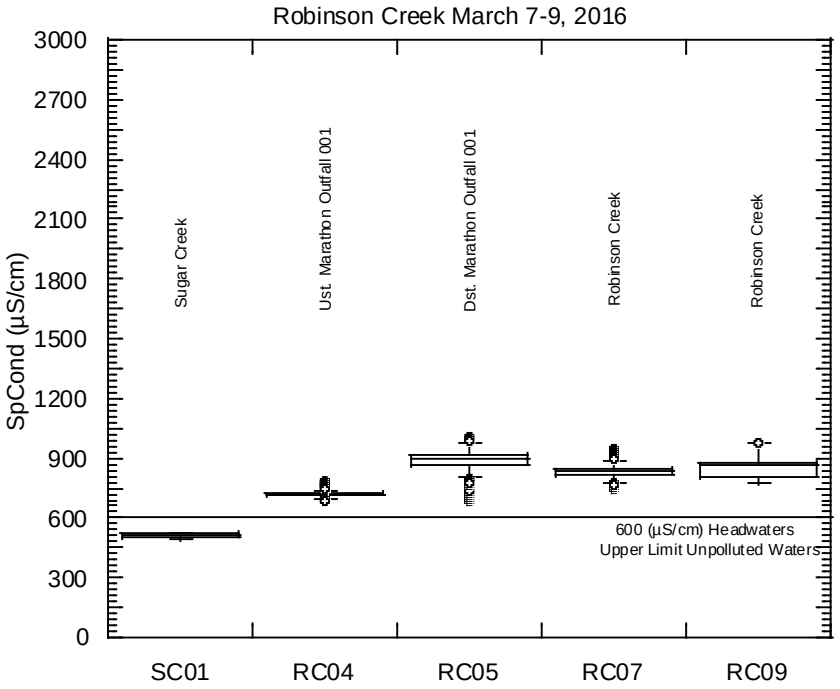

Robinson Creek Feburary 22-26, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

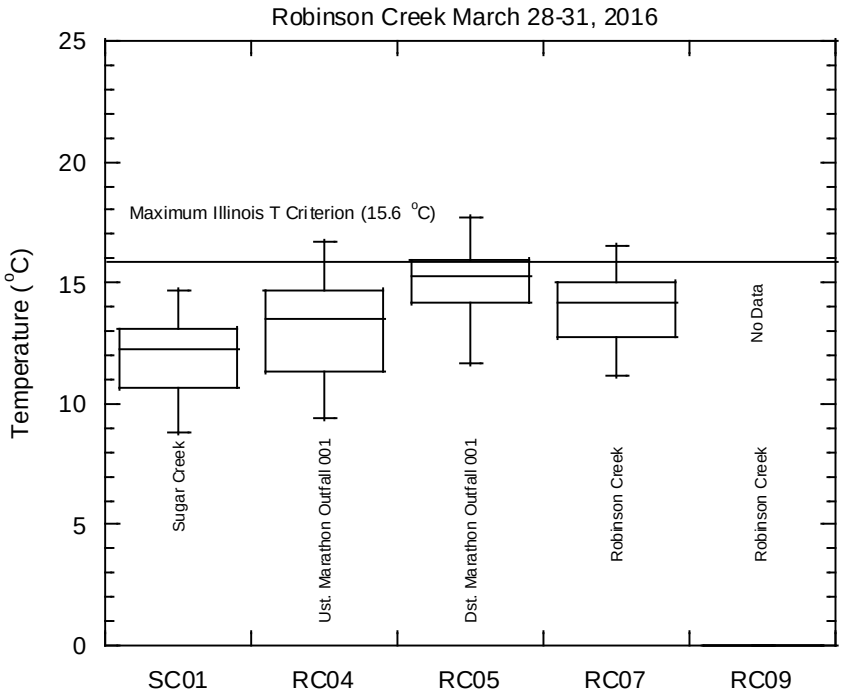

Robinson Creek February 22-26, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

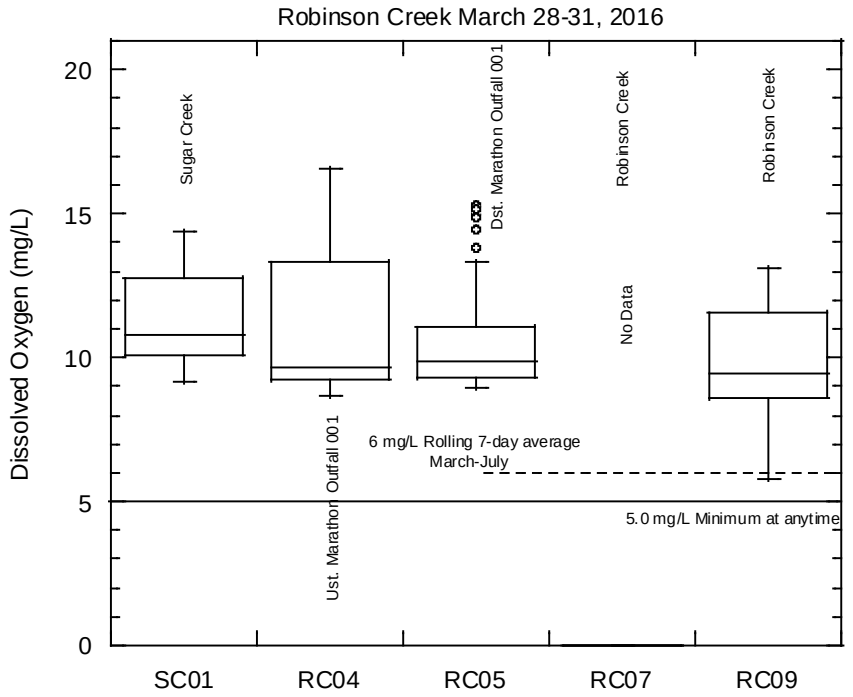

Robinson Creek March 7-9, 2016
Temperature (°C)
Maximum Illinois T Criterion (15.6 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

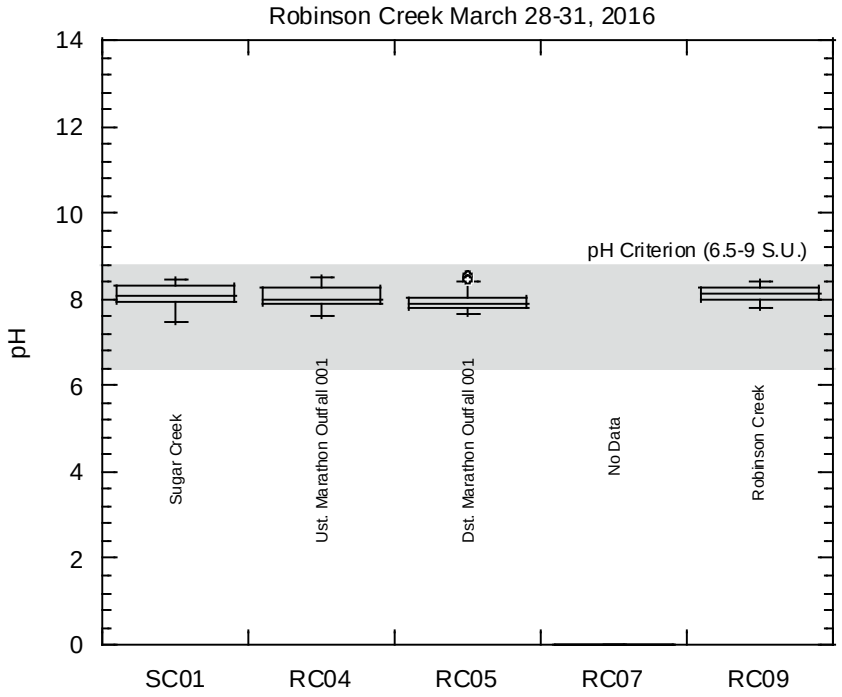

Robinson Creek March 7-9, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
6 mg/L Rolling 7-day average
March-July
5.0 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

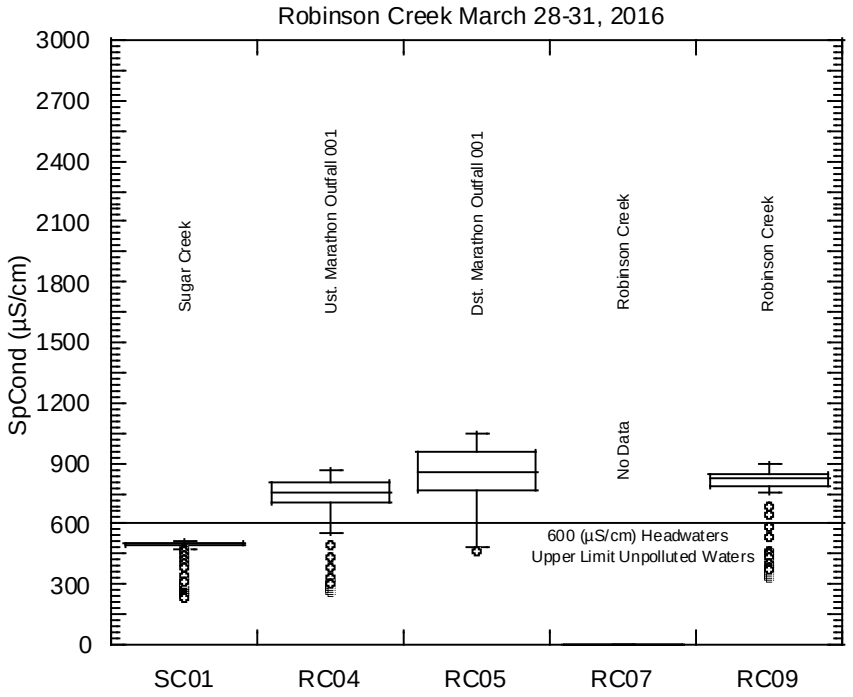

Robinson Creek March 7-9, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

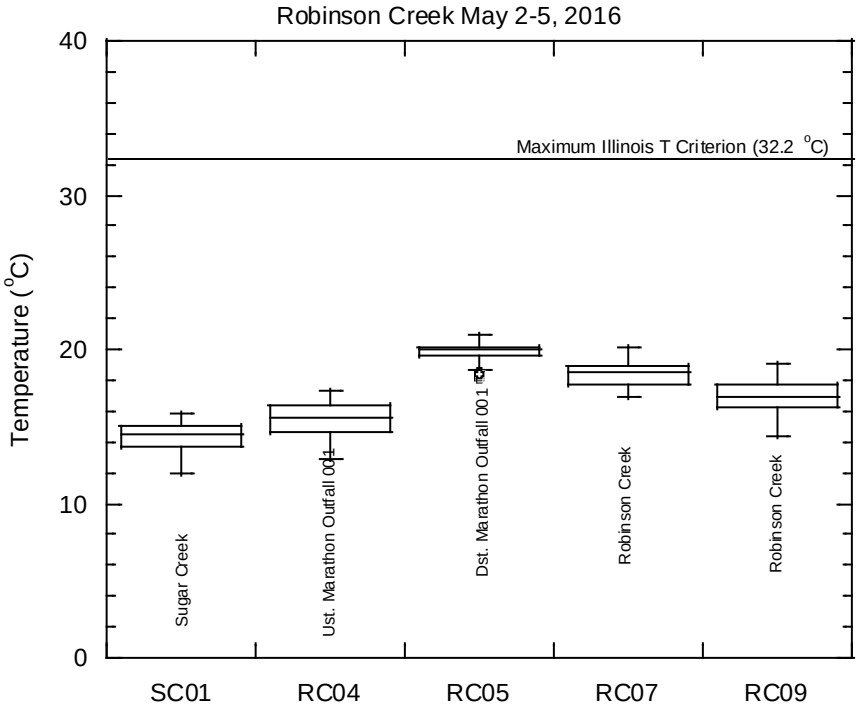

Robinson Creek March 7-9, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

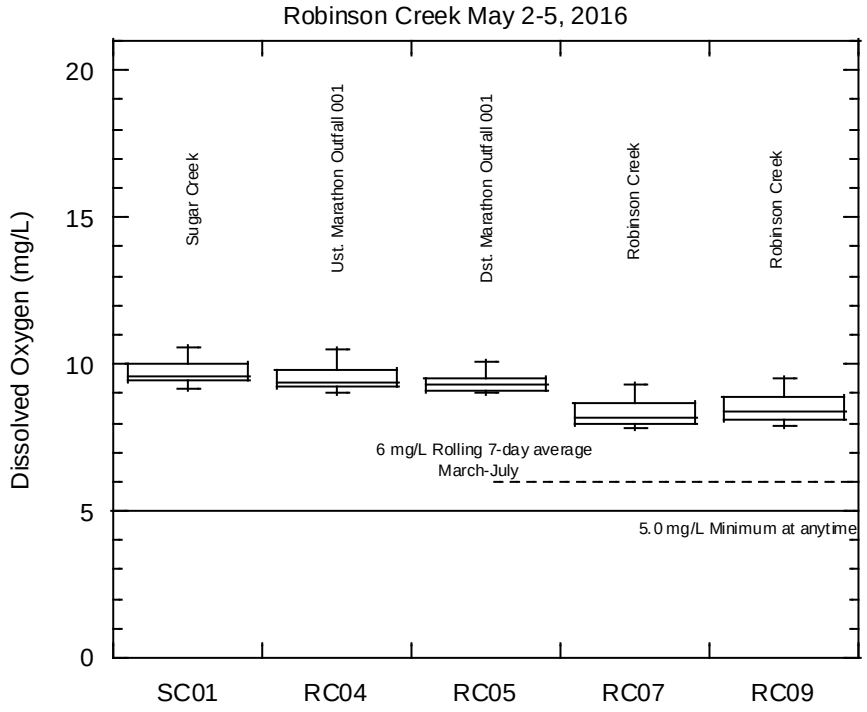

Robinson Creek March 28-31, 2016
Temperature (°C)
Maximum Illinois T Criterion (15.6 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
No Data
Robinson Creek
SC01
RC04
RC05
RC07
RC09

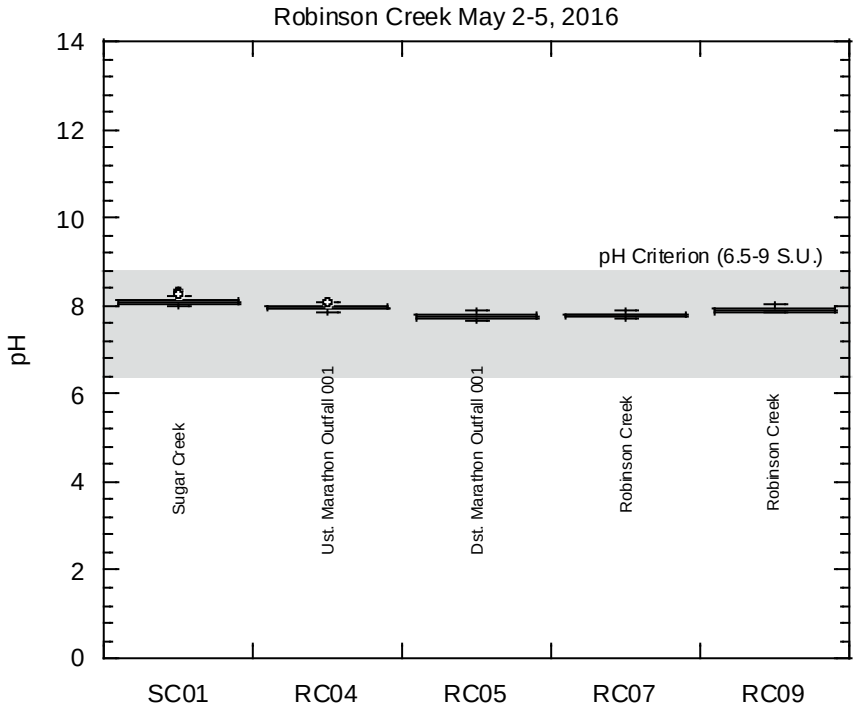

Robinson Creek March 28-31, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
No Data
Robinson Creek
6 mg/L Rolling 7-day average
March-July
5.0 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

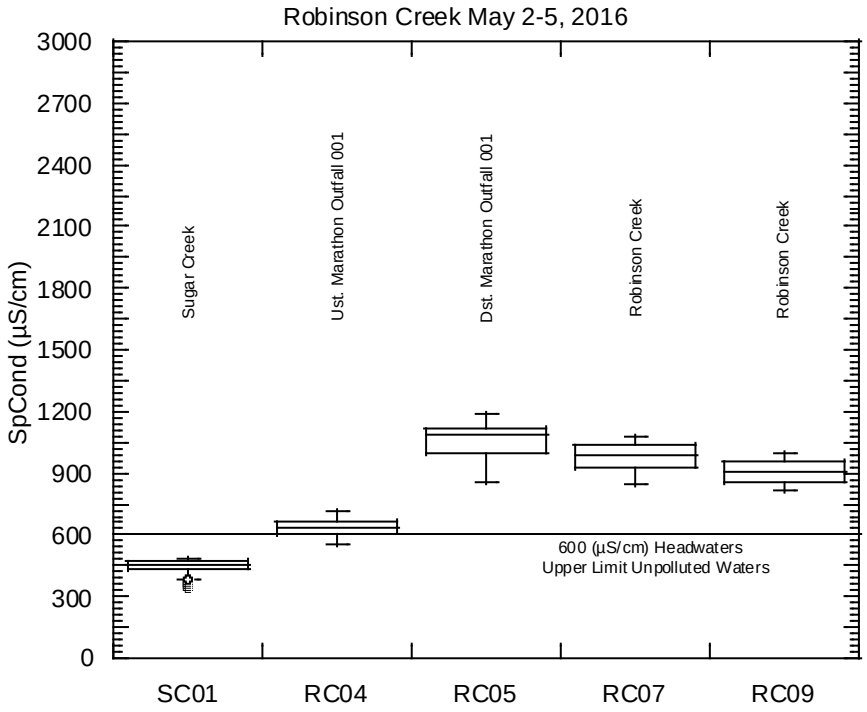

Robinson Creek March 28-31, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
No Data
Robinson Creek
SC01
RC04
RC05
RC07
RC09

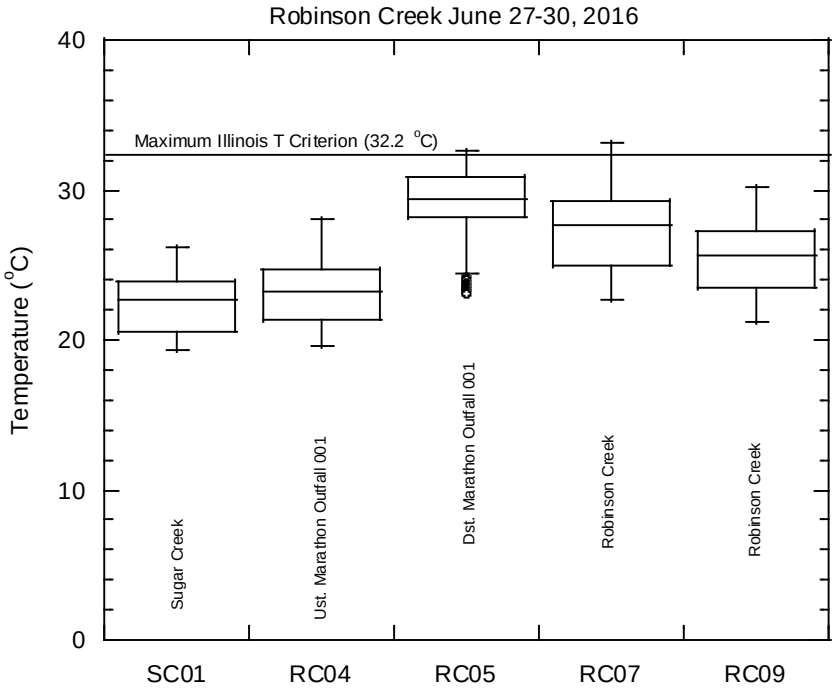

Robinson Creek March 28-31, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
No Data
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

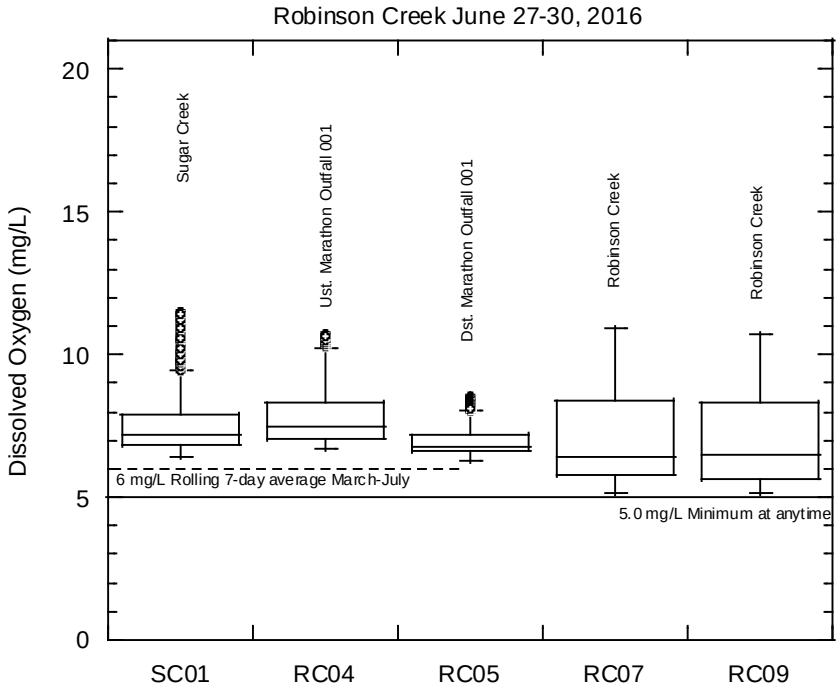

Robinson Creek May 2-5, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

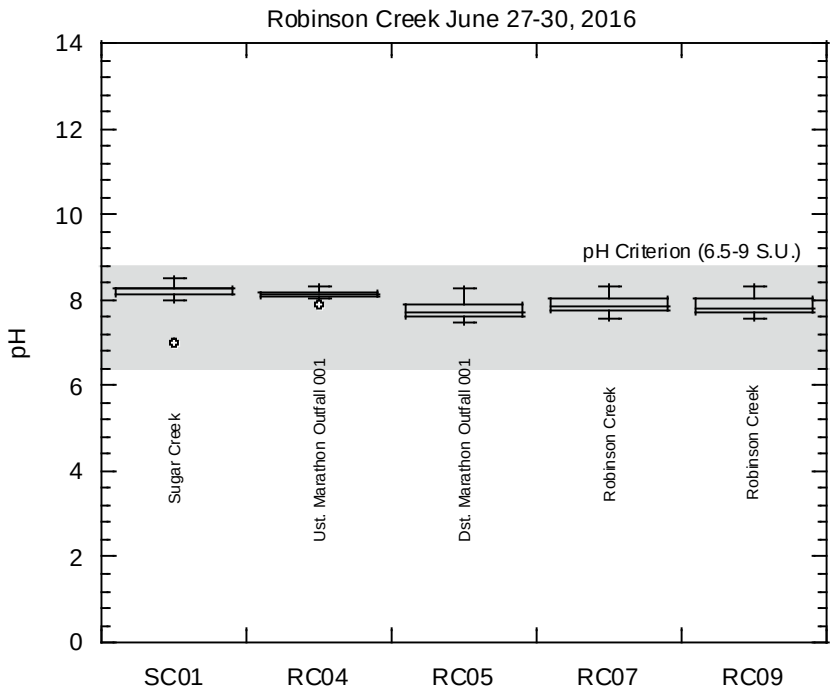

Robinson Creek May 2-5, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
6 mg/L Rolling 7-day average
March-July
5.0 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

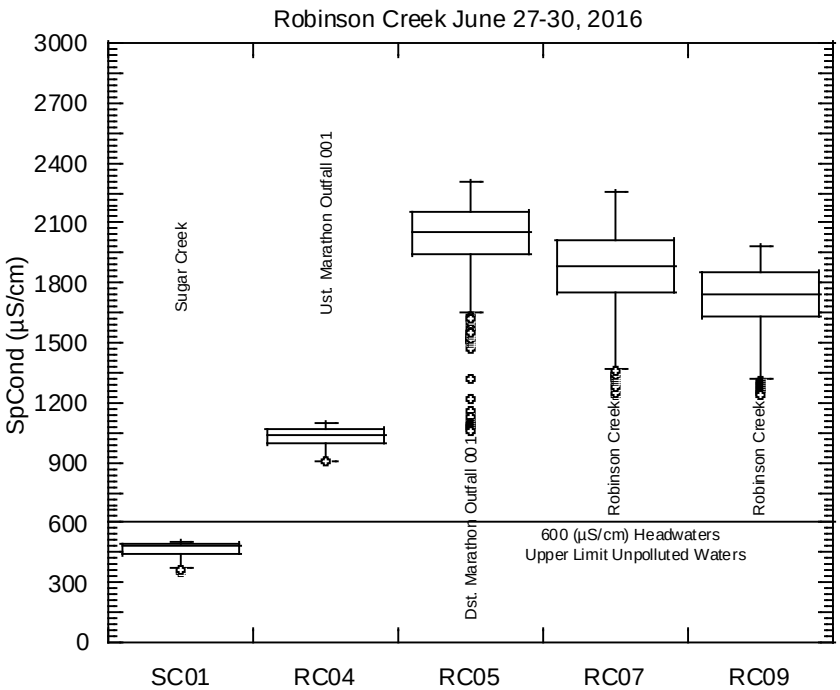

Robinson Creek May 2-5, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

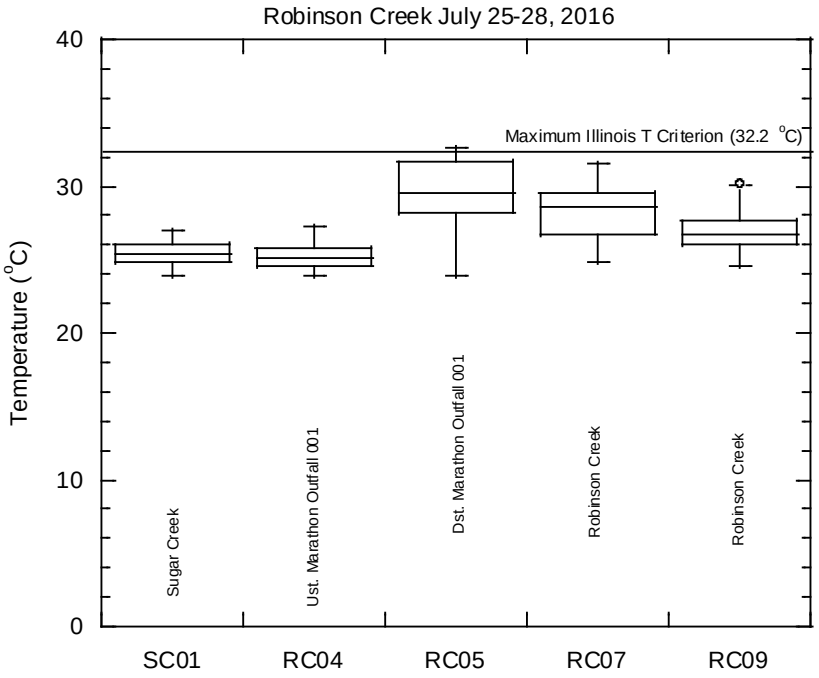

Robinson Creek May 2-5, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

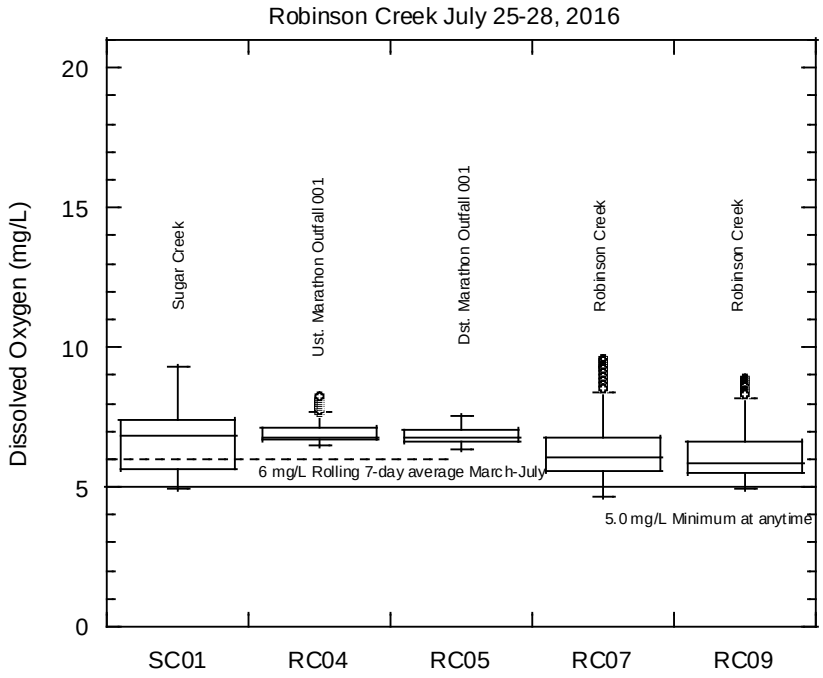

Robinson Creek June 27-30, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

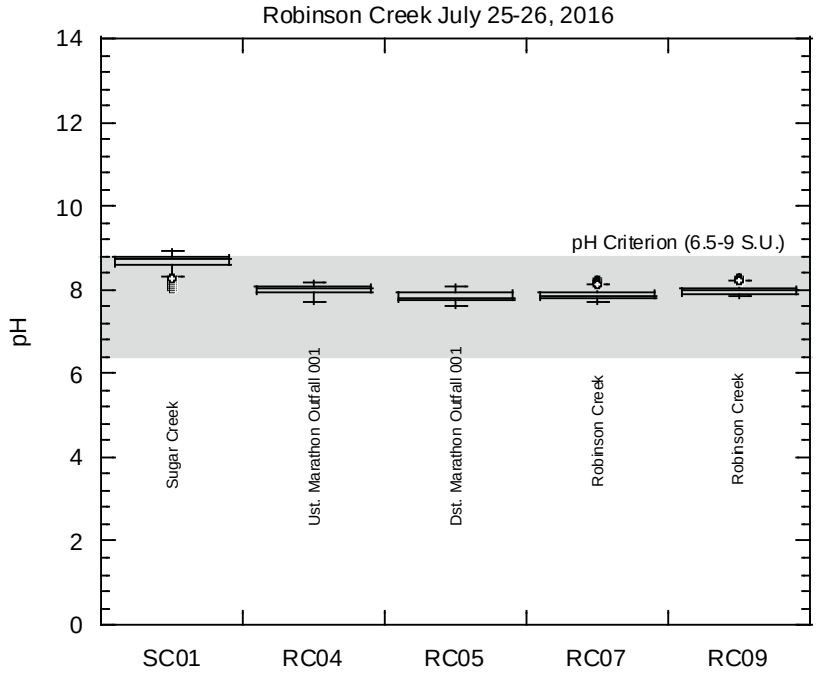

Robinson Creek June 27-30, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
6 mg/L Rolling 7-day average March-July
5.0 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

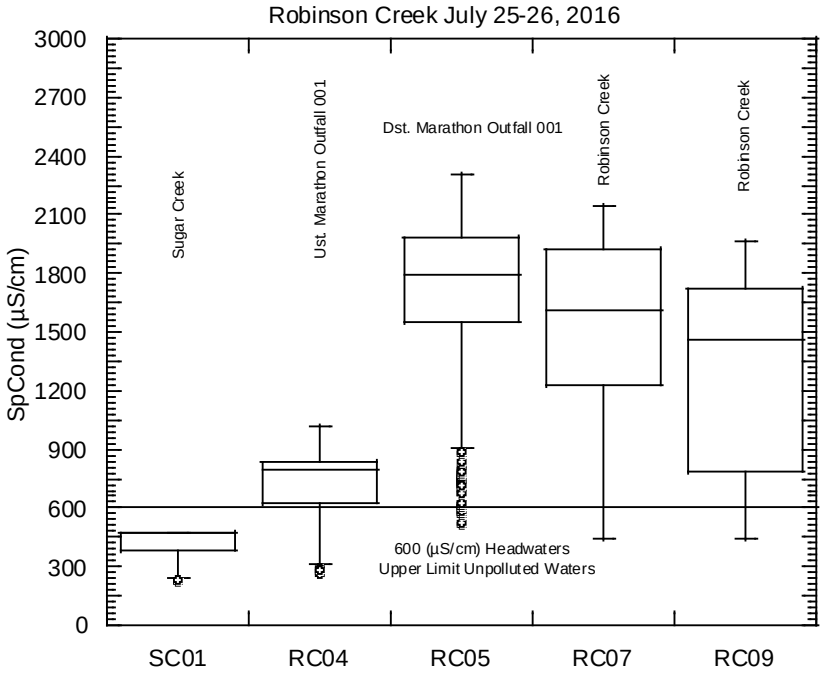

Robinson Creek June 27-30, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

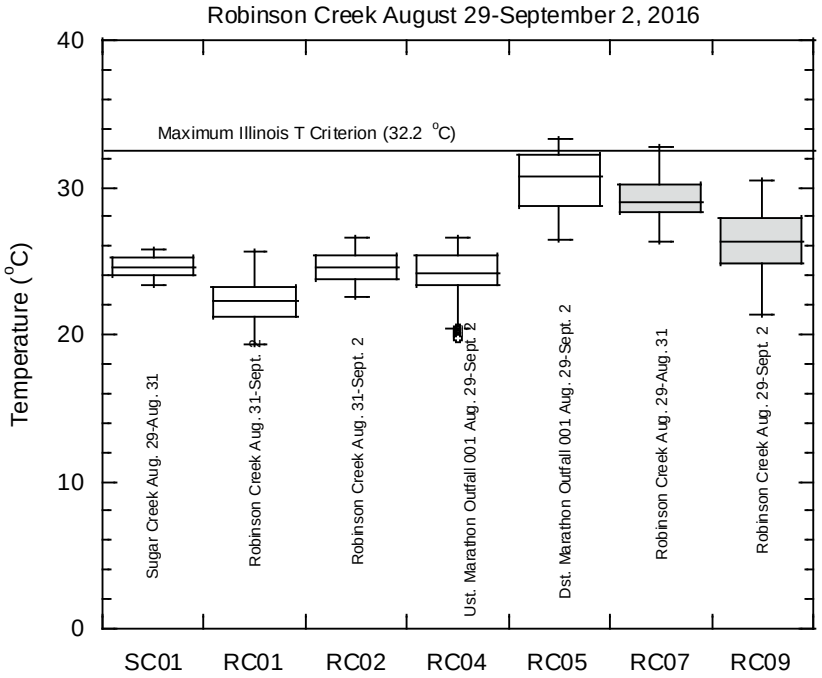

Robinson Creek June 27-30, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

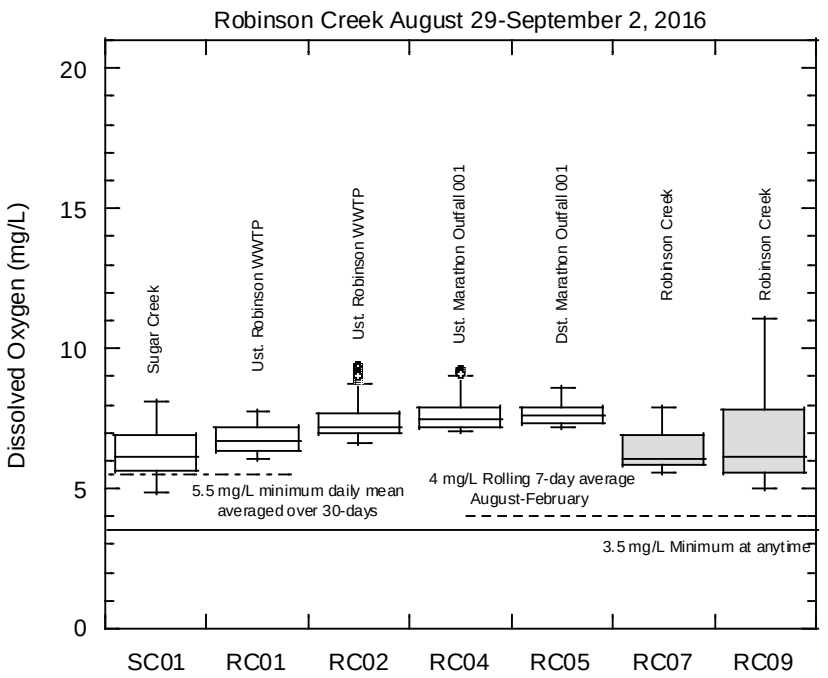

Robinson Creek July 25-28, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

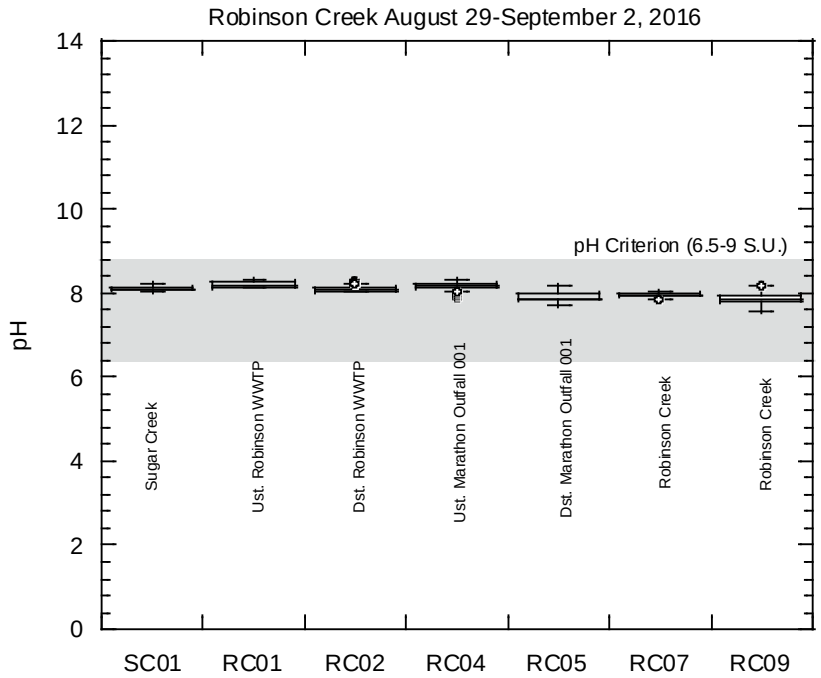

Robinson Creek July 25-28, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
6 mg/L Rolling 7-day average March-July
5.0 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

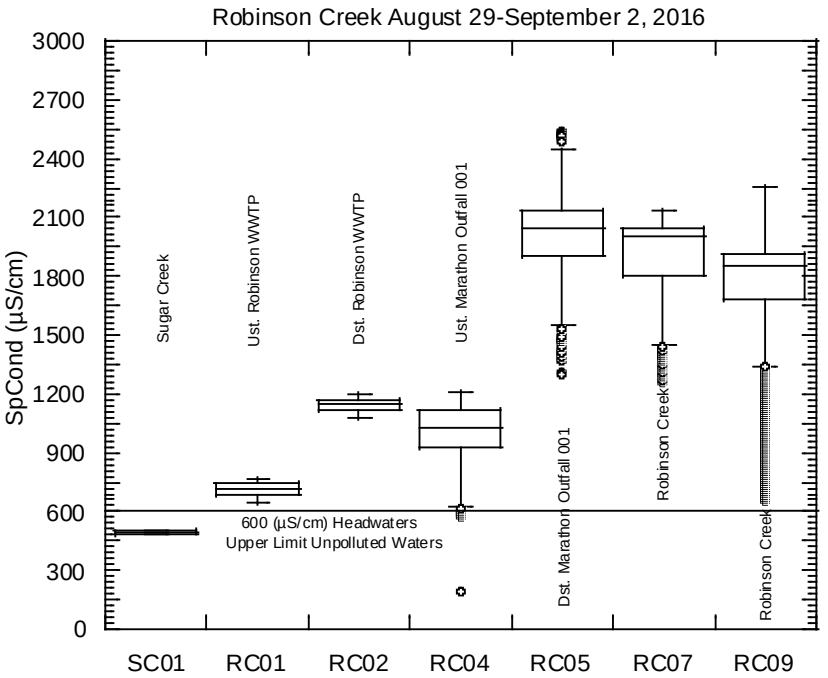

Robinson Creek July 25-26, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

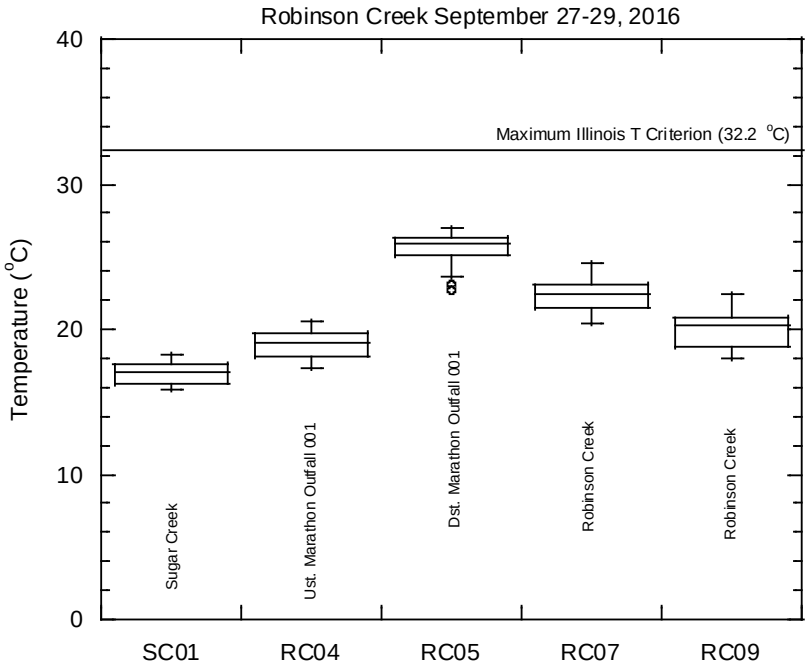

Robinson Creek July 25-26, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters
Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

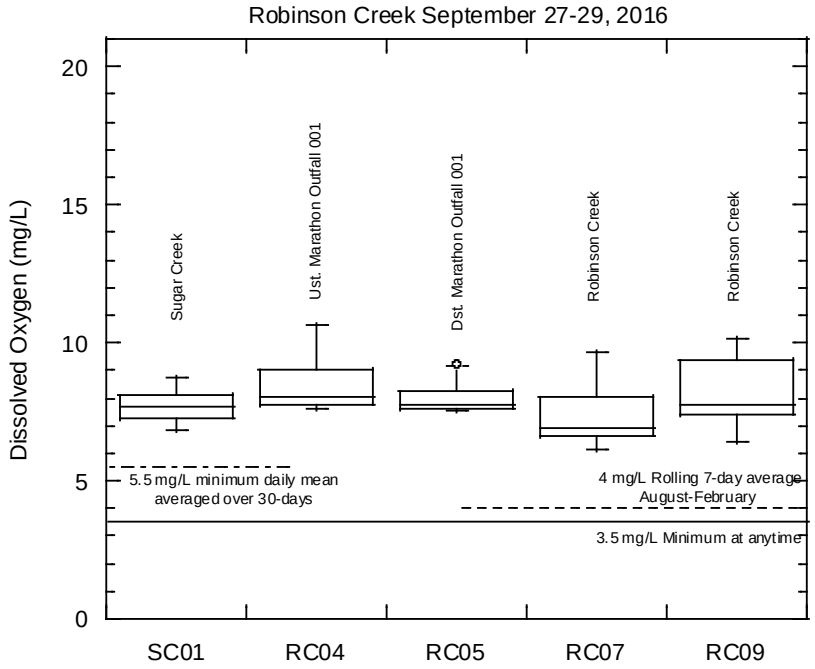

Robinson Creek August 29-September 2, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek Aug. 29-Aug. 31
Robinson Creek Aug. 31-Sept. 2
Robinson Creek Aug. 31-Sept. 2
Ust. Marathon Outfall 001 Aug. 29-Sept. 2
Dst. Marathon Outfall 001 Aug. 29-Sept. 2
Robinson Creek Aug. 29-Aug. 31
Robinson Creek Aug. 29-Sept. 2
SC01
RC01
RC02
RC04
RC05
RC07
RC09

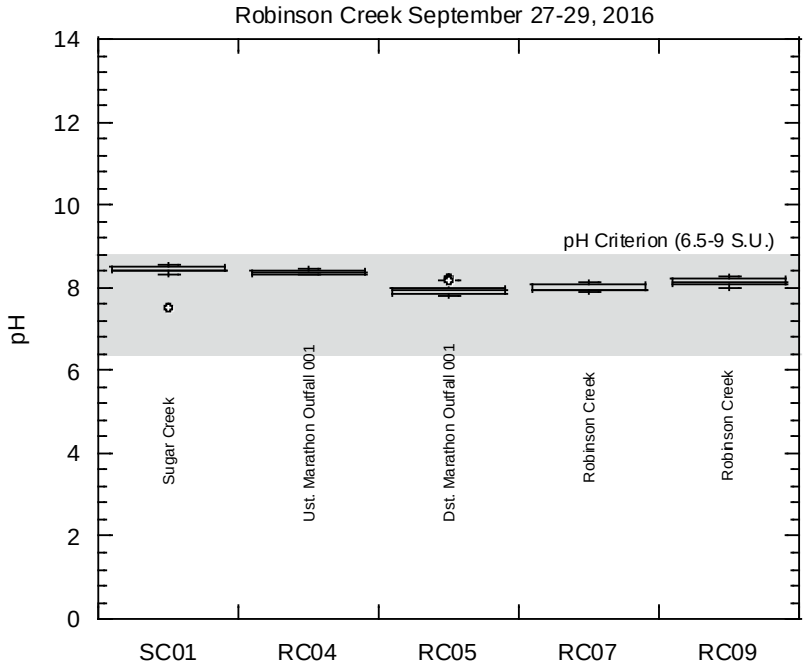

Robinson Creek August 29-September 2, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Robinson WWTP
Ust. Robinson WWTP
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC01
RC02
RC04
RC05
RC07
RC09

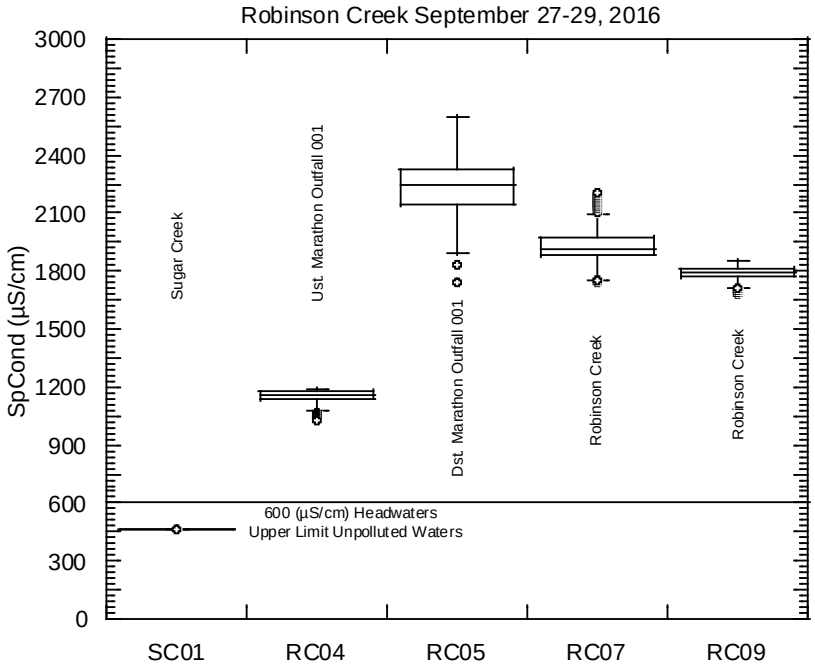

Robinson Creek August 29-September 2, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Robinson WWTP
Dst. Robinson WWTP
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC01
RC02
RC04
RC05
RC07
RC09

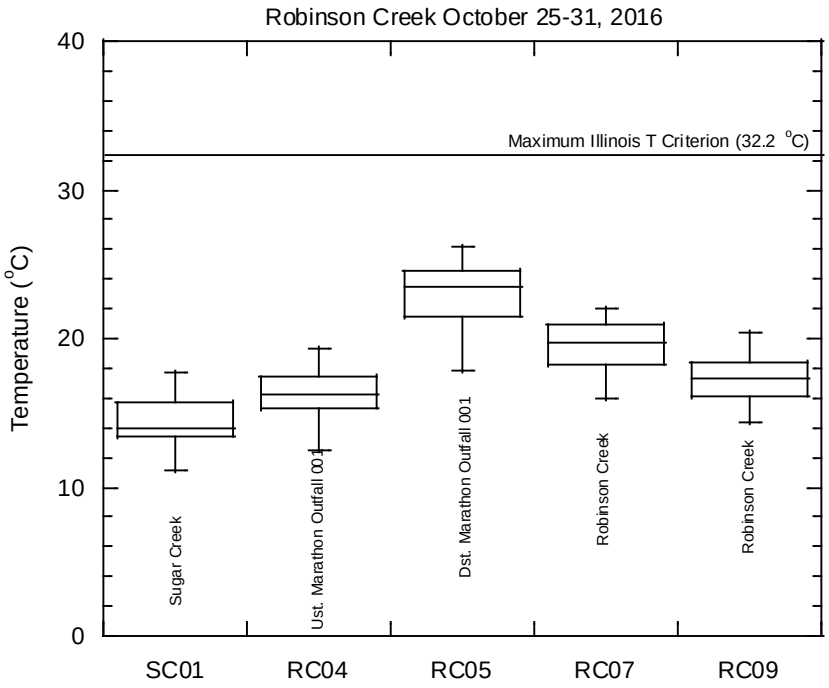

Robinson Creek August 29-September 2, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Robinson WWTP
Dst. Robinson WWTP
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC01
RC02
RC04
RC05
RC07
RC09

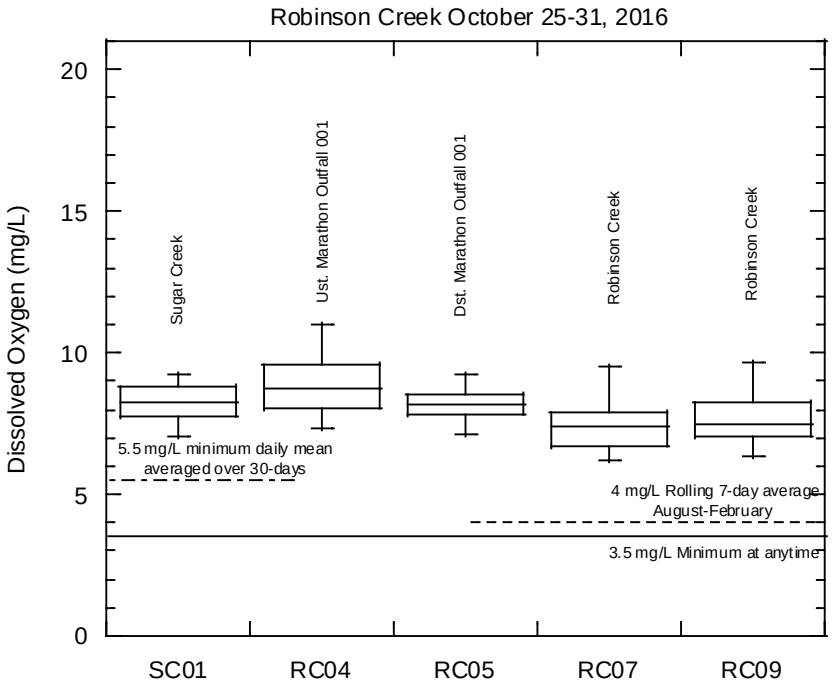

Robinson Creek September 27-29, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

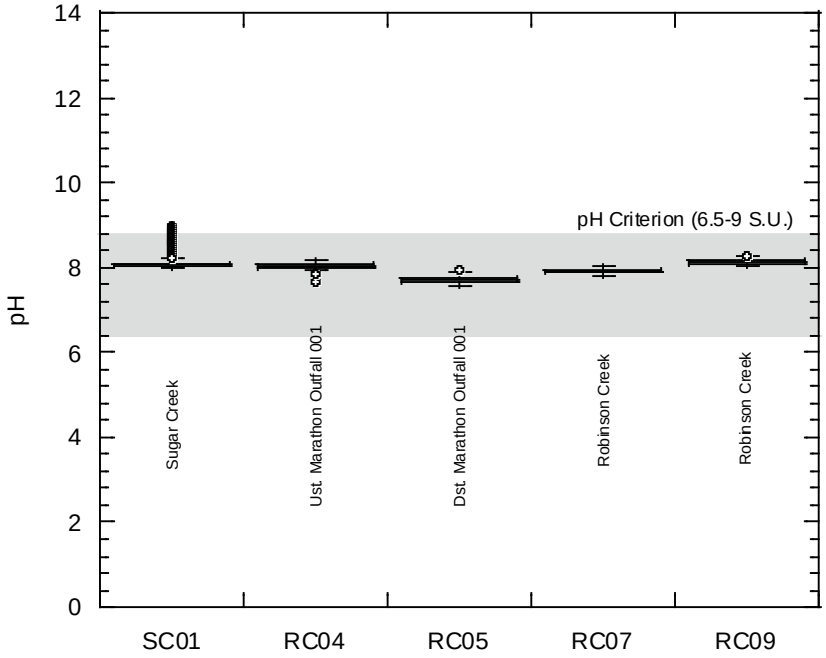

Robinson Creek September 27-29, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

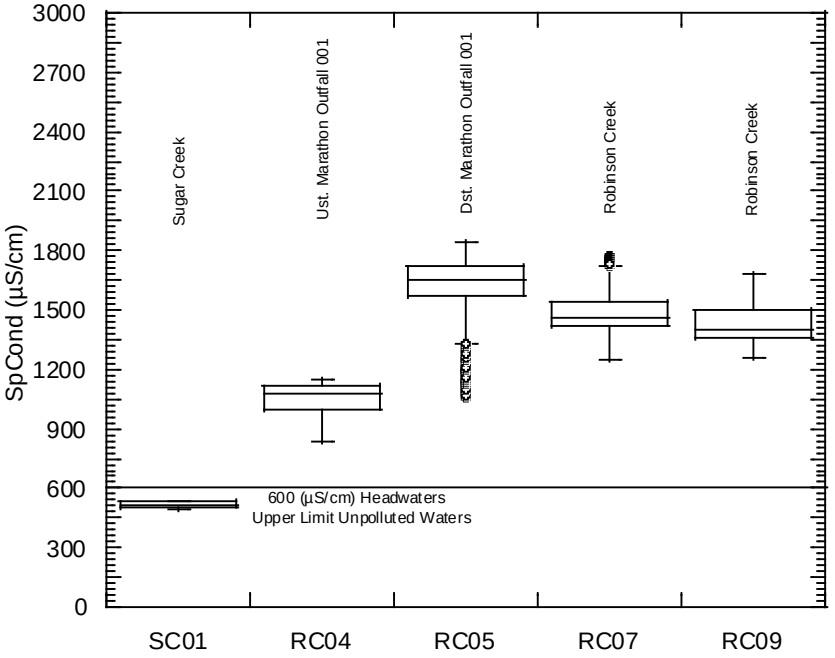

Robinson Creek September 27-29, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

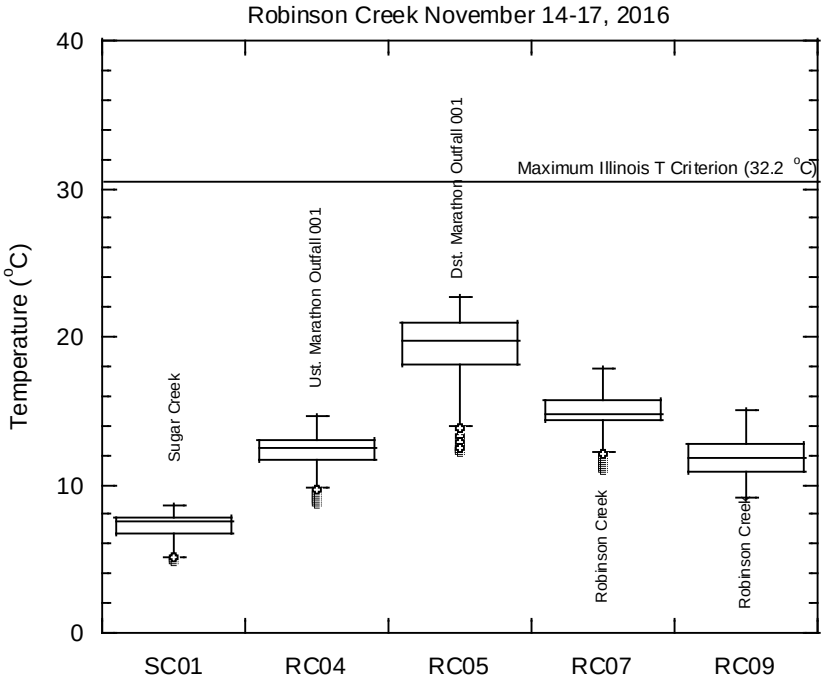

Robinson Creek September 27-29, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

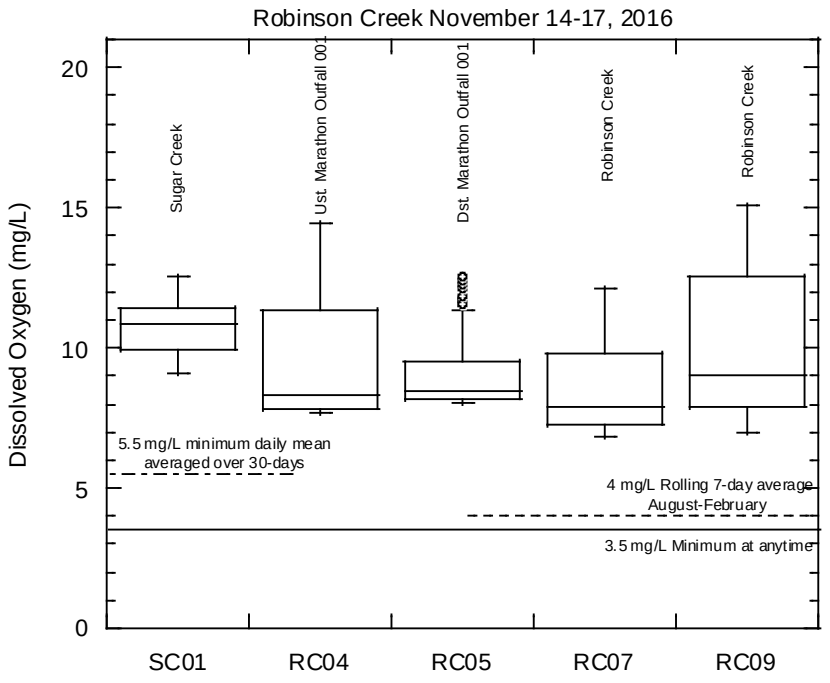

Robinson Creek October 25-31, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

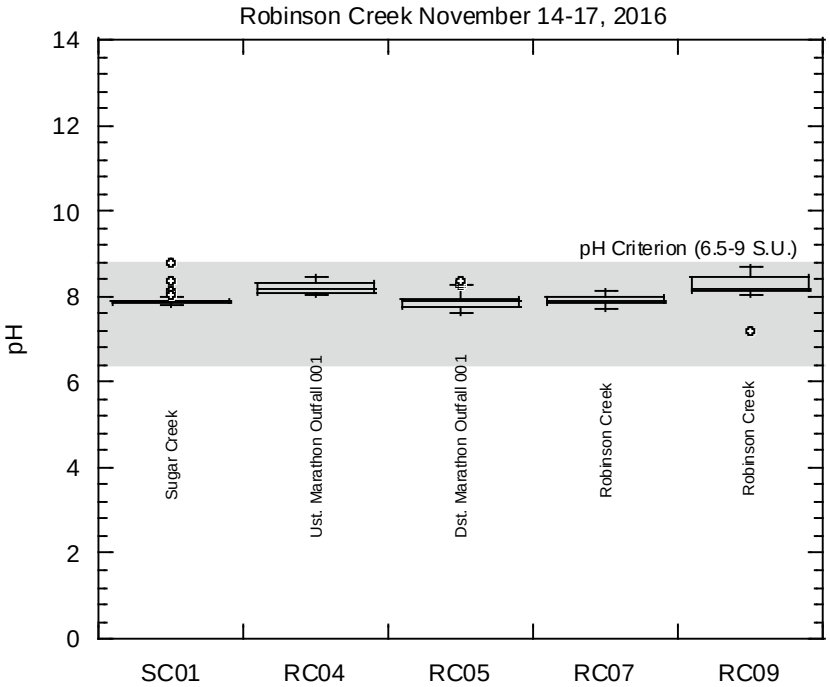

Robinson Creek October 25-31, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

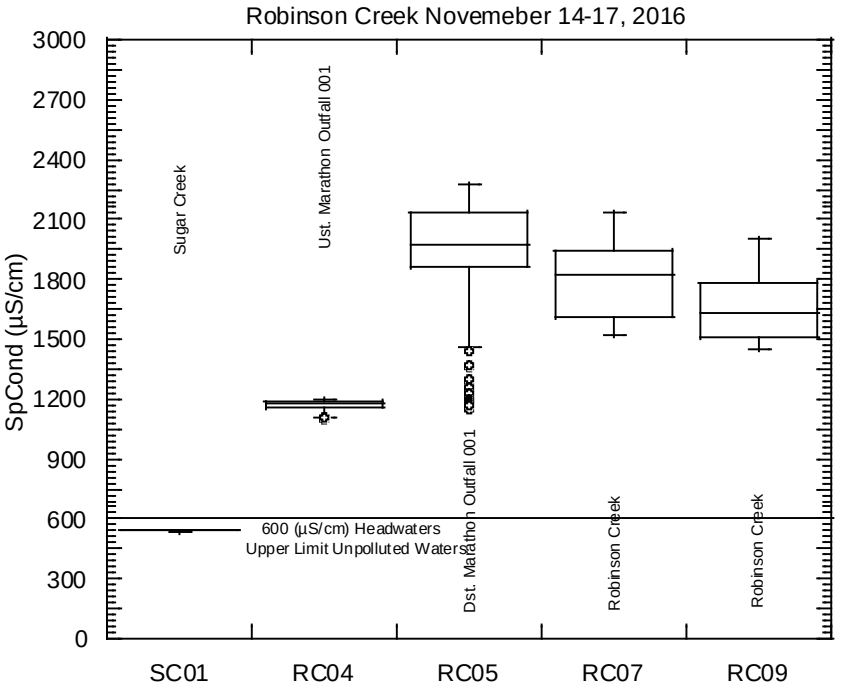

Robinson Creek October 25-31, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

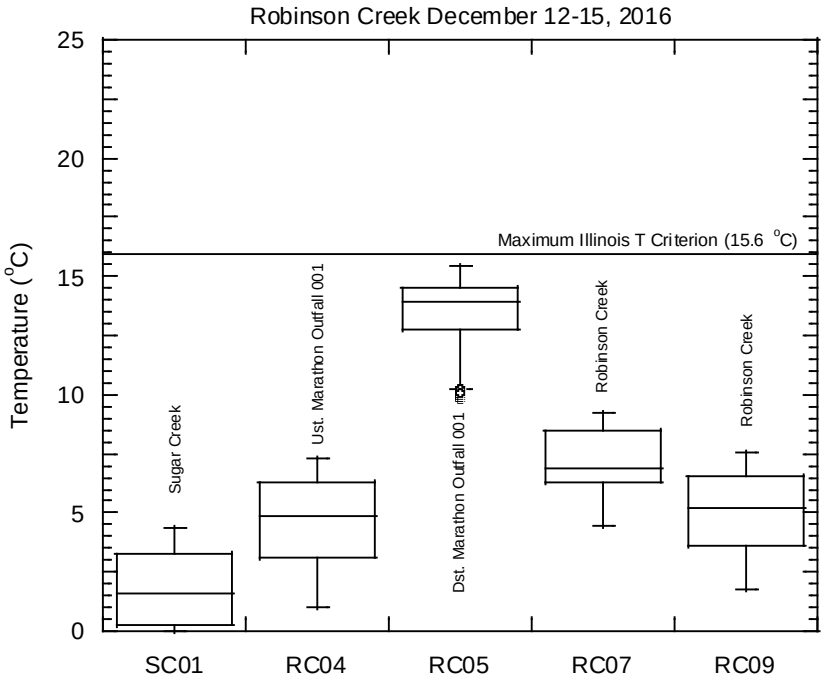

Robinson Creek October 25-31, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

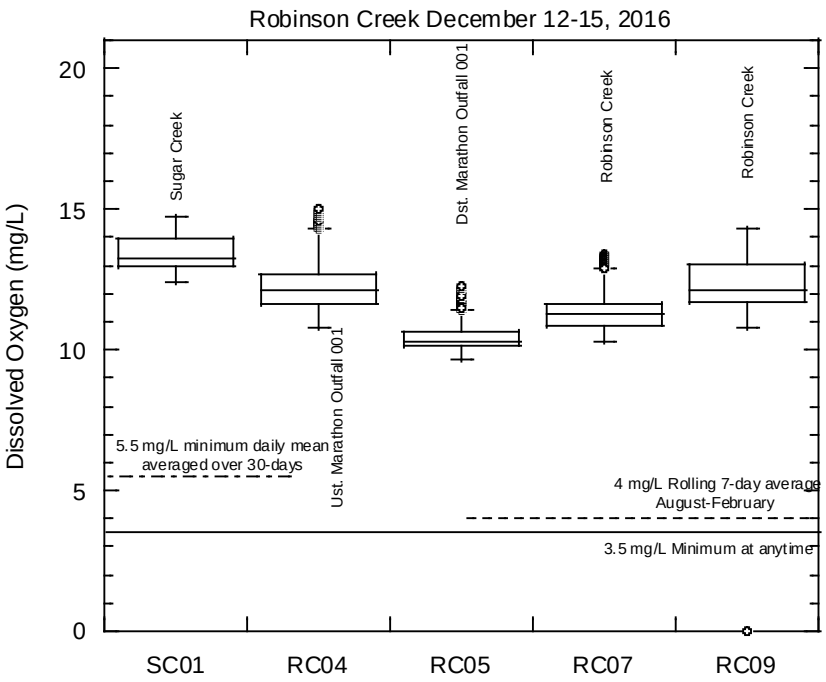

Robinson Creek November 14-17, 2016
Temperature (°C)
Maximum Illinois T Criterion (32.2 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09

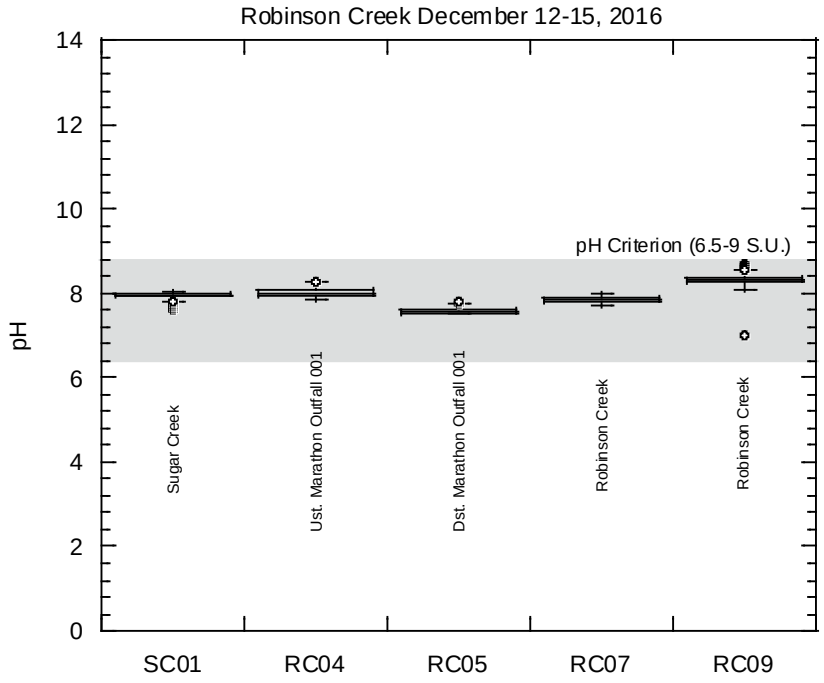

Robinson Creek November 14-17, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09

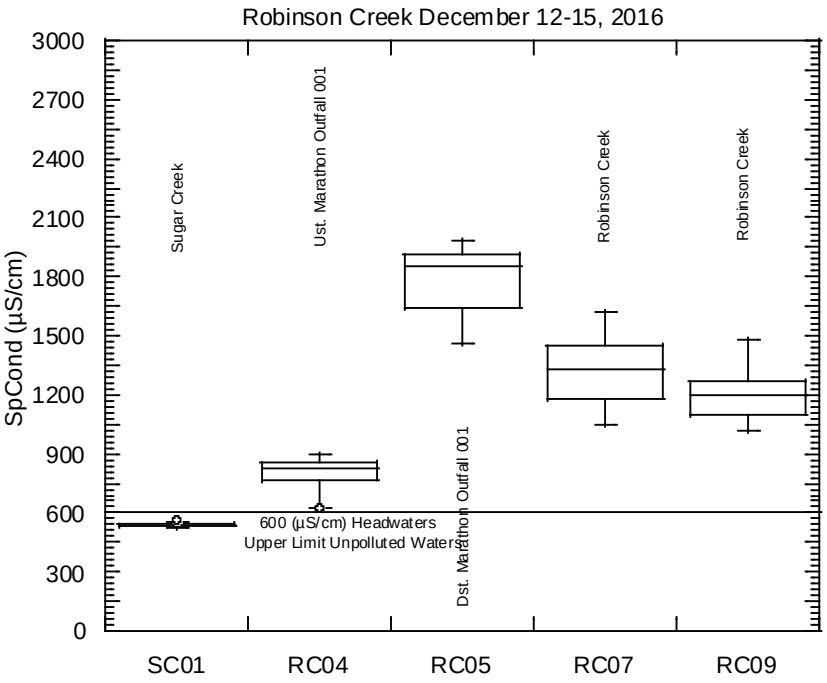

Robinson Creek November 14-17, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09


Robinson Creek Novemeber 14-17, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09


Robinson Creek December 12-15, 2016
Temperature (°C)
Maximum Illinois T Criterion (15.6 °C)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09


Robinson Creek December 12-15, 2016
Dissolved Oxygen (mg/L)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
5.5 mg/L minimum daily mean averaged over 30-days
4 mg/L Rolling 7-day average August-February
3.5 mg/L Minimum at anytime
SC01
RC04
RC05
RC07
RC09


Robinson Creek December 12-15, 2016
pH
pH Criterion (6.5-9 S.U.)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
SC01
RC04
RC05
RC07
RC09


Robinson Creek December 12-15, 2016
SpCond (µS/cm)
Sugar Creek
Ust. Marathon Outfall 001
Dst. Marathon Outfall 001
Robinson Creek
Robinson Creek
600 (µS/cm) Headwaters Upper Limit Unpolluted Waters
SC01
RC04
RC05
RC07
RC09

APPENDIX A-4

Appendix A-4: Chemical thresholds consisting of Illinois water quality criteria, biological effects thresholds, and non-effect reference benchmarks used to support the assignment of causes to observed biological impairments in Robinson Creek, Sugar Creek, and tributaries.

***Appendix Table A-4**. Chemical thresholds consisting of Illinois water quality criteria, biological effects thresholds, and non-effect reference benchmarks used to support the assignment of causes to observed biological impairments in Robinson Creek, Sugar Creek, and tributaries. Only chemical parameters that were detected in water samples are included.*

Parameter[1]	Water Quality Criteria[2]		Effect Thresholds[3]				Non-effect Benchmarks[4]	
	IL Chronic	IL Acute	Ohio EPA[5]	SW Ohio[6]	NOAA SQRT[7]	Other	Regional Reference[8]	IL Non-Standard[9]
Demand Group								
BOD_5	NA[10]	NA	--	2.48 mg/L [HW Streams]	--	--	2.00 mg/L [HW Streams]	--
Dissolved Oxygen (D.O.)	5.5./6.0 mg/L [7-day rolling avg.]	3.5/5.0 mg/L [minimum]	7.2 mg/L [HW Streams]	5.32 mg/L [All Streams]	--	6.0/5.0 mg/L; 7.0/6.0 mg/L diel swing[11]	6.6 mg/L [HW Streams]	--
Suspended Solids (TSS)	NA	NA	16.0 mg/L [HW Streams]	65.0 mg/L [HW Streams]	--	--	28.0 mg/L [HW Streams]	--
Nutrients Group								
Ammonia-N (NH_3-N)	1.24 mg/L [pH 8.0/25°C]	8.40 mg/L [pH 8.0/25°C]	0.05 mg/L [HW Streams]	0.31 mg/L [HW Streams]	--	0.15 mg/L [DRSCW IPS[12]]	0.025 mg/L [HW Streams]	--
Kjedahl Nitrogen (TKN)	NA	NA	0.50 mg/L [HW Streams]	0.51 mg/L [HW Streams]	--	1.00 mg/L [DRSCW IPS[11]]	0.70 mg/L	--
Phosphorus	NA	NA	0.216 mg/L [HW Streams]	0.080 mg/L [HW Streams]	--	0.06 mg/L [HW Streams][13] 0.038/0.100 mg/L[11]	0.072 mg/L 0.08 mg/L [EPA Ecoregion 54][14]	0.610 mg/L
Nitrate-N (NO_3-N)	NA	NA	0.090 mg/L [HW Streams]	0.096 mg/L [HW Streams]	--	0.61 mg/L [HW Streams][13]	1.87 mg/L [HW Streams] 1.80 mg/L [EPA Ecoregion 54]	7.80 mg/L

Parameter[1]	Water Quality Criteria[2]		Effect Thresholds[3]				Non-effect Benchmarks[4]	
	IL Chronic	IL Acute	Ohio EPA[5]	SW Ohio[6]	NOAA SQRT[7]	Other	Regional Reference[8]	IL Non-Standard[9]
Ionic Strength Group								
Chloride	NA	500 mg/L; 750 mg/l[15]	46.0 mg/L [HW Streams]	52.6 mg/L [HW Streams]	--	112 (fish); 141 (macro.) mg/L [DRSCW IPS[16]]	35.0 mg/L [HW Streams]	--
Conductance, Specific	NA	NA	851 µS/cm [HW Streams]	703 µS/cm [HW Streams]	--	300 µS/cm [EPA draft[17]]	751 µS/cm [HW Streams]	--
Dissolved Solids (TDS)	NA	1500 mg/L [Dec. 1-Apr. 30; expires 2018]	--	364 mg/L [HW Streams]	--	--	296 mg/L [SW Ohio HW]	--
Sulfate	1809 mg/L	--	334 mg/L [HW Streams]	119 mg/L [HW Streams]	--	--	188 mg/L [HW Streams]	--
Metals Group[18]								
Arsenic (As)	0.190 mg/L	0.360 mg/L	0.002 mg/L [HW Streams]	--	0.190 mg/L [Chronic]	See SQRT	0.001 mg/L [HW Streams]	--
Chromium, Hexavalent (Cr^{+6})	0.011 mg/L	0.016 mg/L	--	--	0.011 mg/L[C] 0.016 mg/L[A]	See SQRT	--	--
Chromium, Trivalent (Cr^{+3})	0.438 mg/L	1.349 mg/L	--	--	0.074 mg/L[C] 0.570 mg/L[A]	See SQRT	--	--
Copper (Cu)	0.022 mg/L	0.036 mg/L	0.010 mg/L [HW Streams]	0.006 mg/L [HW Streams]	0.009 mg/L[C] 0.130 mg/L[A]	See SQRT	0.005 mg/L [HW Streams]	--
Lead (Pb)	0.051 mg/L	0.245 mg/L	0.002 mg/L [HW Streams]	0.006 mg/L [HW Streams]	0.0025 mg/L[C] 0.065 mg/L[A]	See SQRT	0.005 mg/L [HW Streams]	--

Parameter[1]	Water Quality Criteria[2]		Effect Thresholds[3]				Non-effect Benchmarks[4]	
	IL Chronic	IL Acute	Ohio EPA[5]	SW Ohio[6]	NOAA SQRT[7]	Other	Regional Reference[8]	IL Non-Standard[9]
Manganese (Mn)	3.52 mg/L	8.15 mg/L	0.942 mg/L [HW Streams]	0.098 mg/L [HW Streams]	0.080 mg/L[C] 2.300 mg/L[A]	See SQRT	0.185 mg/L [HW Streams]	--
Strontium (Sr)	NA	NA	3.64 mg/L [All Streams]	--	1.50 mg/L[C] 15.0 mg/L[A]	See SQRT	3.96 mg/L [All Streams]	--
Vanadium (V)	NA	NA	--	--	0.019 mg/L[C] 0.280 mg/L[A]	See SQRT	--	--
Zinc (Zn)	0.073 mg/L	0.273 mg/L	0.010 mg/L [HW Streams]	0.016 mg/L [HW Streams]	0.120 mg/L [Chronic]	See SQRT	0.028 mg/L [HW Streams]	--
Non-metal Group								
Boron (B)	7.60 mg/L	40.1 mg/L	--	--	--	1.50 mg/L[19][C] 29.0 mg/L[A]	--	--
Selenium (Se)	1.00 mg/L	--	--	--	0.005 mg/L [C] 0.280 mg/L[A]	0.0031 mg/L[20][C]; 0.005 mg/L[21][C] 0.020 mg/L[A]	--	--
Organics Group								
Acetone	120 mg/L	1500 mg/L	--	--	1.50 mg/L[C] 28.0 mg/L[A]		--	--
Benzyl Butyl Phthalate	--	--	--	--	0.019 mg/L[C] 0.940 mg/L[A]		--	--

Parameter[1]	Water Quality Criteria[2]		Effect Thresholds[3]				Non-effect Benchmarks[4]	
	IL Chronic	IL Acute	Ohio EPA[5]	SW Ohio[6]	NOAA SQRT[7]	Other	Regional Reference[8]	IL Non-Standard[9]
Bis (2-ehtylhexyl) phthalate	0.017 mg/L	0.076 mg/L	--	--	0.032 mg/L[C] 0.400 mg/L[A]		--	--
Bromomethane	--	--	--	--	--	11000 mg/L[22]	--	--
Chloroform	--	--	--	--	0.490 mg/L[A]	0.028 mg/L[18][C] 0.490 mg/L[A]	--	--
Chloromethane	1.30 mg/L[23]	16.0 mg/L	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	--	--	0.190 mg/L[A]	0.019 mg/L[16][C]	--	--
Di-n-octyl phthalate	--	--	--	--	0.940 mg/L[A]	--	--	--
2,4-Dinitrophenol	0.041 mg/L	0.085 mg/L	--	--	--	0.062 mg/L[18][C] 0.0062 mg/L[A]	--	--
2,3,4,6-Tetrachloro-phenol	--	--	--	--	--	--	--	--
Pentachlorophenol	0.017 mg/L	0.023 mg/L	--	--	0.015 mg/L[C] 0.019 mg/L[A]	0.011 mg/L[24][C] 0.019 mg/L[A]	--	--

[1] All parameter values as total unless specific otherwise.
[2] Illinois water quality criteria (Illinois Administrative Code Part 302) - http://www.epa.illinois.gov/topics/water-quality/standards/derived-criteria/index.
[3] Field-based thresholds using fish and macroinvertebrate assemblage endpoints;
[4] Values represent analyses of large scale ambient chemical databases with statistical approaches.
[5] Biocriteria derived threshold values (2 Interquartile Ranges [2IQR] above median) in *Appendices to Association Between Nutrients and the Aquatic Biota of Ohio River and Streams* (Ohio EPA 1999).
[6] Biological assemblage effect thresholds derived for Southwest Ohio in *Integrated Prioritization System (IPS) Documentation and Atlas of Biological Stressor Relationships for Southwest Ohio* (MBI 2015).
[7] NOAA Screening Quick Reference Tables (SQRT; NOAA 2008) – hardness dependent parameters at 100 mg/L hardness; with EPA EcoUpdate Ecotox Thresholds EPA/F-95-038.
[8] Ohio regional reference values (2 Interquartile Ranges [2IQR] above median) in *Appendices to Association Between Nutrients and the Aquatic Biota of Ohio River and Streams* (Ohio EPA 1999) unless otherwise specified.
[9] Values are 1 and 2 standard deviations (SD) above the mean of all values measured statewide.
[10] NA – not applicable, not included in IL WQS.
[11] Protection and restoration thresholds derived by Miltner (2010) for small rivers and streams in Ohio.
[12] DRSCW IPS – DuPage River Salt Creek Workgroup integrated Prioritization System derived threshold.
[13] Deleterious effects on headwater stream fish assemblages in Ohio (Miltner and Rankin 1998).
[14] U.S. EPA (2000) *Ecoregional Nutrient Criteria for Rivers & Streams: Rivers and Streams in Nutrient Ecoregion VI.*
[15] IL WQS variance for Robinson Creek.
[16] DRSCW IPS – DuPage River Salt Creek Workgroup integrated Prioritization System derived threshold.
[17] U.S. EPA field-based threshold for Central Appalachian streams in A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams (U.S. EPA 2011)
[18] Hardness dependent metals shown at 300 mg/L total hardness – see IAC Part 302 for formulae.
[19] Canadian Water Quality Guidelines for the Protection of Aquatic Life (Canadian Council of Ministers of the Environment 2009).
[20] *Aquatic Life Ambient Water Quality Criterion for Selenium – Freshwater* (U.S. EPA 2016) – chronic endpoint for lotic systems only.
[21] Oak Ridge National Laboratory (ORNL) *Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota* (Suter and Tsao 1996) – screening values.
[22] Toxipedia http://www.toxipedia.org/display/toxipedia/Methyl+Bromide#MethylBromide-EXTOXNET.
[23] Used for advisory and reasonable potential purposes only.
[24] *Water Quality Criteria Updates for the Protection of Aquatic Life in Ambient Freshwater: 1995 Updates* (U.S. EPA 1996).

APPENDIX B

FISH ASSEMBLAGE DATA

APPENDIX B

Appendix B-1: Illinois Fish Index of Biotic Integrity (fIBI) Metrics and Scores in Robinson and Sugar Creek and Tributaries 2016

Appendix Table B-1. Robinson Creek study area IBI scores and metrics at sites sampled by MBI in 2016.

Site ID	River Mile	Type	Date	DA sq mi	Wetted Width (ft)	IL IBI Reg.	Number of: Native species	Sunfish species	Sucker species	Intolerant species	Benthic Invert. species	Minnow species	Percent: Mineral Substrate Spawners	Tolerant Fish (as Species)	Generalist Feeders	Specialized Benthic Invert-ivores	Rel.No. /(0.3km)	Modified fIBI	Modified Iwb
LaMotte Creek - (95229)																			
Year: 2016																			
LC01	1.90	D	08/30/2016	26.7	56.1	11	27(6)	5(6)	4(6)	3(4)	9(6)	9(6)	12(4)	22(5)	69(4)	6(6)	873	53.0	8.4
LC01	1.90	D	09/27/2016	26.7	56.1	11	25(6)	5(6)	5(6)	2(3)	8(6)	7(5)	7(2)	28(5)	67(5)	10(6)	737	50.0	8.3
Robinson Creek - (95730)																			
Year: 2016																			
RC10	7.90	F	09/29/2016	1.4	1.9 X	11	11(6)	3(6)	1(6)	0(0)	0(0)	6(6)	4(1)	73(2)	95(1)	0(0)	622	28.0	5.3
RC01	6.50	E	09/01/2016	2.5	12.6	11	13(3)	3(4)	1(2)	0(0)	1(1)	6(4)	11(4)	54(3)	87(1)	1(1)	986	23.0	6.6
RC01	6.50	E	09/28/2016	2.5	12.6	11	10(2)	2(3)	1(2)	0(0)	2(2)	4(3)	9(3)	60(3)	90(1)	2(2)	632	21.0	6.2
RWMZ	6.45	E	09/01/2016	3.2	17.1	11	11(2)	4(5)	1(2)	0(0)	1(1)	4(3)	45(6)	45(4)	52(4)	1(1)	984	28.0	8.1
RWMZ	6.45	E	09/28/2016	3.2	17.1	11	11(2)	4(5)	1(2)	0(0)	0(0)	4(3)	27(6)	45(4)	72(3)	0(0)	822	25.0	7.7
RC02	6.25	E	09/01/2016	3.2	17.1	11	13(3)	3(4)	1(2)	0(0)	2(2)	6(4)	18(6)	38(4)	77(2)	3(4)	554	31.0	5.4
RC02	6.25	E	09/28/2016	3.2	17.1	11	13(3)	4(5)	1(2)	1(1)	2(2)	6(4)	17(5)	38(4)	68(3)	5(6)	496	35.0	6.4
RC03	6.00	E	09/01/2016	5.7	27.7	11	18(4)	5(6)	2(4)	1(1)	4(4)	5(3)	14(4)	28(5)	74(3)	10(6)	548	40.0	7.6
RC03	6.00	E	09/28/2016	5.7	27.7	11	13(3)	4(5)	2(4)	1(1)	2(2)	4(3)	5(2)	31(5)	84(2)	4(5)	320	32.0	6.9
RC04	5.20	E	09/02/2016	6.5	30.1	11	12(3)	4(5)	1(2)	0(0)	2(2)	2(2)	5(2)	33(5)	84(2)	4(5)	512	28.0	6.3
RC04	5.20	E	09/29/2016	6.5	30.1	11	12(3)	5(6)	1(2)	0(0)	1(1)	2(2)	8(3)	33(5)	79(3)	3(3)	310	28.0	6.2
MPMZ	5.00	E	09/02/2016	7.7	33.2	11	15(3)	4(5)	1(2)	0(0)	1(1)	5(3)	2(1)	47(4)	90(2)	1(1)	768	22.0	8.0
MPMZ	5.00	E	09/30/2016	7.7	33.2	11	16(4)	3(4)	1(2)	0(0)	1(1)	8(5)	2(1)	44(4)	94(1)	1(2)	852	24.0	7.9
RC05	4.90	E	09/02/2016	7.9	33.7	11	15(3)	5(6)	0(0)	1(1)	2(2)	6(4)	1(1)	33(4)	88(2)	1(2)	698	25.0	7.1
RC05	4.90	E	09/30/2016	7.9	33.7	11	11(2)	4(5)	1(2)	0(0)	0(0)	3(2)	0(0)	45(4)	92(1)	0(0)	290	16.0	6.4

na - Qualitative data, Modified Iwb not applicable.

X - IBI extrapolated

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table B-1. Robinson Creek study area IBI scores and metrics at sites sampled by MBI in 2016.

Site ID	River Mile	Type	Date	DA sq mi	Wetted Width (ft)	IL IBI Reg.	Number of: Native species	Sunfish species	Sucker species	Intolerant species	Benthic Invert. species	Minnow species	Percent: Mineral Substrate Spawners	Tolerant Fish (as Species)	Generalist Feeders	Specialized Benthic Invert-ivores	Rel.No. /(0.3km)	Modified fIBI	Modified Iwb
RC06	4.60	E	09/02/2016	8.4	34.8	11	15(3)	4(5)	2(4)	1(1)	2(2)	7(5)	2(1)	33(4)	95(1)	0(0)	296	26.0	6.5
RC06	4.60	E	09/29/2016	8.4	34.8	11	11(2)	5(6)	1(2)	0(0)	1(1)	4(3)	2(1)	36(4)	92(1)	0(0)	262	20.0	6.2
RC07	3.30	E	08/31/2016	10.5	70.0 X	11	18(4)	6(6)	2(4)	0(0)	1(1)	6(4)	0(0)	33(4)	88(2)	0(0)	412	25.0	7.4
RC07	3.30	E	09/29/2016	10.5	70.0 X	11	10(2)	4(5)	1(2)	0(0)	1(1)	4(3)	1(1)	40(4)	85(3)	1(1)	262	22.0	5.5
RC08	2.00	E	08/31/2016	12.3	41.8	11	18(4)	5(6)	3(5)	1(1)	2(2)	6(4)	2(1)	28(5)	79(3)	0(1)	414	32.0	7.1
RC08	2.00	E	09/29/2016	12.3	41.8	11	14(3)	5(6)	1(2)	0(0)	0(0)	6(4)	0(0)	36(4)	69(4)	0(0)	378	23.0	7.5
RC09	1.00	E	08/31/2016	12.9	42.7	11	14(3)	3(4)	3(5)	1(1)	3(3)	6(4)	3(1)	43(4)	94(1)	1(1)	558	27.0	5.8
RC09	1.00	E	09/29/2016	12.9	42.7	11	16(4)	2(3)	1(2)	1(1)	3(3)	10(6)	6(2)	31(5)	87(2)	1(2)	414	30.0	6.2
Sugar Creek - (95731)																			
Year: 2016																			
SC01A	6.00	F	08/30/2016	14.1	44.3	11	5(1)	0(0)	0(0)	0(0)	1(1)	4(3)	6(2)	40(4)	83(3)	12(6)	104 *	20.0	3.9
SC01A	6.00	F	09/27/2016	14.1	44.3	11	1(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(6)	0(6)	0(0)	0 * *	12.0	0.0
SC01	5.90	E	08/30/2016	14.2	44.5	11	19(4)	5(6)	2(4)	0(0)	2(2)	7(5)	2(1)	32(4)	91(2)	2(3)	1326	31.0	7.4
SC01	5.90	E	09/27/2016	14.2	44.5	11	20(5)	5(6)	2(4)	0(0)	2(2)	8(5)	6(2)	30(5)	86(2)	1(2)	986	33.0	8.2
SC02	4.10	E	08/30/2016	30.6	58.6	11	15(3)	5(6)	1(2)	1(1)	2(2)	6(4)	2(1)	33(4)	91(2)	1(2)	412	27.0	6.3
SC02	4.10	E	09/27/2016	30.6	58.6	11	16(4)	4(5)	1(2)	1(1)	3(3)	8(5)	3(1)	25(5)	92(2)	2(3)	684	31.0	6.3
SC03	1.60	D	08/30/2016	35.2	61.1	11	22(5)	4(5)	5(6)	2(3)	6(5)	7(5)	4(2)	27(5)	62(6)	3(4)	455	46.0	8.2
SC03	1.60	D	09/27/2016	35.2	61.1	11	18(4)	4(5)	5(6)	1(1)	7(6)	5(3)	4(2)	17(5)	29(6)	4(5)	674	43.0	7.8
Unnamed Trib to Robinson Cr at RM4.77 - (95732)																			
Year: 2016																			
UT01	0.10	F	08/31/2016	0.3	1.1 X	11	3(6)	2(6)	0(0)	0(0)	0(0)	1(6)	0(0)	33(5)	44(4)	0(0)	18 * *	27.0	3.0

na - Qualitative data, Modified Iwb not applicable.

X - IBI extrapolated

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table B-1. Robinson Creek study area IBI scores and metrics at sites sampled by MBI in 2016.

Site ID	River Mile	Type	Date	DA sq mi	Wetted Width (ft)	IL IBI Reg.	Number of: Native species	Sunfish species	Sucker species	Intolerant species	Benthic Invert. species	Minnow species	Percent: Mineral Substrate Spawners	Tolerant Fish (as Species)	Generalist Feeders	Specialized Benthic Invert-ivores	Rel.No. /(0.3km)	Modified IfBI	Modified Iwb
UT01	0.10	F	09/27/2016	0.3	1.1 X	11	3(6)	2(6)	0(0)	0(0)	0(0)	1(6)	0(0)	33(5)	88(1)	0(0)	48 * *	24.0	2.6
Unnamed Trib to Robinson Cr. at RM3.7 - (95733)																			
Year: 2016																			
UT02	0.10	F	08/31/2016	1.3	0.6 X	11	3(6)	1(6)	0(0)	0(0)	1(6)	1(6)	0(0)	67(3)	99(1)	1(2)	416	30.0	2.3
UT02	0.10	F	09/27/2016	1.3	0.6 X	11	4(6)	2(6)	0(0)	0(0)	1(6)	1(6)	0(0)	50(4)	98(1)	2(3)	304	32.0	2.3
Marathon Creek - (95734)																			
Year: 2016																			
MC01	0.16	E	09/02/2016	1.2	1.1 X	11	11(6)	3(6)	1(6)	0(0)	1(6)	5(6)	1(1)	45(4)	84(2)	0(1)	800	38.0	5.7
MC01	0.16	E	09/29/2016	1.2	1.1 X	11	10(6)	4(6)	1(6)	0(0)	1(6)	3(6)	0(0)	30(5)	94(1)	1(1)	322	37.0	5.0
Quail Creek - (95735)																			
Year: 2016																			
QC01	0.25	F	09/01/2016	2.3	11.0	11	9(2)	4(5)	0(0)	0(0)	0(0)	3(2)	6(2)	44(4)	89(1)	0(0)	296	16.0	5.5
QC01	0.25	F	09/28/2016	2.3	11.0	11	11(2)	4(5)	1(2)	0(0)	0(0)	4(3)	4(2)	45(4)	87(1)	0(0)	248	19.0	5.7

na - Qualitative data, Modified Iwb not applicable.

X - IBI extrapolated

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

APPENDIX B

Appendix B-2: Overall Compilation of Fish Species Collected in Robinson and Sugar Creek and Tributaries 2016

Appendix B-2: Midwest Biodiversity Institute
Fish Species List - Grand Totals

Rivers: *LaMotte Creek; Robinson Creek; Sugar Creek; Unnamed Trib to Robinson Cr. at RM4.77; Unnamed Trib to Robinson Cr. at RM3.70; Marathon Creek; Quail Creek*

Years: 2016

Number of Samples: 41 Data Sources: 99 Data Types: D; E; F

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
10-002	SHORTNOSE GAR	P		M		1	0.1	0.01	15	0.30	300.0
15-001	BOWFIN	P		C		2	0.1	0.02	52	1.05	520.0
20-003	GIZZARD SHAD	O		M		172	8.6	1.74	162	3.26	18.8
37-001	GRASS PICKEREL	P	P	M		2	0.1	0.02	8	0.16	80.0
40-002	BIGMOUTH BUFFALO	I		M	C	1	0.1	0.01	6	0.13	130.0
40-004	SMALLMOUTH BUFFALO	I		M	C	1	0.1	0.01	6	0.14	135.0
40-005	QUILLBACK CARPSUCKER	O		M	C	76	3.8	0.77	49	1.00	13.1
40-008	SILVER REDHORSE	I	M	S	R	2	0.1	0.02	3	0.07	35.0
40-009	BLACK REDHORSE	I	I	S	R	3	0.2	0.03	3	0.07	23.6
40-010	GOLDEN REDHORSE	I	M	S	R	10	0.5	0.10	27	0.56	55.6
40-011	SHORTHEAD REDHORSE	I	M	S	R	12	0.6	0.12	35	0.72	59.3
40-015	NORTHERN HOG SUCKER	I	M	S	R	6	0.3	0.06	36	0.73	120.8
40-016	WHITE SUCKER	O	T	S	W	478	23.9	4.85	694	13.98	29.0
40-018	SPOTTED SUCKER	I		S	R	5	0.3	0.05	4	0.08	16.4
43-001	COMMON CARP	O	T	M	G	169	8.5	1.71	825	16.61	97.7
43-002	GOLDFISH	O	T	M	G	19	1.0	0.19	41	0.83	43.6
43-003	GOLDEN SHINER	I	T	M	N	3	0.2	0.03	1	0.02	8.0
43-007	BIGEYE CHUB	I	I	S	N	8	0.4	0.08	1	0.02	2.6
43-013	CREEK CHUB	G	T	N	N	2101	105.1	21.31	1005	20.23	9.5
43-015	SUCKERMOUTH MINNOW	I		S	N	67	3.4	0.68	9	0.19	2.8
43-020	EMERALD SHINER	I		M	N	353	17.7	3.58	7	0.14	0.4
43-023	REDFIN SHINER	I		N	N	49	2.5	0.50	1	0.02	0.4
43-025	STRIPED SHINER	I		S	N	29	1.5	0.29	11	0.23	8.0
43-027	RIVER SHINER	I		S	N	64	3.2	0.65	5	0.11	1.7
43-031	STEELCOLOR SHINER	I	P	M	N	6	0.3	0.06	0	0.00	0.5
43-032	SPOTFIN SHINER	I		M	N	118	5.9	1.20	9	0.20	1.6
43-039	SILVERJAW MINNOW	I		M	N	2294	114.7	23.27	110	2.21	0.9
43-040	MISS. SILVERY MINNOW	H		M	N	123	6.2	1.25	47	0.96	7.7
43-042	FATHEAD MINNOW	O	T	C	N	2	0.1	0.02	0	0.00	2.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	537	26.9	5.45	21	0.43	0.8
43-044	CENTRAL STONEROLLER	H		N	N	405	20.3	4.11	175	3.52	8.6
43-047	GRASS CARP			M	E	22	1.1	0.22	116	2.34	105.9
47-002	CHANNEL CATFISH			C	F	2	0.1	0.02	1	0.03	15.0
47-004	YELLOW BULLHEAD	I	T	C		113	5.7	1.15	163	3.30	28.9
47-006	BLACK BULLHEAD	I	P	C		15	0.8	0.15	44	0.89	59.0
47-008	STONECAT MADTOM	I	I	C		2	0.1	0.02	0	0.01	5.0
47-013	TADPOLE MADTOM	I		C		1	0.1	0.01	0	0.00	2.0
54-002	BLACKSTRIPE TOPMINNOW	I		M		26	1.3	0.26	1	0.03	1.2
57-001	WESTERN MOSQUITOFISH	I		N	E	44	2.2	0.45	2	0.05	1.0

Appendix B-2: Midwest Biodiversity Institute
Fish Species List - Grand Totals

Rivers: *LaMotte Creek; Robinson Creek; Sugar Creek; Unnamed Trib to Robinson Cr. at RM4.77; Unnamed Trib to Robinson Cr. at RM3.70; Marathon Creek; Quail Creek*

Years: 2016

Number of Samples: 41 Data Sources: 99 Data Types: D; E; F

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
68-001	PIRATE PERCH	I		C		50	2.5	0.51	10	0.21	4.1
77-004	SMALLMOUTH BASS	C	M	C	F	1	0.1	0.01	2	0.05	50.0
77-005	SPOTTED BASS	C		C	F	18	0.9	0.18	12	0.26	14.2
77-006	LARGEMOUTH BASS	C		C	F	182	9.1	1.85	188	3.80	20.7
77-007	WARMOUTH SUNFISH	C		C	S	4	0.2	0.04	6	0.14	33.7
77-008	GREEN SUNFISH	I	T	C	S	734	36.7	7.44	518	10.43	14.1
77-009	BLUEGILL SUNFISH	I	P	C	S	1017	50.9	10.31	250	5.04	4.9
77-010	ORANGESPOTTED SUNFISH	I		C	S	13	0.7	0.13	4	0.09	6.7
77-011	LONGEAR SUNFISH	I	M	C	S	240	12.0	2.43	212	4.27	17.6
77-012	REDEAR SUNFISH	I		C	E	52	2.6	0.53	8	0.18	3.3
77-015	GREEN SF X BLUEGILL SF					4	0.2	0.04	5	0.11	27.5
80-011	LOGPERCH	I	M	S	D	20	1.0	0.20	10	0.22	10.7
80-014	JOHNNY DARTER	I		C	D	161	8.1	1.63	8	0.17	1.0
80-022	RAINBOW DARTER	I	M	S	D	8	0.4	0.08	0	0.01	0.7
80-028	MUD DARTER	V	P	M	D	1	0.1	0.01	0	0.00	2.0
80-031	SLOUGH DARTER	V	P	M	D	11	0.6	0.11	0	0.01	0.9
85-001	FRESHWATER DRUM		P	M		1	0.1	0.01	19	0.38	380.0
99-997	Dry Site					0	0.0	0.00	0	0.00	*****.*

No Species: 57 **Nat. Species:** 51 **Hybrids:** 1 **Total Counted:** 9860 **Total Rel. Wt. :** 4970

APPENDIX B

Appendix B-3: Fish Species Collected by Sampling Date in Robinson and Sugar Creek and Tributaries 2016

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-229 LaMotte Creek RM: 1.90 Date: 08/30/2016

Time Fished: 1787 Distance: 0.200 Drainge (sq mi): 26.7 Depth: 0

Location: IL RT 33 - South of Palastine Lat: 38.99578 Long: -87.60555

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
10-002	SHORTNOSE GAR	P		M		1	1.5	0.17	450	3.82	300.0
20-003	GIZZARD SHAD	O		M		18	27.0	3.09	150	1.27	5.5
40-010	GOLDEN REDHORSE	I	M	S	R	1	1.5	0.17	195	1.65	130.0
40-011	SHORTHEAD REDHORSE	I	M	S	R	1	1.5	0.17	105	0.89	70.0
40-016	WHITE SUCKER	O	T	S	W	24	36.0	4.12	3412	28.96	94.7
40-018	SPOTTED SUCKER	I		S	R	2	3.0	0.34	57	0.48	19.0
43-001	COMMON CARP	O	T	M	G	7	10.5	1.20	2490	21.13	237.1
43-002	GOLDFISH	O	T	M	G	4	6.0	0.69	585	4.96	97.5
43-007	BIGEYE CHUB	I	I	S	N	1	1.5	0.17	3	0.03	2.0
43-013	CREEK CHUB	G	T	N	N	7	10.5	1.20	22	0.19	2.1
43-015	SUCKERMOUTH MINNOW	I		S	N	20	30.0	3.44	52	0.45	1.7
43-020	EMERALD SHINER	I		M	N	4	6.0	0.69	16	0.14	2.7
43-023	REDFIN SHINER	I		N	N	27	40.5	4.64	13	0.11	0.3
43-032	SPOTFIN SHINER	I		M	N	4	6.0	0.69	6	0.05	1.0
43-039	SILVERJAW MINNOW	I		M	N	178	267.0	30.58	348	2.95	1.3
43-043	BLUNTNOSE MINNOW	O	T	C	N	76	114.0	13.06	82	0.70	0.7
43-044	CENTRAL STONEROLLER	H		N	N	15	22.5	2.58	45	0.38	2.0
43-047	GRASS CARP			M	E	2	3.0	0.34	975	8.27	325.0
47-013	TADPOLE MADTOM	I		C		1	1.5	0.17	3	0.03	2.0
54-002	BLACKSTRIPE TOPMINNOW	I		M		2	3.0	0.34	3	0.03	1.0
57-001	WESTERN MOSQUITOFISH	I		N	E	1	1.5	0.17	1	0.01	1.0
68-001	PIRATE PERCH	I		C		3	4.5	0.52	60	0.51	13.3
77-005	SPOTTED BASS	C		C	F	3	4.5	0.52	60	0.51	13.3
77-006	LARGEMOUTH BASS	C		C	F	10	15.0	1.72	468	3.97	31.2
77-008	GREEN SUNFISH	I	T	C	S	45	67.5	7.73	825	7.00	12.2
77-009	BLUEGILL SUNFISH	I	P	C	S	10	15.0	1.72	205	1.74	13.7
77-011	LONGEAR SUNFISH	I	M	C	S	84	126.0	14.43	975	8.27	7.7
77-015	GREEN SF X BLUEGILL SF					3	4.5	0.52	144	1.22	32.0
80-014	JOHNNY DARTER	I		C	D	20	30.0	3.44	22	0.19	0.7
80-022	RAINBOW DARTER	I	M	S	D	5	7.5	0.86	6	0.05	0.8
80-031	SLOUGH DARTER	V	P	M	D	3	4.5	0.52	3	0.03	0.6

No Species: 30 **Nat. Species:** 26 **Hybrids:** 1 **Total Counted:** 582 **Total Rel. Wt. :** 11785

IBI: 42.0 **MIwb:** 8.4

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-229 LaMotte Creek RM: 1.90 Date: 09/27/2016

Time Fished: 1126 Distance: 0.200 Drainge (sq mi): 26.7 Depth: 0

Location: IL RT 33 - South of Palastine Lat: 38.99578 Long: -87.60555

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-005	QUILLBACK CARPSUCKER	O		M	C	2	3.0	0.41	25	0.18	8.5
40-008	SILVER REDHORSE	I	M	S	R	1	1.5	0.20	22	0.16	15.0
40-010	GOLDEN REDHORSE	I	M	S	R	2	3.0	0.41	24	0.17	8.0
40-011	SHORTHEAD REDHORSE	I	M	S	R	1	1.5	0.20	97	0.71	65.0
40-016	WHITE SUCKER	O	T	S	W	37	55.5	7.54	5865	42.53	105.6
43-001	COMMON CARP	O	T	M	G	2	3.0	0.41	915	6.63	305.0
43-002	GOLDFISH	O	T	M	G	3	4.5	0.61	600	4.35	133.3
43-007	BIGEYE CHUB	I	I	S	N	3	4.5	0.61	9	0.07	2.0
43-013	CREEK CHUB	G	T	N	N	4	6.0	0.81	217	1.58	36.2
43-015	SUCKERMOUTH MINNOW	I		S	N	4	6.0	0.81	30	0.22	5.0
43-023	REDFIN SHINER	I		N	N	22	33.0	4.48	16	0.12	0.5
43-032	SPOTFIN SHINER	I		M	N	25	37.5	5.09	43	0.32	1.1
43-039	SILVERJAW MINNOW	I		M	N	84	126.0	17.11	195	1.41	1.5
43-043	BLUNTNOSE MINNOW	O	T	C	N	119	178.5	24.24	157	1.14	0.8
43-047	GRASS CARP			M	E	2	3.0	0.41	810	5.87	270.0
47-004	YELLOW BULLHEAD	I	T	C		3	4.5	0.61	225	1.63	50.0
54-002	BLACKSTRIPE TOPMINNOW	I		M		19	28.5	3.87	37	0.27	1.3
57-001	WESTERN MOSQUITOFISH	I		N	E	2	3.0	0.41	1	0.01	0.5
68-001	PIRATE PERCH	I		C		1	1.5	0.20	15	0.11	10.0
77-005	SPOTTED BASS	C		C	F	4	6.0	0.81	75	0.54	12.5
77-006	LARGEMOUTH BASS	C		C	F	19	28.5	3.87	2422	17.57	85.0
77-008	GREEN SUNFISH	I	T	C	S	22	33.0	4.48	525	3.81	15.9
77-009	BLUEGILL SUNFISH	I	P	C	S	2	3.0	0.41	82	0.60	27.5
77-011	LONGEAR SUNFISH	I	M	C	S	65	97.5	13.24	765	5.55	7.8
80-014	JOHNNY DARTER	I		C	D	37	55.5	7.54	37	0.27	0.6
80-022	RAINBOW DARTER	I	M	S	D	3	4.5	0.61	3	0.02	0.6
80-031	SLOUGH DARTER	V	P	M	D	2	3.0	0.41	3	0.02	1.0
85-001	FRESHWATER DRUM		P	M		1	1.5	0.20	570	4.13	380.0

No Species: 28 **Nat. Species:** 24 **Hybrids:** 0 **Total Counted:** 491 **Total Rel. Wt. :** 13791

IBI: 38.0 **MIwb:** 8.3

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 1.00 Date: 08/31/2016

Time Fished: 837 Distance: 0.150 Drainge (sq mi): 12.9 Depth: 0

Location: 1150 E - 4.0mil dst. MPC001 Lat: 39.02237 Long: -87.65269

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-009	BLACK REDHORSE	I	I	S	R	1	2.0	0.36	12	0.41	6.0
40-011	SHORTHEAD REDHORSE	I	M	S	R	1	2.0	0.36	14	0.48	7.0
40-016	WHITE SUCKER	O	T	S	W	4	8.0	1.43	720	24.83	90.0
43-001	COMMON CARP	O	T	M	G	1	2.0	0.36	280	9.66	140.0
43-013	CREEK CHUB	G	T	N	N	40	80.0	14.34	1160	40.00	14.5
43-015	SUCKERMOUTH MINNOW	I		S	N	5	10.0	1.79	60	2.07	6.0
43-020	EMERALD SHINER	I		M	N	3	6.0	1.08	8	0.28	1.3
43-032	SPOTFIN SHINER	I		M	N	1	2.0	0.36	2	0.07	1.0
43-039	SILVERJAW MINNOW	I		M	N	201	402.0	72.04	400	13.79	1.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	3	6.0	1.08	16	0.55	2.6
47-004	YELLOW BULLHEAD	I	T	C		1	2.0	0.36	40	1.38	20.0
57-001	WESTERN MOSQUITOFISH	I		N	E	5	10.0	1.79	4	0.14	0.4
77-006	LARGEMOUTH BASS	C		C	F	1	2.0	0.36	6	0.21	3.0
77-008	GREEN SUNFISH	I	T	C	S	9	18.0	3.23	140	4.83	7.7
77-009	BLUEGILL SUNFISH	I	P	C	S	3	6.0	1.08	38	1.31	6.3

No Species: 15 **Nat. Species:** 13 **Hybrids:** 0 **Total Counted:** 279 **Total Rel. Wt. :** 2900

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 1.00 Date: 09/29/2016

Time Fished: 741 Distance: 0.150 Drainge (sq mi): 12.9 Depth: 0

Location: 1150 E - 4.0mil dst. MPC001 Lat: 39.02237 Long: -87.65269

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	2.0	0.48	10	0.75	5.0
40-016	WHITE SUCKER	O	T	S	W	5	10.0	2.42	420	31.39	42.0
43-007	BIGEYE CHUB	I	I	S	N	1	2.0	0.48	6	0.45	3.0
43-013	CREEK CHUB	G	T	N	N	39	78.0	18.84	370	27.65	4.7
43-015	SUCKERMOUTH MINNOW	I		S	N	6	12.0	2.90	30	2.24	2.5
43-020	EMERALD SHINER	I		M	N	9	18.0	4.35	30	2.24	1.6
43-025	STRIPED SHINER	I		S	N	2	4.0	0.97	12	0.90	3.0
43-032	SPOTFIN SHINER	I		M	N	3	6.0	1.45	6	0.45	1.0
43-039	SILVERJAW MINNOW	I		M	N	119	238.0	57.49	300	22.42	1.2
43-040	MISS. SILVERY MINNOW	H		M	N	4	8.0	1.93	72	5.38	9.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	3	6.0	1.45	12	0.90	2.0
43-044	CENTRAL STONEROLLER	H		N	N	4	8.0	1.93	16	1.20	2.0
47-004	YELLOW BULLHEAD	I	T	C		3	6.0	1.45	10	0.75	1.6
77-008	GREEN SUNFISH	I	T	C	S	4	8.0	1.93	30	2.24	3.7
77-009	BLUEGILL SUNFISH	I	P	C	S	2	4.0	0.97	10	0.75	2.5
80-014	JOHNNY DARTER	I		C	D	2	4.0	0.97	4	0.30	1.0

No Species: 16 **Nat. Species:** 16 **Hybrids:** 0 **Total Counted:** 207 **Total Rel. Wt. :** 1338

IBI: 36.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 2.00 Date: 08/31/2016

Time Fished: 1227 Distance: 0.150 Drainge (sq mi): 12.3 Depth: 0

Location: 1550 N - 3.0 mi dst. MC001 Lat: 39.01748 Long: -87.61660

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		4	8.0	1.93	180	4.28	22.5
40-002	BIGMOUTH BUFFALO	I		M	C	1	2.0	0.48	260	6.18	130.0
40-016	WHITE SUCKER	O	T	S	W	3	6.0	1.45	290	6.89	48.3
40-018	SPOTTED SUCKER	I		S	R	1	2.0	0.48	60	1.43	30.0
43-001	COMMON CARP	O	T	M	G	2	4.0	0.97	720	17.10	180.0
43-013	CREEK CHUB	G	T	N	N	3	6.0	1.45	12	0.29	2.0
43-020	EMERALD SHINER	I		M	N	3	6.0	1.45	10	0.24	1.6
43-031	STEELCOLOR SHINER	I	P	M	N	5	10.0	2.42	4	0.10	0.4
43-039	SILVERJAW MINNOW	I		M	N	109	218.0	52.66	244	5.80	1.1
43-040	MISS. SILVERY MINNOW	H		M	N	20	40.0	9.66	296	7.03	7.4
43-044	CENTRAL STONEROLLER	H		N	N	3	6.0	1.45	22	0.52	3.6
43-047	GRASS CARP			M	E	5	10.0	2.42	1400	33.25	140.0
47-004	YELLOW BULLHEAD	I	T	C		1	2.0	0.48	16	0.38	8.0
57-001	WESTERN MOSQUITOFISH	I		N	E	6	12.0	2.90	12	0.29	1.0
77-006	LARGEMOUTH BASS	C		C	F	2	4.0	0.97	30	0.71	7.5
77-008	GREEN SUNFISH	I	T	C	S	8	16.0	3.86	280	6.65	17.5
77-009	BLUEGILL SUNFISH	I	P	C	S	27	54.0	13.04	320	7.60	5.9
77-010	ORANGESPOTTED SUNFISH	I		C	S	2	4.0	0.97	30	0.71	7.5
77-011	LONGEAR SUNFISH	I	M	C	S	1	2.0	0.48	20	0.48	10.0
80-014	JOHNNY DARTER	I		C	D	1	2.0	0.48	4	0.10	2.0

No Species: 20 **Nat. Species:** 17 **Hybrids:** 0 **Total Counted:** 207 **Total Rel. Wt. :** 4210

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 2.00 Date: 09/29/2016

Time Fished: 1036 Distance: 0.150 Drainge (sq mi): 12.3 Depth: 0

Location: 1550 N - 3.0 mi dst. MC001 Lat: 39.01748 Long: -87.61660

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		26	52.0	13.76	2420	23.65	46.5
40-016	WHITE SUCKER	O	T	S	W	15	30.0	7.94	3320	32.45	110.6
43-001	COMMON CARP	O	T	M	G	2	4.0	1.06	700	6.84	175.0
43-013	CREEK CHUB	G	T	N	N	5	10.0	2.65	320	3.13	32.0
43-020	EMERALD SHINER	I		M	N	1	2.0	0.53	6	0.06	3.0
43-032	SPOTFIN SHINER	I		M	N	1	2.0	0.53	4	0.04	2.0
43-039	SILVERJAW MINNOW	I		M	N	32	64.0	16.93	200	1.95	3.1
43-040	MISS. SILVERY MINNOW	H		M	N	35	70.0	18.52	710	6.94	10.1
43-043	BLUNTNOSE MINNOW	O	T	C	N	2	4.0	1.06	8	0.08	2.0
43-047	GRASS CARP			M	E	9	18.0	4.76	2110	20.62	117.2
57-001	WESTERN MOSQUITOFISH	I		N	E	13	26.0	6.88	30	0.29	1.1
77-006	LARGEMOUTH BASS	C		C	F	4	8.0	2.12	100	0.98	12.5
77-008	GREEN SUNFISH	I	T	C	S	4	8.0	2.12	80	0.78	10.0
77-009	BLUEGILL SUNFISH	I	P	C	S	35	70.0	18.52	160	1.56	2.2
77-010	ORANGESPOTTED SUNFISH	I		C	S	1	2.0	0.53	16	0.16	8.0
77-012	REDEAR SUNFISH	I		C	E	4	8.0	2.12	48	0.47	6.0

No Species: 16 **Nat. Species:** 12 **Hybrids:** 0 **Total Counted:** 189 **Total Rel. Wt. :** 10232

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 3.30 Date: 08/31/2016

Time Fished: 1097 Distance: 0.150 Drainge (sq mi): 10.5 Depth: 0

Location: IL RT 1- 1.7 mile Dst. MPC001 Lat: 39.01355 Long: -87.68383

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
15-001	BOWFIN	P		C		2	4.0	0.97	2980	20.26	745.0
20-003	GIZZARD SHAD	O		M		6	12.0	2.91	400	2.72	33.3
40-004	SMALLMOUTH BUFFALO	I		M	C	1	2.0	0.49	270	1.84	135.0
40-016	WHITE SUCKER	O	T	S	W	3	6.0	1.46	420	2.86	70.0
43-001	COMMON CARP	O	T	M	G	27	54.0	13.11	8410	57.18	155.7
43-002	GOLDFISH	O	T	M	G	3	6.0	1.46	100	0.68	16.6
43-013	CREEK CHUB	G	T	N	N	5	10.0	2.43	16	0.11	1.6
43-020	EMERALD SHINER	I		M	N	10	20.0	4.85	24	0.16	1.2
43-031	STEELCOLOR SHINER	I	P	M	N	1	2.0	0.49	2	0.01	1.0
43-032	SPOTFIN SHINER	I		M	N	9	18.0	4.37	22	0.15	1.2
43-039	SILVERJAW MINNOW	I		M	N	79	158.0	38.35	240	1.63	1.5
43-043	BLUNTNOSE MINNOW	O	T	C	N	4	8.0	1.94	10	0.07	1.2
47-006	BLACK BULLHEAD	I	P	C		2	4.0	0.97	380	2.58	95.0
57-001	WESTERN MOSQUITOFISH	I		N	E	1	2.0	0.49	4	0.03	2.0
77-006	LARGEMOUTH BASS	C		C	F	1	2.0	0.49	150	1.02	75.0
77-007	WARMOUTH SUNFISH	C		C	S	1	2.0	0.49	100	0.68	50.0
77-008	GREEN SUNFISH	I	T	C	S	13	26.0	6.31	460	3.13	17.6
77-009	BLUEGILL SUNFISH	I	P	C	S	29	58.0	14.08	340	2.31	5.8
77-010	ORANGESPOTTED SUNFISH	I		C	S	6	12.0	2.91	80	0.54	6.6
77-011	LONGEAR SUNFISH	I	M	C	S	3	6.0	1.46	300	2.04	50.0

No Species: 20 **Nat. Species:** 17 **Hybrids:** 0 **Total Counted:** 206 **Total Rel. Wt. :** 14708

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 3.30 Date: 09/29/2016

Time Fished: 959 Distance: 0.150 Drainge (sq mi): 10.5 Depth: 0

Location: IL RT 1- 1.7 mile Dst. MPC001 Lat: 39.01355 Long: -87.68383

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-011	SHORTHEAD REDHORSE	I	M	S	R	1	2.0	0.76	100	0.30	50.0
43-001	COMMON CARP	O	T	M	G	35	70.0	26.72	28170	84.47	402.4
43-002	GOLDFISH	O	T	M	G	6	12.0	4.58	2530	7.59	210.8
43-013	CREEK CHUB	G	T	N	N	11	22.0	8.40	40	0.12	1.8
43-020	EMERALD SHINER	I		M	N	12	24.0	9.16	30	0.09	1.2
43-032	SPOTFIN SHINER	I		M	N	2	4.0	1.53	10	0.03	2.5
43-039	SILVERJAW MINNOW	I		M	N	48	96.0	36.64	180	0.54	1.8
43-047	GRASS CARP			M	E	1	2.0	0.76	130	0.39	65.0
47-006	BLACK BULLHEAD	I	P	C		1	2.0	0.76	50	0.15	25.0
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	2.29	1490	4.47	248.3
77-008	GREEN SUNFISH	I	T	C	S	2	4.0	1.53	40	0.12	10.0
77-009	BLUEGILL SUNFISH	I	P	C	S	5	10.0	3.82	180	0.54	18.0
77-011	LONGEAR SUNFISH	I	M	C	S	4	8.0	3.05	400	1.20	50.0

No Species: 13 **Nat. Species:** 10 **Hybrids:** 0 **Total Counted:** 131 **Total Rel. Wt. :** 33350

IBI: 24.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 4.60 Date: 09/02/2016

Time Fished: 1222 Distance: 0.150 Drainge (sq mi): 8.4 Depth: 0

Location: Dst. 006 Trib Lat: 39.01117 Long: -87.70135

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		2	4.0	1.35	140	2.61	35.0
40-016	WHITE SUCKER	O	T	S	W	1	2.0	0.68	40	0.75	20.0
40-018	SPOTTED SUCKER	I		S	R	1	2.0	0.68	30	0.56	15.0
43-001	COMMON CARP	O	T	M	G	9	18.0	6.08	1820	33.96	101.1
43-013	CREEK CHUB	G	T	N	N	21	42.0	14.19	900	16.79	21.4
43-020	EMERALD SHINER	I		M	N	2	4.0	1.35	8	0.15	2.0
43-025	STRIPED SHINER	I		S	N	1	2.0	0.68	20	0.37	10.0
43-032	SPOTFIN SHINER	I		M	N	22	44.0	14.86	80	1.49	1.8
43-040	MISS. SILVERY MINNOW	H		M	N	1	2.0	0.68	6	0.11	3.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	2	4.0	1.35	12	0.22	3.0
43-044	CENTRAL STONEROLLER	H		N	N	1	2.0	0.68	10	0.19	5.0
47-008	STONECAT MADTOM	I	I	C		1	2.0	0.68	0	0.00	0.0
77-006	LARGEMOUTH BASS	C		C	F	2	4.0	1.35	910	16.98	227.5
77-008	GREEN SUNFISH	I	T	C	S	28	56.0	18.92	840	15.67	15.0
77-009	BLUEGILL SUNFISH	I	P	C	S	53	106.0	35.81	540	10.07	5.0
77-012	REDEAR SUNFISH	I		C	E	1	2.0	0.68	4	0.07	2.0

No Species: 16 **Nat. Species:** 14 **Hybrids:** 0 **Total Counted:** 148 **Total Rel. Wt. :** 5360

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 4.60 Date: 09/29/2016

Time Fished: 1257 Distance: 0.150 Drainge (sq mi): 8.4 Depth: 0

Location: Dst. 006 Trib Lat: 39.01117 Long: -87.70135

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	6	12.0	4.58	980	21.08	81.6
43-001	COMMON CARP	O	T	M	G	2	4.0	1.53	550	11.83	137.5
43-013	CREEK CHUB	G	T	N	N	17	34.0	12.98	1000	21.51	29.4
43-032	SPOTFIN SHINER	I		M	N	13	26.0	9.92	70	1.51	2.6
43-039	SILVERJAW MINNOW	I		M	N	2	4.0	1.53	10	0.22	2.5
43-044	CENTRAL STONEROLLER	H		N	N	3	6.0	2.29	70	1.51	11.6
43-047	GRASS CARP			M	E	1	2.0	0.76	160	3.44	80.0
47-008	STONECAT MADTOM	I	I	C		1	2.0	0.76	20	0.43	10.0
77-006	LARGEMOUTH BASS	C		C	F	2	4.0	1.53	60	1.29	15.0
77-007	WARMOUTH SUNFISH	C		C	S	1	2.0	0.76	60	1.29	30.0
77-008	GREEN SUNFISH	I	T	C	S	33	66.0	25.19	1220	26.24	18.4
77-009	BLUEGILL SUNFISH	I	P	C	S	46	92.0	35.11	420	9.03	4.5
77-012	REDEAR SUNFISH	I		C	E	4	8.0	3.05	30	0.65	3.7

No Species: 13 **Nat. Species:** 10 **Hybrids:** 0 **Total Counted:** 131 **Total Rel. Wt. :** 4650

IBI: 28.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 4.90 Date: 09/02/2016

Time Fished: 1586 Distance: 0.150 Drainge (sq mi): 7.9 Depth: 0

Location: Dst. Marathon outfall Mixing Zone Lat: 39.01182 Long: -87.70573

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	2.0	0.29	40	1.04	20.0
43-001	COMMON CARP	O	T	M	G	6	12.0	1.72	1120	29.06	93.3
43-007	BIGEYE CHUB	I	I	S	N	2	4.0	0.57	10	0.26	2.5
43-013	CREEK CHUB	G	T	N	N	32	64.0	9.17	900	23.35	14.0
43-032	SPOTFIN SHINER	I		M	N	9	18.0	2.58	26	0.67	1.4
43-039	SILVERJAW MINNOW	I		M	N	133	266.0	38.11	224	5.81	0.8
43-040	MISS. SILVERY MINNOW	H		M	N	30	60.0	8.60	348	9.03	5.8
43-043	BLUNTNOSE MINNOW	O	T	C	N	6	12.0	1.72	20	0.52	1.6
47-004	YELLOW BULLHEAD	I	T	C		4	8.0	1.15	200	5.19	25.0
57-001	WESTERN MOSQUITOFISH	I		N	E	3	6.0	0.86	10	0.26	1.6
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	0.86	220	5.71	36.6
77-008	GREEN SUNFISH	I	T	C	S	28	56.0	8.02	420	10.90	7.5
77-009	BLUEGILL SUNFISH	I	P	C	S	87	174.0	24.93	270	7.01	1.5
77-010	ORANGESPOTTED SUNFISH	I		C	S	2	4.0	0.57	20	0.52	5.0
77-012	REDEAR SUNFISH	I		C	E	1	2.0	0.29	6	0.16	3.0
80-011	LOGPERCH	I	M	S	D	2	4.0	0.57	20	0.52	5.0

No Species: 16 **Nat. Species:** 13 **Hybrids:** 0 **Total Counted:** 349 **Total Rel. Wt. :** 3854

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 4.90 Date: 09/30/2016

Time Fished: 1061 Distance: 0.150 Drainge (sq mi): 7.9 Depth: 0

Location: Dst. Marathon outfall Mixing Zone Lat: 39.01182 Long: -87.70573

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		2	4.0	1.38	20	0.42	5.0
40-016	WHITE SUCKER	O	T	S	W	3	6.0	2.07	720	15.07	120.0
43-001	COMMON CARP	O	T	M	G	5	10.0	3.45	1400	29.30	140.0
43-013	CREEK CHUB	G	T	N	N	15	30.0	10.34	570	11.93	19.0
43-032	SPOTFIN SHINER	I		M	N	1	2.0	0.69	2	0.04	1.0
43-039	SILVERJAW MINNOW	I		M	N	35	70.0	24.14	130	2.72	1.8
47-004	YELLOW BULLHEAD	I	T	C		2	4.0	1.38	74	1.55	18.5
57-001	WESTERN MOSQUITOFISH	I		N	E	3	6.0	2.07	6	0.13	1.0
77-006	LARGEMOUTH BASS	C		C	F	4	8.0	2.76	370	7.74	46.2
77-008	GREEN SUNFISH	I	T	C	S	31	62.0	21.38	900	18.84	14.5
77-009	BLUEGILL SUNFISH	I	P	C	S	40	80.0	27.59	540	11.30	6.7
77-012	REDEAR SUNFISH	I		C	E	4	8.0	2.76	46	0.96	5.7

No Species: 12 **Nat. Species:** 9 **Hybrids:** 0 **Total Counted:** 145 **Total Rel. Wt. :** 4778

IBI: 26.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 5.00 Date: 09/02/2016

Time Fished: 729 Distance: 0.050 Drainge (sq mi): 7.7 Depth: 0

Location: Marathon Outfall 001 Mixing Zone Lat: 39.01274 Long: -87.70719

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	6.0	0.78	120	0.48	20.0
40-016	WHITE SUCKER	O	T	S	W	5	30.0	3.91	1920	7.64	64.0
43-001	COMMON CARP	O	T	M	G	15	90.0	11.72	11700	46.56	130.0
43-002	GOLDFISH	O	T	M	G	3	18.0	2.34	2100	8.36	116.6
43-013	CREEK CHUB	G	T	N	N	1	6.0	0.78	12	0.05	2.0
43-032	SPOTFIN SHINER	I		M	N	6	36.0	4.69	36	0.14	1.0
43-039	SILVERJAW MINNOW	I		M	N	8	48.0	6.25	48	0.19	1.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	3	18.0	2.34	18	0.07	1.0
43-044	CENTRAL STONEROLLER	H		N	N	1	6.0	0.78	48	0.19	8.0
43-047	GRASS CARP			M	E	1	6.0	0.78	720	2.87	120.0
47-004	YELLOW BULLHEAD	I	T	C		3	18.0	2.34	240	0.96	13.3
47-006	BLACK BULLHEAD	I	P	C		7	42.0	5.47	2460	9.79	58.5
57-001	WESTERN MOSQUITOFISH	I		N	E	6	36.0	4.69	36	0.14	1.0
77-006	LARGEMOUTH BASS	C		C	F	3	18.0	2.34	1890	7.52	105.0
77-008	GREEN SUNFISH	I	T	C	S	13	78.0	10.16	1800	7.16	23.0
77-009	BLUEGILL SUNFISH	I	P	C	S	49	294.0	38.28	1860	7.40	6.3
77-010	ORANGESPOTTED SUNFISH	I		C	S	2	12.0	1.56	90	0.36	7.5
80-011	LOGPERCH	I	M	S	D	1	6.0	0.78	30	0.12	5.0

No Species: 18 **Nat. Species:** 14 **Hybrids:** 0 **Total Counted:** 128 **Total Rel. Wt. :** 25128

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 5.00 Date: 09/30/2016

Time Fished: 502 Distance: 0.050 Drainge (sq mi): 7.7 Depth: 0

Location: Marathon Outfall 001 Mixing Zone Lat: 39.01274 Long: -87.70719

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	6.0	0.70	90	0.79	15.0
40-016	WHITE SUCKER	O	T	S	W	1	6.0	0.70	570	5.03	95.0
43-001	COMMON CARP	O	T	M	G	5	30.0	3.52	4320	38.10	144.0
43-003	GOLDEN SHINER	I	T	M	N	1	6.0	0.70	12	0.11	2.0
43-013	CREEK CHUB	G	T	N	N	3	18.0	2.11	600	5.29	33.3
43-020	EMERALD SHINER	I		M	N	1	6.0	0.70	12	0.11	2.0
43-025	STRIPED SHINER	I		S	N	1	6.0	0.70	18	0.16	3.0
43-032	SPOTFIN SHINER	I		M	N	11	66.0	7.75	168	1.48	2.5
43-039	SILVERJAW MINNOW	I		M	N	61	366.0	42.96	900	7.94	2.4
43-040	MISS. SILVERY MINNOW	H		M	N	4	24.0	2.82	144	1.27	6.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	10	60.0	7.04	120	1.06	2.0
47-004	YELLOW BULLHEAD	I	T	C		1	6.0	0.70	300	2.65	50.0
47-006	BLACK BULLHEAD	I	P	C		5	30.0	3.52	1560	13.76	52.0
77-008	GREEN SUNFISH	I	T	C	S	18	108.0	12.68	1680	14.81	15.5
77-009	BLUEGILL SUNFISH	I	P	C	S	15	90.0	10.56	600	5.29	6.6
77-012	REDEAR SUNFISH	I		C	E	2	12.0	1.41	66	0.58	5.5
80-011	LOGPERCH	I	M	S	D	2	12.0	1.41	180	1.59	15.0

No Species: 17 **Nat. Species:** 15 **Hybrids:** 0 **Total Counted:** 142 **Total Rel. Wt. :** 11340

IBI: 36.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 5.20 Date: 09/02/2016

Time Fished: 1478 Distance: 0.150 Drainge (sq mi): 6.5 Depth: 0

Location: Ust. Marathon outfall Lat: 39.01463 Long: -87.70869

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		2	4.0	0.78	120	0.59	30.0
40-016	WHITE SUCKER	O	T	S	W	105	210.0	41.02	13700	67.18	65.2
43-013	CREEK CHUB	G	T	N	N	18	36.0	7.03	1510	7.40	41.9
43-044	CENTRAL STONEROLLER	H		N	N	7	14.0	2.73	340	1.67	24.2
47-004	YELLOW BULLHEAD	I	T	C		10	20.0	3.91	720	3.53	36.0
68-001	PIRATE PERCH	I		C		1	2.0	0.39	6	0.03	3.0
77-006	LARGEMOUTH BASS	C		C	F	5	10.0	1.95	100	0.49	10.0
77-008	GREEN SUNFISH	I	T	C	S	38	76.0	14.84	980	4.81	12.8
77-009	BLUEGILL SUNFISH	I	P	C	S	43	86.0	16.80	1320	6.47	15.3
77-011	LONGEAR SUNFISH	I	M	C	S	17	34.0	6.64	1480	7.26	43.5
80-011	LOGPERCH	I	M	S	D	7	14.0	2.73	110	0.54	7.8
80-014	JOHNNY DARTER	I		C	D	3	6.0	1.17	8	0.04	1.3

No Species: 12 **Nat. Species:** 12 **Hybrids:** 0 **Total Counted:** 256 **Total Rel. Wt. :** 20394

IBI: 26.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 5.20 Date: 09/29/2016

Time Fished: 792 Distance: 0.150 Drainge (sq mi): 6.5 Depth: 0

Location: Ust. Marathon outfall Lat: 39.01463 Long: -87.70869

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	2.0	0.65	30	0.24	15.0
40-016	WHITE SUCKER	O	T	S	W	46	92.0	29.68	6980	56.52	75.8
43-013	CREEK CHUB	G	T	N	N	15	30.0	9.68	1680	13.60	56.0
43-044	CENTRAL STONEROLLER	H		N	N	9	18.0	5.81	420	3.40	23.3
47-004	YELLOW BULLHEAD	I	T	C		6	12.0	3.87	260	2.11	21.6
68-001	PIRATE PERCH	I		C		2	4.0	1.29	40	0.32	10.0
77-006	LARGEMOUTH BASS	C		C	F	6	12.0	3.87	350	2.83	29.1
77-008	GREEN SUNFISH	I	T	C	S	33	66.0	21.29	1220	9.88	18.4
77-009	BLUEGILL SUNFISH	I	P	C	S	21	42.0	13.55	360	2.91	8.5
77-011	LONGEAR SUNFISH	I	M	C	S	9	18.0	5.81	900	7.29	50.0
77-012	REDEAR SUNFISH	I		C	E	3	6.0	1.94	30	0.24	5.0
80-011	LOGPERCH	I	M	S	D	4	8.0	2.58	80	0.65	10.0

No Species: 12 **Nat. Species:** 11 **Hybrids:** 0 **Total Counted:** 155 **Total Rel. Wt. :** 12350

IBI: 20.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.00 Date: 09/01/2016

Time Fished: 1487 Distance: 0.150 Drainge (sq mi): 5.7 Depth: 0

Location: Dst. Quail Creek Lat: 39.01704 Long: -87.72043

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	2.0	0.36	80	0.72	40.0
37-001	GRASS PICKEREL	P	P	M		1	2.0	0.36	160	1.43	80.0
40-015	NORTHERN HOG SUCKER	I	M	S	R	1	2.0	0.36	360	3.23	180.0
40-016	WHITE SUCKER	O	T	S	W	29	58.0	10.58	4000	35.87	68.9
43-001	COMMON CARP	O	T	M	G	1	2.0	0.36	120	1.08	60.0
43-013	CREEK CHUB	G	T	N	N	67	134.0	24.45	1200	10.76	8.9
43-015	SUCKERMOUTH MINNOW	I		S	N	1	2.0	0.36	20	0.18	10.0
43-025	STRIPED SHINER	I		S	N	1	2.0	0.36	90	0.81	45.0
43-039	SILVERJAW MINNOW	I		M	N	25	50.0	9.12	90	0.81	1.8
43-044	CENTRAL STONEROLLER	H		N	N	32	64.0	11.68	120	1.08	1.8
47-004	YELLOW BULLHEAD	I	T	C		14	28.0	5.11	1640	14.71	58.5
68-001	PIRATE PERCH	I		C		1	2.0	0.36	40	0.36	20.0
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	1.09	300	2.69	50.0
77-007	WARMOUTH SUNFISH	C		C	S	1	2.0	0.36	100	0.90	50.0
77-008	GREEN SUNFISH	I	T	C	S	35	70.0	12.77	1600	14.35	22.8
77-009	BLUEGILL SUNFISH	I	P	C	S	29	58.0	10.58	440	3.95	7.5
77-011	LONGEAR SUNFISH	I	M	C	S	6	12.0	2.19	650	5.83	54.1
80-011	LOGPERCH	I	M	S	D	2	4.0	0.73	60	0.54	15.0
80-014	JOHNNY DARTER	I		C	D	24	48.0	8.76	80	0.72	1.6

No Species: 19 **Nat. Species:** 18 **Hybrids:** 0 **Total Counted:** 274 **Total Rel. Wt. :** 11150

IBI: 42.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.00 Date: 09/28/2016

Time Fished: 856 Distance: 0.150 Drainge (sq mi): 5.7 Depth: 0

Location: Dst. Quail Creek Lat: 39.01704 Long: -87.72043

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
37-001	GRASS PICKEREL	P	P	M		1	2.0	0.63	160	1.60	80.0
40-015	NORTHERN HOG SUCKER	I	M	S	R	1	2.0	0.63	380	3.80	190.0
40-016	WHITE SUCKER	O	T	S	W	28	56.0	17.50	3640	36.43	65.0
43-013	CREEK CHUB	G	T	N	N	34	68.0	21.25	1240	12.41	18.2
43-025	STRIPED SHINER	I		S	N	2	4.0	1.25	150	1.50	37.5
43-039	SILVERJAW MINNOW	I		M	N	3	6.0	1.88	12	0.12	2.0
43-044	CENTRAL STONEROLLER	H		N	N	5	10.0	3.13	20	0.20	2.0
47-004	YELLOW BULLHEAD	I	T	C		6	12.0	3.75	500	5.00	41.6
77-006	LARGEMOUTH BASS	C		C	F	4	8.0	2.50	540	5.40	67.5
77-008	GREEN SUNFISH	I	T	C	S	34	68.0	21.25	1500	15.01	22.0
77-009	BLUEGILL SUNFISH	I	P	C	S	28	56.0	17.50	900	9.01	16.0
77-011	LONGEAR SUNFISH	I	M	C	S	8	16.0	5.00	860	8.61	53.7
77-015	GREEN SF X BLUEGILL SF					1	2.0	0.63	80	0.80	40.0
80-014	JOHNNY DARTER	I		C	D	5	10.0	3.13	10	0.10	1.0

No Species: 13 **Nat. Species:** 13 **Hybrids:** 1 **Total Counted:** 160 **Total Rel. Wt. :** 9992

IBI: 28.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: RC02 River: 95-730 Robinson Creek RM: 6.25 Date: 09/01/2016

Time Fished: 855 Distance: 0.150 Drainge (sq mi): 3.2 Depth: 0

Location: 0.2 mil dst. Robinson WWTP outfall Lat: 39.01686 Long: -87.72214

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	1	2.0	0.36	8	0.16	4.0
43-013	CREEK CHUB	G	T	N	N	120	240.0	43.32	3830	78.00	15.9
43-015	SUCKERMOUTH MINNOW	I		S	N	1	2.0	0.36	10	0.20	5.0
43-032	SPOTFIN SHINER	I		M	N	2	4.0	0.72	8	0.16	2.0
43-039	SILVERJAW MINNOW	I		M	N	57	114.0	20.58	240	4.89	2.1
43-043	BLUNTNOSE MINNOW	O	T	C	N	4	8.0	1.44	20	0.41	2.5
43-044	CENTRAL STONEROLLER	H		N	N	49	98.0	17.69	320	6.52	3.2
47-004	YELLOW BULLHEAD	I	T	C		9	18.0	3.25	140	2.85	7.7
68-001	PIRATE PERCH	I		C		1	2.0	0.36	4	0.08	2.0
77-006	LARGEMOUTH BASS	C		C	F	4	8.0	1.44	40	0.81	5.0
77-008	GREEN SUNFISH	I	T	C	S	10	20.0	3.61	180	3.67	9.0
77-009	BLUEGILL SUNFISH	I	P	C	S	11	22.0	3.97	90	1.83	4.0
80-014	JOHNNY DARTER	I		C	D	8	16.0	2.89	20	0.41	1.2

No Species: 13 **Nat. Species:** 13 **Hybrids:** 0 **Total Counted:** 277 **Total Rel. Wt. :** 4910

IBI: 38.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.25 Date: 09/28/2016

Time Fished: 1035 Distance: 0.150 Drainge (sq mi): 3.2 Depth: 0

Location: 0.2 mil dst. Robinson WWTP outfall Lat: 39.01686 Long: -87.72214

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	7	14.0	2.82	520	13.12	37.1
43-007	BIGEYE CHUB	I	I	S	N	1	2.0	0.40	10	0.25	5.0
43-013	CREEK CHUB	G	T	N	N	67	134.0	27.02	1900	47.96	14.1
43-032	SPOTFIN SHINER	I		M	N	3	6.0	1.21	16	0.40	2.6
43-039	SILVERJAW MINNOW	I		M	N	67	134.0	27.02	320	8.08	2.3
43-043	BLUNTNOSE MINNOW	O	T	C	N	2	4.0	0.81	16	0.40	4.0
43-044	CENTRAL STONEROLLER	H		N	N	41	82.0	16.53	450	11.36	5.4
47-004	YELLOW BULLHEAD	I	T	C		12	24.0	4.84	380	9.59	15.8
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	1.21	50	1.26	8.3
77-008	GREEN SUNFISH	I	T	C	S	7	14.0	2.82	120	3.03	8.5
77-009	BLUEGILL SUNFISH	I	P	C	S	4	8.0	1.61	40	1.01	5.0
77-012	REDEAR SUNFISH	I		C	E	23	46.0	9.27	100	2.52	2.1
80-014	JOHNNY DARTER	I		C	D	11	22.0	4.44	40	1.01	1.8

No Species: 13 **Nat. Species:** 12 **Hybrids:** 0 **Total Counted:** 248 **Total Rel. Wt. :** 3962

IBI: 38.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.45 Date: 09/01/2016

Time Fished: 701 Distance: 0.050 Drainge (sq mi): 3.2 Depth: 0

Location: WWTP Mixing Zone Lat: 39.01439 Long: -87.72527

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	14	84.0	8.54	6690	23.60	79.6
43-001	COMMON CARP	O	T	M	G	4	24.0	2.44	3840	13.54	160.0
43-013	CREEK CHUB	G	T	N	N	24	144.0	14.63	4380	15.45	30.4
43-032	SPOTFIN SHINER	I		M	N	1	6.0	0.61	24	0.08	4.0
43-039	SILVERJAW MINNOW	I		M	N	1	6.0	0.61	12	0.04	2.0
43-044	CENTRAL STONEROLLER	H		N	N	72	432.0	43.90	6240	22.01	14.4
47-004	YELLOW BULLHEAD	I	T	C		4	24.0	2.44	1200	4.23	50.0
77-006	LARGEMOUTH BASS	C		C	F	2	12.0	1.22	354	1.25	29.5
77-008	GREEN SUNFISH	I	T	C	S	19	114.0	11.59	2700	9.52	23.6
77-009	BLUEGILL SUNFISH	I	P	C	S	18	108.0	10.98	1740	6.14	16.1
77-011	LONGEAR SUNFISH	I	M	C	S	4	24.0	2.44	990	3.49	41.2
80-011	LOGPERCH	I	M	S	D	1	6.0	0.61	180	0.63	30.0

No Species: 12 **Nat. Species:** 11 **Hybrids:** 0 **Total Counted:** 164 **Total Rel. Wt. :** 28350

IBI: 42.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.45 Date: 09/28/2016

Time Fished: 463 Distance: 0.050 Drainge (sq mi): 3.2 Depth: 0

Location: WWTP Mixing Zone Lat: 39.01439 Long: -87.72527

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		2	12.0	1.46	390	1.72	32.5
40-016	WHITE SUCKER	O	T	S	W	7	42.0	5.11	3300	14.57	78.5
43-001	COMMON CARP	O	T	M	G	5	30.0	3.65	4920	21.72	164.0
43-013	CREEK CHUB	G	T	N	N	43	258.0	31.39	6180	27.28	23.9
43-025	STRIPED SHINER	I		S	N	1	6.0	0.73	210	0.93	35.0
43-032	SPOTFIN SHINER	I		M	N	3	18.0	2.19	30	0.13	1.6
43-044	CENTRAL STONEROLLER	H		N	N	36	216.0	26.28	3480	15.36	16.1
47-004	YELLOW BULLHEAD	I	T	C		4	24.0	2.92	1290	5.70	53.7
77-006	LARGEMOUTH BASS	C		C	F	1	6.0	0.73	90	0.40	15.0
77-008	GREEN SUNFISH	I	T	C	S	16	96.0	11.68	1320	5.83	13.7
77-009	BLUEGILL SUNFISH	I	P	C	S	17	102.0	12.41	600	2.65	5.8
77-011	LONGEAR SUNFISH	I	M	C	S	2	12.0	1.46	840	3.71	70.0

No Species: 12 **Nat. Species:** 11 **Hybrids:** 0 **Total Counted:** 137 **Total Rel. Wt. :** 22650

IBI: 38.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.50 Date: 09/01/2016

Time Fished: 1960 Distance: 0.150 Drainge (sq mi): 2.5 Depth: 0

Location: Ust. WWTP outfall Lat: 39.01470 Long: -87.72588

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	19	38.0	3.85	2420	22.76	63.6
43-001	COMMON CARP	O	T	M	G	7	14.0	1.42	2020	19.00	144.2
43-013	CREEK CHUB	G	T	N	N	243	486.0	49.29	3020	28.40	6.2
43-032	SPOTFIN SHINER	I		M	N	1	2.0	0.20	4	0.04	2.0
43-039	SILVERJAW MINNOW	I		M	N	42	84.0	8.52	120	1.13	1.4
43-042	FATHEAD MINNOW	O	T	C	N	1	2.0	0.20	4	0.04	2.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	11	22.0	2.23	40	0.38	1.8
43-044	CENTRAL STONEROLLER	H		N	N	54	108.0	10.95	920	8.65	8.5
47-004	YELLOW BULLHEAD	I	T	C		7	14.0	1.42	300	2.82	21.4
68-001	PIRATE PERCH	I		C		1	2.0	0.20	6	0.06	3.0
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	0.61	50	0.47	8.3
77-008	GREEN SUNFISH	I	T	C	S	41	82.0	8.32	1480	13.92	18.0
77-009	BLUEGILL SUNFISH	I	P	C	S	59	118.0	11.97	240	2.26	2.0
80-014	JOHNNY DARTER	I		C	D	4	8.0	0.81	10	0.09	1.2

No Species: 14 **Nat. Species:** 13 **Hybrids:** 0 **Total Counted:** 493 **Total Rel. Wt. :** 10634

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 6.50 Date: 09/28/2016

Time Fished: 1025 Distance: 0.150 Drainge (sq mi): 2.5 Depth: 0

Location: Ust. WWTP outfall Lat: 39.01470 Long: -87.72588

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	14	28.0	4.43	1720	25.64	61.4
43-001	COMMON CARP	O	T	M	G	4	8.0	1.27	1000	14.91	125.0
43-013	CREEK CHUB	G	T	N	N	155	310.0	49.05	2060	30.71	6.6
43-039	SILVERJAW MINNOW	I		M	N	28	56.0	8.86	100	1.49	1.7
43-043	BLUNTNOSE MINNOW	O	T	C	N	2	4.0	0.63	8	0.12	2.0
43-044	CENTRAL STONEROLLER	H		N	N	26	52.0	8.23	530	7.90	10.1
47-004	YELLOW BULLHEAD	I	T	C		7	14.0	2.22	400	5.96	28.5
77-008	GREEN SUNFISH	I	T	C	S	22	44.0	6.96	520	7.75	11.8
77-009	BLUEGILL SUNFISH	I	P	C	S	53	106.0	16.77	330	4.92	3.1
80-011	LOGPERCH	I	M	S	D	1	2.0	0.32	30	0.45	15.0
80-014	JOHNNY DARTER	I		C	D	4	8.0	1.27	10	0.15	1.2

No Species: 11 **Nat. Species:** 10 **Hybrids:** 0 **Total Counted:** 316 **Total Rel. Wt. :** 6708

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-730 Robinson Creek RM: 7.90 Date: 09/29/2016

Time Fished: 746 Distance: 0.150 Drainge (sq mi): 1.4 Depth: 0

Location: Dst. Praire St. Lat: 39.00830 Long: -87.74462

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	16	32.0	5.14	1520	16.21	47.5
43-001	COMMON CARP	O	T	M	G	15	30.0	4.82	3080	32.84	102.6
43-003	GOLDEN SHINER	I	T	M	N	1	2.0	0.32	4	0.04	2.0
43-013	CREEK CHUB	G	T	N	N	198	396.0	63.67	3540	37.75	8.9
43-039	SILVERJAW MINNOW	I		M	N	13	26.0	4.18	60	0.64	2.3
43-042	FATHEAD MINNOW	O	T	C	N	1	2.0	0.32	4	0.04	2.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	11	22.0	3.54	20	0.21	0.9
43-044	CENTRAL STONEROLLER	H		N	N	11	22.0	3.54	100	1.07	4.5
47-004	YELLOW BULLHEAD	I	T	C		1	2.0	0.32	340	3.63	170.0
77-006	LARGEMOUTH BASS	C		C	F	5	10.0	1.61	110	1.17	11.0
77-008	GREEN SUNFISH	I	T	C	S	7	14.0	2.25	160	1.71	11.4
77-009	BLUEGILL SUNFISH	I	P	C	S	32	64.0	10.29	440	4.69	6.8

No Species: 12 **Nat. Species:** 11 **Hybrids:** 0 **Total Counted:** 311 **Total Rel. Wt. :** 9378

IBI: 30.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 1.60 Date: 08/30/2016

Time Fished: 1015 Distance: 0.200 Drainge (sq mi): 35.2 Depth: 0

Location: E. Franklin St. Dst. RR yard Lat: 39.00302 Long: -87.59679

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		26	39.0	8.58	300	6.49	7.6
40-009	BLACK REDHORSE	I	I	S	R	2	3.0	0.66	142	3.08	47.5
40-010	GOLDEN REDHORSE	I	M	S	R	4	6.0	1.32	645	13.95	107.5
40-011	SHORTHEAD REDHORSE	I	M	S	R	3	4.5	0.99	285	6.16	63.3
40-016	WHITE SUCKER	O	T	S	W	4	6.0	1.32	667	14.44	111.2
40-018	SPOTTED SUCKER	I		S	R	1	1.5	0.33	3	0.06	2.0
43-001	COMMON CARP	O	T	M	G	2	3.0	0.66	555	12.01	185.0
43-013	CREEK CHUB	G	T	N	N	29	43.5	9.57	105	2.27	2.4
43-015	SUCKERMOUTH MINNOW	I		S	N	2	3.0	0.66	6	0.13	2.0
43-020	EMERALD SHINER	I		M	N	69	103.5	22.77	72	1.56	0.7
43-027	RIVER SHINER	I		S	N	11	16.5	3.63	24	0.52	1.4
43-039	SILVERJAW MINNOW	I		M	N	102	153.0	33.66	121	2.63	0.7
43-040	MISS. SILVERY MINNOW	H		M	N	4	6.0	1.32	34	0.75	5.7
43-043	BLUNTNOSE MINNOW	O	T	C	N	1	1.5	0.33	3	0.06	2.0
43-047	GRASS CARP			M	E	1	1.5	0.33	315	6.81	210.0
47-002	CHANNEL CATFISH			C	F	2	3.0	0.66	60	1.30	20.0
47-004	YELLOW BULLHEAD	I	T	C		2	3.0	0.66	7	0.16	2.5
54-002	BLACKSTRIPE TOPMINNOW	I		M		1	1.5	0.33	1	0.03	1.0
68-001	PIRATE PERCH	I		C		4	6.0	1.32	15	0.32	2.5
77-006	LARGEMOUTH BASS	C		C	F	4	6.0	1.32	477	10.32	79.5
77-008	GREEN SUNFISH	I	T	C	S	10	15.0	3.30	127	2.76	8.5
77-009	BLUEGILL SUNFISH	I	P	C	S	8	12.0	2.64	123	2.66	10.2
77-011	LONGEAR SUNFISH	I	M	C	S	10	15.0	3.30	529	11.45	35.3
80-014	JOHNNY DARTER	I		C	D	1	1.5	0.33	3	0.06	2.0

No Species: 24 **Nat. Species:** 22 **Hybrids:** 0 **Total Counted:** 303 **Total Rel. Wt. :** 4623

IBI: 38.0 **MIwb:** 8.2

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 1.60 Date: 09/27/2016

Time Fished: 900 Distance: 0.200 Drainge (sq mi): 35.2 Depth: 0

Location: E. Franklin St. Dst. RR yard Lat: 39.00302 Long: -87.59679

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		1	1.5	0.22	15	0.39	10.0
40-008	SILVER REDHORSE	I	M	S	R	1	1.5	0.22	82	2.12	55.0
40-010	GOLDEN REDHORSE	I	M	S	R	3	4.5	0.67	435	11.18	96.6
40-011	SHORTHEAD REDHORSE	I	M	S	R	5	7.5	1.11	570	14.64	76.0
40-015	NORTHERN HOG SUCKER	I	M	S	R	3	4.5	0.67	510	13.10	113.3
40-016	WHITE SUCKER	O	T	S	W	4	6.0	0.89	570	14.64	95.0
43-013	CREEK CHUB	G	T	N	N	25	37.5	5.57	112	2.89	3.0
43-015	SUCKERMOUTH MINNOW	I		S	N	8	12.0	1.78	45	1.16	3.7
43-020	EMERALD SHINER	I		M	N	234	351.0	52.12	433	11.14	1.2
43-027	RIVER SHINER	I		S	N	51	76.5	11.36	135	3.47	1.7
43-039	SILVERJAW MINNOW	I		M	N	88	132.0	19.60	172	4.43	1.3
68-001	PIRATE PERCH	I		C		2	3.0	0.45	6	0.15	2.0
77-006	LARGEMOUTH BASS	C		C	F	2	3.0	0.45	495	12.72	165.0
77-008	GREEN SUNFISH	I	T	C	S	5	7.5	1.11	75	1.93	10.0
77-009	BLUEGILL SUNFISH	I	P	C	S	5	7.5	1.11	16	0.42	2.2
77-011	LONGEAR SUNFISH	I	M	C	S	7	10.5	1.56	210	5.39	20.0
80-014	JOHNNY DARTER	I		C	D	4	6.0	0.89	6	0.15	1.0
80-028	MUD DARTER	V	P	M	D	1	1.5	0.22	3	0.08	2.0

No Species: 18 **Nat. Species:** 18 **Hybrids:** 0 **Total Counted:** 449 **Total Rel. Wt. :** 3892

IBI: 34.0 **MIwb:** 7.8

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 4.10 Date: 08/30/2016

Time Fished: 1200 Distance: 0.150 Drainge (sq mi): 30.6 Depth: 0

Location: 0.5mi dst. Robinson Creek Lat: 39.02145 Long: -87.63335

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	1	2.0	0.49	60	3.71	30.0
43-013	CREEK CHUB	G	T	N	N	15	30.0	7.28	320	19.80	10.6
43-015	SUCKERMOUTH MINNOW	I		S	N	3	6.0	1.46	10	0.62	1.6
43-020	EMERALD SHINER	I		M	N	4	8.0	1.94	8	0.50	1.0
43-027	RIVER SHINER	I		S	N	1	2.0	0.49	4	0.25	2.0
43-039	SILVERJAW MINNOW	I		M	N	137	274.0	66.50	140	8.66	0.5
43-043	BLUNTNOSE MINNOW	O	T	C	N	2	4.0	0.97	6	0.37	1.5
47-004	YELLOW BULLHEAD	I	T	C		4	8.0	1.94	300	18.56	37.5
68-001	PIRATE PERCH	I		C		1	2.0	0.49	4	0.25	2.0
77-004	SMALLMOUTH BASS	C	M	C	F	1	2.0	0.49	100	6.19	50.0
77-005	SPOTTED BASS	C		C	F	4	8.0	1.94	52	3.22	6.5
77-006	LARGEMOUTH BASS	C		C	F	2	4.0	0.97	128	7.92	32.0
77-008	GREEN SUNFISH	I	T	C	S	18	36.0	8.74	460	28.47	12.7
77-009	BLUEGILL SUNFISH	I	P	C	S	11	22.0	5.34	20	1.24	0.9
80-014	JOHNNY DARTER	I		C	D	2	4.0	0.97	4	0.25	1.0

No Species: 15 **Nat. Species:** 15 **Hybrids:** 0 **Total Counted:** 206 **Total Rel. Wt. :** 1616

IBI: 32.0 **MIwb:** 6.3

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 4.10 Date: 09/27/2016

Time Fished: 1077 Distance: 0.150 Drainge (sq mi): 30.6 Depth: 0

Location: 0.5mi dst. Robinson Creek Lat: 39.02145 Long: -87.63335

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-015	NORTHERN HOG SUCKER	I	M	S	R	1	2.0	0.29	50	2.12	25.0
43-013	CREEK CHUB	G	T	N	N	43	86.0	12.57	860	36.41	10.0
43-015	SUCKERMOUTH MINNOW	I		S	N	4	8.0	1.17	16	0.68	2.0
43-020	EMERALD SHINER	I		M	N	1	2.0	0.29	6	0.25	3.0
43-025	STRIPED SHINER	I		S	N	1	2.0	0.29	6	0.25	3.0
43-027	RIVER SHINER	I		S	N	1	2.0	0.29	4	0.17	2.0
43-039	SILVERJAW MINNOW	I		M	N	240	480.0	70.18	480	20.32	1.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	9	18.0	2.63	60	2.54	3.3
43-044	CENTRAL STONEROLLER	H		N	N	3	6.0	0.88	16	0.68	2.6
47-004	YELLOW BULLHEAD	I	T	C		3	6.0	0.88	280	11.85	46.6
68-001	PIRATE PERCH	I		C		2	4.0	0.58	16	0.68	4.0
77-005	SPOTTED BASS	C		C	F	2	4.0	0.58	148	6.27	37.0
77-008	GREEN SUNFISH	I	T	C	S	11	22.0	3.22	260	11.01	11.8
77-009	BLUEGILL SUNFISH	I	P	C	S	8	16.0	2.34	20	0.85	1.2
77-011	LONGEAR SUNFISH	I	M	C	S	6	12.0	1.75	120	5.08	10.0
80-014	JOHNNY DARTER	I		C	D	7	14.0	2.05	20	0.85	1.4

No Species: 16 **Nat. Species:** 16 **Hybrids:** 0 **Total Counted:** 342 **Total Rel. Wt. :** 2362

IBI: 30.0 **MIwb:** 6.3

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 5.90 Date: 08/30/2016

Time Fished: 941 Distance: 0.150 Drainge (sq mi): 14.2 Depth: 0

Location: Dst. Trib to Sugar Creek: Background site Lat: 39.04098 Long: -87.65697

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-005	QUILLBACK CARPSUCKER	O		M	C	33	66.0	4.98	760	7.32	11.5
40-016	WHITE SUCKER	O	T	S	W	27	54.0	4.07	3420	32.94	63.3
43-001	COMMON CARP	O	T	M	G	10	20.0	1.51	3080	29.66	154.0
43-013	CREEK CHUB	G	T	N	N	33	66.0	4.98	900	8.67	13.6
43-015	SUCKERMOUTH MINNOW	I		S	N	3	6.0	0.45	14	0.13	2.3
43-025	STRIPED SHINER	I		S	N	10	20.0	1.51	76	0.73	3.8
43-039	SILVERJAW MINNOW	I		M	N	281	562.0	42.38	280	2.70	0.5
43-040	MISS. SILVERY MINNOW	H		M	N	10	20.0	1.51	164	1.58	8.2
43-043	BLUNTNOSE MINNOW	O	T	C	N	180	360.0	27.15	150	1.44	0.4
43-044	CENTRAL STONEROLLER	H		N	N	1	2.0	0.15	4	0.04	2.0
47-004	YELLOW BULLHEAD	I	T	C		1	2.0	0.15	100	0.96	50.0
54-002	BLACKSTRIPE TOPMINNOW	I		M		2	4.0	0.30	4	0.04	1.0
57-001	WESTERN MOSQUITOFISH	I		N	E	1	2.0	0.15	2	0.02	1.0
68-001	PIRATE PERCH	I		C		18	36.0	2.71	130	1.25	3.6
77-005	SPOTTED BASS	C		C	F	3	6.0	0.45	80	0.77	13.3
77-006	LARGEMOUTH BASS	C		C	F	4	8.0	0.60	440	4.24	55.0
77-008	GREEN SUNFISH	I	T	C	S	20	40.0	3.02	648	6.24	16.2
77-009	BLUEGILL SUNFISH	I	P	C	S	9	18.0	1.36	104	1.00	5.7
77-011	LONGEAR SUNFISH	I	M	C	S	2	4.0	0.30	8	0.08	2.0
80-014	JOHNNY DARTER	I		C	D	15	30.0	2.26	20	0.19	0.6

No Species: 20 **Nat. Species:** 18 **Hybrids:** 0 **Total Counted:** 663 **Total Rel. Wt. :** 10384

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 5.90 Date: 09/27/2016

Time Fished: 908 Distance: 0.150 Drainge (sq mi): 14.2 Depth: 0

Location: Dst. Trib to Sugar Creek: Background site Lat: 39.04098 Long: -87.65697

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		69	138.0	14.00	1660	14.05	12.0
40-005	QUILLBACK CARPSUCKER	O		M	C	41	82.0	8.32	1200	10.15	14.6
40-016	WHITE SUCKER	O	T	S	W	32	64.0	6.49	3720	31.48	58.1
43-001	COMMON CARP	O	T	M	G	3	6.0	0.61	1040	8.80	173.3
43-003	GOLDEN SHINER	I	T	M	N	1	2.0	0.20	40	0.34	20.0
43-013	CREEK CHUB	G	T	N	N	91	182.0	18.46	2800	23.69	15.3
43-015	SUCKERMOUTH MINNOW	I		S	N	10	20.0	2.03	62	0.52	3.1
43-025	STRIPED SHINER	I		S	N	10	20.0	2.03	50	0.42	2.5
43-039	SILVERJAW MINNOW	I		M	N	74	148.0	15.01	200	1.69	1.3
43-040	MISS. SILVERY MINNOW	H		M	N	11	22.0	2.23	174	1.47	7.9
43-043	BLUNTNOSE MINNOW	O	T	C	N	81	162.0	16.43	180	1.52	1.1
43-044	CENTRAL STONEROLLER	H		N	N	10	20.0	2.03	140	1.18	7.0
54-002	BLACKSTRIPE TOPMINNOW	I		M		2	4.0	0.41	8	0.07	2.0
57-001	WESTERN MOSQUITOFISH	I		N	E	2	4.0	0.41	4	0.03	1.0
68-001	PIRATE PERCH	I		C		13	26.0	2.64	50	0.42	1.9
77-005	SPOTTED BASS	C		C	F	2	4.0	0.41	60	0.51	15.0
77-006	LARGEMOUTH BASS	C		C	F	2	4.0	0.41	30	0.25	7.5
77-008	GREEN SUNFISH	I	T	C	S	6	12.0	1.22	190	1.61	15.8
77-009	BLUEGILL SUNFISH	I	P	C	S	16	32.0	3.25	90	0.76	2.8
77-011	LONGEAR SUNFISH	I	M	C	S	12	24.0	2.43	110	0.93	4.5
80-014	JOHNNY DARTER	I		C	D	5	10.0	1.01	10	0.08	1.0

No Species: 21 **Nat. Species:** 19 **Hybrids:** 0 **Total Counted:** 493 **Total Rel. Wt. :** 11818

IBI: 32.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 6.00 Date: 08/30/2016

Time Fished: 1155 Distance: 0.150 Drainge (sq mi): 14.1 Depth: 0

Location: Ust. Trib to Sugar Creek Lat: 39.04106 Long: -87.65873

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
43-013	CREEK CHUB	G	T	N	N	32	64.0	61.54	50	71.43	0.7
43-039	SILVERJAW MINNOW	I		M	N	10	20.0	19.23	10	14.29	0.5
43-043	BLUNTNOSE MINNOW	O	T	C	N	1	2.0	1.92	2	2.86	1.0
43-044	CENTRAL STONEROLLER	H		N	N	3	6.0	5.77	4	5.71	0.6
80-014	JOHNNY DARTER	I		C	D	6	12.0	11.54	4	5.71	0.3

No Species: 5 **Nat. Species:** 5 **Hybrids:** 0 **Total Counted:** 52 **Total Rel. Wt. :** 70

IBI: 24.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-731 Sugar Creek RM: 6.00 Date: 09/27/2016

Time Fished: 0 Distance: 0.150 Drainge (sq mi): 14.1 Depth: 0

Location: Ust. Trib to Sugar Creek Lat: 39.04106 Long: -87.65873

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
99-997	Dry Site					0	0.0	***.**	0	0.00	*****.*

No Species: 1 **Nat. Species:** 1 **Hybrids:** 0 **Total Counted:** 0 **Total Rel. Wt. :** 0

IBI: 12.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID:	River: 95-732	Unnamed Trib to Robinson Cr. at RM4.77	RM: 0.10	Date: 08/31/2016
Time Fished:	Distance:	Drainge (sq mi):	Depth:	
339	0.150	0.3	0	
Location: MPC006 Trib		Lat: 39.00923	Long: -87.70449	

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
43-013	CREEK CHUB	G	T	N	N	2	4.0	22.22	8	15.38	2.0
77-006	LARGEMOUTH BASS	C		C	F	5	10.0	55.56	40	76.92	4.0
77-009	BLUEGILL SUNFISH	I	P	C	S	2	4.0	22.22	4	7.69	1.0

No Species: 3 **Nat. Species:** 3 **Hybrids:** 0 **Total Counted:** 9 **Total Rel. Wt. :** 52

IBI: 12.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID:	River: 95-732	Unnamed Trib to Robinson Cr. at RM4.77	RM: 0.10	Date: 09/27/2016
Time Fished:	Distance:	Drainge (sq mi):	Depth:	
524	0.150	0.3	0	
Location: MPC006 Trib		Lat: 39.00923	Long: -87.70449	

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
43-013	CREEK CHUB	G	T	N	N	17	34.0	70.83	270	85.99	7.9
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	12.50	20	6.37	3.3
77-009	BLUEGILL SUNFISH	I	P	C	S	4	8.0	16.67	24	7.64	3.0

No Species: 3 **Nat. Species:** 3 **Hybrids:** 0 **Total Counted:** 24 **Total Rel. Wt. :** 314

IBI: 22.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID:	River: 95-733	Unnamed Trib to Robinson Cr. at RM3.70	RM: 0.10	Date: 08/31/2016
Time Fished:	Distance:	Drainge (sq mi):		Depth:
Location: 1279	0.150	1.3	Lat:	Long: 0
MPC RR Yard Trib- 007, 009 010 outfalls		39.00825		-87.69034

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
43-013	CREEK CHUB	G	T	N	N	119	238.0	57.21	1160	47.04	4.8
77-008	GREEN SUNFISH	I	T	C	S	86	172.0	41.35	1300	52.72	7.5
80-031	SLOUGH DARTER	V	P	M	D	3	6.0	1.44	6	0.24	1.0

No Species: 3 **Nat. Species:** 3 **Hybrids:** 0 **Total Counted:** 208 **Total Rel. Wt. :** 2466

IBI: 22.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID:	River: 95-733	Unnamed Trib to Robinson Cr. at RM3.70	RM: 0.10	Date: 09/27/2016
Time Fished:	Distance:	Drainge (sq mi):	Depth:	
567	0.150	1.3	0	
Location:		Lat:	Long:	
MPC RR Yard Trib- 007, 009 010 outfalls		39.00825	-87.69034	

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
43-013	CREEK CHUB	G	T	N	N	116	232.0	76.32	1700	73.21	7.3
77-008	GREEN SUNFISH	I	T	C	S	32	64.0	21.05	600	25.84	9.3
77-009	BLUEGILL SUNFISH	I	P	C	S	1	2.0	0.66	16	0.69	8.0
80-031	SLOUGH DARTER	V	P	M	D	3	6.0	1.97	6	0.26	1.0

No Species: 4 **Nat. Species:** 4 **Hybrids:** 0 **Total Counted:** 152 **Total Rel. Wt. :** 2322

IBI: 26.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-734 Marathon Creek RM: 0.16 Date: 09/02/2016

Time Fished: 1072 Distance: 0.150 Drainge (sq mi): 1.2 Depth: 0

Location: Ust. Mouth- 002, 003, 005 outfalls Lat: 39.01269 Long: -87.70849

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	7	14.0	1.75	150	3.10	10.7
43-013	CREEK CHUB	G	T	N	N	198	396.0	49.50	3180	65.70	8.0
43-039	SILVERJAW MINNOW	I		M	N	23	46.0	5.75	70	1.45	1.5
43-040	MISS. SILVERY MINNOW	H		M	N	3	6.0	0.75	30	0.62	5.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	1	2.0	0.25	8	0.17	4.0
43-044	CENTRAL STONEROLLER	H		N	N	5	10.0	1.25	50	1.03	5.0
47-004	YELLOW BULLHEAD	I	T	C		1	2.0	0.25	40	0.83	20.0
77-006	LARGEMOUTH BASS	C		C	F	56	112.0	14.00	460	9.50	4.1
77-008	GREEN SUNFISH	I	T	C	S	6	12.0	1.50	180	3.72	15.0
77-009	BLUEGILL SUNFISH	I	P	C	S	99	198.0	24.75	670	13.84	3.3
80-014	JOHNNY DARTER	I		C	D	1	2.0	0.25	2	0.04	1.0

No Species: 11 **Nat. Species:** 11 **Hybrids:** 0 **Total Counted:** 400 **Total Rel. Wt. :** 4840

IBI: 38.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-734 Marathon Creek RM: 0.16 Date: 09/29/2016

Time Fished: 636 Distance: 0.150 Drainge (sq mi): 1.2 Depth: 0

Location: Ust. Mouth- 002, 003, 005 outfalls Lat: 39.01269 Long: -87.70849

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
40-016	WHITE SUCKER	O	T	S	W	4	8.0	2.48	100	4.21	12.5
43-013	CREEK CHUB	G	T	N	N	84	168.0	52.17	1560	65.66	9.2
43-039	SILVERJAW MINNOW	I		M	N	14	28.0	8.70	50	2.10	1.7
43-040	MISS. SILVERY MINNOW	H		M	N	1	2.0	0.62	8	0.34	4.0
57-001	WESTERN MOSQUITOFISH	I		N	E	1	2.0	0.62	2	0.08	1.0
77-006	LARGEMOUTH BASS	C		C	F	3	6.0	1.86	64	2.69	10.6
77-008	GREEN SUNFISH	I	T	C	S	8	16.0	4.97	260	10.94	16.2
77-009	BLUEGILL SUNFISH	I	P	C	S	41	82.0	25.47	290	12.21	3.5
77-012	REDEAR SUNFISH	I		C	E	4	8.0	2.48	40	1.68	5.0
80-014	JOHNNY DARTER	I		C	D	1	2.0	0.62	2	0.08	1.0

No Species: 10 **Nat. Species:** 8 **Hybrids:** 0 **Total Counted:** 161 **Total Rel. Wt. :** 2376

IBI: 36.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-735 Quail Creek RM: 0.25 Date: 09/01/2016

Time Fished: 1228 Distance: 0.150 Drainge (sq mi): 2.3 Depth: 0

Location: Dst. Trimble Rd. Lat: 39.01743 Long: -87.72407

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		5	10.0	3.38	470	19.88	47.0
43-013	CREEK CHUB	G	T	N	N	68	136.0	45.95	1100	46.53	8.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	1	2.0	0.68	10	0.42	5.0
43-044	CENTRAL STONEROLLER	H		N	N	9	18.0	6.08	120	5.08	6.6
47-004	YELLOW BULLHEAD	I	T	C		2	4.0	1.35	114	4.82	28.5
77-006	LARGEMOUTH BASS	C		C	F	6	12.0	4.05	60	2.54	5.0
77-007	WARMOUTH SUNFISH	C		C	S	1	2.0	0.68	10	0.42	5.0
77-008	GREEN SUNFISH	I	T	C	S	9	18.0	6.08	300	12.69	16.6
77-009	BLUEGILL SUNFISH	I	P	C	S	47	94.0	31.76	180	7.61	1.9

No Species: 9 **Nat. Species:** 9 **Hybrids:** 0 **Total Counted:** 148 **Total Rel. Wt. :** 2364

IBI: 34.0 **MIwb:** N/A

Appendix Table B-3. Midwest Biodiversity Institute
Fish Species List

Site ID: River: 95-735 Quail Creek RM: 0.25 Date: 09/28/2016

Time Fished: 681 Distance: 0.150 Drainge (sq mi): 2.3 Depth: 0

Location: Dst. Trimble Rd. Lat: 39.01743 Long: -87.72407

Species Code:	Species Name:	Feed Guild	Toler-ance	Breed Guild	IBI Group	No. Fish	Rel. No.	% by No.	Rel. Wt.	% by Wt.	Av. Wt.
20-003	GIZZARD SHAD	O		M		3	6.0	2.42	100	3.92	16.6
40-016	WHITE SUCKER	O	T	S	W	6	12.0	4.84	1000	39.15	83.3
43-013	CREEK CHUB	G	T	N	N	42	84.0	33.87	800	31.32	9.5
43-032	SPOTFIN SHINER	I		M	N	1	2.0	0.81	6	0.23	3.0
43-043	BLUNTNOSE MINNOW	O	T	C	N	3	6.0	2.42	20	0.78	3.3
43-044	CENTRAL STONEROLLER	H		N	N	5	10.0	4.03	20	0.78	2.0
47-004	YELLOW BULLHEAD	I	T	C		2	4.0	1.61	16	0.63	4.0
77-006	LARGEMOUTH BASS	C		C	F	5	10.0	4.03	160	6.26	16.0
77-008	GREEN SUNFISH	I	T	C	S	3	6.0	2.42	100	3.92	16.6
77-009	BLUEGILL SUNFISH	I	P	C	S	48	96.0	38.71	270	10.57	2.8
77-012	REDEAR SUNFISH	I		C	E	6	12.0	4.84	62	2.43	5.1

No Species: 11 **Nat. Species:** 10 **Hybrids:** 0 **Total Counted:** 124 **Total Rel. Wt. :** 2554

IBI: 34.0 **MIwb:** N/A

APPENDIX C

MACROINVERTEBRATE ASSEMBLAGE DATA

APPENDIX C

MACROINVERTEBRATE ASSEMBLAGE DATA

Appendix C-1: Illinois Macroinvertebrate Index of Biotic Integrity (mIBI) Metrics and Scores in Robinson and Sugar Creek and Tributaries 2016

Appendix Table C-1. Illinois Macroinvertebrate IBI metrics and values from the Robinson Creek study area in 2016.

River Mile	Site ID	Sample Date	Drainage Area (sq mi)	Sub-samp	Number of: Total Taxa	Number of: Coleoptera Taxa	Number of: Mayfly Taxa	Number of: Intolerant Taxa	MBI	Percent: Percent Scrapers	Percent: Percent EPT	MIBI
LaMotte Creek (95-229)												
Year: 2016												
1.90	LC01	07/21/2016	26.70		32(70.0)	1(20.0)	5(49.0)	2(22.2)	5.3(93.4)	5.1(17.1)	41.7(56.3)	46.9
Robinson Creek (95-730)												
Year: 2016												
6.50	RC01	07/19/2016	2.50		25(54.0)	0(0.0)	0(0.0)	1(11.1)	6.0(82.0)	0.0(0.0)	13.8(18.7)	23.7
6.45	RWMZ	07/19/2016	3.20		13(28.0)	0(0.0)	0(0.0)	1(11.1)	6.2(78.7)	0.3(1.0)	1.7(2.3)	17.3
6.25	RC02	07/19/2016	3.20		27(59.0)	1(20.0)	1(9.8)	1(11.1)	6.2(78.7)	1.6(5.3)	16.0(21.6)	29.4
6.00	RC03	07/19/2016	5.70		24(52.0)	0(0.0)	2(19.6)	2(22.2)	6.1(80.3)	1.9(6.3)	19.7(26.6)	29.6
5.20	RC04	07/19/2016	6.50		25(54.0)	1(20.0)	1(9.8)	1(11.1)	6.5(73.8)	2.4(8.2)	0.7(0.9)	25.4
5.20	RC04	08/20/2016	6.50		28(61.0)	0(0.0)	3(29.4)	3(33.3)	5.9(83.6)	5.4(18.1)	7.1(9.7)	33.6
5.00	MPMZ	07/18/2016	7.70		15(33.0)	0(0.0)	1(9.8)	0(0.0)	6.3(77.1)	0.8(2.6)	6.1(8.3)	18.7
4.90	RC05	07/18/2016	7.90		21(46.0)	0(0.0)	0(0.0)	1(11.1)	6.7(70.5)	1.6(5.5)	2.3(3.1)	19.5
4.60	RC06	07/18/2016	8.40		21(46.0)	0(0.0)	1(9.8)	2(22.2)	6.0(82.0)	1.1(3.8)	1.1(1.5)	23.6
3.30	RC07	07/19/2016	10.50		26(57.0)	0(0.0)	1(9.8)	0(0.0)	5.6(88.5)	1.3(4.4)	39.7(53.7)	30.5
3.30	RC07	08/21/2016	10.50		19(41.0)	1(20.0)	1(9.8)	1(11.1)	5.8(85.3)	16.1(54.5)	42.8(57.9)	39.9
2.00	RC08	07/21/2016	12.30		17(37.0)	0(0.0)	1(9.8)	2(22.2)	5.7(86.9)	7.1(23.8)	19.8(26.8)	29.5
1.00	RC09	07/21/2016	12.90		24(52.0)	0(0.0)	1(9.8)	0(0.0)	5.7(86.9)	5.3(17.8)	29.4(39.7)	29.5
Sugar Creek (95-731)												
Year: 2016												
6.00	SC01A	08/21/2016	14.10		25(54.0)	0(0.0)	4(39.2)	2(22.2)	6.0(82.0)	1.1(3.7)	8.4(11.4)	30.4
5.90	SC01	07/21/2016	14.20		29(63.0)	0(0.0)	5(49.0)	1(11.1)	6.0(82.0)	8.6(29.1)	16.5(22.3)	36.6
4.10	SC02	07/21/2016	30.60		26(57.0)	0(0.0)	2(19.6)	2(22.2)	5.4(91.8)	5.3(17.7)	41.1(55.6)	37.7
1.60	SC03	07/21/2016	35.20		31(67.0)	1(20.0)	4(39.2)	2(22.2)	6.4(75.4)	26.1(88.3)	32.4(43.8)	50.8

Appendix Table C-1. Illinois Macroinvertebrate IBI metrics and values from the Robinson Creek study area in 2016.

River Mile	Site ID	Sample	Date	Drainage Area (sq mi)	Sub-samp	Number of: Total Taxa	Coleoptera Taxa	Mayfly Taxa	Intolerant Taxa	MBI	Percent: Percent Scrapers	Percent EPT	MIBI
Unnamed Trib to Robinson Cr. at RM4.77 (95-732)													
Year: 2016													
0.10	UT01		07/19/2016	0.30		21(46.0)	0(0.0)	1(9.8)	1(11.1)	5.9(83.6)	0.0(0.0)	10.3(14.0)	23.5
Unnamed Trib to Robinson Cr. at RM3.70 (95-733)													
Year: 2016													
0.10	UT02		07/19/2016	1.30		27(59.0)	0(0.0)	4(39.2)	3(33.3)	6.3(77.1)	1.3(4.4)	5.6(7.5)	31.5
Marathon Creek (95-734)													
Year: 2016													
0.16	MC01		07/18/2016	1.20		29(63.0)	0(0.0)	1(9.8)	1(11.1)	5.9(83.6)	2.6(8.9)	29.6(40.0)	30.9
Quail Creek (95-735)													
Year: 2016													
0.25	QC01		07/19/2016	2.30		32(70.0)	0(0.0)	2(19.6)	3(33.3)	7.1(63.9)	5.7(19.3)	10.7(14.5)	31.5

APPENDIX C

MACROINVERTEBRATE ASSEMBLAGE DATA

Appendix C-2: Macroinvertebrate Taxa Collected by Sampling Date in Robinson and Sugar Creek and Tributaries 2016

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 33 - South of Palastine

Site ID: **LC01**

Subsample:

Collection Date: 07/21/2016 River Code: 95-229 River: LaMotte Creek RM: 1.90

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	5
03600	Oligochaeta	CG	10	4
04960	Mooreobdella sp.	PR	8	1
05800	Caecidotea sp.	CG	6	40
06201	Hyalella azteca	CG	5	20
11015	Acerpenna sp.	SH	4	27
11130	Baetis intercalaris	CG	4	38
11670	Procloeon viridoculare		4	12
13400	Stenacron sp.	SC	4	10
13521	Stenonema femoratum	SC	4	1
21300	Hetaerina sp.	PR	3	2
22001	Coenagrionidae	PR	5	3
22300	Argia sp.	PR	5	3
27400	Neurocordulia sp.	PR	3	1
52200	Cheumatopsyche sp.	CF	6	26
59500	Oecetis sp.	PR	5	1
69400	Stenelmis sp.	SC	7	1
77120	Ablabesmyia mallochi	CG	6	8
77500	Conchapelopia sp.	PR	6	1
77750	Hayesomyia senata or Thienemannimyia norena		5	8
78140	Labrundinia pilosella	PR	4	1
82820	Cryptochironomus sp.	PR	8	1
83040	Dicrotendipes neomodestus	CG	6	5
83840	Microtendipes pedellus	CF	6	5
84450	Polypedilum (Uresipedilum) flavum	SH	6	13
84470	Polypedilum illinoense	SH	6	1
84520	Polypedilum halterale	SH	6	5
84540	Polypedilum scalaenum	SH	6	6
84612	Saetheria tylus	CG	6	10
84750	Stictochironomus sp.		5	7
85230	Cladotanytarsus mancus group	CG	7	1
85500	Paratanytarsus sp.	CG	6	2
85625	Rheotanytarsus sp.	CF	6	1
85800	Tanytarsus sp.	CF	7	1
85821	Tanytarsus sp	CF	7	3
95100	Physella sp.	SC	9	2

Total Taxa: 36

Number of Organisms: 276 mIBI: 46.87

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. WWTP outfall

Site ID: **RC01**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 6.50

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	6
03600	Oligochaeta	CG	10	9
22001	Coenagrionidae	PR	5	14
52200	Cheumatopsyche sp.	CF	6	39
77120	Ablabesmyia mallochi	CG	6	13
77500	Conchapelopia sp.	PR	6	7
77750	Hayesomyia senata or Thienemannimyia norena		5	12
78100	Labrundinia sp.	PR	4	3
78400	Natarsia sp.	PR	6	1
78655	Procladius sp.	PR	8	2
79000	Tanypus sp	PR	8	1
79400	Zavrelimyia sp	PR	8	1
80420	Cricotopus bicinctus	SH	8	1
82730	Chironomus (C.) decorus group	CG	11	1
82820	Cryptochironomus sp.	PR	8	2
83040	Dicrotendipes neomodestus	CG	6	2
84210	Paratendipes albimanus	CG	3	6
84450	Polypedilum (Uresipedilum) flavum	SH	6	77
84460	Polypedilum fallax	SH	6	2
84470	Polypedilum illinoense	SH	6	4
84520	Polypedilum halterale	SH	6	10
84540	Polypedilum scalaenum	SH	6	3
84612	Saetheria tylus	CG	6	5
84750	Stictochironomus sp.		5	10
85210	Cladotanytarsus species b	CG	7	1
85500	Paratanytarsus sp.	CG	6	8
85625	Rheotanytarsus sp.	CF	6	37
86501	Stratiomyidae	CG	10	1
98001	Sphaeriidae		5	4

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 29

Number of Organisms: 282 mIBI: 23.68

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: WWTP Mixing Zone

Site ID: **RWMZ**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 6.45

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	268
03600	Oligochaeta	CG	10	17
52200	Cheumatopsyche sp.	CF	6	5
52530	Hydropsyche sp.	CF	5	1
71900	Tipula sp.	SH	4	2
78655	Procladius sp.	PR	8	1
81231	Nanocladius (N.) crassicornus or N. (N.) "rectinervis"	CG	3	1
82820	Cryptochironomus sp.	PR	8	5
84315	Phaenopsectra flavipes	SC	4	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	27
84470	Polypedilum illinoense	SH	6	7
84520	Polypedilum halterale	SH	6	2
84540	Polypedilum scalaenum	SH	6	5
84750	Stictochironomus sp.		5	1
85625	Rheotanytarsus sp.	CF	6	10
98001	Sphaeriidae		5	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 16

Number of Organisms: 355 mIBI: 17.29

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: 0.2 mil dst. Robinson WWTP outfall

Site ID: **RC02**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 6.25

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	20
03600	Oligochaeta	CG	10	31
06201	Hyalella azteca	CG	5	1
11130	Baetis intercalaris	CG	4	1
21200	Calopteryx sp.	PR	4	1
22001	Coenagrionidae	PR	5	61
52200	Cheumatopsyche sp.	CF	6	50
68700	Dubiraphia sp.	CG	5	1
71900	Tipula sp.	SH	4	1
74100	Simulium sp.	CF	6	1
77120	Ablabesmyia mallochi	CG	6	15
77500	Conchapelopia sp.	PR	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	3
78100	Labrundinia sp.	PR	4	6
78400	Natarsia sp.	PR	6	2
80420	Cricotopus bicinctus	SH	8	1
83040	Dicrotendipes neomodestus	CG	6	2
84210	Paratendipes albimanus	CG	3	4
84315	Phaenopsectra flavipes	SC	4	2
84450	Polypedilum (Uresipedilum) flavum	SH	6	54
84470	Polypedilum illinoense	SH	6	19
84520	Polypedilum halterale	SH	6	2
84540	Polypedilum scalaenum	SH	6	5
84612	Saetheria tylus	CG	6	5
84750	Stictochironomus sp.		5	1
85500	Paratanytarsus sp.	CG	6	10
85625	Rheotanytarsus sp.	CF	6	11
85800	Tanytarsus sp.	CF	7	2
95100	Physella sp.	SC	9	3
98001	Sphaeriidae		5	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 30

Number of Organisms: 319 mIBI: 29.36

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Dst. Quail Creek

Site ID: **RC03**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 6.00

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	39
03600	Oligochaeta	CG	10	16
08200	Orconectes sp.	CG	5	1
08601	Hydracarina		99	1
11130	Baetis intercalaris	CG	4	10
17200	Caenis sp.	CG	6	1
21200	Calopteryx sp.	PR	4	1
22001	Coenagrionidae	PR	5	10
52200	Cheumatopsyche sp.	CF	6	52
53800	Hydroptila sp.	SC	2	1
71900	Tipula sp.	SH	4	2
77120	Ablabesmyia mallochi	CG	6	3
77500	Conchapelopia sp.	PR	6	4
77750	Hayesomyia senata or Thienemannimyia norena		5	8
82820	Cryptochironomus sp.	PR	8	2
84210	Paratendipes albimanus	CG	3	2
84315	Phaenopsectra flavipes	SC	4	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	127
84470	Polypedilum illinoense	SH	6	18
84520	Polypedilum halterale	SH	6	1
84540	Polypedilum scalaenum	SH	6	6
84612	Saetheria tylus	CG	6	1
84750	Stictochironomus sp.		5	7
85500	Paratanytarsus sp.	CG	6	1
85625	Rheotanytarsus sp.	CF	6	6
85800	Tanytarsus sp.	CF	7	1
95100	Physella sp.	SC	9	2
95501	Planorbidae	SC	6	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 28

Number of Organisms: 326 mIBI: 29.57

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	9

Total Taxa: 1

Number of Organisms: 9 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	3

Total Taxa: 1

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	11

Total Taxa: 1

Number of Organisms: 11 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	26

Total Taxa: 1

Number of Organisms: 26 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11130	Baetis intercalaris	CG	4	4

Total Taxa: 1

Number of Organisms: 4 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11130	Baetis intercalaris	CG	4	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11670	Procloeon viridoculare		4	1
17200	Caenis sp.	CG	6	2
21200	Calopteryx sp.	PR	4	6
22001	Coenagrionidae	PR	5	37

Total Taxa: 4

Number of Organisms: 46 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22001	Coenagrionidae	PR	5	8

Total Taxa: 1

Number of Organisms: 8 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22300	Argia sp.	PR	5	40
27001	Corduliidae	PR	4	1
52200	Cheumatopsyche sp.	CF	6	13

Total Taxa: 3

Number of Organisms: 54 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
52200	Cheumatopsyche sp.	CF	6	1
68700	Dubiraphia sp.	CG	5	1

Total Taxa: 2

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
77120	Ablabesmyia mallochi	CG	6	14

Total Taxa: 1

Number of Organisms: 14 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
77120	Ablabesmyia mallochi	CG	6	11

Total Taxa: 1

Number of Organisms: 11 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
77750	Hayesomyia senata or Thienemannimyia norena		5	7

Total Taxa: 1

Number of Organisms: 7 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
77750	Hayesomyia senata or Thienemannimyia norena		5	12

Total Taxa: 1

Number of Organisms: 12 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
78140	Labrundinia pilosella	PR	4	3
78600	Pentaneura inconspicua	PR	3	1
78655	Procladius sp.	PR	8	2

Total Taxa: 3

Number of Organisms: 6 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
78655	Procladius sp.	PR	8	3

Total Taxa: 1

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
79000	Tanypus sp	PR	8	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
79400	Zavrelimyia sp	PR	8	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
81231	Nanocladius (N.) crassicornus or N. (N.) "rectinervis"	CG	3	1
81270	Nanocladius (N.) spiniplenus	CG	3	1

Total Taxa: 2

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
82730	Chironomus (C.) decorus group	CG	11	2
82820	Cryptochironomus sp.	PR	8	1

Total Taxa: 2

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
83040	Dicrotendipes neomodestus	CG	6	25

Total Taxa: 1

Number of Organisms: 25 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
83040	Dicrotendipes neomodestus	CG	6	42

Total Taxa: 1

Number of Organisms: 42 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84210	Paratendipes albimanus	CG	3	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84210	Paratendipes albimanus	CG	3	5

Total Taxa: 1

Number of Organisms: 5 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84315	Phaenopsectra flavipes	SC	4	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84315	Phaenopsectra flavipes	SC	4	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84450	Polypedilum (Uresipedilum) flavum	SH	6	11

Total Taxa: 1

Number of Organisms: 11 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84450	Polypedilum (Uresipedilum) flavum	SH	6	12

Total Taxa: 1

Number of Organisms: 12 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84470	Polypedilum illinoense	SH	6	13

Total Taxa: 1

Number of Organisms: 13 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.	Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84470	Polypedilum illinoense	SH	6	18					

Total Taxa: 1

Number of Organisms: 18 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84520	Polypedilum halterale	SH	6	8

Total Taxa: 1

Number of Organisms: 8 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84520	Polypedilum halterale	SH	6	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84540	Polypedilum scalaenum	SH	6	16

Total Taxa: 1

Number of Organisms: 16 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84540	Polypedilum scalaenum	SH	6	31

Total Taxa: 1

Number of Organisms: 31 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84612	Saetheria tylus	CG	6	20

Total Taxa: 1

Number of Organisms: 20 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84612	Saetheria tylus	CG	6	17
84750	Stictochironomus sp.		5	5
85201	Cladotanytarsus species a	CG	7	1
85230	Cladotanytarsus mancus group	CG	7	22

Total Taxa: 4

Number of Organisms: 45 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85500	Paratanytarsus sp.	CG	6	3

Total Taxa: 1

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85500	Paratanytarsus sp.	CG	6	26

Total Taxa: 1

Number of Organisms: 26 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85625	Rheotanytarsus sp.	CF	6	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.	Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85625	Rheotanytarsus sp.	CF	6	4					

Total Taxa: 1

Number of Organisms: 4 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85800	Tanytarsus sp.	CF	7	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.	Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85800	Tanytarsus sp.	CF	7	24					

Total Taxa: 1

Number of Organisms: 24 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85821	Tanytarsus sp	CF	7	11
95100	Physella sp.	SC	9	9

Total Taxa: 2

Number of Organisms: 20 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
95100	Physella sp.	SC	9	3

Total Taxa: 1

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
96120	Menetus (Micromenetus) dilatatus	SC	6	4

Total Taxa: 1

Number of Organisms: 4 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
96120	Menetus (Micromenetus) dilatatus	SC	6	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 08/20/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
98001	Sphaeriidae		5	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Marathon outfall

Site ID: **RC04**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 5.20

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
98001	Sphaeriidae		5	3

Total Taxa: 1

Number of Organisms: 3 mIBI: 25.40

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Marathon Outfall 001 Mixing Zone

Site ID: **MPMZ**

Subsample:

Collection Date: 07/18/2016 River Code: 95-730 River: Robinson Creek RM: 5.00

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	1
03600	Oligochaeta	CG	10	25
11130	Baetis intercalaris	CG	4	16
77500	Conchapelopia sp.	PR	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	64
80410	Cricotopus (C.) sp.	SH	8	1
80420	Cricotopus bicinctus	SH	8	3
82730	Chironomus (C.) decorus group	CG	11	8
82820	Cryptochironomus sp.	PR	8	5
83040	Dicrotendipes neomodestus	CG	6	18
84450	Polypedilum (Uresipedilum) flavum	SH	6	25
84470	Polypedilum illinoense	SH	6	59
84520	Polypedilum halterale	SH	6	1
84540	Polypedilum scalaenum	SH	6	27
84612	Saetheria tylus	CG	6	1
84750	Stictochironomus sp.		5	1
85500	Paratanytarsus sp.	CG	6	1
85800	Tanytarsus sp.	CF	7	1
95100	Physella sp.	SC	9	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 19

Number of Organisms: 261 mIBI: 18.68

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Dst. Marathon outfall Mixing Zone

Site ID: **RC05**

Subsample:

Collection Date: 07/18/2016 River Code: 95-730 River: Robinson Creek RM: 4.90

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	13
03600	Oligochaeta	CG	10	30
25410	Progomphus obscurus	PR	5	2
52200	Cheumatopsyche sp.	CF	6	7
71900	Tipula sp.	SH	4	2
74100	Simulium sp.	CF	6	1
77120	Ablabesmyia mallochi	CG	6	1
77500	Conchapelopia sp.	PR	6	3
77750	Hayesomyia senata or Thienemannimyia norena		5	55
80420	Cricotopus bicinctus	SH	8	6
80430	Cricotopus (C.) tremulus group	SH	8	9
82730	Chironomus (C.) decorus group	CG	11	20
82820	Cryptochironomus sp.	PR	8	4
83040	Dicrotendipes neomodestus	CG	6	46
84210	Paratendipes albimanus	CG	3	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	2
84470	Polypedilum illinoense	SH	6	80
84540	Polypedilum scalaenum	SH	6	13
84612	Saetheria tylus	CG	6	1
84750	Stictochironomus sp.		5	1
86100	Chrysops sp.	CG	7	1
87540	Hemerodromia sp.	PR	6	2
95100	Physella sp.	SC	9	5
98001	Sphaeriidae		5	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 24

Number of Organisms: 307 mIBI: 19.46

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Dst. 006 Trib

Site ID: **RC06**

Subsample:

Collection Date: 07/18/2016 River Code: 95-730 River: Robinson Creek RM: 4.60

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	8
11130	Baetis intercalaris	CG	4	1
22300	Argia sp.	PR	5	29
23900	Boyeria	PR	3	1
27001	Corduliidae	PR	4	1
28955	Plathemis lydia	PR	3	1
52200	Cheumatopsyche sp.	CF	6	2
74501	Ceratopogonidae	PR	5	1
77120	Ablabesmyia mallochi	CG	6	7
77750	Hayesomyia senata or Thienemannimyia norena		5	46
78655	Procladius sp.	PR	8	5
80420	Cricotopus bicinctus	SH	8	2
82730	Chironomus (C.) decorus group	CG	11	2
82820	Cryptochironomus sp.	PR	8	3
83040	Dicrotendipes neomodestus	CG	6	85
84450	Polypedilum (Uresipedilum) flavum	SH	6	1
84470	Polypedilum illinoense	SH	6	33
84540	Polypedilum scalaenum	SH	6	29
84612	Saetheria tylus	CG	6	1
84750	Stictochironomus sp.		5	2
85800	Tanytarsus sp.	CF	7	1
86501	Stratiomyidae	CG	10	1
95100	Physella sp.	SC	9	3

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 23

Number of Organisms: 265 mIBI: 23.62

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	1
03600	Oligochaeta	CG	10	8

Total Taxa: 2

Number of Organisms: 9 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	4

Total Taxa: 1

Number of Organisms: 4 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11130	Baetis intercalaris	CG	4	60

Total Taxa: 1

Number of Organisms: 60 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11130	Baetis intercalaris	CG	4	24

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 1

Number of Organisms: 24 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22001	Coenagrionidae	PR	5	5

Total Taxa: 1

Number of Organisms: 5 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22001	Coenagrionidae	PR	5	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22300	Argia sp.	PR	5	16

Total Taxa: 1

Number of Organisms: 16 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
22300	Argia sp.	PR	5	22
25410	Progomphus obscurus	PR	5	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 2

Number of Organisms: 24 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
52200	Cheumatopsyche sp.	CF	6	61

Total Taxa: 1

Number of Organisms: 61 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
52200	Cheumatopsyche sp.	CF	6	95

Total Taxa: 1

Number of Organisms: 95 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
52570	Hydropsyche simulans	CF	5	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
53800	Hydroptila sp.	SC	2	3
69400	Stenelmis sp.	SC	7	1

Total Taxa: 2

Number of Organisms: 4 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
71900	Tipula sp.	SH	4	1
74100	Simulium sp.	CF	6	1
77120	Ablabesmyia mallochi	CG	6	1
77500	Conchapelopia sp.	PR	6	1
77750	Hayesomyia senata or Thienemannimyia norena		5	43

Total Taxa: 5

Number of Organisms: 47 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
77750	Hayesomyia senata or Thienemannimyia norena		5	28
78140	Labrundinia pilosella	PR	4	1

Total Taxa: 2

Number of Organisms: 29 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
78655	Procladius sp.	PR	8	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
78655	Procladius sp.	PR	8	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
79400	Zavrelimyia sp	PR	8	1
80420	Cricotopus bicinctus	SH	8	1
82730	Chironomus (C.) decorus group	CG	11	1
82820	Cryptochironomus sp.	PR	8	13

Total Taxa: 4

Number of Organisms: 16 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
82820	Cryptochironomus sp.	PR	8	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
82880	Cryptotendipes sp.	CG	6	1
83040	Dicrotendipes neomodestus	CG	6	35

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 2

Number of Organisms: 36 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
83040	Dicrotendipes neomodestus	CG	6	6

Total Taxa: 1

Number of Organisms: 6 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
83400	Harnischia sp.	CG	6	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	8

Total Taxa: 2

Number of Organisms: 9 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84450	Polypedilum (Uresipedilum) flavum	SH	6	6

Total Taxa: 1

Number of Organisms: 6 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84470	Polypedilum illinoense	SH	6	15

Total Taxa: 1

Number of Organisms: 15 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.	Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84470	Polypedilum illinoense	SH	6	5					

Total Taxa: 1

Number of Organisms: 5 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84540	Polypedilum scalaenum	SH	6	9

Total Taxa: 1

Number of Organisms: 9 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.	Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
84540	Polypedilum scalaenum	SH	6	3					

Total Taxa: 1

Number of Organisms: 3 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85500	Paratanytarsus sp.	CG	6	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85625	Rheotanytarsus sp.	CF	6	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85821	Tanytarsus sp	CF	7	2

Total Taxa: 1

Number of Organisms: 2 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
85821	Tanytarsus sp	CF	7	1

Total Taxa: 1

Number of Organisms: 1 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
87400	Stratiomys sp.	CF	10	1
95100	Physella sp.	SC	9	4

Total Taxa: 2

Number of Organisms: 5 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
95100	Physella sp.	SC	9	36
96120	Menetus (Micromenetus) dilatatus	SC	6	6

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 2

Number of Organisms: 42 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 07/19/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
97601	Corbicula fluminea	CF	4	13

Total Taxa: 1

Number of Organisms: 13 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: IL RT 1- 1.7 mile Dst. MPC001

Site ID: **RC07**

Subsample:

Collection Date: 08/21/2016 River Code: 95-730 River: Robinson Creek RM: 3.30

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
97601	Corbicula fluminea	CF	4	36

Total Taxa: 1

Number of Organisms: 36 mIBI: 30.49

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: 1550 N - 3.0 mi dst. MC001

Site ID: **RC08**

Subsample:

Collection Date: 07/21/2016 River Code: 95-730 River: Robinson Creek RM: 2.00

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	9
11130	Baetis intercalaris	CG	4	31
22300	Argia sp.	PR	5	4
52200	Cheumatopsyche sp.	CF	6	26
53800	Hydroptila sp.	SC	2	2
77750	Hayesomyia senata or Thienemannimyia norena		5	21
78655	Procladius sp.	PR	8	4
79000	Tanypus sp	PR	8	1
80420	Cricotopus bicinctus	SH	8	3
82730	Chironomus (C.) decorus group	CG	11	6
82820	Cryptochironomus sp.	PR	8	6
83040	Dicrotendipes neomodestus	CG	6	76
84210	Paratendipes albimanus	CG	3	2
84450	Polypedilum (Uresipedilum) flavum	SH	6	1
84470	Polypedilum illinoense	SH	6	3
84540	Polypedilum scalaenum	SH	6	4
85800	Tanytarsus sp.	CF	7	3
85821	Tanytarsus sp	CF	7	2
95100	Physella sp.	SC	9	19
97601	Corbicula fluminea	CF	4	75

Total Taxa: 20

Number of Organisms: 298 mIBI: 29.50

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: 1150 E - 4.0mil dst. MPC001

Site ID: **RC09**

Subsample:

Collection Date: 07/21/2016 River Code: 95-730 River: Robinson Creek RM: 1.00

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	13
11130	Baetis intercalaris	CG	4	51
22001	Coenagrionidae	PR	5	2
22300	Argia sp.	PR	5	17
52200	Cheumatopsyche sp.	CF	6	38
71900	Tipula sp.	SH	4	1
77120	Ablabesmyia mallochi	CG	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	14
78655	Procladius sp.	PR	8	7
80430	Cricotopus (C.) tremulus group	SH	8	1
82730	Chironomus (C.) decorus group	CG	11	1
82820	Cryptochironomus sp.	PR	8	3
83040	Dicrotendipes neomodestus	CG	6	43
84450	Polypedilum (Uresipedilum) flavum	SH	6	5
84470	Polypedilum illinoense	SH	6	1
84540	Polypedilum scalaenum	SH	6	12
84612	Saetheria tylus	CG	6	3
84750	Stictochironomus sp.		5	1
85264	Cladotanytarsus vanderwulpi	CG	7	1
85500	Paratanytarsus sp.	CG	6	5
85800	Tanytarsus sp.	CF	7	1
86100	Chrysops sp.	CG	7	1
86501	Stratiomyidae	CG	10	1
95100	Physella sp.	SC	9	16
97601	Corbicula fluminea	CF	4	20
98001	Sphaeriidae		5	43

Total Taxa: 26

Number of Organisms: 303 mIBI: 29.46

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Trib to Sugar Creek

Site ID: **SC01A**

Subsample:

Collection Date: 08/21/2016 River Code: 95-731 River: Sugar Creek RM: 6.00

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	1
04964	Mooreobdella microstoma	PR	8	1
11020	Acerpenna pygmaeus		4	6
11130	Baetis intercalaris	CG	4	1
11251	Anafroptilum (Centroptilum sp, w/ hindwing pads)	CG	2	1
13521	Stenonema femoratum	SC	4	1
21200	Calopteryx sp.	PR	4	12
28001	Libellulidae	PR	4	1
52200	Cheumatopsyche sp.	CF	6	14
71300	Limonia sp.	SH	3	1
77120	Ablabesmyia mallochi	CG	6	5
77500	Conchapelopia sp.	PR	6	2
78140	Labrundinia pilosella	PR	4	2
79400	Zavrelimyia sp	PR	8	1
80420	Cricotopus bicinctus	SH	8	1
82820	Cryptochironomus sp.	PR	8	1
83040	Dicrotendipes neomodestus	CG	6	9
83300	Glyptotendipes sp.	CF	10	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	90
84470	Polypedilum illinoense	SH	6	3
84520	Polypedilum halterale	SH	6	13
84540	Polypedilum scalaenum	SH	6	17
84612	Saetheria tylus	CG	6	61
85201	Cladotanytarsus species a	CG	7	1
85230	Cladotanytarsus mancus group	CG	7	1
85500	Paratanytarsus sp.	CG	6	2
85800	Tanytarsus sp.	CF	7	3
85818	Tanytarsus glabrescens group sp 4	CF	7	1
85821	Tanytarsus sp	CF	7	11
86100	Chrysops sp.	CG	7	7
95100	Physella sp.	SC	9	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 31

Number of Organisms: 273 mIBI: 30.36

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Dst. Trib to Sugar Creek: Background site

Site ID: **SC01**

Subsample:

Collection Date: 07/21/2016 River Code: 95-731 River: Sugar Creek RM: 5.90

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
11020	Acerpenna pygmaeus		4	7
11130	Baetis intercalaris	CG	4	2
11670	Procloeon viridoculare		4	25
13400	Stenacron sp.	SC	4	1
17200	Caenis sp.	CG	6	2
21200	Calopteryx sp.	PR	4	2
22001	Coenagrionidae	PR	5	17
27001	Corduliidae	PR	4	1
27500	Somatochlora sp	PR	1	1
52200	Cheumatopsyche sp.	CF	6	9
70501	Tipulidae	SH	4	1
72700	Anopheles sp.	CF	6	2
72900	Culex sp.	CF	8	1
77120	Ablabesmyia mallochi	CG	6	18
77500	Conchapelopia sp.	PR	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	9
78140	Labrundinia pilosella	PR	4	4
78655	Procladius sp.	PR	8	4
82820	Cryptochironomus sp.	PR	8	5
82880	Cryptotendipes sp.	CG	6	1
83040	Dicrotendipes neomodestus	CG	6	35
83300	Glyptotendipes sp.	CF	10	2
84300	Phaenopsectra obediens gr	SC	4	4
84315	Phaenopsectra flavipes	SC	4	4
84450	Polypedilum (Uresipedilum) flavum	SH	6	3
84470	Polypedilum illinoense	SH	6	6
84540	Polypedilum scalaenum	SH	6	12
85201	Cladotanytarsus species a	CG	7	10
85500	Paratanytarsus sp.	CG	6	30
85800	Tanytarsus sp.	CF	7	18
85821	Tanytarsus sp	CF	7	26
95100	Physella sp.	SC	9	11
96120	Menetus (Micromenetus) dilatatus	SC	6	4

Total Taxa: 33

Number of Organisms: 279 mIBI: 36.63

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: 0.5mi dst. Robinson Creek

Site ID: **SC02**

Subsample:

Collection Date: 07/21/2016 River Code: 95-731 River: Sugar Creek RM: 4.10

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	28
04935	Erpobdella punctata	PR	8	1
07701	Cambaridae	CG	5	1
11130	Baetis intercalaris	CG	4	94
11590	Paracloeodes sp.	SC	4	10
21300	Hetaerina sp.	PR	3	2
22001	Coenagrionidae	PR	5	3
22300	Argia sp.	PR	5	5
52200	Cheumatopsyche sp.	CF	6	36
53800	Hydroptila sp.	SC	2	1
77120	Ablabesmyia mallochi	CG	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	7
78655	Procladius sp.	PR	8	5
80420	Cricotopus bicinctus	SH	8	1
81825	Rheocricotopus robacki	CG	6	1
82820	Cryptochironomus sp.	PR	8	3
83040	Dicrotendipes neomodestus	CG	6	15
84450	Polypedilum (Uresipedilum) flavum	SH	6	18
84470	Polypedilum illinoense	SH	6	7
84520	Polypedilum halterale	SH	6	2
84540	Polypedilum scalaenum	SH	6	10
84612	Saetheria tylus	CG	6	7
85201	Cladotanytarsus species a	CG	7	1
85230	Cladotanytarsus mancus group	CG	7	3
85500	Paratanytarsus sp.	CG	6	2
85625	Rheotanytarsus sp.	CF	6	2
85800	Tanytarsus sp.	CF	7	2
95100	Physella sp.	SC	9	7
97601	Corbicula fluminea	CF	4	59
98001	Sphaeriidae		5	8

Total Taxa: 30

Number of Organisms: 343 mIBI: 37.70

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: E. Franklin St. Dst. RR yard

Site ID: **SC03**

Subsample:

Collection Date: 07/21/2016 River Code: 95-731 River: Sugar Creek RM: 1.60

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	8
11130	Baetis intercalaris	CG	4	33
11590	Paracloeodes sp.	SC	4	2
11670	Procloeon viridoculare		4	1
13400	Stenacron sp.	SC	4	1
21300	Hetaerina sp.	PR	3	4
22001	Coenagrionidae	PR	5	6
22300	Argia sp.	PR	5	10
25410	Progomphus obscurus	PR	5	2
28001	Libellulidae	PR	4	1
52200	Cheumatopsyche sp.	CF	6	53
52570	Hydropsyche simulans	CF	5	2
53800	Hydroptila sp.	SC	2	1
68700	Dubiraphia sp.	CG	5	1
72700	Anopheles sp.	CF	6	1
77120	Ablabesmyia mallochi	CG	6	11
77500	Conchapelopia sp.	PR	6	2
77750	Hayesomyia senata or Thienemannimyia norena		5	18
78140	Labrundinia pilosella	PR	4	2
78655	Procladius sp.	PR	8	1
82820	Cryptochironomus sp.	PR	8	1
83040	Dicrotendipes neomodestus	CG	6	6
84450	Polypedilum (Uresipedilum) flavum	SH	6	10
84470	Polypedilum illinoense	SH	6	2
84540	Polypedilum scalaenum	SH	6	8
84612	Saetheria tylus	CG	6	5
84750	Stictochironomus sp.		5	1
85230	Cladotanytarsus mancus group	CG	7	2
85500	Paratanytarsus sp.	CG	6	4
85800	Tanytarsus sp.	CF	7	2
85821	Tanytarsus sp	CF	7	6
95100	Physella sp.	SC	9	71
97601	Corbicula fluminea	CF	4	5
98001	Sphaeriidae		5	4

Total Taxa: 34

Number of Organisms: 287 mIBI: 50.84

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: MPC006 Trib

Site ID: **UT01**

Subsample:

Collection Date: 07/19/2016 River Code: 95-732 River: Unnamed Trib to Robinson Cr at RM4.77 RM: 0.10

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	2
01900	Nemertea		99	1
03600	Oligochaeta	CG	10	4
05800	Caecidotea sp.	CG	6	131
07701	Cambaridae	CG	5	3
17200	Caenis sp.	CG	6	14
21300	Hetaerina sp.	PR	3	8
22001	Coenagrionidae	PR	5	4
52200	Cheumatopsyche sp.	CF	6	16
74501	Ceratopogonidae	PR	5	1
77500	Conchapelopia sp.	PR	6	12
77750	Hayesomyia senata or Thienemannimyia norena		5	46
78655	Procladius sp.	PR	8	1
80420	Cricotopus bicinctus	SH	8	2
82820	Cryptochironomus sp.	PR	8	10
83300	Glyptotendipes sp.	CF	10	2
84450	Polypedilum (Uresipedilum) flavum	SH	6	4
84470	Polypedilum illinoense	SH	6	4
84540	Polypedilum scalaenum	SH	6	2
84601	Saetheria species 1 (sensu Jackson, 1977)	CG	6	4
85625	Rheotanytarsus sp.	CF	6	10
86100	Chrysops sp.	CG	7	1
87540	Hemerodromia sp.	PR	6	1
98001	Sphaeriidae		5	8

Total Taxa: 24

Number of Organisms: 291 mIBI: 23.50

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: MPC RR Yard Trib- 007, 009 010 outfalls

Site ID: **UT02**

Subsample:

Collection Date: 07/19/2016 River Code: 95-733 River: Unnamed Trib to Robinson Cr. at RM3.7 RM: 0.10

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
03600	Oligochaeta	CG	10	11
11130	Baetis intercalaris	CG	4	1
11200	Callibaetis sp.	CG	4	12
11250	Centroptilum sp.	CG	2	1
11651	Procloeon sp.		4	1
22001	Coenagrionidae	PR	5	1
27500	Somatochlora sp	PR	1	1
52200	Cheumatopsyche sp.	CF	6	2
77120	Ablabesmyia mallochi	CG	6	7
77500	Conchapelopia sp.	PR	6	9
78140	Labrundinia pilosella	PR	4	5
78655	Procladius sp.	PR	8	3
79400	Zavrelimyia sp	PR	8	3
80420	Cricotopus bicinctus	SH	8	1
80430	Cricotopus (C.) tremulus group	SH	8	2
82730	Chironomus (C.) decorus group	CG	11	17
82820	Cryptochironomus sp.	PR	8	1
83040	Dicrotendipes neomodestus	CG	6	94
83300	Glyptotendipes sp.	CF	10	3
84210	Paratendipes albimanus	CG	3	18
84315	Phaenopsectra flavipes	SC	4	1
84450	Polypedilum (Uresipedilum) flavum	SH	6	16
84470	Polypedilum illinoense	SH	6	40
84540	Polypedilum scalaenum	SH	6	20
85201	Cladotanytarsus species a	CG	7	1
85230	Cladotanytarsus mancus group	CG	7	2
85500	Paratanytarsus sp.	CG	6	16
85800	Tanytarsus sp.	CF	7	8
86100	Chrysops sp.	CG	7	3
95100	Physella sp.	SC	9	3
98001	Sphaeriidae		5	2

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.

Total Taxa: 31

Number of Organisms: 305 mIBI: 31.51

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Ust. Mouth- 002, 003, 005 outfalls

Site ID: **MC01**

Subsample:

Collection Date: 07/18/2016 River Code: 95-734 River: Marathon Creek RM: 0.16

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	2
03600	Oligochaeta	CG	10	8
11130	Baetis intercalaris	CG	4	1
21200	Calopteryx sp.	PR	4	19
22300	Argia sp.	PR	5	2
25410	Progomphus obscurus	PR	5	1
52200	Cheumatopsyche sp.	CF	6	89
71900	Tipula sp.	SH	4	1
74100	Simulium sp.	CF	6	1
77120	Ablabesmyia mallochi	CG	6	6
77500	Conchapelopia sp.	PR	6	1
77750	Hayesomyia senata or Thienemannimyia norena		5	18
78140	Labrundinia pilosella	PR	4	1
78655	Procladius sp.	PR	8	10
79400	Zavrelimyia sp	PR	8	4
81825	Rheocricotopus robacki	CG	6	1
82730	Chironomus (C.) decorus group	CG	11	2
82820	Cryptochironomus sp.	PR	8	4
83300	Glyptotendipes sp.	CF	10	1
84210	Paratendipes albimanus	CG	3	13
84315	Phaenopsectra flavipes	SC	4	3
84450	Polypedilum (Uresipedilum) flavum	SH	6	37
84470	Polypedilum illinoense	SH	6	37
84540	Polypedilum scalaenum	SH	6	16
84601	Saetheria species 1 (sensu Jackson, 1977)	CG	6	1
84612	Saetheria tylus	CG	6	1
85500	Paratanytarsus sp.	CG	6	3
85625	Rheotanytarsus sp.	CF	6	5
85800	Tanytarsus sp.	CF	7	1
87540	Hemerodromia sp.	PR	6	1
95100	Physella sp.	SC	9	5
98001	Sphaeriidae		5	9

Total Taxa: 32

Number of Organisms: 304 mIBI: 30.92

Appendix Table C-2. Macroinvertebrate taxa in collected in the Robinson Creek study area by MBI during 2016.

Site: Dst. Trimble Rd.

Site ID: **QC01**

Subsample:

Collection Date: 07/19/2016 River Code: 95-735 River: Quail Creek RM: 0.25

Taxa Code	Taxa	Feed Grp	Tol.	Qt./Ql.
01801	Turbellaria	PR	6	1
03600	Oligochaeta	CG	10	48
08200	Orconectes sp.	CG	5	2
11670	Procloeon viridoculare		4	3
17200	Caenis sp.	CG	6	5
22001	Coenagrionidae	PR	5	24
27500	Somatochlora sp	PR	1	8
49400	Sisyra sp.	PR	1	1
52200	Cheumatopsyche sp.	CF	6	21
59500	Oecetis sp.	PR	5	1
72700	Anopheles sp.	CF	6	3
77120	Ablabesmyia mallochi	CG	6	4
77355	Clinotanypus pinguis	PR	6	2
77500	Conchapelopia sp.	PR	6	3
77750	Hayesomyia senata or Thienemannimyia norena		5	12
78655	Procladius sp.	PR	8	20
79000	Tanypus sp	PR	8	2
81670	Paraphaenocladius sp.	CG	6	2
82730	Chironomus (C.) decorus group	CG	11	10
82820	Cryptochironomus sp.	PR	8	1
83040	Dicrotendipes neomodestus	CG	6	9
83051	Dicrotendipes simpsoni	CG	6	1
83300	Glyptotendipes sp.	CF	10	19
84210	Paratendipes albimanus	CG	3	2
84315	Phaenopsectra flavipes	SC	4	2
84450	Polypedilum (Uresipedilum) flavum	SH	6	15
84470	Polypedilum illinoense	SH	6	17
84540	Polypedilum scalaenum	SH	6	7
84750	Stictochironomus sp.		5	2
85230	Cladotanytarsus mancus group	CG	7	1
85500	Paratanytarsus sp.	CG	6	4
85800	Tanytarsus sp.	CF	7	6
85821	Tanytarsus sp	CF	7	1
95100	Physella sp.	SC	9	6
96120	Menetus (Micromenetus) dilatatus	SC	6	8
98001	Sphaeriidae		5	7

Total Taxa: 36

Number of Organisms: 280 mIBI: 31.52

APPENDIX D

HABITAT (QHEI) DATA

Appendix D-1: QHEI Metrics and Scores in Robinson and Sugar Creek and Tributaries 2016

Appendix D-1. QHEI metric scores for sites sampled by MBI in the Robinson Creek study area in 2016.

River Mile	QHEI	QHEI Metrics: Substrate	Cover	Channel	Riparian	Pool	Riffle	Gradient & Score	Narrative
(95229) LaMotte Creek									
Year: 2016									
1.90	**66.00**	10.0	12.0	17.0	4.00	11.0	2.0	9.41 - (10)	**Good**
(95730) Robinson Creek									
Year: 2016									
7.90	**66.50**	12.0	15.0	17.0	5.50	7.0	0.0	17.45 - (10)	**Good**
6.50	**73.00**	13.5	15.0	15.0	4.50	11.0	4.0	16.15 - (10)	**Good**
6.45	**78.50**	14.0	16.0	18.0	5.00	11.0	4.5	16.04 - (10)	**Excellent**
6.25	**55.00**	11.0	8.0	13.5	5.50	6.0	1.0	17.30 - (10)	**Fair**
6.00	**71.50**	12.0	14.0	17.0	4.00	12.0	2.5	17.04 - (10)	**Good**
5.20	**76.50**	12.0	16.0	17.0	4.50	12.0	5.0	16.73 - (10)	**Excellent**
5.00	**58.00**	7.0	9.0	16.0	3.00	11.0	2.0	16.37 - (10)	**Fair**
4.90	**58.50**	4.0	12.0	15.0	7.50	9.0	1.0	16.09 - (10)	**Fair**
4.60	**58.00**	5.0	13.0	11.5	5.50	10.0	3.0	15.51 - (10)	**Fair**
3.30	**62.50**	11.5	14.0	11.0	5.00	9.0	2.0	14.52 - (10)	**Good**
2.00	**62.00**	11.0	12.0	14.0	3.00	11.0	1.0	13.81 - (10)	**Good**
1.00	**64.00**	11.0	12.0	14.0	4.00	11.0	2.0	13.12 - (10)	**Good**
(95731) Sugar Creek									
Year: 2016									
6.00	**52.00**	11.0	7.0	18.0	3.00	3.0	0.0	14.26 - (10)	**Fair**
5.90	**56.00**	11.0	12.0	11.0	3.00	9.0	0.0	14.03 - (10)	**Fair**
4.10	**44.00**	11.0	7.0	8.0	4.00	4.0	0.0	11.27 - (10)	**Poor**
1.60	**56.00**	12.0	10.0	11.0	4.00	7.0	2.0	9.83 - (10)	**Fair**
(95732) Unnamed Trib to Robinson Cr. at RM4.77									
Year: 2016									
0.10	**37.00**	8.0	8.0	10.0	4.00	3.0	0.0	49.52 - (4)	**Poor**
(95733) Unnamed Trib to Robinson Cr. at RM3.70									
Year: 2016									
0.10	**44.00**	3.5	8.0	15.0	3.50	4.0	0.0	27.61 - (10)	**Poor**
(95734) Marathon Creek									
Year: 2016									
0.16	**57.00**	9.0	9.0	20.0	3.00	5.0	1.0	28.97 - (10)	**Fair**
(95735) Quail Creek									
Year: 2016									
0.25	**72.00**	14.0	12.0	18.0	6.00	10.0	2.0	23.76 - (10)	**Good**