MEMO

TO:	Kearl Oil Sands Mine
COMPANY:	Imperial Oil Resources Limited
FROM:	[redacted] (WSP)
DATE:	15 April 2023
CC:	[redacted] (WSP), [redacted] (WSP), [redacted] (Imperial), [redacted] (Imperial)
PROJECT NO.:	CE0489223B.006
SUBJECT:	**Imperial Kearl Oil Sands Mine Seep Investigation**

1 INTRODUCTION

On May 19, 2022, Imperial Oil Resources Limited (Imperial) notified the Alberta Energy Regulator (AER) of seeps to the north and east of the Kearl Oil Sands Mine (KOSM) Lease boundary. The four potentially impacted areas identified during field and desktop investigations include (Figure 1):

- North Overburden Disposal Area (NODA);
- West External Tailing Area (WETA);
- Drainage Pond 4 (DP4); and
- Waterbody 3 (WB3).

Following the discovery of the seeps, Imperial set up a Task Team and launched an investigation to understand the cause of the observations and potential environmental impacts. Additional water sampling, soil sampling, vegetation and wildlife assessments were conducted at the impacted areas as part of the initial investigation. In addition to environmental monitoring, Imperial drew down the water levels in operations ponds and ditches near the perimeter of the site and initiated a geochemistry study to help determine the source of the water.

Imperial developed an Action Plan which was submitted to the AER on June 28, 2022. The Action Plan described the work conducted prior to that point with preliminary results, a preliminary conceptual site model (CSM) and the tasks planned to help refine the CSM and to confirm the source/pathways of potential contamination. A Surface Water Monitoring Plan for 2022 was also included in the June 28 Action Plan. Imperial provided an update to the AER on the investigation on November 29, 2022. A Source Control Action Plan and Preliminary Delineation and Remediation Action Plan for Iron Precipitate (iron solids creating staining) Locations was submitted to the AER on December 22, 2022.

A second release event occurred on January 31, 2023, which involved surface flow of 5,300 m^3 of industrial wastewater from Drainage Pond 4 (DP4) to the north of the lease boundary.

WSP E&I Canada Limited
401, 1925 – 18 Avenue NE
Calgary, AB T2E 7T8

T: +1 403-248-4331
F: +1 403 248-2188
wsp.com

S:\Gis\Projects\CE\0489222_Imperial_Kearl_Monitoring\ArcGIS\Fig 1 Study Area Overview.mxd ANALYST: trevor.robertson 23-04-14 2:25:36 PM

Projection: NAD 1983 UTM Zone 12N
QA/QC: KW CF
Sources: AB TPR, Centre for Cadastral Management, Geomatics Canada - Contains information licensed under the Open Government licence – Alberta, Canada.
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Imperial

Kearl Oil Sands Mine

Study Area Overview

0 500 1,000
Metres
1:50,000

N

April
2023

Figure 1

A new Sampling and Monitoring Plan (SMP) was developed in response to the Environmental Protection Order (EPO) issued by the AER to Imperial on February 6, 2023, and updated on March 27, 2023. The SMP has been developed to address the seeps (i.e., iron precipitate observed in the terrestrial and wetland environment) to the north and east of the KOSM and the release from DP4.

2 PURPOSE

This memo provides an update on the surface water quality monitoring conducted for the SMP that includes data collected in the spring of 2023. The data and summary do not include results from samples collected by communities and regulatory agencies. The recent data is used to support a discussion of potential environmental effects from the KOSM seeps and the second release described above.

3 SAMPLING PROGRAM OVERVIEW

3.1 NORTH OVERBURDEN DISPOSAL AREA (NODA)

NODA is an above grade overburden disposal area located west of the external tailings area and north of the North Pit (Figure 1). The initial seep at this location was observed at the toe of the NODA, along the northern edge of the lease boundary. Surface water sample locations for the NODA area are shown on Figure 2 and are described in Appendix A.

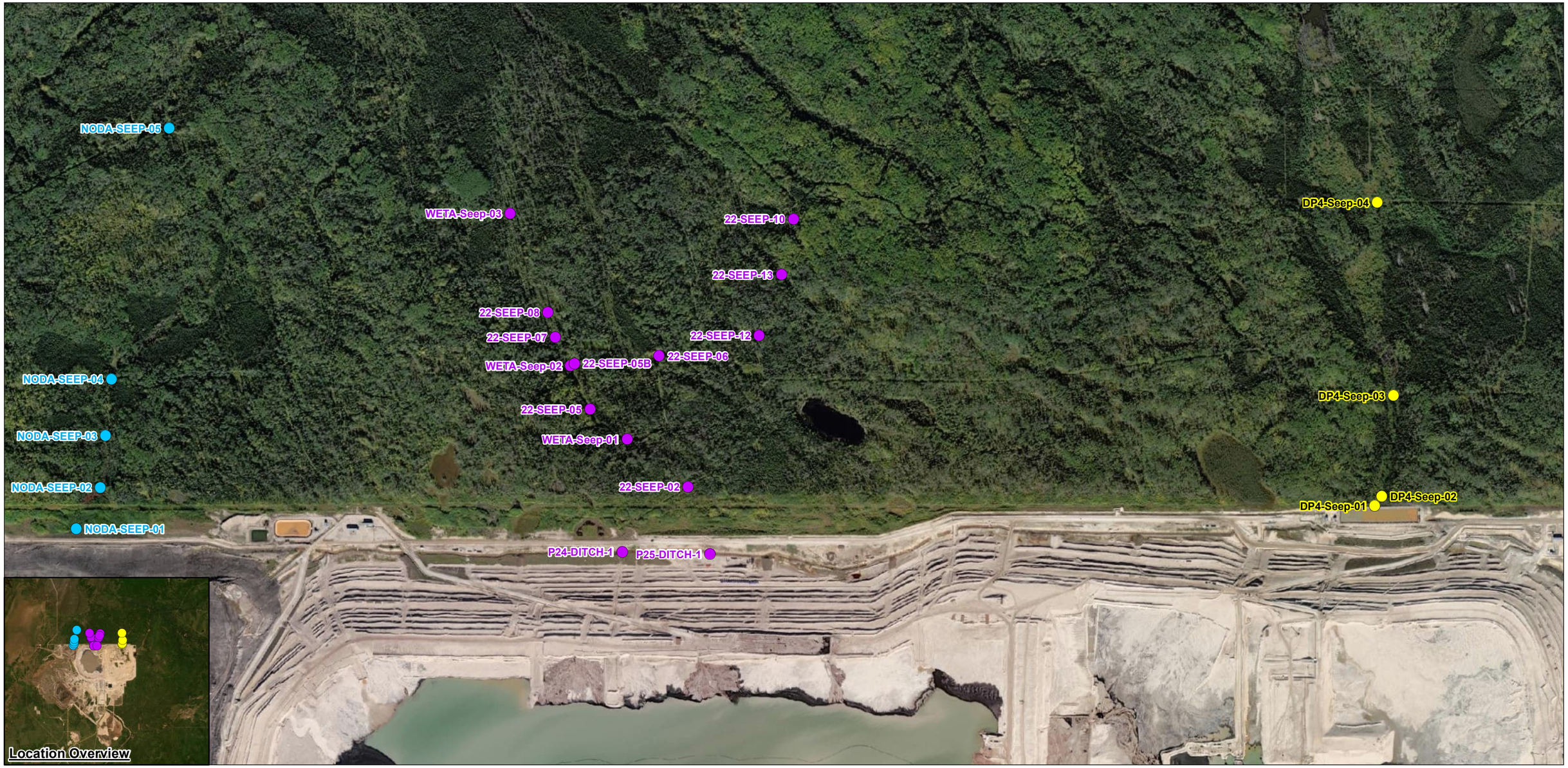
3.2 WEST EXTERNAL TAILINGS AREA (WETA)

KOSM utilizes the external tailings areas to store tailings generated through the extraction and processing of bitumen from oil sands. The deposition of Coarse Sand Tailings (CST), Flotation Tailings (FT), and Tailings Solvent Recovery Unit (TSRU) tailings is ongoing in WETA. Surface water with iron precipitate was identified north of WETA. Surface water sample locations for the WETA area are shown on Figure 2 and are described in Appendix A.

3.3 DRAINAGE POND 4 (DP4)

DP4 is a lined industrial wastewater pond along the northern boundary of the KOSM Lease and north of the East External Tailing Area (EETA). DP4 collects runoff from the EETA side slopes, water from the internal external tailings area drains, and groundwater extracted from the external tailings areas Seepage Interception System (SIS). Surface water sample locations for the DP4 area are shown on Figure 2 and are described in Appendix A.

PLOT DATE & TIME: 4/6/2023 3:18:19 PM
SAVE DATE & TIME: 4/6/2023 3:18:08 PM
USER NAME: Kenneth (K) Ritchie
ISSUING OFFICE: CALGARY GIS



Surface Water Investigation Locations

- DP4
- NODA
- WETA

Notes:

- Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, September 2021

0 500 1,000
Metres

1:15,000
NAD 1983 UTM Zone 12N

N

IMPERIAL
KEARL OIL SANDS MINE

SURFACE WATER INVESTIGATION LOCATIONS

Date: 06-APR-23	Drawn by: KR	Edited by: KR	App'd by:
DESIKA MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN		Worley Project No. 417085-47599-23090	
		FIG No 2	REV B

FILE LOCATION: N:\PROJECTS\ImperialOil\Kearl\MXDs\417085-47599-23090\Area1.mxd

3.4 WATERBODY 3 (WB3)

WB3 is a natural waterbody located on the eastern edge of the KOSM Lease, east of the EETA, and releases to a tributary of the Firebag River. The initial seep (WB3-SW-01, formerly WB-3-1) at this location was observed in a low area between WB3 and the EETA perimeter road (Figure 1).

Waterbody 3 has been sampled at three locations (CP-FT-A, CP-FT-A-2 and CP-FT-A-3) between 2012 and 2023. In May 2022 after the seep was observed on the east side of the lease near WB3, samples were collected at additional locations within the waterbody, along the shoreline nearest to the seep and from the seep itself. Surface water sample locations for the WB3 area are shown on Figure 3 and are described in Appendix A.

3.5 FIREBAG RIVER (FB)

The Firebag River is a tributary to the Athabasca River that flows generally to the northeast approximately 3.3 km to the north of the KOSM Lease. The Firebag River has been sampled downstream of the KOSM site from 2013 to 2020. In December 2022, Imperial began monthly water quality sampling in the Firebag River upstream and downstream of potential influence from KOSM. Additional sample locations have been added to assess water quality in tributaries between KOSM and the Firebag River (Figure 4 and Appendix A).

PLOT DATE & TIME: 4/6/2023 3:19:12 PM
SAVE DATE & TIME: 4/6/2023 3:19:06 PM
USER NAME: Kenneth.W.Ritchie
ISSUING OFFICE: CALGARY GIS

Surface Water Investigation Locations

- Waterbody 3

0 100 200
Metres

1:4,000
NAD 1983 UTM Zone 12N

N

Notes:

- Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, September 2021

IMPERIAL
KEARL OIL SANDS MINE

SURFACE WATER INVESTIGATION LOCATIONS

Date: 06-APR-23	Drawn by: KR	Edited by: KR	App'd by:

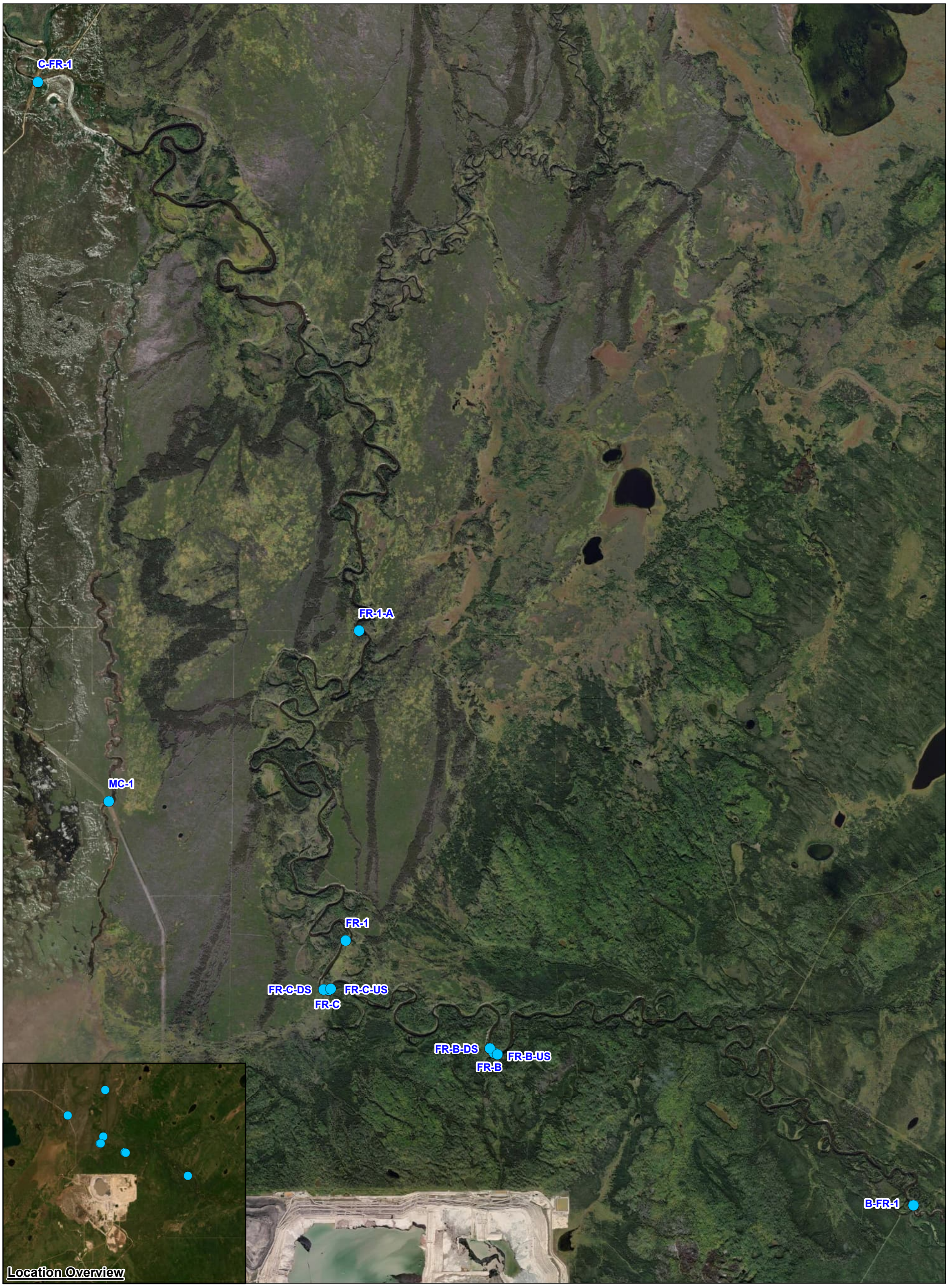
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Worley Project No.
417085-47599-23090

FIG No 3 | REV B

FILE LOCATION: N:\PROJECTS\ImperialOil\Kearl\MXDs\417085-47599-23090\Area2.mxd

PLOT DATE & TIME: 4/6/2023 3:15:56 PM
SAVE DATE & TIME: 4/6/2023 3:15:51 PM
USER NAME: Kenneth.W.Ritchie
ISSUING OFFICE: CALGARY GIS



Surface Water Investigation Locations

- Firebag River

N

0 1,000 2,000
Metres

1:75,000
NAD 1983 UTM Zone 12N

Notes:

- Background Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, September 2021

IMPERIAL
KEARL OIL SANDS MINE

SURFACE WATER INVESTIGATION LOCATIONS

Date: 06-APR-23	Drawn by: KR	Edited by: KR	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Worley Project No. 417085-47599-23090

FIG No 4 | REV B

FILE LOCATION: N:\PROJECTS\ImperialOil\Kearl\MXDs\417085-47599-23090\Area3.mxd

4 DATA ANALYSIS

Surface water analytical results were compared against Alberta Environment and Parks (AEP) Environmental Quality Guidelines for Alberta Surface Waters (GOA 2018) for the protection of freshwater aquatic life (AEP PAL) and, in the absence of an AEP guideline, compared to the Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines (CEQGs) (CCME 2023).

5 RESULTS

Key Indicator Parameters (KIPs) for seep source sampling locations are detailed in the SMP. These chemical substances are evaluated in the sections below. Full analytical test results of surface water samples are in Appendix B.

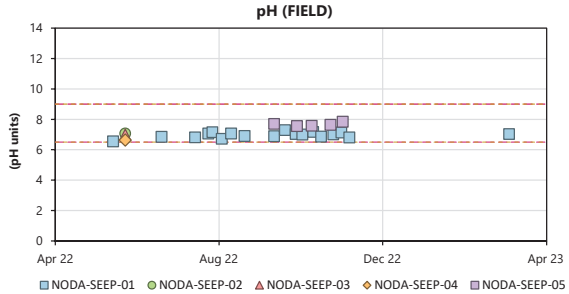
5.1 NORTH OVERBURDEN DISPOSAL AREA (NODA)

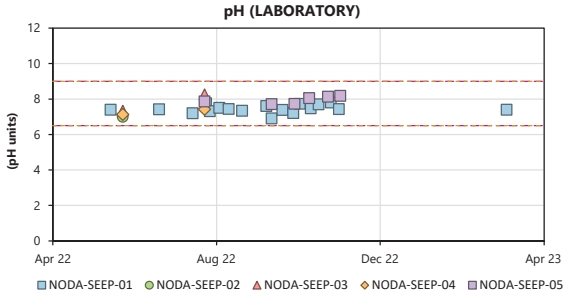
NODA surface water analytical results are presented in Figures 5 to 7 and tabulated in Appendix B. NODA-Seep-01 is located at the edge of the lease boundary and was sampled weekly between July and November 2022 and once in March 2023. Between November and March this seep was dry or frozen, and sampling was not possible. Water quality data for most parameters were higher at this location than the other NODA sample sites. Concentrations of sulphate, dissolved iron, total arsenic, and total zinc were consistently above either the AEP PAL guidelines or the CCME CEQGs. Between August and November 2022, concentrations of both dissolved and total arsenic and iron were generally higher than samples collected before or after this period. The sample collected in March 2023 generally had similar concentrations compared to previous monitoring results for all parameters; exceptions were sulphate, total dissolved nickel and dissolved nickel which increased compared to previous results.

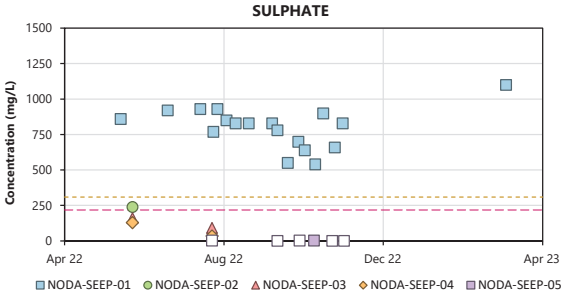
NODA-Seep-02 is located approximately 150 m north of NODA-Seep-01 and was sampled only once in May 2022. Sulphate and dissolved iron concentrations exceeded the AEP PAL guidelines. This site also had the highest concentration of dissolved manganese of all the samples collected from the NODA seep sites.

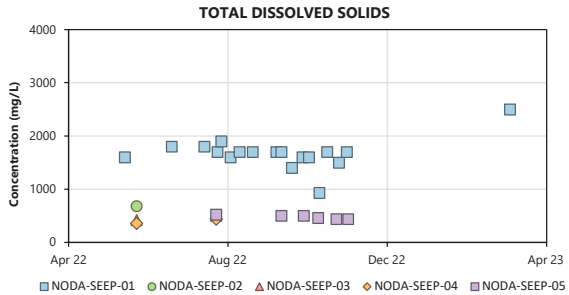
NODA-Seep-03 and NODA-Seep-04 are located approximately 400 and 585 m north of NODA-Seep-01, respectively. These sites were sampled once in May 2022 and then once in July 2022. Additional samples were not collected due to the seep being dry during subsequent sampling attempts. No exceedances were recorded for samples collected from NODA-Seep-03. However, the July NODA-Seep-04 sample exceeded or was slightly above the AEP PAL guidelines for dissolved iron, total arsenic, total cadmium, and total zinc.

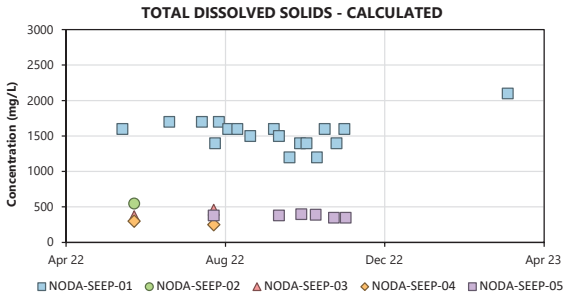
NODA-Seep-05 is located approximately 1,750 m north of NODA-Seep-01. It was first sampled in July 2022 and biweekly beginning in September 2022. Concentrations of all parameters from this site were either below or within the range of values from the other sites. Sulphate and total arsenic concentrations were consistently below AEP PAL guidelines. Dissolved iron concentrations were near or slightly above the AEP PAL guideline value.

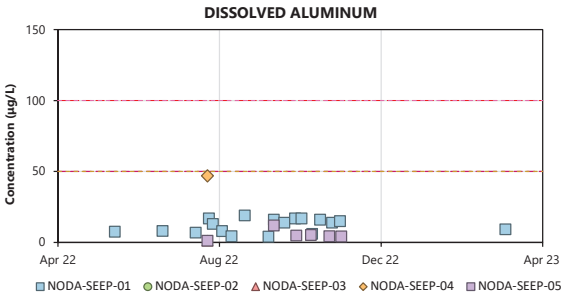


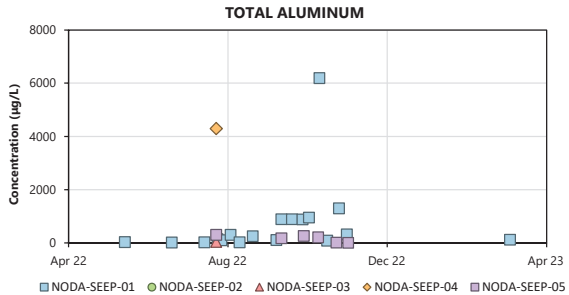


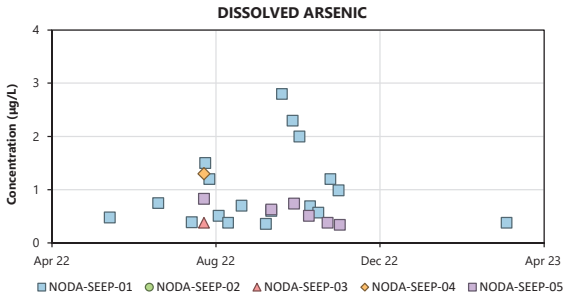


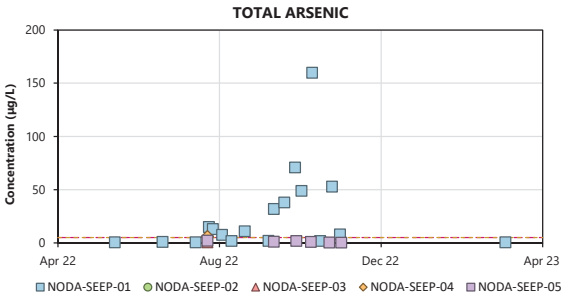












Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
NODA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

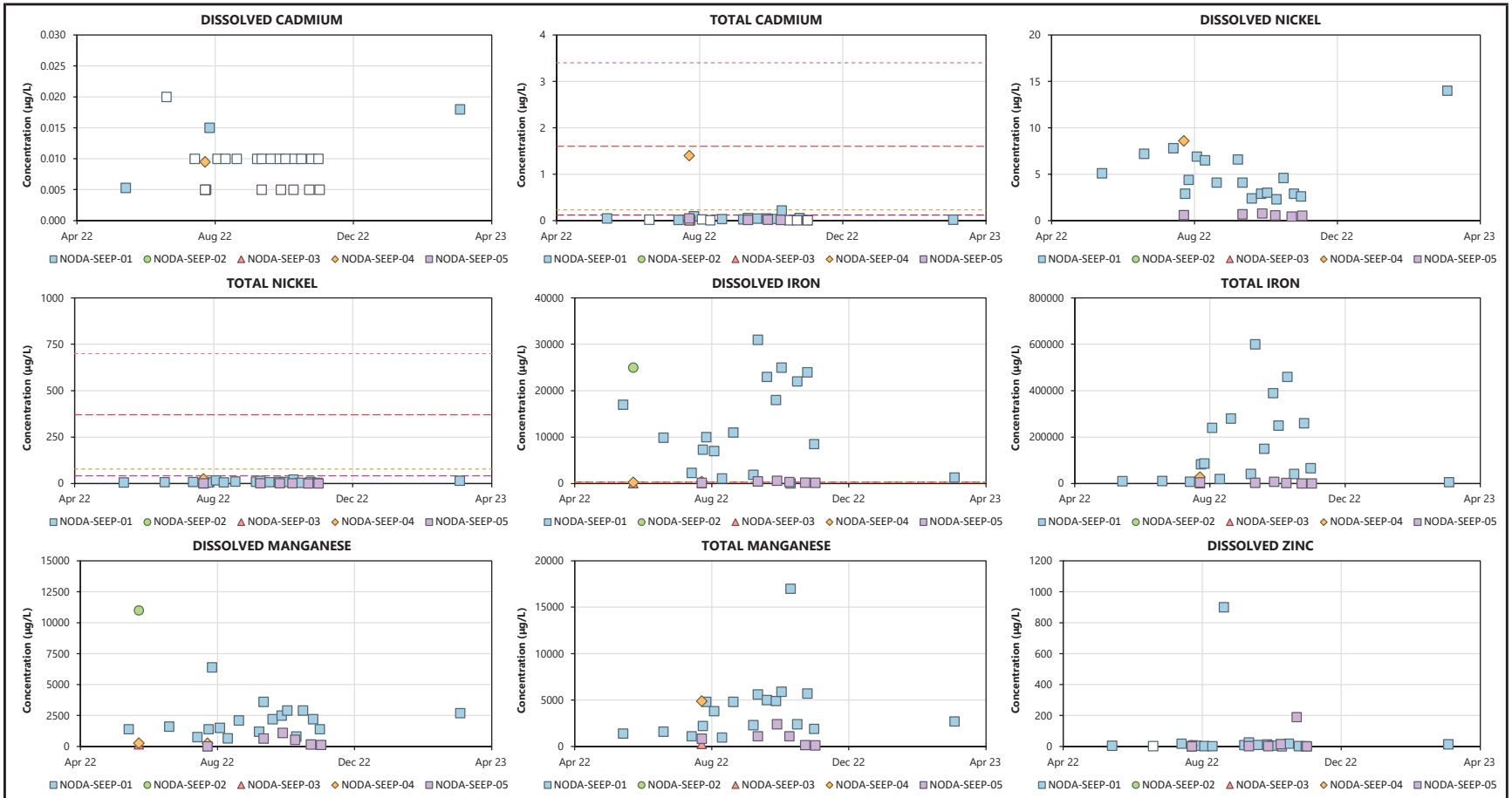
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 5 | Rev A

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
NODA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

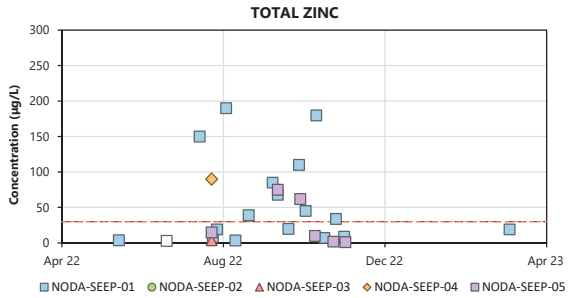
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 6 | Rev A

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
NODA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 7

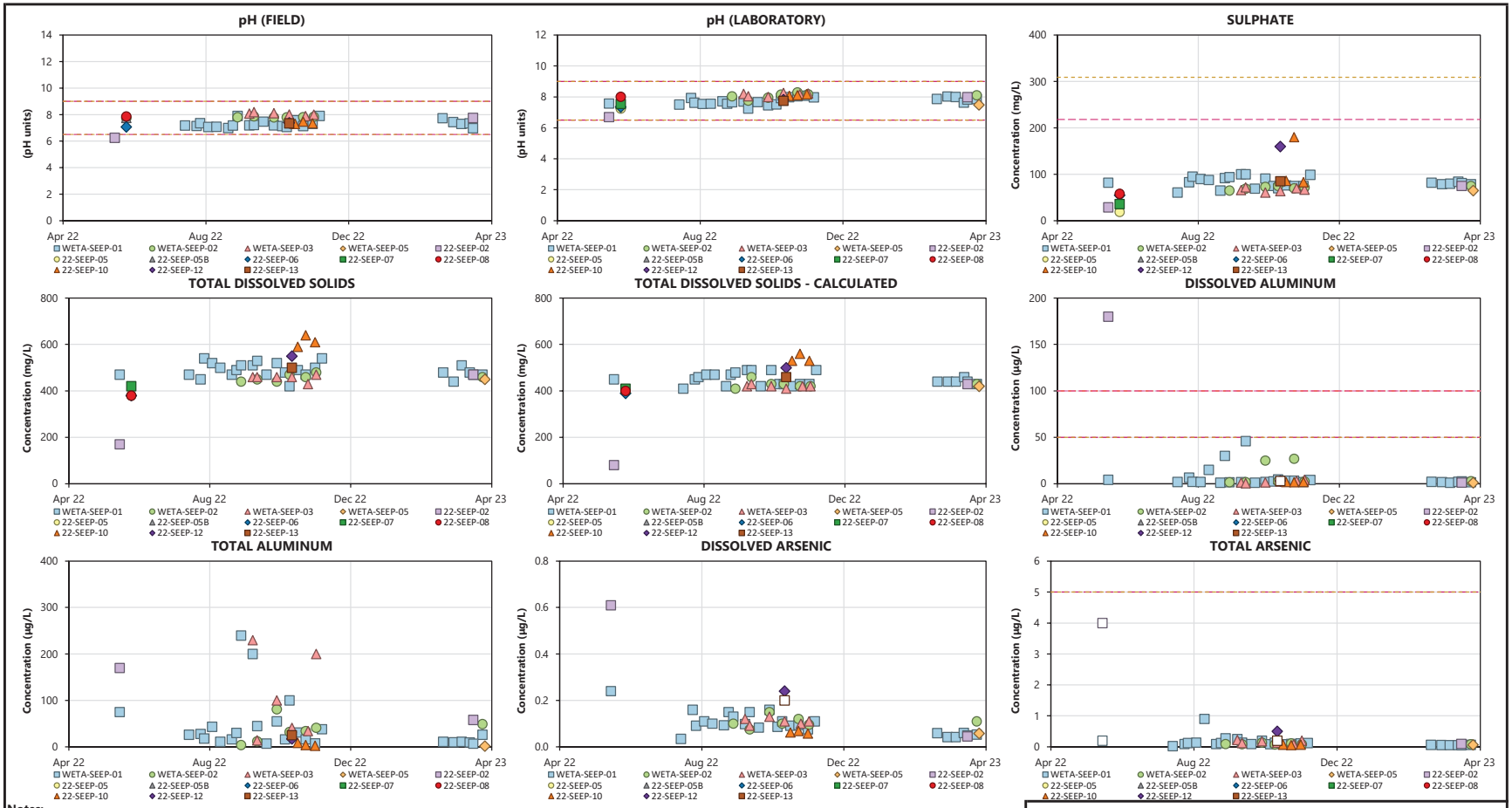
Rev A

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/

5.2 WEST EXTERNAL TAILINGS AREA (WETA)

WETA surface water analytical results are presented in Figures 8 to 10 and tabulated in Appendix B. Samples from 13 sample locations were collected from the WETA seeps between May 2022 and March 2023. All samples had concentrations of sulphate below the AEP PAL guidelines and results were similar between sample locations. One sample collected from 22-Seep-02 had a dissolved aluminum concentration notably above the AEP PAL guideline but based on the remaining samples being below the guideline, this value is suspected to be an outlier caused by sampling or laboratory error. Dissolved iron concentrations were above the AEP PAL guideline in most samples and concentrations were similar to the other seep areas sampled in NODA and DP4 areas. Three samples had concentrations of total zinc that were above the guideline, but these values also appear to be outliers as most other samples were well below the guideline value. The results indicate that the seeps sampled in the WETA had similar water chemistry with most parameters having ranges in concentrations below corresponding guidelines.



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WETA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

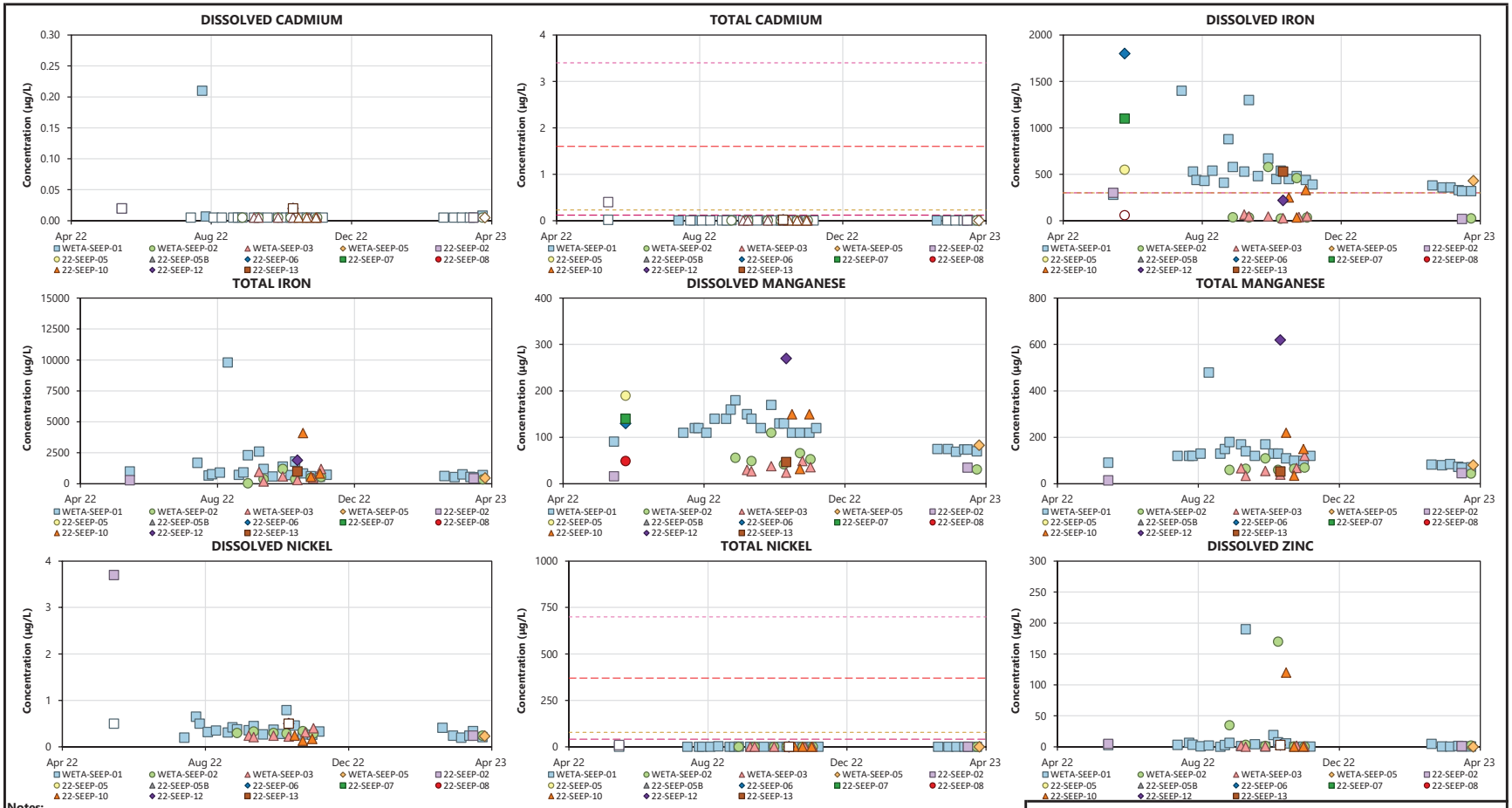
Project No. 417085-47599

Figure # 8 | Rev A

This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WETA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

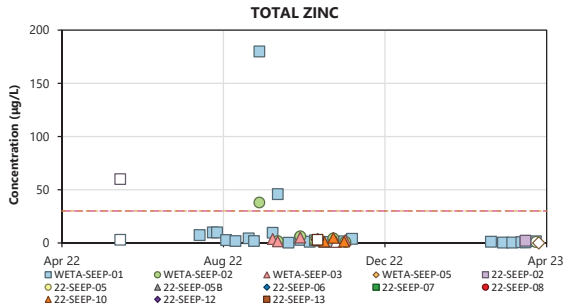
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599
Figure # 9
Rev A

This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WETA AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 10 | Rev A

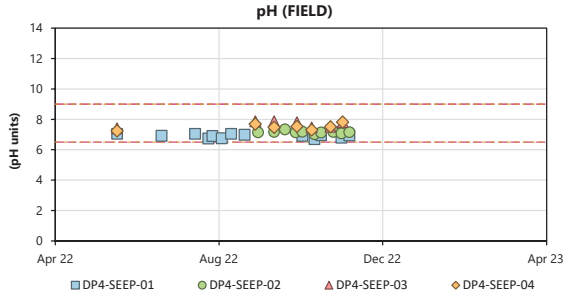
FILE LOCATION: CALGARY

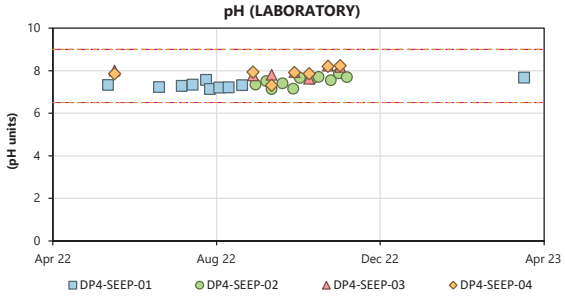
FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/

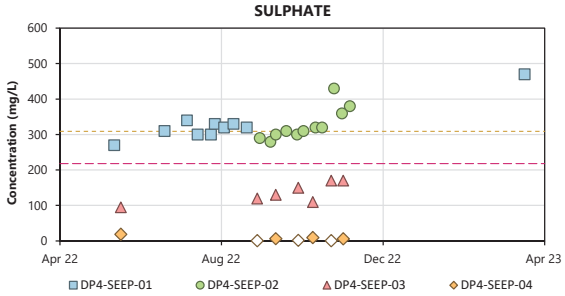
5.3 DRAINAGE POND 4M (DP4)

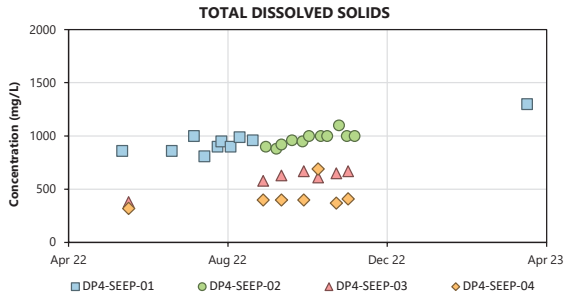
DP4 surface water analytical results are presented in Figures 11 to 13 and are tabulated in Appendix B. DP4-Seep-01 is located on the north dyke of DP4 and just within the lease boundary. The seep was sampled weekly between July and August 2022, and then once in March 2023. Dissolved iron and sulphate concentrations were above the AEP PAL guideline in all samples. Concentrations of total arsenic, cadmium, nickel and zinc also exceeded AEP PAL guidelines in some samples collected in 2022. The sample collected in March 2023 had similar concentrations for all parameters compared to previous monitoring results with exceedances recorded for sulphate, dissolved iron, total arsenic.

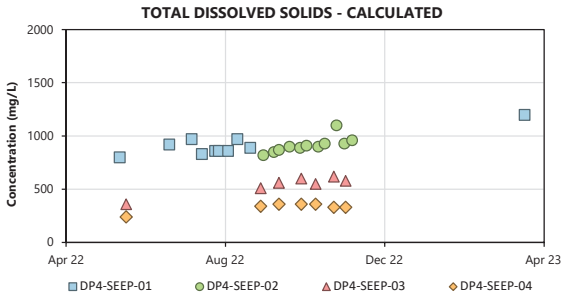
Three seep sample sites (DP4-Seep-02, DP4-Seep-03, and DP4-Seep-04) were sampled from August to November 2022. Sulphate concentrations at DP4-Seep-02 were near or above the AEP PAL guideline in all samples, whereas the other sites had concentrations below the guideline by November. Site DP4-Seep-02 also had higher concentrations for total dissolved solids, total arsenic and dissolved manganese compared to DP4-Seep-03, and DP4-Seep-04. Dissolved iron concentrations exceeded guidelines in the majority of samples and a few exceedances for total zinc were recorded. These results are similar to the monitoring results from other seep sampling locations in NODA and WETA areas.

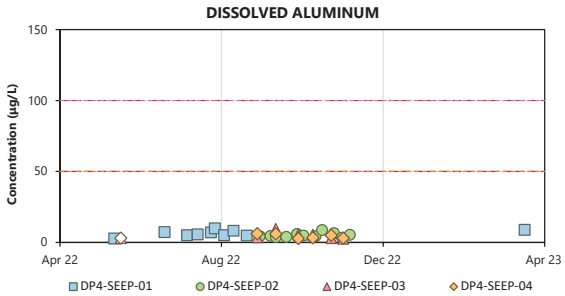


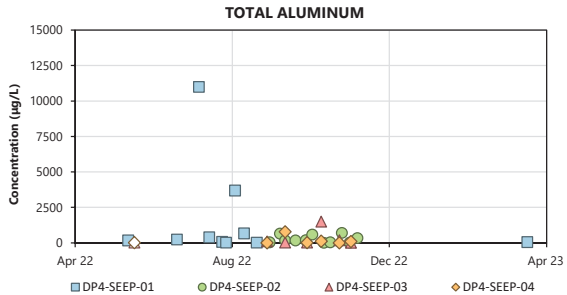


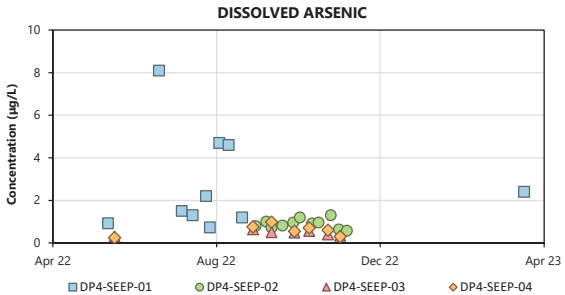


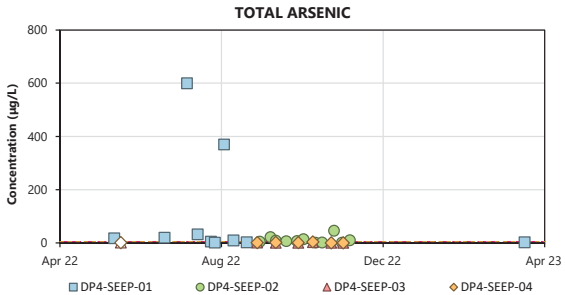












Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
DP4 AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

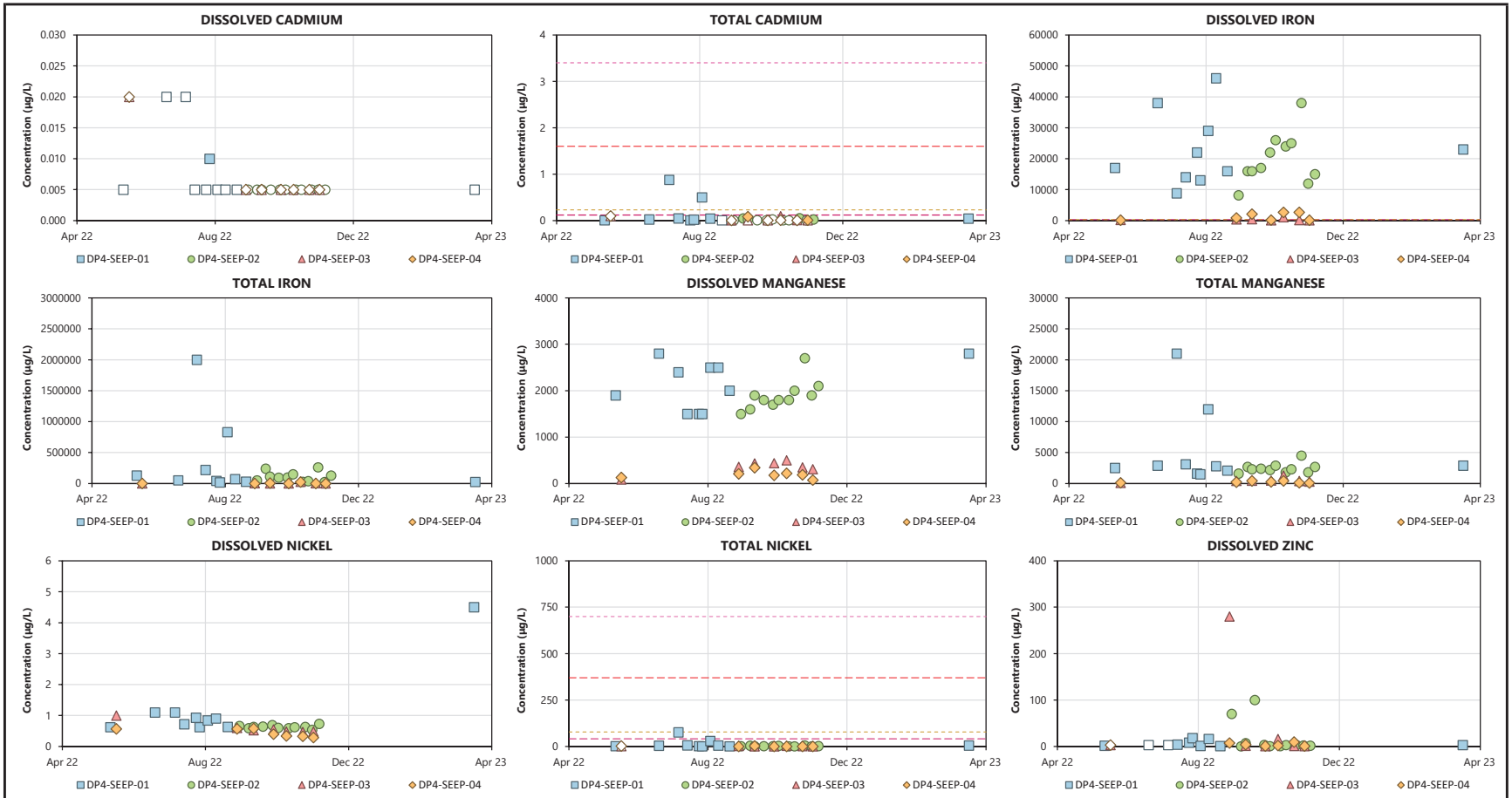
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599
Figure # 11
Rev A

This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

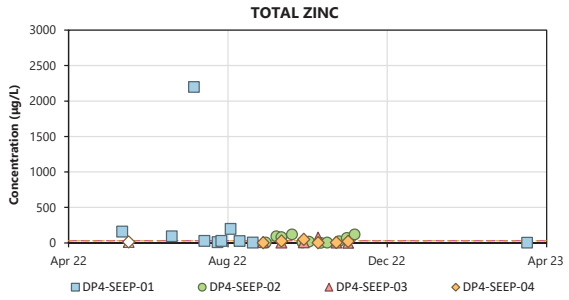
IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
DP4 AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:
DESIKA		Project No. 417085-47599	
		Figure # 12	Rev A

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
DP4 AREA

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 13

Rev A

FILE LOCATION: CALGARY

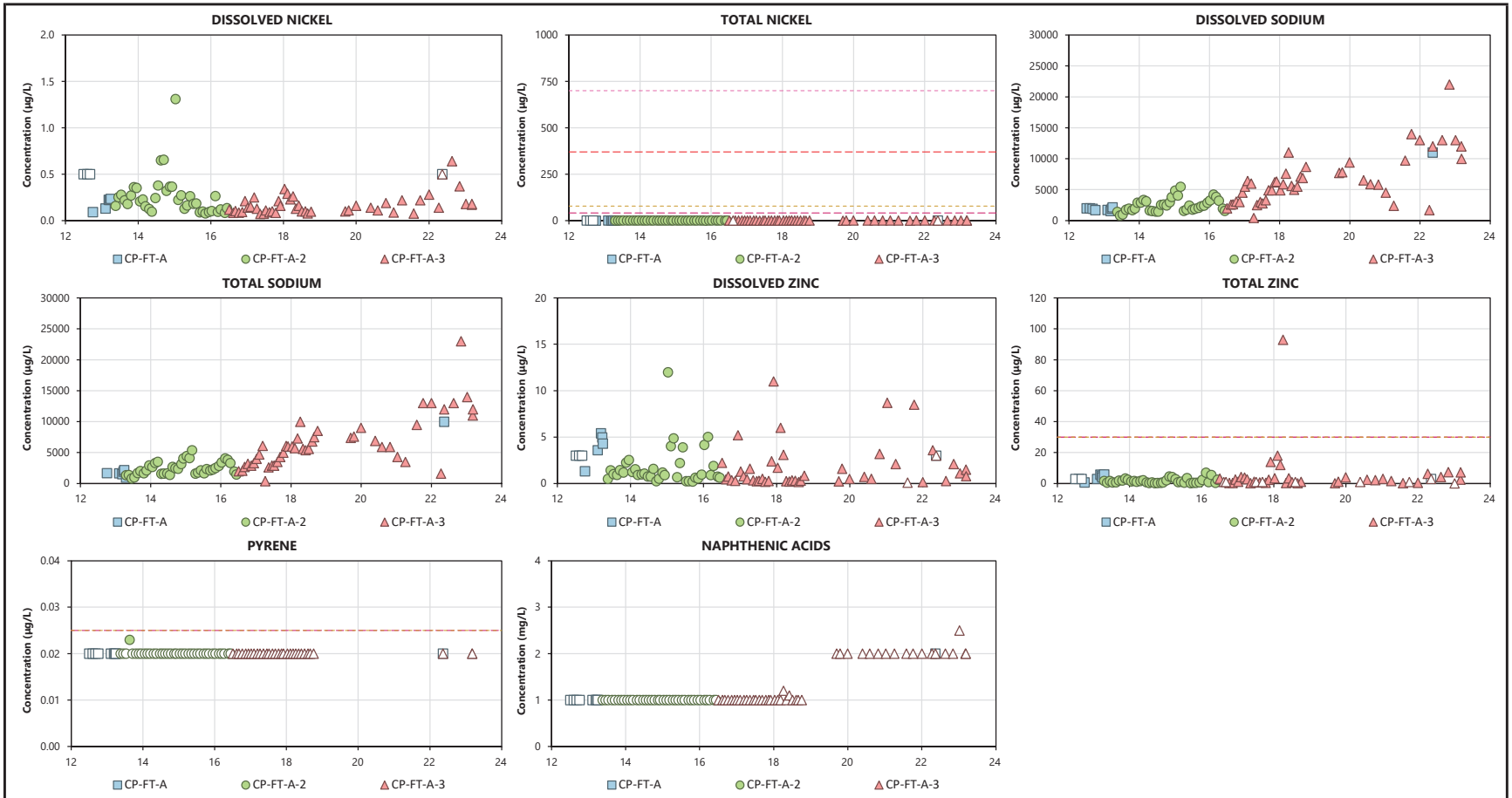
FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/

5.4 WATERBODY 3 (WB3)

WB3 surface water analytical results are presented in Figures 14 to 16 and are tabulated in Appendix B. Seeps WB3-SW-11, WB3-SW-16, WB3-SW-17, WB3-SW-18, and WB3-SW-20 were sampled between 1 to 4 times from September to October 2022. Exceedances for sulphate, total arsenic and dissolved iron were intermittently recorded. WB3-SW-17 had higher concentrations of sulphate, total dissolved solids and dissolved iron when compared to the other four WB3 sites. Samples from WB3-SW-11, WB3-SW-16 had higher concentrations of total aluminum, total arsenic, total iron, and total manganese than the other locations. Results from the other parameters were generally similar in concentrations when comparing these five sample sites.

Seep WB3-SW-01 was sampled weekly between July and October 2022 and 5 times between late February and March 2023. Dissolved iron and PHC F2 exceeded AEP PAL guidelines and fluoride exceeded the CCME CEQGs. Total arsenic and sulphate concentrations exceeded the AEP PAL guideline intermittently. Sulphate, chloride and sodium were elevated above background but below applicable guidelines. Results from the 2023 samples had generally higher concentrations of sulphate, dissolved arsenic and dissolved iron. Values for other parameters were similar in concentration to the 2022 sample results.

WB3 has been sampled extensively at three locations (CP-FT-A, CP-FT-A-2 and CP-FT-A-3) beginning in 2012. Between 2012 and the discovery of the seep in May 2022, one sample in 2018 exceeded the AEP PAL guideline for total zinc. Concentrations of both total and dissolved nickel, sodium, and zinc were consistent during this period. Samples analyzed for pyrene and naphthenic acids had concentrations below detection limits except for one pyrene sample collected in late 2013. After the seep was discovered, additional samples were collected at 4 sites along the margin of the waterbody closest to the seep between May 2022 and April 2023. The water samples collected from WB3 after the seep occurred show no increase in concentrations for any parameters when compared to historical data. Concentrations of metals and sulphate were lower in samples collected from WB3 than the seep sample sites. This suggests that the surface water chemistry of WB3 has not been impacted by the seeps.



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WATERBODY 3 & TRIBUTARY A

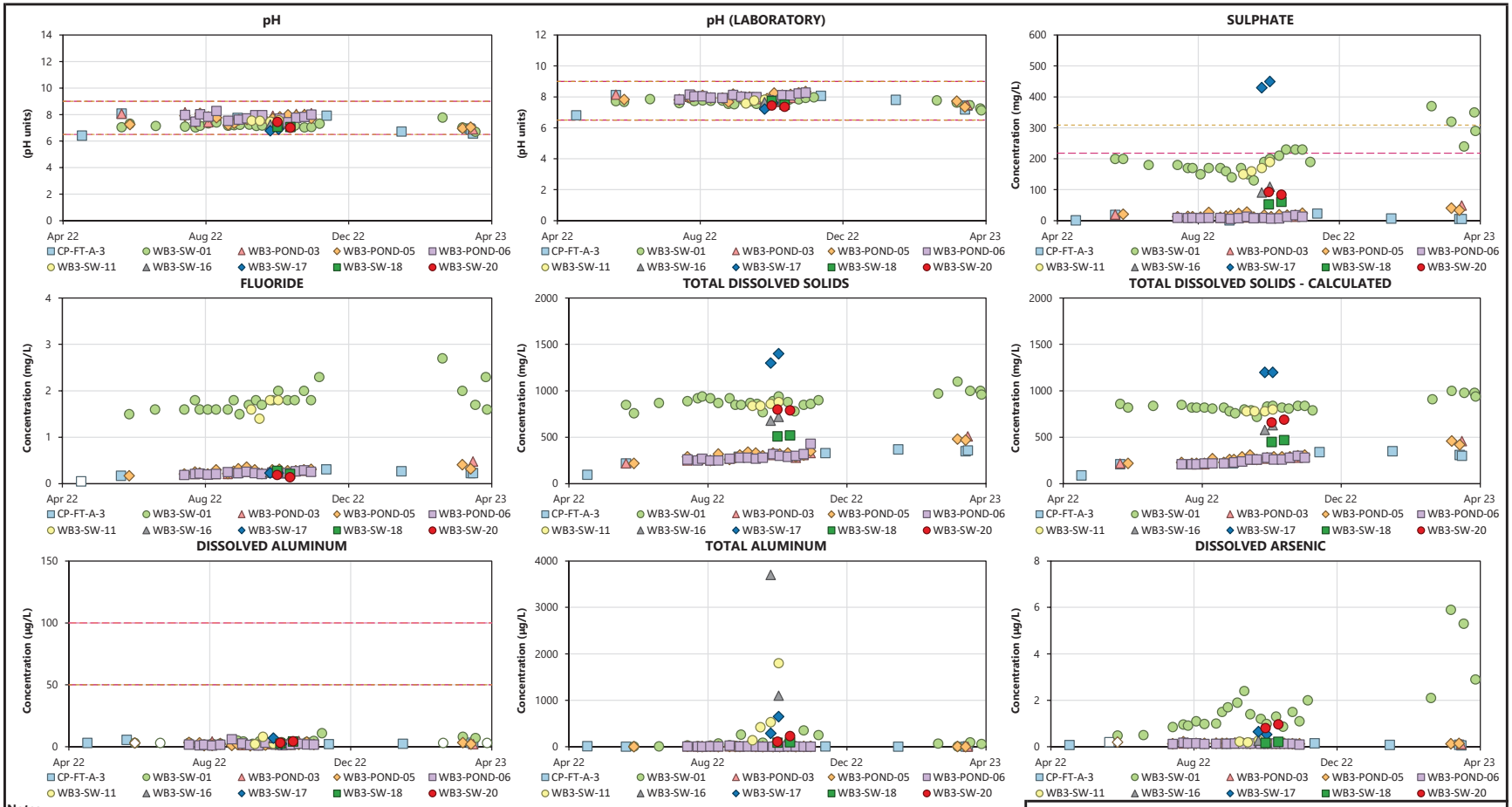
Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599
Figure # 14
Rev A

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WATERBODY 3 & SEEP

Date: 08-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

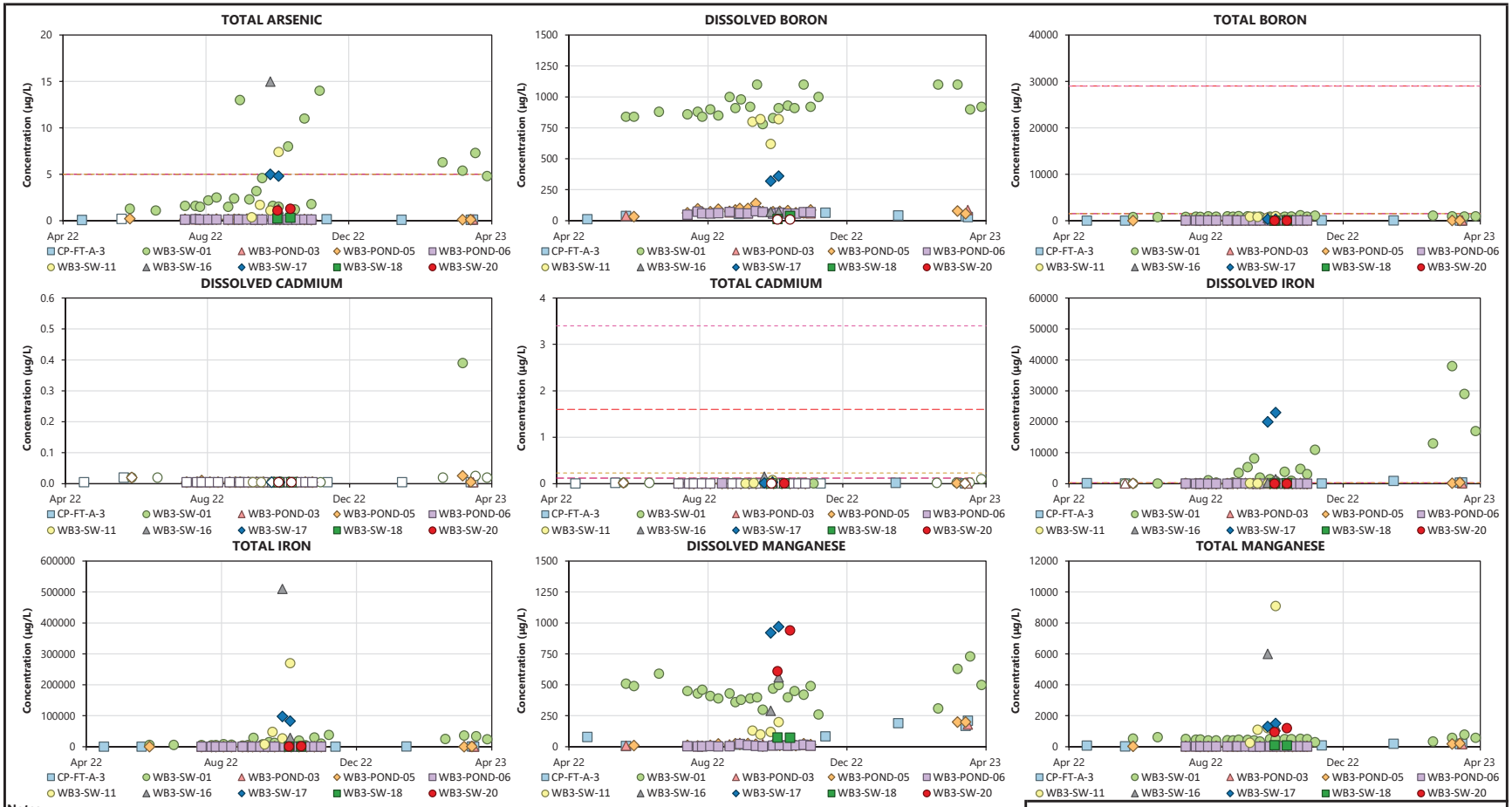
Figure # 15

Rev A

This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

FILE LOCATION: CALGARY

FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/



Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
WATERBODY 3 & SEEP

Date: 08-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599

Figure # 16 | Rev A

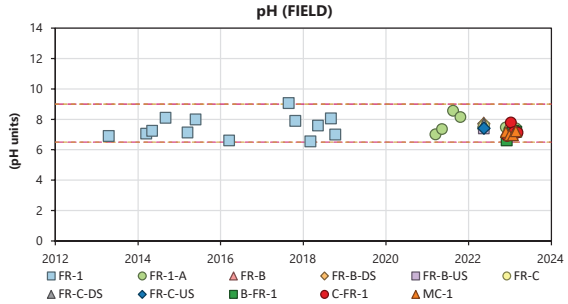
This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

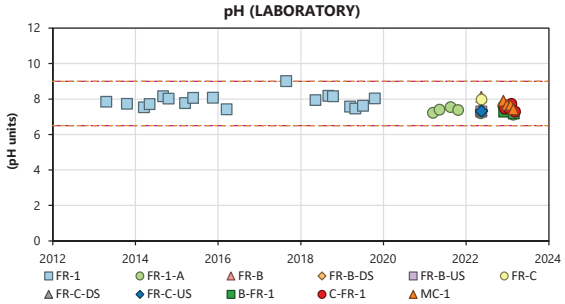
FILE LOCATION: CALGARY

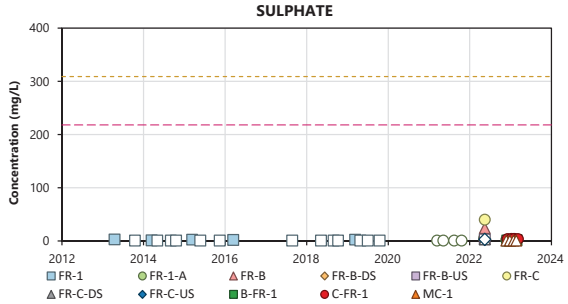
FILE DIRECTORY: HTTPS://SHARETEAMA.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/APRIL 8/CHARTS/

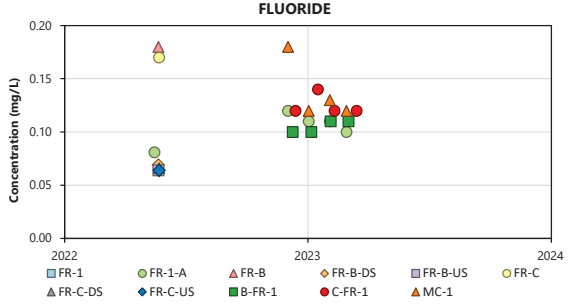
5.5 FIREBAG RIVER (FB)

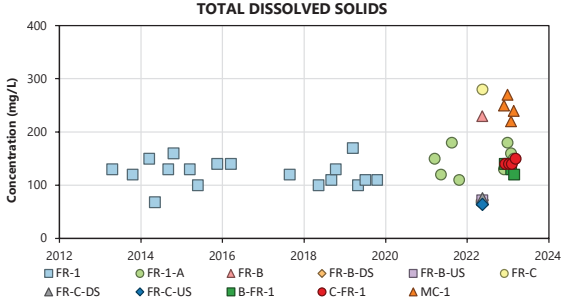
The Firebag River has been sampled downstream of the KOSM site from 2013 to 2022, and the data is presented in Figures 17 to 19 and Appendix B. Samples collected during this period frequently exceeded the AEP PAL guideline for dissolved iron. Concentrations of sulphate and naphthenic acids were near or below detection limits for all samples. After the observation of the seeps in May 2022, sampling was completed at one location upstream of the KOSM site, three sites directly north of the lease and one downstream location. Water quality results from all the sites were similar and there was no discernible difference in the water chemistry between any of the sample sites. Dissolved iron concentrations did periodically exceed the AEP PAL guideline in samples collected after the seep was discovered. However, the concentrations of all parameters were similar to values recorded within the Firebag River before the seeps occurred.

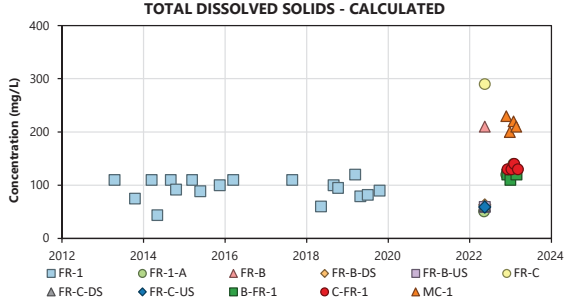


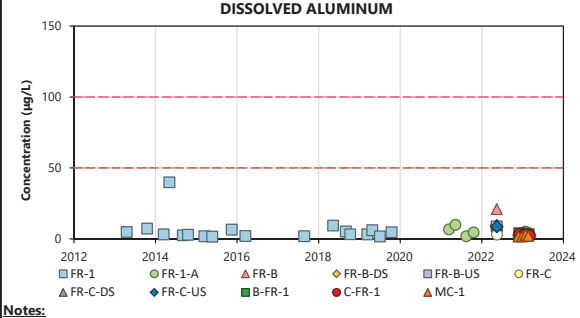


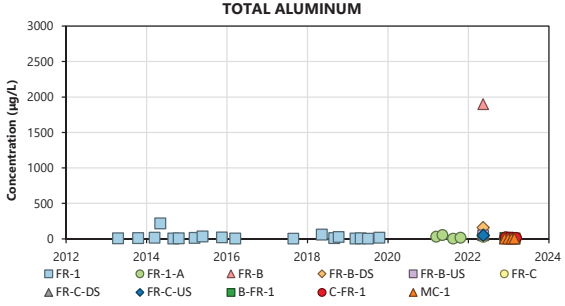


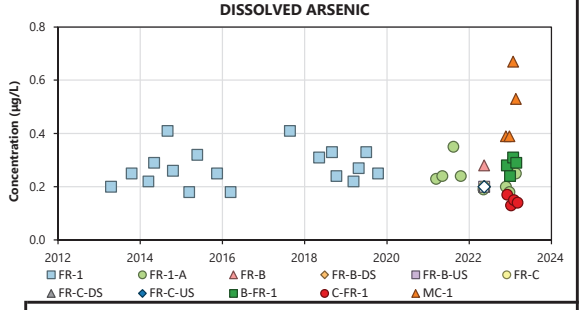












Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
FIREBAG RIVER & TRIBUTARIES

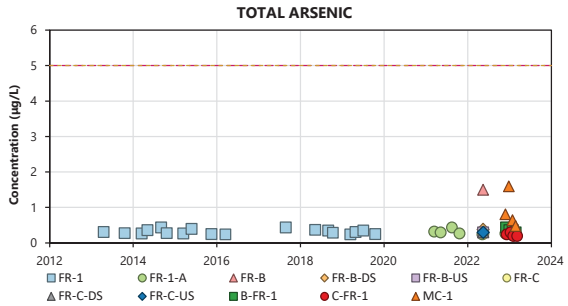
Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

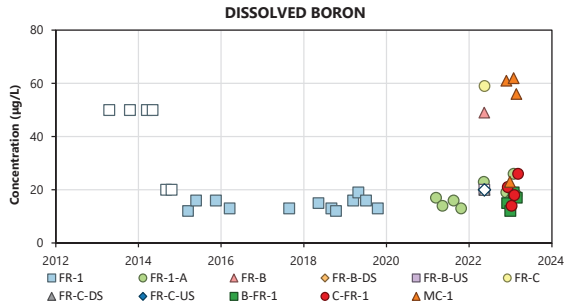
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

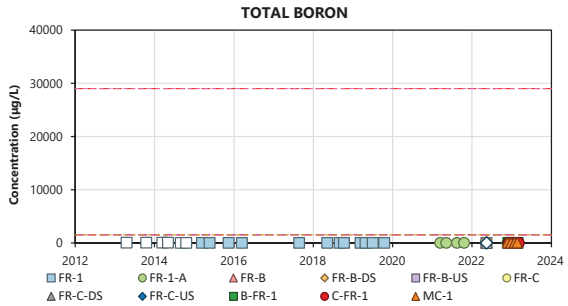
Project No. 417085-47599
Figure # 17
Rev A

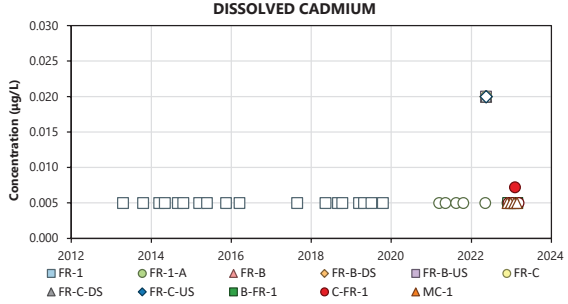
This drawing is prepared solely for the use of our customer as specified in the accompanying report.
Desika Limited Partnership assumes no liability to any other party for any representations contained in this drawing.

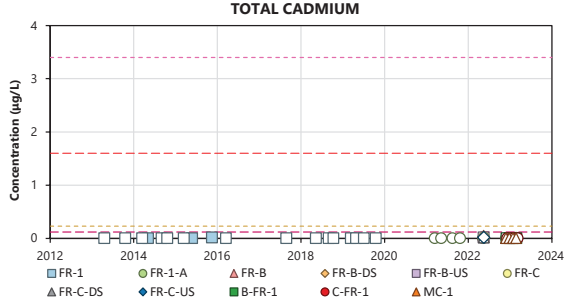
FILE LOCATION: CALGARY
FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/2023-04-08 DATA SUMMARY/CHARTS/CHARTS (WITH GUIDELINES

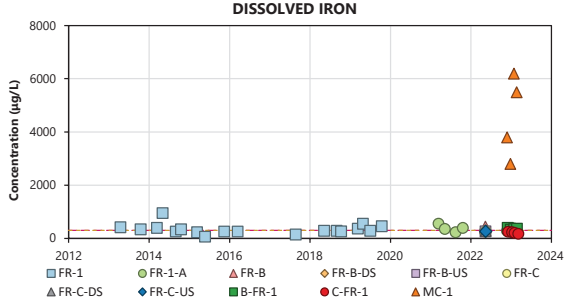


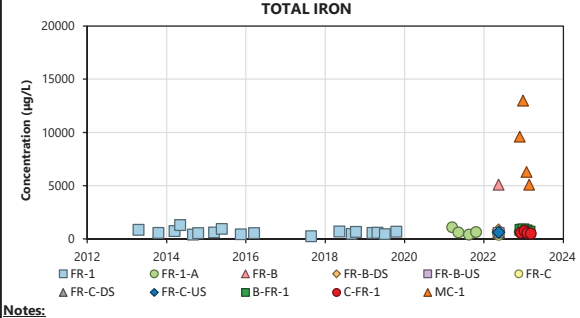


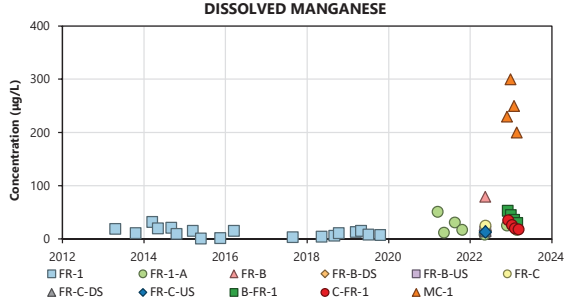


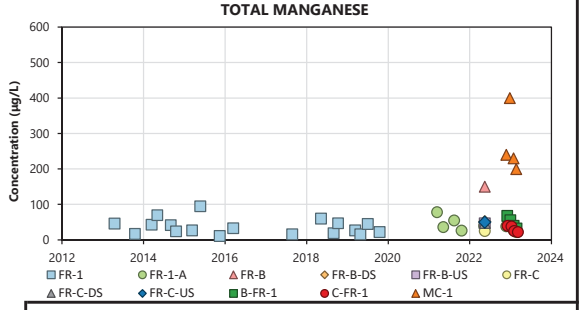












Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
FIREBAG RIVER & TRIBUTARIES

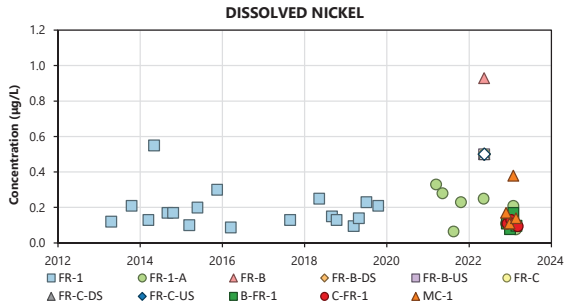
Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

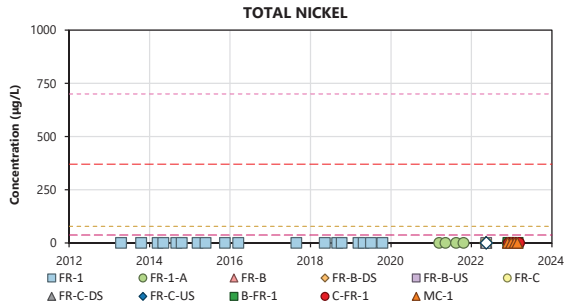
DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

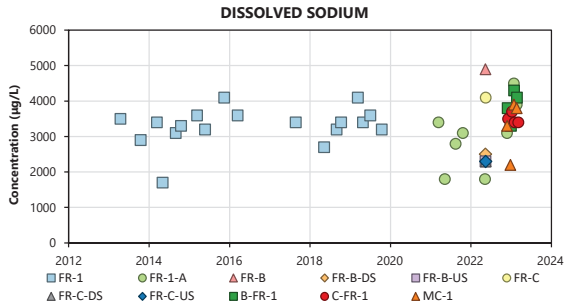
Project No. 417085-47599
Figure # 18
Rev A

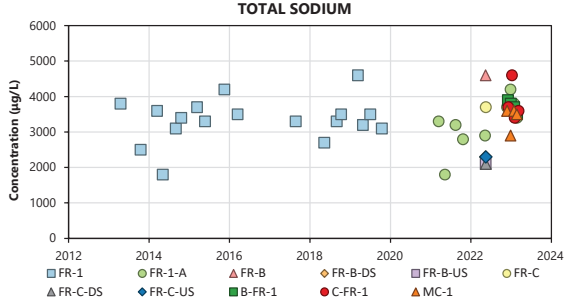
FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/2023-04-08 DATA SUMMARY/CHARTS/CHARTS (WITH GUIDELINES

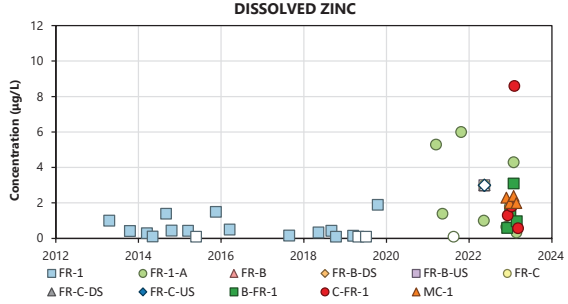
FILE LOCATION: CALGARY

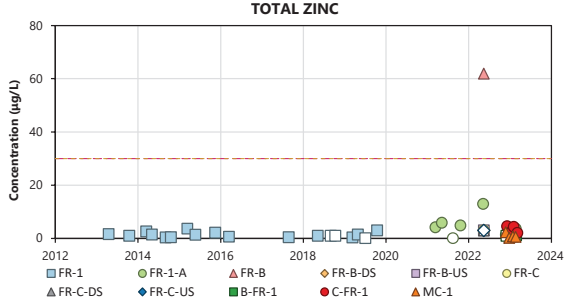


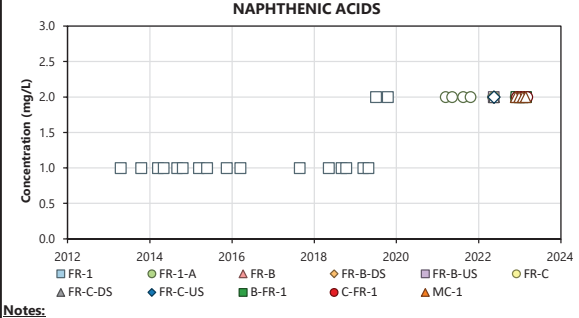












Notes:

- Filled symbols denote values above the reportable detection limit (RDL); unfilled symbols denote values less than the RDL
- AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River)
- AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3)

IMPERIAL
SEEP INVESTIGATION
KEARL OIL SANDS MINE

MULTI-LOCATION CHARTS
FIREBAG RIVER & TRIBUTARIES

Date: 07-Apr-23	Drawn by: KG	Edited by:	App'd by:

DESIKA
MIKISEW GROUP + FORT MCKAY FIRST NATION + ADVISIAN

Project No. 417085-47599
Figure # 19
Rev A

FILE DIRECTORY: HTTPS://SHARETEAM4.NA.XOM.COM/SITES/SURFACE/KEARL TEAM WORKING 2022/MT DOCUMENTATION/EPO - E&R/DATA/ADVISIAN UPDATES/2023-04-08 DATA SUMMARY/CHARTS/CHARTS (WITH GUIDELINES

FILE LOCATION: CALGARY

6 DISCUSSION

Based on the water sampling results from 2022, Imperial characterized the composition of the seeps and contributions from process affected water and coarse sand tailings porewater. Coarse Sand Tailings and Process Affected Water are generated as a waste product from the extraction and processing of bitumen from oilsands (Sutton et al. 2022; Gault 2019). While the majority of process-water is recycled through centrifugation or gravitational settling, a portion remains in the pore spaces of the sand particles, leaving residual quantities of salts and hydrocarbons in the pore-water (Simhayov et al. 2017). Process affected water generally contains a complex and environmentally persistent dissolved organic mixture that can be toxic to aquatic organisms (Gault 2019).

A water sample was collected from the DP4-Seep-01 location on March 18 following the overland release of 5,300 m^3 of industrial wastewater from DP4. The majority of parameters were similar to historic results for the location with the exception of a detectable concentration of naphthenic acids and a concentration of F2 hydrocarbons that was above guideline. Sampling of the DP4 pond is proposed to be completed as part of the 2023 surface water monitoring program under the EPO issued to Imperial by the AER.

In 2023 Imperial will complete the drilling of additional groundwater monitoring wells both within and outside of the lease boundary at all seep locations. These wells will provide additional ground water quality data to characterize the seeps and monitor the affected areas for any groundwater movement or changes in chemistry.

Under the Condition 14 of the EPO, Imperial will submit the results and analysis for the surface and groundwater sampling program on a weekly basis to the AER. The sampling program will monitor affected areas and indicate whether receiving areas and waterbodies including the Firebag River, and Waterbody 3 have been affected.

Based on the water quality data collected in 2022 and March 2023, there has been no evidence of adverse impacts to the Firebag River or Waterbody 3. Proposed mitigation and additional monitoring measures to be employed by Imperial in 2023 (including, but not limited to, interception trenches, pumping wells, backfilled areas, drilling groundwater monitoring wells, and establishing additional surface water monitoring sites) are expected to prevent further release events and provide more information on the potential effects of the release events.

7 CLOSURE

Surface water quality data, charts and figures used in this memo were prepared by Desika Limited Partnership and were provided to WSP by Imperial. WSP assumes no liability for the information presented in these charts, figures, and the data attached in the appendices. This report is based on information and conditions at the time of data collection as referenced in the report. Conclusions reached in this memo are based on third party data for which WSP assumes no liability. WSP has performed its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing in Alberta at the time that the services were performed. If you have any questions, please feel free to contact the undersigned at 403-660-3668.

Sincerely,

Reviewed by:

[redacted], B.Sc., P.Biol., R.P. Bio.
Aquatic Biologist

[redacted], B.Sc., P.Biol., R.P. Bio.
Associate Aquatic Biologist

8 REFERENCES

Canadian Council of Ministers of the Environment (CCME). 2023. *Canadian Water Quality Guidelines for the Protection of Aquatic Life: Summary Table*. Available at: http://st-ts.ccme.ca/en/index.html?chems=218&chapters=1.

Government of Alberta (GOA). 2018. *Environmental Quality Guidelines for Alberta Surface Waters*. Available at: https://open.alberta.ca/dataset/5298aadb-f5cc-4160-8620-ad139bb985d8/resource/38ed9bb1-233f-4e28-b344-808670b20dae/download/environmentalqualitysurfacewaters-mar28-2018.pdf.

Gault, I.G.M. 2019. *Oil Sands Process-Affected Water Toxicity Attribution and Evaluating Ageing as a Remediation Strategy*. Masters Thesis from the University of Alberta, Department of Laboratory Medicine and Pathology.

Simhayov, R.B., Price, J.S., Smeaton, C.M., Parsons, C., Rezanezhad, F., Van Cappellen, P., 2017. *Solute pools in Nikanotee fen watershed in the Athabasca oil sands region*. Environ. Pollut. 225, 150–162.

Sutton, O.F., E.D. Kessel, B. GHaredaghloo, and J.S. Price. 2022. *Characterizing the hydraulic and transport properties of a constructed coarse tailings sand aquifer*. Journal of Contaminant Hydrology, Volume 249 : 10pp.

Appendix A

EPO Surface Water Sampling Locations

Table A-1: EPO Surface Water Sampling Locations.

Area	Sampling ID	Easting	Northing	Status	Purpose	Visual Inspection Frequency	Sampling Frequency
Firebag River	FR-1-A	495220	6377565	Existing	Waterbody monitoring		Monthly
Firebag River	B-FR-1	506417	6365936	Existing	Source control effectiveness, upstream of site		Monthly
Firebag River	C-FR-1	488729	6388681	Existing	Source control effectiveness		Monthly
Firebag River	MC-1	490158	6374116	Existing	Source Control Effectiveness		Monthly
Firebag River	CP-FT-A			Existing	Source Control Effectiveness		Monthly
Firebag River	FR-B TBD			Planned	Source Control Effectiveness		Monthly
Firebag River	FR-C TBD2			Planned	Source Control Effectiveness		Monthly
Muskeg River	B-MR-1B	502532	6355923	Existing	EPEA Approval conditions, upstream		Monthly
Muskeg River	C-MR-1	486542	6363904	Existing	EPEA Approval condition, downstream		Monthly
NODA	NODA-Seep-01	492945	6366154	Existing	Source characterization	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-02	493040	6366324	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-03	493060	6366518	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-04	493074	6366706	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-05	493312	6367717	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-06	492970	6366240	Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-07	493093	6366240	Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	NODA-Seep-08	493070	6366180	Planned	Source characterization	March-May: Weekly May-March: every two weeks	Every two weeks
NODA	Groundwater Interception Trench			Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	Every two weeks
WETA	WETA-Seep-01	495107	6366504	Existing	Delineation	March-May: Weekly May-March: every two weeks	May-June: every two weeks July-Oct: monthly
WETA	WETA-Seep-02	494877	6366791	Existing	Delineation	March-May: Weekly May-March: every two weeks	May-June: every two weeks July-Oct: monthly
WETA	WETA-Seep-03	494642	6367384	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
WETA	WETA-Seep-04	495279	6366371	Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	May-June: every two weeks July-Oct: monthly
WETA	WETA-Seep-05	495190	6366460	Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	May-June: every two weeks July-Oct: monthly
WETA	WB-4-1	495988	6366512	Existing	Receptor Monitoring	Monthly	Monthly
DP4	DP4-Seep-01	498022	6366245	Existing	Source characterization	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	DP4-Seep-02	498049	6366281	Existing	Source control effectiveness	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	DP4-Seep-03	498095	6366679	Existing	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	DP4-Seep-05	497880	6366250	Planned	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	DP4-Seep-06	498206	6366250	Planned	Delineation	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	DP4-Seep-07	498024	6366350	Planned	Source control effectiveness	March-May: Weekly May-March: every two weeks	Every two weeks
DP4	P32-Ditch-1	497808	6366213	Planned	Source characterization	March-May: Weekly May-March: every two weeks	One time
DP4	P33-Ditch-2	498230	6366190	Planned	Source characterization	March-May: Weekly May-March: every two weeks	One time
WB3	CP-FT-A-3	499440	6365414	Existing	Waterbody monitoring	Every two weeks	May-Oct: Monthly
WB3	WB3-SW-01	499202	6364971	Existing	Source control effectiveness	Every two weeks	May-June: every two weeks, July-Oct: monthly
WB3	WB3-Pond-03	499238	6365097	Existing	Waterbody monitoring	Every two weeks	May-Oct: monthly
WB3	WB3-Pond-05	499241	6365028	Existing	Waterbody monitoring	Every two weeks	May-Oct: monthly
WB3	WB3-Pond-06	499371	6365001	Existing	Waterbody monitoring	Every two weeks	May-Oct: monthly
WB3	WB3-Pond-08	499537	6365043	Existing	Waterbody monitoring	Every two weeks	
WB3	WB3-Pond-09	499248	6365171	Planned	Waterbody monitoring	Every two weeks	May-Oct: monthly
WB3	WB3-Pond-10	499264	6365244	Planned	Waterbody monitoring	Every two weeks	May-Oct: monthly
WB3	WB3-Pond-11	499580	6365450	Planned	Waterbody monitoring	Every two weeks	
WB3	WB3-SW-11	499244	6364958	Existing	Source control effectiveness	Every two weeks	May-June: every two weeks, July-Oct: monthly
WB3	WB3-SW-16	499324	6364900	Existing	Lateral delineation	Every two weeks	May-June: every two weeks, July-Oct: monthly
WB3	WB3-SW-17	499155	6365173	Existing	Source characterization	Every two weeks	May-June: every two weeks, July-Oct: monthly
WB3	WB3-SW-18	499195	6365061	Existing	Lateral delineation	Every two weeks	May-June: every two weeks, July-Oct: monthly
WB3	WB3-SW-20	499203	6365247	Existing	Lateral delineation	Every two weeks	May-June: every two weeks, July-Oct: monthly

Appendix B

Surface Water Quality Data Tables

NOTES:

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria. (< X)
6. Highlighting indicates parameters at applied guideline/criteria. (X)
7. Superscript [#1] denotes values exceeding

(GOA. 2018. Environmental Quality Guidelines for Alberta Surface Waters
https://open.alberta.ca/dataset/5298aadb-f5cc-4160-8620-ad139bb985d8/resource/38ed9bb1-233f-4e28-b344-808670b20dae/download/environmentalqualitysurfacewaters-mar28-2018.pdf accessed October 12, 2018)

Turbidity:
Clear Flow:
Maximum increase of 8 NTUs from background levels for a short term exposure (e.g. 24-h period)
High Flow or Turbid Waters:
Maximum increase of 8 NTUs from background levels at any time when background levels are between 8 and 80 NTUs.
Should not increase more than 10% of background levels when background is > 80 NTUs.

Chloride:D:
Derived from severe-effects data (such as lethality) and are not intended to protect all components of aquatic ecosystem structure and function but rather to protect most species against lethality during severe but transient events (e.g. inappropriate application or disposal of the substance of concern).

Total Suspended Solids (TSS):
Clear flow or clear waters:
Maximum increase of 25 mg/L from background levels for any short term exposure (e.g. 24-h period).
High flow:
Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L.
Should not increase more than 10% of background levels when background is = 250 mg/L.

Dissolved Aluminum:
Standard varies with pH.
pH = 6.5 = 0.1 mg/L
pH < 6.5 = $e^{(1.209 - 2.426[pH] + 0.286[pH]^{*2})}$. Value assumes a pH of 6.79 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Temperature:
Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures, nor exceed maximum short-term temperatures.

Dissolved Oxygen:
Oxygen values are minima. See AEP 1997 for guidance when natural conditions do not meet guidelines. Short term is instantaneous value.

Nitrate as N:
Standard is for NO_3 as N.
For protection from direct toxicity. Does not consider eutrophication effects.

Nitrite as N:
Standard is for NO_2 as N. Varies with chloride.
Value assumes a chloride concentration of 1.0 mg/L based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.
Averaging period is the instanteous maximum for short term. See Table 1.4 in ESRD (2014).

PHC F1 (C6-C10):
Based on toxicity reference value for gasoline.

PHC F1 (C6-C10) - BTEX:
Based on toxicity reference value for gasoline.

PHC F2 (C10-C16):
Based on toxicity reference value for fuel oil #2.

Total Cadmium:
Guideline = $10^{(1.016[log[hardness]]-1.71)}$ µg/L.
Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Copper:
Guideline = $e^{0.979123[ln(hardness)]-8.64497}$ mg/L. Varies with hardness.
Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Mercury:
Averaging priod is 1 hr for short term.

Total Methyl Mercury:
Averaging period is 1 hr for short term.

Total Nickel:
Guideline = $e^{0.846*ln(hardness)+2.255}$ µg/L.
Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Uranium:
Refers to toxicity only and not radioactivity.

8. Superscript [#2] denotes values exceeding

(GOA. 2018. Environmental Quality Guidelines for Alberta Surface Waters
https://open.alberta.ca/dataset/5298aadb-f5cc-4160-8620-ad139bb985d8/resource/38ed9bb1-233f-4e28-b344-808670b20dae/download/environmentalqualitysurfacewaters-mar28-2018.pdf accessed October 12, 2018)

Turbidity:
Clear Flow:
Maximum increase of 8 NTUs from background levels for a short term exposure (e.g. 24-h period)
High Flow or Turbid Waters:
Maximum increase of 8 NTUs from background levels at any time when background levels are between 8 and 80 NTUs.
Should not increase more than 10% of background levels when background is > 80 NTUs.

Chloride:D:
Derived from severe-effects data (such as lethality) and are not intended to protect all components of aquatic ecosystem structure and function but rather to protect most species against lethality during severe but transient events (e.g. inappropriate application or disposal of the substance of concern).

Total Suspended Solids (TSS):
Clear flow or clear waters:
Maximum increase of 25 mg/L from background levels for any short term exposure (e.g. 24-h period).
High flow:
Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L.
Should not increase more than 10% of background levels when background is = 250 mg/L.

Dissolved Aluminum:
Standard varies with pH.
pH = 6.5 = 0.1 mg/L
pH < 6.5 = $e^{(1.209 - 2.426[pH] + 0.286[pH]^{*2})}$. Value assumes a pH of 6.73 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Temperature:

Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures, nor exceed maximum short-term temperatures.

Dissolved Oxygen:

Oxygen values are minima. See AEP 1997 for guidance when natural conditions do not meet guidelines. Short term is instantaneous value.

Nitrate as N:

Standard is for NO_3 as N.

For protection from direct toxicity. Does not consider eutrophication effects.

Nitrite as N:

Standard is for NO_2 as N. Varies with chloride.

Value assumes a chloride concentration of 1.0 mg/L based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Averaging period is the instanteous maximum for short term. See Table 1.4 in ESRD (2014).

PHC F1 (C6-C10):

Based on toxicity reference value for gasoline.

PHC F1 (C6-C10) - BTEX:

Based on toxicity reference value for gasoline.

PHC F2 (C10-C16):

Based on toxicity reference value for fuel oil #2.

Total Cadmium:

Guideline = $10^{(1.016[\log[\text{hardness}]]-1.71)}$ µg/L.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data June 2016 to October 2021.

Total Copper:

Guideline = $e^{0.979123[\ln(\text{hardness})]-8.64497}$ mg/L. Varies with hardness.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Mercury:

Averaging priod is 1 hr for short term.

Total Methyl Mercury:

Averaging period is 1 hr for short term.

Total Nickel:

Guideline = $e^{0.846*\ln(\text{hardness})+2.255}$ µg/L.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Uranium:

Refers to toxicity only and not radioactivity.

9. Superscript #3denotes values exceeding

(GOA. 2018. Environmental Quality Guidelines for Alberta Surface Waters

https://open.alberta.ca/dataset/5298aadb-f5cc-4160-8620-ad139bb985d8/resource/38ed9bb1-233f-4e28-b344-808670b20dae/download/environmentalqualitysurfacewaters-mar28-2018.pdf accessed October 12, 2018)

Benzene:

Interim. Applies to maximum concentration.

Toluene:

Maximum concentration should not exceed.

Xylenes-Total:

Applies to all isomers. Maximum concentration should not exceed.

pH (Laboratory):

Not to be altered by more than 0.5 units from background.

Turbidity:

Clear Flow:

Maximum average increase of 2 NTUs from background levels for a long term exposure (greater than 24 h)

High Flow or Turbid Waters:

Maximum increase of 8 NTUs from background levels at any time when background levels are between 8 and 80 NTUs.

Should not increase more than 10% of background levels when background is > 80 NTUs.

Total Alkalinity as CaCO3:

A minimum value; unless natural conditions are less.

Sulphate:D:

Varies with hardness. See Table 1.7 in ESRD 2014.

Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Dissolved Sulphide:

As undissociated H_2S. Averaging period is 4 d.

Total Sulphide:

As undissociated H_2S. Averaging period is 4 d.

Total Suspended Solids (TSS):

Clear flow or clear waters:

Maximum average increase of 5 mg/L from background levels for longer term exposures

(e.g., inputs lasting between 24 h and 30 d).

High flow:

Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L.

Should not increase more than 10% of background levels when background is = 250 mg/L.

Dissolved Aluminum:

Standard varies with pH.

pH = 6.5 = 0.05 mg/L

pH < 6.5 = $e^{(1.6\ -\ 3.327[\text{pH}]\ +\ 0.402[\text{pH}]^{*2})}$ µg/L.

Value assumes a pH of 6.79 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Dissolved Chromium:

Limit is for Chromium (III).

Dissolved Phosphorus:

Lakes - no increase in nitrogen (total) or phosphorus over exisiting conditions. Where nitrogen and/or phosphorus have increased due to human activity, develop lake-specific nutrient objectives and management plans.

Major Rivers (interim) - For major rivers, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Other Water Bodies - For surface waters not covered by specific guidelines, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, cyanotoxin levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

pH:

Not to be altered by more than 0.5 units from background.

Temperature:

Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures, nor exceed maximum short-term temperatures.

Dissolved Oxygen:

Oxygen values are minima. See AEP 1997 for guidance when natural conditions do not meet guidelines. Long term is 7 d mean.

Guideline is 8.3 mg/L for mid-May to end June, to protect mayfly emergence.

Guideline is 9.5 mg/L for areas and times where larval fish develop within gravel beds.

Nitrate as N:

Standard is for NO_3 as N.

For protection from toxicity. Does not consider eutrophication effects.

Nitrite as N:

Standard is for NO_2 as N. Varies with chloride.

Value assumes a chloride concentration of 1.0 mg/L based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

See Table 1.4 in ESRD (2014). Averaging period is 30 d for long term.

Ammonia as N:

Guideline for total ammonia is dependent on pH and temperature of surface water. See Table 1.2 in ESRD 2014.

Value assumes a pH of 8.3 and a temperature of 15 degrees C based on the 90th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Cadmium:

Guideline = $10^{(0.83[\log[\text{hardness}]]-2.46)}$ µg/L (interim guideline).

Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Chromium:

Limit is for Chromium (III).

Total Cobalt:

Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Copper:

The long term guideline only applies to waters of hardness = 50 mg/L $CaCO_3$.

Total Lead:

Guideline = $e^{1.273[\ln(\text{hardness})]-4.705}$ µg/L.

Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Mercury:

Averaging period is 4 d for long term.

Total Methyl Mercury:

Averaging period is 4 d for long term.

Total Nickel:

Guideline = $e^{0.8460*\ln(\text{hardness})+0.0584}$ µg/L.

Value assumes a hardness of 74 mg/L CaCO3 based on the 10th percentile of surface water samples collected from the Firebag River (FR-1/FR-1-A) based on data from April 2013 to October 2021.

Total Phosphorus:

Lakes - no increase in nitrogen (total) or phosphorus over exisiting conditions. Where nitrogen and/or phosphorus have increased due to human activity, develop lake-specific nutrient objectives and management plans.

Major Rivers (interim) - For major rivers, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Other Water Bodies - For surface waters not covered by specific guidelines, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, cyanotoxin levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Total Uranium:

Refers to toxicity only and not radioactivity.

10. Superscript [#4] denotes values exceeding

(GOA. 2018. Environmental Quality Guidelines for Alberta Surface Waters

https://open.alberta.ca/dataset/5298aadb-f5cc-4160-8620-ad139bb985d8/resource/38ed9bb1-233f-4e28-b344-808670b20dae/download/environmentalqualitysurfacewaters-mar28-2018.pdf accessed October 12, 2018)

Benzene:

Interim. Applies to maximum concentration.

Toluene:

Maximum concentration should not exceed.

Xylenes-Total:

Applies to all isomers. Maximum concentration should not exceed.

pH (Laboratory):

Not to be altered by more than 0.5 units from background.

Turbidity:

Clear Flow:

Maximum average increase of 2 NTUs from background levels for a long term exposure (greater than 24 h)

High Flow or Turbid Waters:

Maximum increase of 8 NTUs from background levels at any time when background levels are between 8 and 80 NTUs.

Should not increase more than 10% of background levels when background is > 80 NTUs.

Total Alkalinity as CaCO3:

A minimum value; unless natural conditions are less.

Sulphate:D:

Varies with hardness. See Table 1.7 in ESRD 2014.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Dissolved Sulphide:

As undissociated H_2S. Averaging period is 4 d.

Total Sulphide:

As undissociated H_2S. Averaging period is 4 d.

Total Suspended Solids (TSS):

Clear flow or clear waters:

Maximum average increase of 5 mg/L from background levels for longer term exposures

(e.g., inputs lasting between 24 h and 30 d).

High flow:

Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 and 250 mg/L.

Should not increase more than 10% of background levels when background is = 250 mg/L.

Dissolved Aluminum:

Standard varies with pH.

pH = 6.5 = 0.05 mg/L

pH < 6.5 = $e^{(1.6 - 3.327[pH] + 0.402[pH]^{\wedge}2)}$ µg/L.

Value assumes a pH of 6.73 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Dissolved Chromium:

Limit is for Chromium (III).

Dissolved Phosphorus:

Lakes - no increase in nitrogen (total) or phosphorus over exisiting conditions. Where nitrogen and/or phosphorus have increased due to human activity, develop lake-specific nutrient objectives and management plans.

Major Rivers (interim) - For major rivers, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Other Water Bodies - For surface waters not covered by specific guidelines, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, cyanotoxin levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

pH:

Not to be altered by more than 0.5 units from background.

Temperature:

Thermal additions should not alter thermal stratification or turnover dates, exceed maximum weekly average temperatures, nor exceed maximum short-term temperatures.

Dissolved Oxygen:

Oxygen values are minima. See AEP 1997 for guidance when natural conditions do not meet guidelines. Long term is 7 d mean.

Guideline is 8.3 mg/L for mid-May to end June, to protect mayfly emergence.

Guideline is 9.5 mg/L for areas and times where larval fish develop within gravel beds.

Nitrate as N:

Standard is for NO_3 as N.

For protection from toxicity. Does not consider eutrophication effects.

Nitrite as N:

Standard is for NO_2 as N. Varies with chloride.

Value assumes a chloride concentration of 1.0 mg/L based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

See Table 1.4 in ESRD (2014). Averaging period is 30 d for long term.

Ammonia as N:

Guideline for total ammonia is dependent on pH and temperature of surface water. See Table 1.2 in ESRD 2014.

Value assumes a pH of 8.0 and a temperature of 18 degrees C based on the 90th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Cadmium:

Guideline = $10^{(0.83[\log(\text{hardness})]-2.46)}$ µg/L (interim guideline).

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Chromium:

Limit is for Chromium (III).

Total Cobalt:

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Copper:

The long term guideline only applies to waters of hardness = 50 mg/L $CaCO_3$.

Total Lead:

Guideline = $e^{1.273[\ln(\text{hardness})]-4.705}$ µg/L.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Mercury:

Averaging period is 4 d for long term.

Total Methyl Mercury:

Averaging period is 4 d for long term.

Total Nickel:

Guideline = $e^{0.8460*\ln(\text{hardness})+0.0584}$ µg/L.

Value assumes a hardness of 160 mg/L CaCO3 based on the 10th percentile of surface water samples collected from Waterbody 3 (CP-FT-A-3) based on data from June 2016 to October 2021.

Total Phosphorus:

Lakes - no increase in nitrogen (total) or phosphorus over exisiting conditions. Where nitrogen and/or phosphorus have increased due to human activity, develop lake-specific nutrient objectives and management plans.

Major Rivers (interim) - For major rivers, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Other Water Bodies - For surface waters not covered by specific guidelines, nitrogen (total) and phosphorus concentrations should be maintained so as to prevent detrimental changes to algal and aquatic plan communities, aquatic biodiversity, oxygen levels, cyanotoxin levels, and recreational quality. Where priorities warrant, develop site-specific nutrient objectives and management plans.

Total Uranium:

Refers to toxicity only and not radioactivity.

NODA

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																	
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride :D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---
NODA SEEP																									
NODA-SEEP-01	14-May-2022	2424	40.1	6.55	12.3	4.22 [#1,2,3,4]	1836	2000	7.41	230	---	1100	1200	440	< 1.0	< 2.0	2.9	860 [#3,4]	< 0.0018	0.0023 [#3,4]	0.0025	1600	1600	99	540
	19-Jun-2022	2162	44.9	6.86	14.7	4.53 [#1,2,3,4]	1735	2100	7.43	---	1400	---	---	490	< 1.0	---	1.5	920 [#3,4]	---	0.0095 [#3,4]	0.010	1800	1700	---	590
	14-Jul-2022	2085	53.9	6.82	12.2	5.75 [#3,4]	1574	2100	7.21	82	---	1400	1200	490	< 1.0	< 2.0	2.1	930 [#3,4]	0.0044 [#3,4]	0.0054 [#3,4]	0.0058	1800	1700	52	600
	24-Jul-2022	2040	15.5	7.08	14.8	1.55 [#1,2,3,4]	1642	1900	7.77	160	---	970	920	460	< 1.0	10	2.4	770 [#3,4]	0.0080 [#3,4]	0.085 [#3,4]	0.090	1700	1400	120	560
	27-Jul-2022	2192	16.8	7.16	19.2	1.62 [#1,2,3,4]	1928	2100	7.32	460	---	1400	1200	490	< 1.0	5.9	2.9	930 [#3,4]	0.019 [#3,4]	0.039 [#3,4]	0.041	1900	1700	110	600
	03-Aug-2022	1920	17.1	6.72	14.6	1.75 [#1,2,3,4]	1539	2100	7.51	> 4000	---	1300	1300	510	< 1.0	41	3.0	850 [#3,4]	0.0047 [#3,4]	0.075 [#3,4]	0.079	1600	1600	5200	620
	10-Aug-2022	2151	54.4	7.08	17.6	5.11 [#3,4]	1853	2000	7.45	650	---	1300	1300	510	< 1.0	< 2.0	2.7	830 [#3,4]	0.0022 [#3,4]	0.0066 [#3,4]	0.0071	1700	1600	530	620
	20-Aug-2022	2054	16.3	6.9	17.4	1.55 [#1,2,3,4]	1755	2000	7.34	760	---	1400	1100	440	< 1.0	9.1	13	830 [#3,4]	0.0042 [#3,4]	0.028 [#3,4]	0.030	1700	1500	1300	530
	07-Sep-2022	---	---	---	---	---	---	2000	7.61	180	---	1200	1300	510	< 1.0	5.6	2.8	830 [#3,4]	0.0022 [#3,4]	0.0055 [#3,4]	0.0058	1700	1600	220	630
	11-Sep-2022	1851	5	6.89	11	0.53 [#1,2,3,4]	1350	1900	6.92	2500	---	1400	1200	470	< 1.0	12	4.5	780 [#3,4]	0.0071 [#3,4]	0.081 [#3,4]	0.086	1700	1500	1100	570
	19-Sep-2022	1664	2.7	7.29	10.8	0.3 [#1,2,3,4]	1214	1700	7.39	1100	---	1200	950	490	< 1.0	34	5.3	550 [#3,4]	< 0.0018	1.1 [#3,4]	1.1	1400	1200	1900	600
	27-Sep-2022	1513	3.5	7.04	12.5	0.37 [#1,2,3,4]	1153	1800	7.22	1700	---	1300	1200	490	< 1.0	46	4.3	700 [#3,4]	0.0082 [#3,4]	0.16 [#3,4]	0.17	1600	1400	3600	600
	02-Oct-2022	1818	5.5	7	12.6	0.58 [#1,2,3,4]	1387	1800	7.74	3000	---	1300	1100	510	< 1.0	37	4.3	640 [#3,4]	0.0072 [#3,4]	2.6 [#3,4]	2.7	1600	1400	4600	620
	10-Oct-2022	1438	10.3	7.17	10.3	1.15 [#1,2,3,4]	1036	1700	7.48	1800	---	1900	1100	520	< 1.0	23	3.8	540 [#3,4]	---	1.3 [#3,4]	1.4	930	1200	1300	630
	16-Oct-2022	1691	4.9	6.87	6.8	5.95 [#3,4]	102	2000	7.71	630	---	1300	1200	440	< 1.0	< 2.0	3.4	900 [#3,4]	0.0082 [#3,4]	0.11 [#3,4]	0.11	1700	1600	480	540
	25-Oct-2022	1565	14.7	7.02	3.6	1.95 [#1,2,3,4]	625	1800	7.81	1700	---	1300	1100	490	< 1.0	13	4.5	660 [#3,4]	< 0.0018	0.72 [#3,4]	0.76	1500	1400	3900	600
	31-Oct-2022	1606	42.1	7.13	4.7	5.39 [#3,4]	983	2000	7.44	250	---	1300	1300	450	< 1.0	< 2.0	6.4	830 [#3,4]	0.0038 [#3,4]	< 0.036 [#3,4]	< 0.0020	1700	1600	140	550
	06-Nov-2022	1768	3.5	6.81	0	0.51 [#1,2,3,4]	924	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	2800	108.4	7.04	-0.1	15.9	1454	2700	7.40	75	---	1500	1500	670	< 1.0	< 2.0	3.7	1100 [#3,4]	0.0046 [#3,4]	< 0.0018	< 0.0020	2500	2100	41	820
NODA-SEEP-02	23-May-2022	955	55.1	7.08	3.6	6.68	570	780	7.01	---	430	---	---	190	< 1.0	---	2.9	240 [#3]	---	---	---	680	550	---	230
NODA-SEEP-03	23-May-2022	583.3	71.1	7	6.6	8.54	378.7	560	7.35	---	320	---	---	130	< 1.0	---	1.7	160	---	---	---	420	370	---	160
	23-Jul-2022	---	---	---	---	---	---	780	8.27	---	---	390	400	350	< 1.0	---	1.2	92	---	< 0.0018	< 0.0020	500	460	4.3	420
NODA-SEEP-04	23-May-2022	448.1	34.5	6.64	6.3	4.25 [#1,2,3,4]	287.7	470	7.14	---	240	---	---	110	< 1.0	---	1.2	130	---	---	---	360	300	---	140
	23-Jul-2022	---	---	---	---	---	---	450	7.43	---	---	270	240	200	< 1.0	---	1.7	35	---	0.0067 [#3,4]	0.0071	440	250	660	250
NODA-SEEP-05	23-Jul-2022	---	---	---	---	---	---	710	7.87	---	---	430	400	390	< 1.0	---	1.7	< 3.0	---	0.0098 [#3,4]	0.010	520	380	270	480
	11-Sep-2022	671	33.2	7.7	11.2	3.6 [#1,2,3,4]	494	690	7.72	3.7	---	400	380	400	< 1.0	< 2.0	2.2	< 1.0	< 0.0018	< 0.0018	< 0.0020	500	380	32	490
	28-Sep-2022	750	19.2	7.56	10.9	2.11 [#1,2,3,4]	548	730	7.74	38	---	420	410	420	< 1.0	12	2.0	< 4.0	0.0023 [#3,4]	< 0.0018	< 0.0020	500	400	190	510
	09-Oct-2022	564	56.6	7.59	7.1	6.84	370.7	710	8.06	17	---	420	390	400	< 1.0	---	< 1.0	3.0	< 0.0018	0.012 [#3,4]	0.012	460	390	74	490
	23-Oct-2022	544	53.7	7.64	3.4	7.05	320.2	660	8.14	42	---	380	370	360	< 1.0	< 2.0	1.5	< 1.0	< 0.0018	0.0023 [#3,4]	0.0024	440	350	160	430
	01-Nov-2022	515	72.7	7.85	1.4	10.22	282.4	640	8.18	0.57	---	370	360	370	< 1.0	< 2.0	1.5	< 1.0	0.0023 [#3,4]	< 0.0018	< 0.0020	440	350	6.3	450

Water Quality Results

PROJECT No.: 417085-47599		Conventional Parameters (cont.)			Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements												
Monitoring Station	Date	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron
	(dd-mmm-yyyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	**3**	**0.02**	---	---	---	**0.303**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---	**300**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	**3**	**0.02**	---	---	---	**0.473**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---	**300**
NODA SEEP																												
NODA-SEEP-01	14-May-2022	< 1.0	< 1.0	0.19	120	39	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.8	1.8	0.0032	7.6	0.056	0.48	110	< 0.010	0.0059	86	0.0053	330000	0.46	2.0	0.42	**17000** [#3,4]
	19-Jun-2022	< 1.0	< 1.0	0.21	---	---	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	---	---	---	8.1	< 0.60	0.75	120	< 1.0	---	120	< 0.020	350000	< 1.0	2.1	< 1.0	**9900** [#3,4]
	14-Jul-2022	< 1.0	< 1.0	0.20	150	37	< 0.010	0.012	< 0.010	< 0.044	0.038	< 0.015	1.1	1.1	< 0.0030	7.0	0.044	0.39	92	< 0.020	< 0.010	120	< 0.010	300000	0.34	1.2	0.61	**2300** [#3,4]
	24-Jul-2022	< 1.0	< 1.0	0.17	93	50	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.016	2.9	2.9	0.0035	17	0.058	1.5	85	< 0.010	< 0.0050	66	< 0.0050	230000	0.66	0.91	0.42	**7300** [#3,4]
	27-Jul-2022	< 1.0	< 1.0	0.19	120	48	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.023	9.2	9.2	0.0038	13	< 0.040	1.2	120	< 0.020	< 0.010	110	0.015	300000	0.65	3.2	0.49	**10000** [#3,4]
	03-Aug-2022	< 1.0	< 1.0	0.18	120	32	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.040	4.3	4.3	< 0.0030	8.0	0.041	0.51	88	< 0.020	< 0.010	86	< 0.010	320000	0.43	2.0	0.34	**7000** [#3,4]
	10-Aug-2022	< 1.0	< 1.0	0.21	140	30	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.51	0.51	0.0033	4.4	0.043	0.38	87	< 0.020	< 0.010	100	< 0.010	300000	0.20	1.1	0.37	**1100** [#3,4]
	20-Aug-2022	< 1.0	< 1.0	0.16	120	55	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.10	2.0	2.0	0.0044	19	0.058	0.70	120	< 0.020	< 0.010	110	< 0.010	290000	0.66	0.74	0.82	**11000** [#3,4]
	07-Sep-2022	< 1.0	< 1.0	0.20	140	34	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	2.8	2.8	0.0035	4.1	0.054	0.36	78	< 0.020	< 0.010	150	< 0.010	310000	< 0.20	2.4	0.45	**1900** [#3,4]
	11-Sep-2022	< 1.0	< 1.0	0.15	130	54	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.52** [#3,4]	6.9	6.9	0.0046	16	0.059	0.60	100	< 0.020	< 0.010	92	< 0.010	310000	0.85	2.7	0.65	**31000** [#3,4]
	19-Sep-2022	< 1.0	< 1.0	0.15	120	52	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.66** [#3,4]	23	23	< 0.0030	14	< 0.040	2.8	100	< 0.020	< 0.010	56	< 0.010	240000	0.54	0.98	< 0.10	**23000** [#3,4]
	27-Sep-2022	< 1.0	< 1.0	0.16	130	49	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.40** [#3]	11	11	0.0064	17	< 0.040	2.3	120	< 0.020	< 0.010	100	< 0.010	290000	0.52	1.2	0.13	**18000** [#3,4]
	02-Oct-2022	< 1.0	< 1.0	0.19	130	55	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.48** [#3,4]	64	64	0.0060	17	< 0.040	2.0	120	< 0.020	< 0.010	110	< 0.010	280000	0.60	1.2	0.20	**25000** [#3,4]
	10-Oct-2022	< 1.0	< 1.0	0.16	130	46	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**1.0** [#3,4]	49	49	0.0033	6.0	< 0.040	0.69	98	< 0.020	< 0.010	66	< 0.010	270000	0.34	0.32	0.24	35
	16-Oct-2022	< 1.0	< 1.0	0.17	130	29	< 0.050	0.014	< 0.050	< 0.22	0.047	0.15	1.4	1.4	0.0038	16	< 0.040	0.57	90	< 0.020	< 0.010	55	< 0.010	290000	0.73	1.7	0.17	**22000** [#3,4]
	25-Oct-2022	< 1.0	< 1.0	0.16	140	49	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**1.0** [#3,4]	10	10	0.0033	14	0.052	1.2	110	< 0.020	< 0.010	70	< 0.010	280000	0.53	1.0	1.7	**24000** [#3,4]
	31-Oct-2022	< 1.0	< 1.0	0.14	120	64	0.075	< 0.010	0.075	0.33	< 0.033	**0.51** [#3,4]	1.4	1.5	0.0046	15	< 0.040	0.99	55	< 0.020	< 0.010	120	< 0.010	320000	0.54	0.65	0.27	**8500** [#3,4]
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	< 1.0	< 1.0	0.17	170	48	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.11	1.1	1.1	< 0.0030	9.3	0.13	0.38	110	0.013	< 0.0050	440	0.018	410000	0.61	6.0	4.3	**1300** [#3,4]
NODA-SEEP-02	23-May-2022	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---	---	< 20	---	96000	---	---	---	**25000** [#3,4]
NODA-SEEP-03	23-May-2022	< 1.0	< 1.0	---	---	---	0.11	< 0.010	0.11	0.50	< 0.033	---	---	---	---	---	---	---	---	---	---	---	---	75000	---	---	---	60
	23-Jul-2022	< 1.0	< 1.0	0.32	80	---	---	---	---	---	---	0.068	---	---	---	1.2	< 0.020	0.38	83	< 0.010	< 0.0050	170	< 0.0050	91000	< 0.10	0.16	< 0.050	39
NODA-SEEP-04	23-May-2022	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---	---	---	---	57000	---	---	---	270
	23-Jul-2022	< 1.0	< 1.0	0.088	48	---	---	---	---	---	---	**0.45** [#3]	---	---	---	47	0.12	1.3	97	0.021	< 0.0050	16	0.0095	60000	0.37	0.67	1.8	**440** [#3,4]
NODA-SEEP-05	23-Jul-2022	< 1.0	< 1.0	0.27	92	---	---	---	---	---	---	0.15	---	---	---	1.3	0.039	0.83	140	< 0.010	< 0.0050	79	< 0.0050	100000	< 0.10	0.13	0.17	150
	11-Sep-2022	< 1.0	< 1.0	0.18	110	34	0.025	< 0.010	0.025	0.11	< 0.033	0.052	2.0	2.0	0.081	12	0.23	0.63	94	< 0.010	< 0.0050	47	< 0.0050	100000	< 0.10	0.40	1.2	**480** [#3,4]
	28-Sep-2022	< 1.0	< 1.0	0.21	24	31	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.062	5.0	5.0	0.076	4.9	0.023	0.74	97	< 0.010	< 0.0050	40	< 0.0050	100000	< 0.10	0.53	0.10	**620** [#3,4]
	09-Oct-2022	< 1.0	< 1.0	0.19	110	27	0.012	< 0.010	0.012	0.052	< 0.033	0.036	2.2	2.2	0.063	5.3	< 0.020	0.51	84	< 0.010	< 0.0050	32	< 0.0050	99000	< 0.10	0.35	0.11	**330** [#3,4]
	23-Oct-2022	< 1.0	< 1.0	0.21	110	110	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.68	0.68	0.067	4.3	< 0.020	0.38	67	< 0.010	< 0.0050	32	< 0.0050	91000	< 0.10	0.16	0.067	210
	01-Nov-2022	< 1.0	< 1.0	0.20	94	21	0.011	< 0.010	< 0.014	0.049	< 0.033	< 0.015	1.4	1.4	0.063	4.2	< 0.020	0.34	66	< 0.010	< 0.0050	29	< 0.0050	87000	< 0.10	0.12	0.12	170

Water Quality Results

PROJECT No.: 417085-47599		Dissolved Metals and Trace Elements (cont.)																				Total Metals and Trace Elements							
Monitoring Station	Date	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1.6**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3.4**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**5**	---	---	---	---	**0.12**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**5**	---	---	---	---	**0.23**
NODA SEEP																													
NODA-SEEP-01	14-May-2022	0.062	17	90000	1400	0.28	5.1	3000	0.44	7800	< 0.0050	15000	380	220000	0.010	< 0.20	< 0.50	8.2	0.37	4.4	0.90	33	0.068	0.57	81	< 0.010	< 0.010	290000	0.046
	19-Jun-2022	< 0.20	24	130000	1600	0.23	7.2	2200	0.30	6200	< 0.10	28000	460	320000	< 0.20	< 1.0	< 1.0	8.1	< 1.0	< 3.0	---	17	< 0.60	0.90	110	< 1.0	---	320000	< 0.020
	14-Jul-2022	< 0.010	24	120000	760	0.22	7.8	2600	0.16	6200	< 0.010	27000	440	280000	0.0070	< 0.40	< 1.0	8.4	< 0.40	18	1.1	23	0.075	0.64	100	< 0.020	< 0.020	340000	0.016
	24-Jul-2022	0.0084	8.4	82000	1400	0.16	2.9	4100	0.29	7800	< 0.0050	15000	420	150000	0.0041	< 0.20	1.4	1.3	0.96	7.4	1.8	140	0.070	**15** [#3,4]	210	0.038	< 0.020	250000	< 0.010
	27-Jul-2022	0.038	16	110000	6400	< 0.10	4.4	3500	0.19	8300	< 0.010	19000	520	260000	< 0.0040	< 0.40	< 1.0	2.0	0.71	4.3	1.5	98	0.084	**13** [#3,4]	220	0.048	< 0.020	340000	0.095
	03-Aug-2022	< 0.010	21	120000	1500	0.19	6.9	3900	0.17	7400	< 0.010	24000	420	280000	< 0.0040	< 0.40	< 1.0	6.6	0.53	2.5	1.4	300	0.11	**7.6** [#3,4]	380	0.10	< 0.050	330000	< 0.025
	10-Aug-2022	< 0.010	27	140000	660	0.24	6.5	3700	0.14	8200	< 0.010	25000	450	260000	0.0071	< 0.40	< 1.0	7.8	< 0.40	1.4	0.94	21	0.048	1.8	100	< 0.020	< 0.020	300000	< 0.010
	20-Aug-2022	0.016	16	98000	2100	0.12	4.1	6700	0.21	9900	< 0.010	15000	450	250000	< 0.0040	< 0.40	< 1.0	2.7	0.80	900	1.6	250	0.10	**11** [#3,4]	500	0.12	< 0.050	360000	0.033
	07-Sep-2022	< 0.010	22	140000	1200	0.27	6.6	5300	0.17	9300	< 0.010	21000	420	280000	0.0071	< 0.40	< 1.0	6.3	< 0.40	8.9	0.94	110	0.077	2.0	140	0.039	< 0.020	270000	0.026
	11-Sep-2022	0.12	11	100000	3600	0.12	4.1	4300	0.32	9900	< 0.010	14000	400	230000	< 0.0040	< 0.40	< 1.0	2.5	1.2	25	1.8	890	< 0.20	**32** [#3,4]	970	0.32	< 0.10	370000	0.058
	19-Sep-2022	< 0.010	8.4	85000	2200	< 0.10	2.4	4500	0.21	8600	< 0.010	18000	420	190000	< 0.0040	< 0.40	< 1.0	0.81	0.81	10	1.5	890	0.11	**38** [#3,4]	380	0.22	0.027	320000	0.043
	27-Sep-2022	< 0.010	13	110000	2500	< 0.10	2.9	5800	0.22	10000	< 0.010	18000	520	250000	< 0.0040	< 0.40	< 1.0	1.1	0.92	13	1.6	880	0.11	**71** [#3,4]	750	0.28	< 0.050	360000	0.046
	02-Oct-2022	0.016	12	100000	2900	< 0.10	3.0	4200	0.28	10000	< 0.010	17000	470	220000	< 0.0040	< 0.40	1.1	1.1	0.99	5.6	1.6	950	< 0.10	**49** [#3,4]	540	0.23	< 0.050	360000	0.038
	10-Oct-2022	< 0.010	11	100000	800	0.11	2.3	4600	0.17	8700	< 0.010	15000	450	220000	< 0.0040	< 0.40	< 1.0	1.6	< 0.40	0.36	1.2	6200	< 0.20	**160** [#3,4]	1300	0.92	< 0.10	570000	**0.22** [#3]
	16-Oct-2022	< 0.010	12	110000	2900	< 0.10	4.6	4000	0.17	9000	< 0.010	15000	450	260000	< 0.0040	< 0.40	< 1.0	2.3	1.1	18	1.9	90	< 0.040	1.8	120	0.022	< 0.020	330000	< 0.010
	25-Oct-2022	0.044	9.8	100000	2200	0.24	2.9	4000	0.17	9000	< 0.010	16000	480	220000	< 0.0040	< 0.40	< 1.0	2.0	0.70	2.6	1.6	1300	0.10	**53** [#3,4]	560	0.28	< 0.050	340000	0.057
	31-Oct-2022	< 0.010	14	120000	1400	0.28	2.6	5400	0.28	8000	< 0.010	34000	590	310000	< 0.0040	< 0.40	1.0	2.2	0.66	2.0	1.7	320	0.051	**8.0** [#3,4]	110	0.053	< 0.020	330000	0.011
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	0.11	26	120000	2700	0.35	14	3900	0.25	9000	< 0.0050	72000	590	330000	0.0041	< 0.20	< 0.50	9.0	0.72	14	1.7	120	0.48	0.53	100	0.016	< 0.010	410000	0.019
NODA-SEEP-02	23-May-2022	---	---	45000	11000	---	---	6100	---	---	---	13000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NODA-SEEP-03	23-May-2022	---	---	33000	170	---	---	5300	---	---	---	8800	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.0050	40	41000	41	< 0.050	0.60	3200	0.042	10000	< 0.0050	21000	610	32000	< 0.0020	< 0.20	< 0.50	0.030	< 0.20	0.20	0.17	39	< 0.020	0.61	99	< 0.010	< 0.010	93000	< 0.0050
NODA-SEEP-04	23-May-2022	---	---	24000	270	---	---	5400	---	---	---	6700	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	0.014	< 0.50	21000	260	0.60	8.6	5000	0.39	2900	< 0.0050	7300	200	12000	0.0056	0.35	0.83	0.49	0.61	6.2	1.3	4300	0.23	**6.0** [#3,4]	420	0.28	0.049	73000	**1.4** [#3,4]
NODA-SEEP-05	23-Jul-2022	< 0.0050	46	34000	11	0.17	0.60	1800	0.083	15000	< 0.0050	5300	510	< 3000	< 0.0020	< 0.20	< 0.50	0.15	0.23	0.57	< 0.10	300	0.063	2.1	220	0.023	< 0.010	110000	0.046
	11-Sep-2022	0.066	32	32000	640	0.076	0.69	3300	0.14	16000	< 0.0050	4600	320	< 3000	< 0.0020	< 0.20	< 0.50	0.030	< 0.20	2.4	0.13	180	0.038	1.1	140	0.019	< 0.010	100000	0.015
	28-Sep-2022	0.011	39	36000	1100	< 0.050	0.77	3600	0.067	17000	< 0.0050	4900	360	< 3000	< 0.0020	< 0.20	< 0.50	0.024	< 0.20	2.3	0.12	260	0.043	1.8	220	0.029	< 0.010	110000	0.020
	09-Oct-2022	< 0.0050	36	36000	540	< 0.050	0.56	3700	0.044	15000	< 0.0050	4800	300	< 3000	< 0.0020	< 0.20	< 0.50	0.026	< 0.20	15	< 0.10	210	0.026	0.88	130	< 0.010	< 0.010	110000	0.015
	23-Oct-2022	0.0051	34	34000	160	0.053	0.45	3700	0.043	14000	< 0.0050	5000	280	< 3000	< 0.0020	< 0.20	< 0.50	0.035	< 0.20	190	< 0.10	12	< 0.020	0.38	71	< 0.010	< 0.010	93000	< 0.0050
	01-Nov-2022	0.0062	38	35000	120	0.060	0.53	3400	0.046	13000	< 0.0050	4700	280	< 3000	< 0.0020	< 0.20	< 0.50	0.036	< 0.20	1.0	< 0.10	6.5	< 0.020	0.34	68	< 0.010	< 0.010	89000	< 0.0050

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium
		Total Metals and Trace Elements (cont.)																										
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**29000**	---	---	**12**	---	---	---	---	---	**0.013**	**2**	---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**29000**	---	---	**25**	---	---	---	---	---	**0.013**	**2**	---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**1500**	**8.9**	**0.91**	**7**	---	**2.2**	---	---	---	**0.005**	**1**	**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**1500**	**8.9**	**1.2**	**7**	---	**5.8**	---	---	---	**0.005**	**1**	**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
NODA SEEP																												
NODA-SEEP-01	14-May-2022	110	1.3	**1.4** [#3,4]	0.60	10000	0.11	19	92000	1400	0.0024	0.210	0.26	5.8	3100	0.62	7700	< 0.010	19000	360	240000	0.0076	0.37	< 2.0	9.8	0.88	3.7	0.84
	19-Jun-2022	110	< 1.0	**2.1** [#3,4]	< 1.0	11000	< 0.20	< 20	120000	1600	0.0019	---	0.86	7.0	2100	0.42	5800	< 0.10	26000	420	300000	< 0.20	< 1.0	< 1.0	7.9	< 1.0	< 3.0	---
	14-Jul-2022	100	0.46	**1.6** [#3,4]	0.60	7800	0.12	23	130000	1100	0.0035	0.348	0.35	8.6	2900	0.21	6900	< 0.020	30000	490	290000	0.0093	< 0.40	< 4.0	8.4	< 0.40	**150** [#3,4]	1.2
	24-Jul-2022	71	1.7	**1.7** [#3,4]	1.0	83000	0.28	9.4	83000	2200	0.0023	0.81	0.22	4.7	4000	0.36	11000	< 0.020	14000	500	150000	0.0058	< 0.40	9.8	1.6	6.5	8.6	3.5
	27-Jul-2022	210	1.7	**2.9** [#3,4]	0.94	86000	0.23	20	130000	4800	0.0035	0.45	0.21	5.4	3800	0.32	12000	< 0.020	33000	620	310000	< 0.0040	< 0.40	5.2	2.4	4.2	19	2.9
	03-Aug-2022	70	4.8	**6.3** [#3,4]	1.2	240000	0.39	16	120000	3800	0.0024	< 0.050	0.31	17	4000	0.63	19000	< 0.050	16000	550	250000	< 0.010	< 1.0	16	4.4	12	**190** [#3,4]	6.4
	10-Aug-2022	110	0.55	**1.1** [#3]	0.43	20000	< 0.040	27	130000	970	0.0023	< 0.050	0.24	6.5	4000	0.20	8800	< 0.020	24000	480	270000	0.0077	< 0.40	< 4.0	7.3	1.0	3.5	1.6
	20-Aug-2022	220	5.4	**3.2** [#3,4]	2.4	280000	0.48	18	120000	4800	0.0031	0.489	0.35	11	14000	0.77	21000	< 0.050	17000	540	270000	< 0.010	< 1.0	14	4.0	12	**39** [#3,4]	6.0
	07-Sep-2022	150	1.2	**5.2** [#3,4]	1.3	41000	0.21	28	120000	2300	0.0038	0.452	0.32	10	2900	0.27	11000	< 0.020	18000	420	260000	0.015	< 0.40	< 4.0	6.4	3.4	**85** [#3,4]	1.5
	11-Sep-2022	150	**11** [#3,4]	**5.3** [#3,4]	3.0	600000	0.95	18	120000	5600	0.0047	0.068	0.51	15	4400	1.2	34000	< 0.10	16000	660	280000	< 0.020	< 2.0	43	4.3	33	**68** [#3,4]	15
	19-Sep-2022	130	5.0	**3.5** [#3,4]	4.3	150000	1.6	11	98000	5000	0.0019	< 0.050	0.34	7.1	4500	0.60	17000	0.024	17000	530	190000	0.019	< 0.40	39	1.2	16	20	4.2
	27-Sep-2022	120	6.9	**4.6** [#3,4]	3.5	390000	1.6	12	100000	4900	0.00076	< 0.050	0.40	8.9	4300	0.94	29000	< 0.050	17000	680	220000	0.020	< 1.0	43	1.6	25	**110** [#3,4]	7.8
	02-Oct-2022	94	6.0	**4.5** [#3,4]	3.9	250000	1.7	15	110000	5900	0.0036	0.26	0.32	8.6	4600	0.77	22000	< 0.050	17000	640	220000	0.024	< 1.0	41	1.6	19	**45** [#3,4]	6.2
	10-Oct-2022	120	**21** [#3,4]	**14** [#3,4]	**15** [#1,3,4]	460000	**8.8** [#3,4]	19	120000	17000	0.0015	0.19	1.2	22	7100	1.5	38000	< 0.10	19000	1100	200000	0.11	< 2.0	170	2.8	76	**180** [#3,4]	13
	16-Oct-2022	69	1.0	**1.2** [#3,4]	0.77	41000	0.11	13	110000	2400	0.0020	< 0.050	0.21	4.2	3700	0.26	12000	< 0.020	15000	470	270000	0.0049	< 0.40	4.3	2.2	2.7	7.2	2.0
	25-Oct-2022	120	6.6	**5.2** [#3,4]	4.7	260000	2.0	10	98000	5700	0.0012	0.11	0.42	9.4	4000	0.68	23000	< 0.050	15000	590	210000	< 0.010	< 1.0	51	2.7	24	**34** [#3,4]	5.9
	31-Oct-2022	120	1.8	**1.4** [#3,4]	0.95	66000	0.42	11	120000	1900	0.00074	< 0.050	0.21	3.7	5400	0.35	10000	< 0.020	31000	620	290000	0.0055	< 0.40	12	2.1	4.3	8.9	2.7
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	480	1.3	**6.2** [#3,4]	1.1	5600	0.13	26	120000	2700	0.0025	0.24	0.32	15	4300	0.33	9200	< 0.010	68000	650	370000	0.0048	0.25	4.3	10	1.6	19	2.8
NODA-SEEP-02	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NODA-SEEP-03	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	170	0.19	0.24	0.14	1900	0.049	42	38000	270	0.00091	< 0.050	0.064	0.65	3100	0.042	11000	< 0.010	20000	600	30000	< 0.0020	0.21	< 2.0	0.033	< 0.20	3.9	0.17
NODA-SEEP-04	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	22	5.1	**18** [#3,4]	**9.7** [#3,4]	28000	**2.9** [#3]	2.1	22000	4900	**0.011** [#3,4]	**4.8** [#1,2,3,4]	1.1	25	5300	1.0	6600	0.20	7300	250	15000	0.038	1.0	35	2.0	14	**90** [#3,4]	3.6
NODA-SEEP-05	23-Jul-2022	94	0.52	**1.2** [#3,4]	1.4	4400	0.44	47	35000	840	0.0030	**1.4** [#3,4]	0.28	1.4	2000	0.12	17000	< 0.010	5300	540	< 3000	0.0067	< 0.20	6.2	0.22	0.99	15	0.18
	11-Sep-2022	60	0.33	0.86	0.60	3200	0.17	40	36000	1100	0.00089	0.090	0.11	1.2	3500	0.078	17000	< 0.010	5200	350	< 3000	0.0023	< 0.20	3.8	0.043	0.68	**75** [#3,4]	0.20
	28-Sep-2022	46	0.45	**1.4** [#3,4]	1.1	7600	0.33	37	35000	2400	0.00088	< 0.050	0.091	1.5	3700	0.097	18000	< 0.010	5300	370	< 3000	0.0031	< 0.20	5.7	0.044	1.0	**62** [#3,4]	0.28
	09-Oct-2022	35	0.41	0.87	0.45	2800	0.21	42	37000	1100	0.0028	0.63	0.064	1.2	3800	0.074	17000	< 0.010	5000	350	< 3000	0.0034	< 0.20	4.3	0.040	0.71	10	0.19
	23-Oct-2022	36	< 0.10	0.16	< 0.10	280	< 0.020	38	36000	150	0.00083	0.12	0.055	0.52	3800	< 0.040	15000	< 0.010	4900	290	< 3000	< 0.0020	< 0.20	< 2.0	0.033	< 0.20	1.9	< 0.10
	01-Nov-2022	29	< 0.10	0.13	< 0.10	240	0.029	41	37000	120	0.00073	0.19	0.056	0.43	3600	< 0.040	14000	< 0.010	4900	280	< 3000	0.0041	< 0.20	< 2.0	0.038	< 0.20	1.1	< 0.10

Water Quality Results

PROJECT No.: 417085-47599		BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons															
Monitoring Station	Date	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	(C1benzob)kfluoranthene/benzoapyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---
NODA SEEP																													
NODA-SEEP-01	14-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	14-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	180	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	27-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	03-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	260	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	10-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	20-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	210	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	07-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	230	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	19-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	280	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	27-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	240	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	260	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	0.017
	10-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	320	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	0.021
	16-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	25-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	380	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	31-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	180	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
NODA-SEEP-02	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NODA-SEEP-03	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
NODA-SEEP-04	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.40	**1.4** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	190	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
NODA-SEEP-05	23-Jul-2022	< 0.40	**1.8** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	190	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	01-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																											
Monitoring Station	Date	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NODA SEEP																													
NODA-SEEP-01	14-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
	14-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	24-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	27-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	03-Aug-2022	< 0.10	0.017	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.043	< 0.020	< 0.020	0.034	< 0.050	< 0.10	< 0.050	< 0.0085	0.026	0.036	< 0.050	< 0.10	0.060	< 0.0085	< 0.020	0.044	< 0.10	< 0.050	< 0.0085
	10-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	20-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	07-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	0.024	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	19-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	27-Sep-2022	< 0.10	0.013	< 0.020	< 0.020	0.022	< 0.050	< 0.10	< 0.050	< 0.0075	0.031	< 0.020	0.036	0.028	< 0.050	< 0.10	< 0.050	< 0.0085	0.032	0.057	< 0.050	< 0.10	0.058	< 0.0085	< 0.020	0.027	< 0.10	< 0.050	< 0.0085
	02-Oct-2022	< 0.10	0.026	< 0.020	< 0.020	0.038	< 0.050	< 0.10	< 0.050	0.024	0.076	< 0.020	0.053	0.056	< 0.050	< 0.10	0.056	0.024	< 0.020	0.16	< 0.050	< 0.10	0.089	< 0.0085	0.040	0.070	< 0.10	< 0.050	< 0.0085
	10-Oct-2022	< 0.10	0.031	< 0.020	< 0.020	0.037	< 0.050	< 0.10	< 0.050	0.033	0.14	< 0.020	0.062	0.082	< 0.050	< 0.10	0.064	0.060	0.038	0.21	< 0.050	< 0.10	0.11	0.014	0.044	0.11	< 0.10	0.063	< 0.0085
	16-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	25-Oct-2022	< 0.10	0.016	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.043	< 0.020	0.026	0.035	< 0.050	< 0.10	< 0.050	0.0093	< 0.020	0.075	< 0.050	< 0.10	0.072	< 0.0085	0.023	0.039	< 0.10	< 0.050	< 0.0085
	31-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.011	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
NODA-SEEP-02	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
NODA-SEEP-03	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
NODA-SEEP-04	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
NODA-SEEP-05	23-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.018	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	0.033	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)											
Monitoring Station	Date	Dibenz[a,h]anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
NODA SEEP													
NODA-SEEP-01	14-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	07-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	31-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
NODA-SEEP-02	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
NODA-SEEP-03	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
NODA-SEEP-04	23-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
NODA-SEEP-05	23-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	09-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	01-Nov-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																	
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---
WETA SEEP																									
WETA-Seep-01	15-May-2022	---	---	---	---	---	---	770	7.57	---	440	---	---	340	< 1.0	---	1.3	82	---	< 0.0018	< 0.0020	470	450	---	420
	14-Jul-2022	706.9	23.2	7.19	4.1	3.02 [#1,2,3,4]	424.3	710	7.51	12	---	380	370	340	< 1.0	< 2.0	2.2	61	0.0080 [#3,4]	0.0049 [#3,4]	0.0052	470	410	7.9	420
	24-Jul-2022	795	47.9	7.15	8.4	5.61 [#3,4]	543	790	7.94	6.9	---	380	410	350	< 1.0	< 2.0	1.5	83	< 0.0018	< 0.0018	< 0.0020	450	450	5.3	430
	27-Jul-2022	828	53.7	7.35	10	6.05 [#3,4]	590	810	7.62	6.7	---	410	390	360	< 1.0	< 2.0	1.7	95	< 0.0018	< 0.0018	< 0.0020	540	460	9.3	440
	03-Aug-2022	814	44.4	7.08	9.3	4.49 [#1,2,3,4]	577	860	7.55	15	---	440	420	370	< 1.0	< 2.0	2.1	90	< 0.0018	< 0.0018	< 0.0020	520	470	61	450
	10-Aug-2022	857	51.3	7.09	11.7	5.48 [#3,4]	639	790	7.56	8.1	---	640	430	360	< 1.0	< 2.0	2.1	88	< 0.0018	0.0027 [#3,4]	0.0029	500	470	6.8	440
	20-Aug-2022	1433	21.4	6.99	15.1	2.15 [#1,2,3,4]	1160	740	7.72	4.0	---	400	390	340	< 1.0	< 2.0	1.5	65	< 0.0018	< 0.0018	< 0.0020	470	420	2.3	420
	24-Aug-2022	699	43.4	7.18	8.5	5.07 [#3,4]	478.8	810	7.56	7.3	---	420	430	360	< 1.0	< 2.0	2.4	92	< 0.0018	< 0.0018	< 0.0020	490	470	8.3	440
	28-Aug-2022	710	12	7.9	7.9	1.43 [#1,2,3,4]	478.5	820	7.65	15	---	430	430	370	< 1.0	< 2.0	1.8	94	< 0.0018	< 0.0018	< 0.0020	510	480	22	450
	07-Sep-2022	791	11.6	7.2	7.4	1.37 [#1,2,3,4]	524	820	7.71	6.3	---	420	440	370	< 1.0	< 2.0	2.1	100	< 0.0018	< 0.0018	< 0.0020	510	490	7.1	460
	11-Sep-2022	790	46	7.22	6.6	5.62 [#3,4]	513	810	7.25	5.5	---	430	430	370	< 1.0	< 2.0	2.0	100	< 0.0018	< 0.0018	< 0.0020	530	490	6.0	450
	19-Sep-2022	655	63.1	7.47	5.2	8.01	407.4	760	7.67	3.9	---	380	370	350	< 1.0	< 2.0	2.6	69	< 0.0018	< 0.0018	< 0.0020	470	420	1.7	420
	28-Sep-2022	855	49.5	7.2	7.1	5.97 [#3,4]	563	830	7.46	51	---	430	440	390	< 1.0	< 2.0	2.1	91	< 0.0018	< 0.0018	< 0.0020	520	490	140	470
(Duplicate)	28-Sep-2022	---	---	---	---	---	---	830	7.33	8.6	---	430	440	380	< 1.0	< 2.0	1.9	90	< 0.0018	< 0.0018	< 0.0020	510	490	7.6	470
	05-Oct-2022	774	39.3	7.14	4.4	5.09 [#3,4]	469	750	7.52	4.1	---	390	390	350	< 1.0	< 2.0	1.7	75	< 0.0018	< 0.0018	< 0.0020	480	430	3.4	430
(Duplicate)	05-Oct-2022	---	---	---	---	---	---	750	7.51	9.3	---	400	390	380	< 1.0	< 2.0	1.3	75	< 0.0018	< 0.0018	< 0.0020	480	450	23	460
	09-Oct-2022	662	76.1	7.06	5.4	9.57	414.6	740	7.92	7.0	---	410	400	340	< 1.0	---	1.7	70	< 0.0018	< 0.0018	< 0.0020	420	430	5.3	420
(Duplicate)	09-Oct-2022	---	---	---	---	---	---	740	7.88	8.2	---	400	380	340	< 1.0	---	1.8	77	< 0.0018	< 0.0018	< 0.0020	490	430	13	420
	16-Oct-2022	606	56.8	7.58	3.6	7.52	357.8	740	7.99	5.5	---	390	390	330	< 1.0	< 2.0	1.9	76	< 0.0018	< 0.0018	< 0.0020	490	420	3.8	410
	23-Oct-2022	694	19	7.13	4	2.28 [#1,2,3,4]	415.7	740	8.04	4.5	---	390	390	340	< 1.0	< 2.0	1.9	75	< 0.0018	< 0.0018	< 0.0020	470	430	1.3	410
(Duplicate)	23-Oct-2022	---	---	---	---	---	---	730	8.13	4.2	---	390	390	340	< 1.0	< 2.0	2.2	76	< 0.0018	< 0.0018	< 0.0020	480	430	2.0	420
	31-Oct-2022	592	57.8	7.3	3.6	7.64	350	750	8.08	3.6	---	370	390	350	< 1.0	< 2.0	2.4	75	< 0.0018	< 0.0018	< 0.0020	500	430	1.4	420
	06-Nov-2022	590	59.8	7.9	1.5	8.38	324.5	820	7.98	6.4	---	450	430	370	< 1.0	< 2.0	2.3	99	< 0.0018	< 0.0018	< 0.0020	540	490	4.3	450
	19-Feb-2023	766.3	65.1	7.73	0.8	9.28	412.2	730	7.87	4.6	---	380	350	360	< 1.0	< 2.0	1.5	82	< 0.0018	0.0027 [#3,4]	0.0028	480	440	2.4	440
	28-Feb-2023	690.1	82.2	7.44	1.3	11.56	377.7	760	8.03	4.1	---	370	370	360	< 1.0	< 2.0	2.5	79	< 0.0018	0.0036 [#3,4]	0.0039	440	440	< 1.0	440
	07-Mar-2023	760.3	77.9	7.31	1.7	10.34	421.9	750	8.00	3.8	---	430	370	350	< 1.0	< 2.0	2.1	80	< 0.0018	< 0.0018	< 0.0020	510	440	1.1	430
	14-Mar-2023	760.6	83.6	7.34	1.6	11.67	420.1	740	7.63	3.9	---	370	430	360	< 1.0	< 2.0	2.3	84	0.29 [#3,4]	< 0.0018	< 0.0040	480	460	1.1	430
	17-Mar-2023	752	85	6.98	2.4	11.63	426.7	750	7.83	4.4	---	360	380	360	< 1.0	< 2.0	2.9	81	< 0.0036 [#3,4]	< 0.0018	< 0.0040	470	440	< 1.0	440
	25-Mar-2023	---	---	---	---	---	---	750	7.87	4.5	---	380	370	360	< 1.0	---	2.2	79	< 0.0018	< 0.0018	< 0.0020	470	430	1.9	430
WETA-Seep-02	25-May-2022	707.5	100.4	7.74	5.5	12.62	443.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	611	84.6	7.8	8	9.99	413.6	710	8.04	7.0	---	380	380	340	< 1.0	< 2.0	1.8	65	< 0.0018	< 0.0018	< 0.0020	440	410	21	410
	11-Sep-2022	686	87.4	7.87	6.4	10.75	442	710	7.76	2.4	---	390	380	420	< 1.0	< 2.0	1.6	69	< 0.0018	< 0.0018	< 0.0020	450	460	4.2	510
	28-Sep-2022	741	85.5	7.79	6.6	10.47	479.8	730	7.96	8.8	---	380	380	360	< 1.0	< 2.0	2.5	73	< 0.0018	< 0.0018	< 0.0020	440	430	15	430
	09-Oct-2022	585	159.7	7.79	4.9	20.42	360.6	720	8.15	4.5	---	390	390	340	< 1.0	---	1.5	75	< 0.0018	< 0.0018	< 0.0020	470	430	7.8	420
	23-Oct-2022	603	88	7.81	3.3	11.71	535.7	720	8.30	3.1	---	390	390	340	< 1.0	< 2.0	2.1	70	< 0.0018	< 0.0018	< 0.0020	460	420	6.7	420
	01-Nov-2022	517	87.3	7.84	3	11.75	299	710	8.17	2.9	---	400	380	340	< 1.0	< 2.0	2.0	72	< 0.0018	< 0.0018	< 0.0020	480	420	8.8	420
	25-Mar-2023	---	---	---	---	---	---	740	8.11	3.9	---	390	360	360	< 1.0	---	1.6	75	< 0.0018	< 0.0018	< 0.0020	460	430	8.6	440
WETA-Seep-03	07-Sep-2022	685	90.3	8.08	6.4	11.11	441.2	730	8.19	4.3	---	380	370	360	< 1.0	< 2.0	1.9	66	< 0.0018	< 0.0018	< 0.0020	460	420	61	430
	11-Sep-2022	680	91	8.19	6.6	11.14	441	720	8.05	2.1	---	390	380	350	< 1.0	< 2.0	2.2	72	< 0.0018	< 0.0018	< 0.0020	460	430	3.5	430
	28-Sep-2022	736	91.4	8.1	6.2	11.31	471.1	720	8.00	14	---	390	390	350	< 1.0	< 2.0	2.1	61	< 0.0018	< 0.0018	< 0.0020	460	420	42	430
	11-Oct-2022	754	92.4	8.01	4.5	11.92	459.4	710	8.26	3.3	---	380	380	340	< 1.0	< 2.0	1.3	64	< 0.0018	< 0.0018	< 0.0020	460	410	6.3	420
	25-Oct-2022	605	8.7	7.89	2.8	11.7	348.9	720	8.16	3.0	---	370	380	340	< 1.0	< 2.0	1.6	70	< 0.0018	< 0.0018	< 0.0020	430	420	8.2	410
	01-Nov-2022	563	92	8	2.8	12.54	321	710	8.23	8.9	---	400	390	350	< 1.0	< 2.0	2.0	67	< 0.0018	< 0.0018	< 0.0020	470	420	23	420
WETA-Seep-05	27-Mar-2023	---	---	---	---	---	---	720	7.49	3.9	---	370	380	350	< 1.0	---	2.9	65	< 0.0018	0.0065 [#3,4]	0.0069	450	420	< 1.0	430
22-SEEP-02	15-May-2022	140.3	65	6.25 [#3,4]	5.9	8.09	88.8	140	6.70	---	74	---	---	31	< 1.0	---	1.3	29	---	0.0039 [#3,4]	0.0041	170	81	---	37
	17-Mar-2023	739.8	112.7	7.76	1.2	15.79	407	740	7.99	5.5	---	450	370	360	< 1.0	< 2.0	2.6	75	< 0.0018	< 0.0018	< 0.0020	470	430	8.7	440
22-SEEP-05	25-May-2022	---	---	---	---	---	---	710	7.25	---	430	---	---	380	< 1.0	---	1.0	19	---	---	---	380	400	---	460
22-SEEP-05B	25-May-2022	708.1	85.2	7.75	5.8	10.61	448.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	686.1	25.4	7.08	7.7	3 [#1,2,3,4]	462.6	690	7.35	---	390	---	---	330	< 1.0	---	< 1.0	55	---	---	---	380	390	---	400
22-SEEP-07	25-May-2022	---	---	---	---	---	---	750	7.55	---	400	---	---	390	< 1.0	---	< 1.0	36	---	---	---	420	410	---	470
22-SEEP-08	25-May-2022	705.5	52.5	7.86	7.4	6.31 [#3,4]	468	710	8.01	---	380	---	---	340	< 1.0	---	1.8	58	---	---	---	380	400	---	420
22-SEEP-10	16-Oct-2022	727	71.6	7.31	3.7	9.44	431.4	900	8.07	14	---	510	490	450	< 1.0	< 2.0	< 1.0	86	< 0.0018	< 0.0018	< 0.0020	590	530	12	540
	23-Oct-2022	767	69.4	7.48	3.8	9.08	456	900	8.11	3.0	---	500	500	340	< 1.0	< 2.0	< 1.0	180	< 0.0018	< 0.0018	< 0.0020	640	560	6.8	410
	31-Oct-2022	706	74.1	7.34	3.5	9.81	416.5	890	8.17	12	---	470	490	440	< 1.0	< 2.0	1.5	83	< 0.0018	< 0.0018	< 0.0020	610	530	11	530
22-SEEP-12	11-Oct-2022	798	46.2	7.38	5.7	5.78 [#3,4]	507	820	7.82	---	430	---	---	300	< 1.0	---	< 1.0	160	---	< 0.0018	< 0.0020	550	500	---	370
22-SEEP-13	11-Oct-2022	769.4	46.7	7.34	4.6	6.03 [#3,4]	469.3	780	7.75	---	450	---	---	360	< 1.0	---	< 1.0	85	---	0.026 [#3,4]	0.027	500	460	---	440
P24-DITCH-1	19-Mar-2023	---	---	---	---	---	---	1000	7.36	230	---	450	460	300	< 1.0	< 2.0	11	300 [#3]	< 0.0018	0.0027 [#3,4]	0.0028	720	750	46	360
	24-Mar-2023	---	---	---	---	---	---	1200	7.16	330	---	440	400	270	< 1.0	---	13	390 [#3,4]	< 0.0018	0.0036 [#3,4]	0.0039	850	810	65	330
P25-DITCH-1	06-Jun-2022	2011	57	6.57	16.7	6 [#3,4]	1691	1600	6.79	---	530	---	---	130	< 1.0	---	18	680 [#3,4]	---	0.012 [#3,4]	0.012	1200	1200	---	160
	19-Mar-2023	---	---	---	---	---	---	1400	7.13	390	---	490	500	260	< 1.0	< 2.0	17	470 [#3,4]	0.0031 [#3,4]	< 0.0018	< 0.0020	980	980	78	310
	24-Mar-2023	---	---	---	---	---	---	1300	7.04	340	---	460	420	250	< 1.0	---	18	490 [#3,4]	0.0036 [#3,4]	0.0022 [#3,4]	0.0023	960	960	67	300

Water Quality Results

PROJECT No.: 417085-47599		Conventional Parameters (cont.)			Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements											
Monitoring Station	Date	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO_3)	Nitrite (NO_2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper
	(dd-mmm-yyyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	**3**	**0.02**	---	---	---	**0.303**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	**3**	**0.02**	---	---	---	**0.473**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---
WETA SEEP																											
WETA-Seep-01	15-May-2022	< 1.0	< 1.0	0.16	---	---	0.011	< 0.010	0.011	0.047	< 0.033	< 0.015	---	---	---	4.3	< 0.60	0.24	90	< 1.0	---	52	< 0.020	110000	< 1.0	< 0.30	< 1.0
	14-Jul-2022	< 1.0	< 1.0	0.17	110	7.8	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.069	0.35	0.35	0.0036	2.0	< 0.020	0.034	100	< 0.010	< 0.0050	64	< 0.0050	92000	< 0.10	0.024	0.087
	24-Jul-2022	< 1.0	< 1.0	0.18	82	7.2	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.28	0.28	0.0032	6.7	< 0.020	0.16	91	< 0.010	< 0.0050	52	0.21	100000	< 0.10	0.086	4.7
	27-Jul-2022	< 1.0	< 1.0	0.18	96	8.5	0.011	< 0.010	0.011	0.050	< 0.033	0.019	0.35	0.36	0.0034	2.1	< 0.020	0.091	84	< 0.010	< 0.0050	52	0.0068	110000	0.18	0.082	0.32
	03-Aug-2022	< 1.0	< 1.0	0.17	100	8.0	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.021	0.21	0.21	0.0030	2.0	< 0.020	0.11	89	< 0.010	< 0.0050	53	< 0.0050	110000	0.11	0.096	0.090
	10-Aug-2022	< 1.0	< 1.0	0.19	100	9.0	0.015	< 0.010	0.015	0.067	< 0.033	0.028	0.33	0.35	0.0034	15	< 0.020	0.10	89	< 0.010	< 0.0050	64	< 0.0050	110000	< 0.10	0.12	0.099
	20-Aug-2022	< 1.0	< 1.0	0.17	100	9.5	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.027	0.20	0.20	0.0046	1.2	< 0.020	0.093	84	< 0.010	< 0.0050	58	< 0.0050	100000	0.21	0.089	0.10
	24-Aug-2022	< 1.0	< 1.0	0.18	110	10	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.020	0.22	0.22	0.0042	30	< 0.020	0.15	100	< 0.010	< 0.0050	58	< 0.0050	110000	0.20	0.16	1.8
	28-Aug-2022	< 1.0	< 1.0	0.16	100	9.3	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.023	0.21	0.21	0.0035	1.7	< 0.020	0.13	89	< 0.010	< 0.0050	52	< 0.0050	120000	< 0.10	0.17	0.088
	07-Sep-2022	< 1.0	< 1.0	0.19	100	8.8	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.48	0.48	0.0035	1.8	< 0.020	0.098	89	< 0.010	< 0.0050	55	< 0.0050	120000	< 0.10	0.12	0.22
	11-Sep-2022	< 1.0	< 1.0	0.18	93	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.26	0.26	0.0041	46	< 0.020	0.15	95	< 0.010	< 0.0050	52	< 0.0050	110000	0.12	0.15	0.20
	19-Sep-2022	< 1.0	< 1.0	0.18	90	9.0	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.026	0.27	0.27	0.0041	1.2	< 0.020	0.083	71	< 0.010	< 0.0050	41	< 0.0050	94000	< 0.10	0.072	< 0.050
	28-Sep-2022	< 1.0	< 1.0	0.19	100	9.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.025	0.39	0.39	< 0.0030	2.0	< 0.020	0.16	94	< 0.010	< 0.0050	53	< 0.0050	120000	< 0.10	0.16	0.072
(Duplicate)	28-Sep-2022	< 1.0	< 1.0	0.19	100	9.5	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.020	0.49	0.49	0.0033	1.9	< 0.020	0.20	95	< 0.010	< 0.0050	57	< 0.0050	120000	< 0.10	0.18	0.074
	05-Oct-2022	< 1.0	< 1.0	0.18	95	8.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.024	0.27	0.27	0.0035	2.6	< 0.020	0.086	74	< 0.010	< 0.0050	47	< 0.0050	100000	< 0.10	0.086	< 0.050
(Duplicate)	05-Oct-2022	< 1.0	< 1.0	0.18	91	9.2	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.025	0.37	0.37	0.0044	2.1	0.022	0.090	76	< 0.010	< 0.0050	48	< 0.0050	100000	< 0.10	0.080	< 0.050
	09-Oct-2022	< 1.0	< 1.0	0.18	94	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.026	0.35	0.35	0.0059	4.8	< 0.020	0.11	81	< 0.010	< 0.0050	45	< 0.0050	100000	0.36	0.10	0.30
(Duplicate)	09-Oct-2022	< 1.0	< 1.0	0.18	90	8.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.025	0.32	0.32	0.0049	2.2	< 0.020	0.094	75	< 0.010	< 0.0050	43	< 0.0050	96000	< 0.10	0.071	0.057
	16-Oct-2022	< 1.0	< 1.0	0.20	79	6.7	0.015	< 0.010	0.015	0.065	< 0.033	0.019	0.16	0.17	0.0051	3.4	< 0.020	0.091	76	< 0.010	< 0.0050	47	< 0.0050	98000	0.10	0.076	0.22
	23-Oct-2022	< 1.0	< 1.0	0.20	96	7.8	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.021	0.19	0.19	0.0034	3.4	< 0.020	0.094	73	< 0.010	< 0.0050	48	< 0.0050	100000	< 0.10	0.067	0.071
(Duplicate)	23-Oct-2022	< 1.0	< 1.0	0.21	95	7.2	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.022	0.19	0.19	0.0039	4.1	< 0.020	0.090	74	< 0.010	< 0.0050	48	< 0.0050	99000	< 0.10	0.071	< 0.050
	31-Oct-2022	< 1.0	< 1.0	0.18	93	9.5	0.030	< 0.010	0.030	0.13	< 0.033	0.021	0.20	0.23	0.0033	1.9	< 0.020	0.075	77	< 0.010	< 0.0050	48	< 0.0050	97000	< 0.10	0.070	0.082
	06-Nov-2022	< 1.0	< 1.0	0.19	100	13	0.13	< 0.010	0.13	0.56	< 0.033	< 0.015	0.68	0.80	0.0041	4.0	< 0.020	0.11	83	< 0.010	< 0.0050	50	< 0.0050	110000	< 0.10	0.10	0.074
	19-Feb-2023	< 1.0	< 1.0	0.19	82	8.3	0.023	< 0.010	0.023	0.10	< 0.033	0.023	0.19	0.21	0.0035	2.2	0.021	0.059	73	< 0.010	< 0.0050	54	< 0.0050	94000	< 0.10	0.054	0.18
	28-Feb-2023	< 1.0	< 1.0	0.19	91	8.1	0.024	< 0.010	0.024	0.11	< 0.033	0.023	0.29	0.31	0.0037	1.8	< 0.020	0.042	75	< 0.010	< 0.0050	55	< 0.0050	100000	< 0.10	0.045	0.13
	07-Mar-2023	< 1.0	< 1.0	0.20	94	7.8	0.029	< 0.010	0.029	0.13	< 0.033	0.022	0.14	0.17	0.0044	1.1	< 0.020	0.042	63	< 0.010	< 0.0050	54	< 0.0050	100000	< 0.10	0.040	< 0.050
	14-Mar-2023	< 1.0	< 1.0	0.19	93	7.7	0.030	< 0.010	0.030	0.13	< 0.033	0.026	0.26	0.29	0.0034	2.1	< 0.020	0.060	70	< 0.010	< 0.0050	57	< 0.0050	110000	0.13	0.046	0.091
	17-Mar-2023	< 1.0	< 1.0	0.19	92	7.2	0.023	< 0.010	0.023	0.10	< 0.033	0.018	0.29	0.32	0.0046	2.6	0.036	0.049	69	< 0.010	< 0.0050	58	0.0051	98000	0.13	0.052	0.54
	25-Mar-2023	< 1.0	< 1.0	0.19	100	8.8	0.026	< 0.010	0.026	0.12	< 0.033	0.016	0.19	0.22	0.0042	1.6	< 0.020	0.053	68	< 0.010	< 0.0050	53	0.0082	99000	< 0.10	0.051	0.059
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 1.0	< 1.0	0.17	94	8.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.16	0.16	0.0082	1.7	< 0.020	0.10	73	< 0.010	< 0.0050	45	< 0.0050	100000	< 0.10	0.049	0.18
	11-Sep-2022	< 1.0	< 1.0	0.18	96	9.0	0.011	< 0.010	0.011	0.047	< 0.033	< 0.015	0.23	0.24	0.0076	1.8	< 0.020	0.075	75	< 0.010	< 0.0050	42	< 0.0050	97000	< 0.10	0.041	0.084
	28-Sep-2022	< 1.0	< 1.0	0.20	90	8.8	0.011	< 0.010	0.011	0.047	< 0.033	< 0.015	0.43	0.44	0.0059	25	< 0.020	0.15	80	< 0.010	< 0.0050	49	< 0.0050	96000	1.3	0.096	0.13
	09-Oct-2022	< 1.0	< 1.0	0.19	92	4.7	0.014	< 0.010	0.014	0.060	< 0.033	< 0.015	0.21	0.22	0.0076	2.5	< 0.020	0.10	74	< 0.010	< 0.0050	40	< 0.0050	97000	< 0.10	0.043	0.084
	23-Oct-2022	< 1.0	< 1.0	0.19	92	8.7	0.011	< 0.010	< 0.014	0.050	< 0.033	< 0.015	0.22	0.22	0.0060	27	< 0.020	0.12	73	< 0.010	< 0.0050	44	< 0.0050	98000	< 0.10	0.070	0.12
	01-Nov-2022	< 1.0	< 1.0	0.19	89	9.0	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.89	0.89	0.0074	2.6	< 0.020	0.096	75	< 0.010	< 0.0050	45	< 0.0050	96000	< 0.10	0.043	0.080
	25-Mar-2023	< 1.0	< 1.0	0.19	100	7.3	0.043	< 0.010	0.043	0.19	< 0.033	< 0.015	0.28	0.32	0.0069	2.8	0.034	0.11	65	< 0.010	< 0.0050	52	< 0.0050	98000	< 0.10	0.062	0.19
WETA-Seep-03	07-Sep-2022	< 1.0	< 1.0	0.19	89	8.9	0.016	< 0.010	0.016	0.070	< 0.033	< 0.015	0.26	0.28	0.0088	1.3	< 0.020	0.12	74	< 0.010	< 0.0050	42	< 0.0050	97000	< 0.10	0.036	0.10
	11-Sep-2022	< 1.0	< 1.0	0.17	93	8.5	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.30	0.30	0.0093	0.63	< 0.020	0.091	74	< 0.010	< 0.0050	48	< 0.0050	99000	< 0.10	0.031	0.073
	28-Sep-2022	< 1.0	< 1.0	0.19	86	8.6	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.52	0.52	0.0075	1.4	< 0.020	0.13	77	< 0.010	< 0.0050	47	< 0.0050	98000	0.10	0.034	0.063
	11-Oct-2022	< 1.0	< 1.0	0.17	94	7.8	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.28	0.28	0.0098	2.5	< 0.020	0.11	72	< 0.010	< 0.0050	44	< 0.0050	95000	< 0.10	0.031	0.090
	25-Oct-2022	< 1.0	< 1.0	0.20	93	8.7	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	3.7	3.7	0.0072	3.2	< 0.020	0.10	79	< 0.010	< 0.0050	49	< 0.0050	97000	< 0.10	0.044	1.8
	01-Nov-2022	< 1.0	< 1.0	0.19	90	11	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	1.5	1.5	0.0090	4.3	< 0.020	0.11	76	< 0.010	< 0.0050	43	< 0.0050	97000	< 0.10	0.032	0.075
WETA-Seep-05	27-Mar-2023	< 1.0	< 1.0	0.17	99	8.6	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.25	0.25	0.0048	1.2	< 0.020	0.058	58	< 0.010	< 0.0050	39	< 0.0050	100000	< 0.10	0.075	0.079
22-SEEP-02	15-May-2022	< 1.0	< 1.0	< 0.050	---	---	0.029	< 0.010	0.029	0.13	< 0.033	< 0.015	---	---	---	**180** [#1,2,3,4]	< 0.60	0.61	38	< 1.0	---	< 20	< 0.020	19000	< 1.0	0.37	4.1
	17-Mar-2023	< 1.0	< 1.0	0.20	92	6.7	0.034	< 0.010	0.034	0.15	< 0.033	< 0.015	0.36	0.39	0.0076	1.3	< 0.020	0.045	68	< 0.010	< 0.0050	53	< 0.0050	97000	< 0.10	0.033	0.62
22-SEEP-05	25-May-2022	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---	---	40	---	110000	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---	---	28	---	97000	---	---	---
22-SEEP-07	25-May-2022	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---	---	39	---	100000	---	---	---
22-SEEP-08	25-May-2022	< 1.0	< 1.0	---	---	---	0.011	< 0.010	0.011	0.049	< 0.033	---	---	---	---	---	---	---	---	---	---	40	---	96000	---	---	---
22-SEEP-10	16-Oct-2022	< 1.0	< 1.0	0.32	110	12	0.17	< 0.010	0.17	0.77	< 0.033	0.19	0.49	0.67	0.0058	1.9	< 0.020	0.062	130	< 0.010	< 0.0050	100	< 0.0050	130000	0.17	0.036	0.081
	23-Oct-2022	< 1.0	< 1.0	0.30	95	7.5	0.070	< 0.010	0.070	0.31	< 0.033	0.043	0.22	0.29	0.0067	1.6	< 0.020	0.068	120	< 0.010	< 0.0050	68	< 0.0050	130000	< 0.10	0.022	0.12
	31-Oct-2022	< 1.0	< 1.0	0.28	120	13	0.48	< 0.010	0.48	2.1	< 0.033	0.16	0.22	0.70	0.0049	1.9	< 0.020	0.058	130	< 0.010	< 0.0050	110	< 0.0050	130000	0.11	0.038	0.14
22-SEEP-12	11-Oct-2022	< 1.0	< 1.0	0.19	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	---	---	---	< 3.0	< 0.60	0.24	45	< 1.0	---	< 20	< 0.020	110000	< 1.0	< 0.30	< 1.0
22-SEEP-13	11-Oct-2022	< 1.0	< 1.0	0.21	---	---	0.016	< 0.010	0.016	0.069	< 0.033	0.056	---	---	---	< 3.0	< 0.60	< 0.20	82	< 1.0	---	81	< 0.020	110000	< 1.0	< 0.30	1.1
P24-DITCH-1	19-Mar-2023	< 1.0	< 1.0	0.73	83	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.31** [#3]	< 2.0	< 2.0	< 0.0030	11	0.030	1.0	84	0.097	< 0.0050	430	0.019	120000	0.18	29	1.7
	24-Mar-2023	< 1.0	< 1.0	0.83	76	14	< 0.10	**< 0.050** [#3,4]	< 0.10	< 0.44	< 0.16	**0.41** [#3]	0.65	0.65	< 0.0030	10	0.026	1.3	69	0.095	< 0.0050	500	0.021	100000	< 0.10	32	0.097
P25-DITCH-1	06-Jun-2022	< 1.0	< 1.0	1.8	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.44** [#3]	---	---	---	42	< 0.60	2.2	66	< 1.0	---	980	0.17	130000	< 1.0	120	1.2
	19-Mar-2023	< 1.0	< 1.0	1.1	70	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.55** [#3,4]	0.79	0.79	< 0.0030	20	0.041	2.0	85	0.16	< 0.0050	730	0.039	130000	1.2	40	2.3
	24-Mar-2023	< 1.0	< 1.0	0.98	73	14	< 0.10	**< 0.050** [#3,4]	< 0.10	< 0.44	< 0.16	**0.51** [#3,4]	0.79	0.79	< 0.0030	12	< 0.020	1.8	72	0.12	< 0.0050	650	0.028	110000	< 0.10	32	0.13

Water Quality Results

PROJECT No.: 417085-47599		Dissolved Metals and Trace Elements (cont.)																				Total Metals and Trace Elements						
Monitoring Station	Date	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---	---	---
WETA SEEP																												
WETA-Seep-01	15-May-2022	280	< 0.20	< 20	40000	91	0.30	< 0.50	2700	< 0.20	8500	< 0.10	7600	120	31000	< 0.20	< 1.0	< 1.0	0.51	< 1.0	< 3.0	---	75	< 0.60	< 0.20	89	< 1.0	---	100000
	14-Jul-2022	1400 [#3,4]	< 0.0050	19	34000	110	0.29	0.20	2100	< 0.040	10000	< 0.0050	9200	140	21000	< 0.0020	< 0.20	< 0.50	0.065	< 0.20	3.2	0.15	26	< 0.020	0.025	100	0.011	< 0.010	95000
	24-Jul-2022	530 [#3,4]	0.24	15	36000	120	0.39	0.65	2200	< 0.040	9700	< 0.0050	7400	120	24000	< 0.0020	0.21	< 0.50	0.39	< 0.20	6.6	0.13	28	< 0.020	0.091	76	< 0.010	< 0.010	98000
	27-Jul-2022	440 [#3,4]	0.012	18	38000	120	0.29	0.50	2400	< 0.040	9000	< 0.0050	7800	150	27000	< 0.0020	< 0.20	< 0.50	0.46	< 0.20	3.5	0.11	18	< 0.020	0.12	90	< 0.010	< 0.0050	110000
	03-Aug-2022	430 [#3,4]	< 0.0050	19	35000	110	0.25	0.32	2600	< 0.040	7600	< 0.0050	6900	150	28000	< 0.0020	< 0.20	< 0.50	0.55	< 0.20	1.0	0.11	43	< 0.020	0.14	94	< 0.010	< 0.010	110000
	10-Aug-2022	540 [#3,4]	0.014	18	39000	140	0.30	0.35	2400	0.082	9100	< 0.0050	7700	140	28000	< 0.0020	< 0.20	1.3	0.43	< 0.20	2.1	0.12	11	0.026	0.90	53	< 0.010	< 0.010	150000
	20-Aug-2022	410 [#3,4]	< 0.0050	17	34000	140	0.33	0.31	2100	< 0.040	9800	< 0.0050	7400	140	25000	0.0022	< 0.20	< 0.50	0.38	< 0.20	0.25	0.11	16	< 0.020	0.092	85	< 0.010	< 0.0050	100000
	24-Aug-2022	880 [#3,4]	0.066	22	38000	160	0.40	0.42	2700	< 0.040	8800	< 0.0050	7100	160	31000	< 0.0020	< 0.20	1.1	0.56	< 0.20	3.0	0.14	30	< 0.020	0.12	91	< 0.010	< 0.0050	110000
	28-Aug-2022	580 [#3,4]	< 0.0050	19	34000	180	0.28	0.38	2700	0.041	8000	< 0.0050	6800	150	29000	< 0.0020	< 0.20	< 0.50	0.53	< 0.20	6.3	0.12	240	0.87	0.28	99	< 0.010	< 0.010	110000
	07-Sep-2022	530 [#3,4]	< 0.0050	17	35000	150	0.25	0.36	2600	0.041	8200	< 0.0050	7100	150	29000	< 0.0020	< 0.20	< 0.50	0.52	< 0.20	1.3	0.12	200	< 0.020	0.25	100	0.018	< 0.010	110000
	11-Sep-2022	1300 [#3,4]	0.075	19	35000	140	0.25	0.45	2700	< 0.040	8200	< 0.0050	7500	150	31000	< 0.0020	< 0.20	1.6	0.56	< 0.20	190	0.19	45	< 0.020	0.14	97	< 0.010	< 0.0050	110000
	19-Sep-2022	480 [#3,4]	< 0.0050	14	32000	120	0.39	0.27	1900	0.045	9100	< 0.0050	7700	120	21000	< 0.0020	< 0.20	< 0.50	0.33	< 0.20	4.4	< 0.10	7.1	< 0.020	0.090	72	< 0.010	< 0.0050	96000
	28-Sep-2022	670 [#3,4]	< 0.0050	20	37000	170	0.26	0.37	2800	0.043	8400	< 0.0050	7600	160	32000	< 0.0020	< 0.20	< 0.50	0.56	< 0.20	0.39	0.12	55	< 0.020	0.20	95	0.012	< 0.010	120000
(Duplicate)	28-Sep-2022	570 [#3,4]	< 0.0050	20	37000	190	0.25	0.41	2900	0.049	8400	< 0.0050	7600	160	32000	< 0.0020	< 0.20	< 0.50	0.59	< 0.20	1.0	0.11	28	< 0.020	0.16	93	< 0.010	< 0.010	120000
	05-Oct-2022	450 [#3,4]	< 0.0050	15	34000	130	0.38	0.28	2000	< 0.040	9600	< 0.0050	8200	130	25000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	19	< 0.10	16	< 0.020	0.086	76	< 0.010	< 0.0050	100000
(Duplicate)	05-Oct-2022	510 [#3,4]	< 0.0050	15	34000	130	0.37	0.28	2100	< 0.040	9500	< 0.0050	8700	130	24000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	250	< 0.10	74	< 0.020	0.13	79	< 0.010	< 0.010	100000
	09-Oct-2022	540 [#3,4]	0.015	17	35000	130	0.33	0.79	2400	< 0.040	9000	< 0.0050	8000	140	26000	< 0.0020	< 0.20	< 0.50	0.38	< 0.20	7.3	< 0.10	100	< 0.040	0.14	87	< 0.020	< 0.020	100000
(Duplicate)	09-Oct-2022	460 [#3,4]	< 0.0050	15	35000	120	0.39	0.25	2100	< 0.040	9000	< 0.0050	8100	130	23000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	7.8	< 0.10	80	< 0.040	0.10	82	< 0.020	< 0.020	100000
	16-Oct-2022	450 [#3,4]	< 0.0050	16	36000	110	0.38	0.46	2200	< 0.040	8600	< 0.0050	8800	140	24000	< 0.0020	< 0.20	< 0.50	0.36	< 0.20	5.5	0.10	31	0.033	0.080	76	< 0.010	< 0.010	100000
	23-Oct-2022	480 [#3,4]	0.0068	16	34000	110	0.40	0.27	2100	< 0.040	9400	< 0.0050	8400	130	24000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.22	0.10	16	< 0.020	0.098	76	< 0.010	< 0.010	98000
(Duplicate)	23-Oct-2022	450 [#3,4]	0.0068	16	35000	110	0.40	0.25	2100	< 0.040	9300	< 0.0050	8400	130	24000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.52	< 0.10	33	< 0.020	0.10	77	< 0.010	< 0.010	99000
	31-Oct-2022	440 [#3,4]	< 0.0050	17	36000	110	0.66	0.26	2100	0.086	9400	< 0.0050	8700	140	25000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.32	< 0.10	7.3	< 0.020	0.11	73	< 0.010	< 0.0050	96000
	06-Nov-2022	390 [#3,4]	< 0.0050	17	35000	120	0.22	0.33	2700	< 0.040	8300	< 0.0050	7400	150	29000	< 0.0020	< 0.20	< 0.50	0.54	< 0.20	0.37	0.12	38	< 0.020	0.12	88	< 0.010	< 0.010	120000
	19-Feb-2023	380 [#3,4]	0.0093	16	29000	75	0.58	0.41	1900	< 0.040	7700	< 0.0050	9300	120	23000	< 0.0020	< 0.20	< 0.50	0.33	< 0.20	4.8	< 0.10	11	0.023	0.067	75	< 0.010	< 0.0050	100000
	28-Feb-2023	360 [#3,4]	0.0055	16	29000	75	0.60	0.24	1900	< 0.040	8400	< 0.0050	9500	120	25000	< 0.0020	< 0.20	< 0.50	0.37	< 0.20	0.75	0.11	10	< 0.020	0.060	76	< 0.010	< 0.0050	98000
	07-Mar-2023	360 [#3,4]	< 0.0050	16	28000	69	0.51	0.20	2000	< 0.040	8100	< 0.0050	9000	110	26000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.38	0.11	11	< 0.020	0.056	84	< 0.010	< 0.0050	110000
	14-Mar-2023	330 [#3,4]	< 0.0050	17	36000	74	0.62	0.24	2300	0.046	8500	< 0.0050	11000	110	32000	< 0.0020	< 0.20	< 0.50	0.32	< 0.20	1.5	< 0.10	9.4	< 0.020	0.054	74	0.076	< 0.0050	96000
	17-Mar-2023	320 [#3,4]	0.0096	16	33000	74	0.66	0.34	2000	0.041	8100	< 0.0050	10000	110	23000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.56	< 0.10	6.7	< 0.020	0.051	72	< 0.010	< 0.0050	95000
	25-Mar-2023	320 [#3,4]	0.013	16	29000	70	0.64	0.21	1800	< 0.040	7900	< 0.0050	9700	110	21000	< 0.0020	< 0.20	< 0.50	0.33	< 0.20	0.76	< 0.10	26	< 0.020	0.067	70	< 0.010	< 0.010	100000
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	37	< 0.0050	16	31000	56	0.29	0.30	2100	< 0.040	9000	< 0.0050	6700	130	19000	< 0.0020	< 0.20	< 0.50	0.29	< 0.20	35	< 0.10	4.0	< 0.020	0.089	74	< 0.010	< 0.010	95000
	11-Sep-2022	36	< 0.0050	15	33000	49	0.31	0.33	2000	0.069	8600	< 0.0050	7200	130	21000	< 0.0020	< 0.20	< 0.50	0.31	< 0.20	3.3	< 0.10	12	< 0.020	0.087	79	< 0.010	< 0.0050	100000
	28-Sep-2022	580 [#3,4]	0.040	17	35000	110	0.36	0.30	2200	< 0.040	9200	< 0.0050	7700	140	22000	< 0.0020	< 0.20	1.1	0.33	0.21	1.5	0.11	81	< 0.020	0.14	83	< 0.010	< 0.010	98000
	09-Oct-2022	24	< 0.0050	16	35000	42	0.35	0.29	2200	< 0.040	9200	< 0.0050	8400	130	21000	< 0.0020	< 0.20	< 0.50	0.29	< 0.20	170	< 0.10	32	< 0.040	0.077	78	< 0.020	< 0.020	98000
	23-Oct-2022	460 [#3,4]	0.041	16	35000	66	0.35	0.34	2100	< 0.040	9500	< 0.0050	8000	130	22000	< 0.0020	< 0.20	1.1	0.30	< 0.20	0.73	0.10	34	0.021	0.11	76	< 0.010	< 0.010	97000
	01-Nov-2022	35	< 0.0050	17	35000	53	0.38	0.29	2100	< 0.040	9200	< 0.0050	8100	140	23000	< 0.0020	< 0.20	< 0.50	0.31	< 0.20	0.42	< 0.10	41	< 0.020	0.088	77	< 0.010	< 0.010	97000
	25-Mar-2023	25	0.038	16	28000	31	0.56	0.24	1800	< 0.040	7700	< 0.0050	9200	110	20000	0.0026	< 0.20	< 0.50	0.32	< 0.20	2.1	0.16	49	0.023	0.084	75	0.011	< 0.010	100000
WETA-Seep-03	07-Sep-2022	66	0.0068	17	32000	30	0.27	0.24	2000	< 0.040	8700	< 0.0050	6700	130	19000	< 0.0020	< 0.20	< 0.50	0.29	< 0.20	1.6	< 0.10	230	< 0.020	0.22	87	0.022	< 0.010	96000
	11-Sep-2022	47	< 0.0050	16	34000	27	0.28	0.21	2000	0.094	9000	< 0.0050	6900	130	19000	< 0.0020	< 0.20	< 0.50	0.28	< 0.20	0.17	< 0.10	14	< 0.020	0.12	81	< 0.010	< 0.0050	98000
	28-Sep-2022	46	< 0.0050	18	35000	38	0.29	0.24	2200	< 0.040	9400	< 0.0050	7300	140	21000	< 0.0020	< 0.20	< 0.50	0.28	< 0.20	0.81	< 0.10	100	< 0.020	0.18	80	0.015	< 0.010	100000
	11-Oct-2022	27	0.38	17	35000	24	0.29	0.22	2200	< 0.040	9200	< 0.0050	7000	120	19000	< 0.0020	< 0.20	< 0.50	0.25	< 0.20	3.1	< 0.10	41	< 0.020	0.13	76	< 0.010	< 0.010	96000
	25-Oct-2022	39	0.068	17	35000	49	0.44	0.31	2100	< 0.040	9000	< 0.0050	7900	130	22000	< 0.0020	< 0.20	< 0.50	0.31	< 0.20	2.0	< 0.10	34	< 0.020	0.082	74	< 0.010	< 0.010	94000
	01-Nov-2022	48	< 0.0050	18	35000	36	0.32	0.40	2100	< 0.040	9500	< 0.0050	7400	140	20000	< 0.0020	< 0.20	< 0.50	0.27	< 0.20	0.61	< 0.10	200	< 0.020	0.20	85	0.011	< 0.010	99000
WETA-Seep-05	27-Mar-2023	430 [#3,4]	< 0.0050	15	31000	83	0.70	0.23	1500	< 0.040	8000	< 0.0050	8000	93	26000	< 0.0020	< 0.20	< 0.50	0.10	< 0.20	0.13	< 0.10	1.4	< 0.020	0.067	58	< 0.010	< 0.0050	100000
22-SEEP-02	15-May-2022	300 [#3,4]	< 0.20	< 20	6500	16	< 0.20	3.7	4100	< 0.20	3800	< 0.10	1600	30	9800	< 0.20	< 1.0	2.1	< 0.10	1.4	4.7	---	170	< 12	< 4.0	37	< 20	---	18000
	17-Mar-2023	20	0.0066	16	32000	35	0.56	0.24	2000	< 0.040	8200	< 0.0050	9300	110	23000	< 0.0020	< 0.20	< 0.50	0.30	< 0.20	1.3	< 0.10	58	< 0.020	0.097	71	< 0.010	< 0.010	110000
22-SEEP-05	25-May-2022	550 [#3,4]	---	---	39000	190	---	---	2900	---	---	---	3500	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	1800 [#3,4]	---	---	37000	130	---	---	1900	---	---	---	3100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-07	25-May-2022	1100 [#3,4]	---	---	37000	140	---	---	2200	---	---	---	3400	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-08	25-May-2022	< 60	---	---	35000	49	---	---	2300	---	---	---	5800	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-10	16-Oct-2022	250	0.0055	43	43000	150	0.073	0.24	3700	< 0.040	11000	< 0.0050	6400	400	27000	< 0.0020	< 0.20	< 0.50	0.35	< 0.20	120	0.28	8.5	< 0.020	0.072	150	< 0.010	< 0.010	130000
	23-Oct-2022	35	< 0.0050	27	42000	32	0.13	0.13	3300	< 0.040	11000	< 0.0050	3800	360	55000	< 0.0020	< 0.20	< 0.50	0.57	< 0.20	0.19	< 0.10	3.9	< 0.020	0.056	120	< 0.010	< 0.010	130000
	31-Oct-2022	330 [#3,4]	< 0.0050	44	44000	150	0.086	0.17	3700	0.092	12000	< 0.0050	5200	400	28000	< 0.0020	< 0.20	< 0.50	0.35	< 0.20	0.50	0.29	2.4	< 0.020	0.072	130	< 0.010	< 0.0050	120000
22-SEEP-12	11-Oct-2022	220	< 0.20	< 20	38000	270	0.82	< 0.50	1800	< 0.20	6400	< 0.10	2700	99	56000	< 0.20	< 1.0	< 1.0	0.84	< 1.0	< 3.0	---	17	< 0.60	0.50	55	< 1.0	---	120000
22-SEEP-13	11-Oct-2022	530 [#3,4]	< 0.20	< 20	42000	47	< 0.20	< 0.50	2200	< 0.20	8300	< 0.10	4900	140	30000	< 0.20	< 1.0	< 1.0	0.29	< 1.0	< 3.0	---	25	< 0.60	< 0.20	70	< 1.0	---	110000
P24-DITCH-1	19-Mar-2023	20000 [#3,4]	0.010	45	40000	710	6.6	39	4800	0.041	9000	< 0.0050	78000	480	100000	0.0052	< 0.20	< 0.50	1.7	< 0.20	43	0.34	260	< 0.020	1.7	83	0.27	< 0.010	120000
	24-Mar-2023	23000 [#3,4]	< 0.0050	53	34000	750	6.3	42	5100	0.070	7500	< 0.0050	85000	510	110000	0.0051	< 0.20	< 0.50	1.5	< 0.20	46	0.15	190	0.043	1.5	79	0.22	< 0.0050	120000
P25-DITCH-1	06-Jun-2022	71000 [#3,4]	< 0.20	96	47000	2400	7.6	150	9800	< 0.20	8500	< 0.10	150000	1200	230000	< 0.20	< 1.0	< 1.0	2.5	< 1.0	160	---	950	< 0.60	4.6	70	1.1	---	130000
	19-Mar-2023	32000 [#3,4]	0.019	71	42000	1100	9.6	58	6900	0.060	8800	< 0.0050	130000	830	160000	0.0050	< 0.20	< 0.50	3.4	0.20	70	0.39	430	< 0.020	3.4	81	0.41	< 0.010	130000
	24-Mar-2023	26000 [#3,4]	< 0.0050	66	35000	910	7.3	44	6500	0.066	7400	< 0.0050	110000	710	140000	0.0036	< 0.20	< 0.50	2.6	< 0.20	54	0.16	340	< 0.020	2.4	82	0.33	< 0.0050	130000

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Total Metals and Trace Elements (cont.)																												
		Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**1.6**	**29000**	**---**	**---**	**12**	**---**	**---**	**---**	**---**	**---**	**---**	**0.013**	**2**	**---**	**370**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**33**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**3.4**	**29000**	**---**	**---**	**25**	**---**	**---**	**---**	**---**	**---**	**---**	**0.013**	**2**	**---**	**700**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**33**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**0.12**	**1500**	**8.9**	**0.91**	**7**	**---**	**2.2**	**---**	**---**	**---**	**0.005**	**1**	**73**	**41**	**---**	**2**	**---**	**0.25**	**---**	**---**	**---**	**0.8**	**---**	**---**	**15**	**---**	**30**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**0.23**	**1500**	**8.9**	**1.2**	**7**	**---**	**5.8**	**---**	**---**	**---**	**0.005**	**1**	**73**	**78**	**---**	**2**	**---**	**0.25**	**---**	**---**	**---**	**0.8**	**---**	**---**	**15**	**---**	**30**	**---**
WETA SEEP																														
WETA-Seep-01	15-May-2022	< 0.020	48	< 1.0	< 0.30	< 1.0	1000	< 0.20	< 20	36000	91	< 0.0019	---	0.31	< 0.50	2400	< 0.20	8100	< 0.10	6800	120	26000	< 0.20	< 1.0	2.5	0.52	< 1.0	< 3.0	---
	14-Jul-2022	0.0061	54	0.23	0.048	0.37	1700	0.17	17	34000	120	0.00038	0.056	0.25	0.42	2200	< 0.040	10000	< 0.010	9400	140	21000	0.0027	< 0.20	< 2.0	0.079	0.28	7.3	0.18
	24-Jul-2022	< 0.0050	43	0.12	0.090	0.17	670	0.063	16	34000	120	0.00046	0.17	0.28	0.36	2100	< 0.040	9900	< 0.010	6900	130	22000	< 0.0020	< 0.20	< 2.0	0.39	< 0.20	10	0.26
	27-Jul-2022	0.0060	51	0.12	0.10	0.17	780	0.041	18	34000	120	0.00053	< 0.050	0.26	0.49	2400	< 0.040	8600	< 0.0050	6800	150	27000	< 0.0020	< 0.20	0.50	0.53	< 0.20	9.9	0.18
	03-Aug-2022	< 0.0050	55	< 0.10	0.13	< 0.10	910	0.052	20	37000	130	0.00071	0.19	0.27	0.46	2600	0.055	9300	< 0.010	7100	150	31000	< 0.0020	< 0.20	< 2.0	0.55	0.26	2.7	0.18
	10-Aug-2022	< 0.0050	55	0.27	0.56	0.22	9800	0.021	13	64000	480	0.00092	0.17	0.13	3.3	2000	0.11	4400	< 0.010	12000	230	140000	0.0033	< 0.20	< 2.0	3.6	0.57	1.9	0.75
	20-Aug-2022	< 0.0050	50	< 0.10	0.094	0.10	720	0.031	17	35000	130	0.00070	0.234	0.34	0.37	2200	< 0.040	10000	< 0.0050	7600	140	25000	< 0.0020	< 0.20	0.54	0.38	< 0.20	4.5	0.14
	24-Aug-2022	< 0.0050	55	< 0.10	0.13	0.16	920	0.046	19	36000	150	0.00043	0.218	0.30	0.38	2400	< 0.040	8700	< 0.0050	7300	150	29000	< 0.0020	< 0.20	0.94	0.46	< 0.20	1.8	0.38
	28-Aug-2022	0.011	67	1.2	0.30	1.4	2300	0.25	20	36000	180	0.0017	0.212	0.67	0.94	2800	0.053	7700	0.013	7600	150	30000	0.0037	0.34	6.2	0.55	0.81	**180** [#3,4]	0.30
	07-Sep-2022	< 0.0050	58	0.40	0.29	0.41	2600	0.18	20	37000	170	0.00075	0.181	0.29	0.75	2700	0.047	8500	< 0.010	7200	150	33000	0.0034	< 0.20	5.7	0.56	0.67	9.6	0.26
	11-Sep-2022	< 0.0050	60	0.13	0.15	0.12	1200	0.052	21	37000	140	0.00039	0.063	0.28	0.41	2700	0.044	8500	< 0.0050	7500	160	34000	< 0.0020	< 0.20	2.0	0.56	< 0.20	**46** [#3,4]	0.24
	19-Sep-2022	< 0.0050	43	< 0.10	0.069	< 0.050	590	0.0068	16	34000	120	0.00036	< 0.050	0.39	0.26	2000	0.043	9700	< 0.0050	8100	130	21000	< 0.0020	< 0.20	< 0.50	0.31	< 0.20	0.30	< 0.10
	28-Sep-2022	< 0.0050	54	0.13	0.20	0.28	1400	0.095	18	35000	170	0.00039	0.16	0.25	0.53	2800	0.040	8600	< 0.010	7200	150	31000	< 0.0020	< 0.20	< 2.0	0.55	0.22	2.9	0.10
(Duplicate)	28-Sep-2022	< 0.0050	54	< 0.10	0.17	0.13	1000	0.043	18	35000	140	0.00064	0.42	0.30	0.43	2800	< 0.040	8700	< 0.010	7100	150	30000	< 0.0020	< 0.20	< 2.0	0.53	< 0.20	1.2	0.12
	05-Oct-2022	< 0.0050	53	< 0.10	0.083	0.072	710	0.023	16	35000	130	0.00028	< 0.050	0.35	0.31	2100	< 0.040	9300	0.0078	8400	140	24000	< 0.0020	< 0.20	0.51	0.35	< 0.20	1.1	0.12
(Duplicate)	05-Oct-2022	< 0.0050	47	0.16	0.13	0.18	1400	0.073	16	35000	130	0.00059	< 0.050	0.38	0.50	2000	< 0.040	9700	< 0.010	8200	130	24000	< 0.0020	< 0.20	< 2.0	0.34	0.28	6.8	0.14
	09-Oct-2022	< 0.010	45	0.20	0.16	0.23	1800	0.12	17	37000	130	0.00037	0.21	0.38	0.58	2300	< 0.080	10000	< 0.020	8800	140	25000	< 0.0040	< 0.40	< 4.0	0.37	< 0.40	2.6	< 0.20
(Duplicate)	09-Oct-2022	< 0.010	92	0.33	0.14	< 0.20	1300	0.074	18	36000	140	0.00034	0.19	0.41	0.44	2200	< 0.080	9900	< 0.020	8600	140	24000	< 0.0040	< 0.40	< 4.0	0.37	< 0.40	3.2	< 0.20
	16-Oct-2022	< 0.0050	49	< 0.10	0.11	0.11	840	0.034	16	35000	110	0.0018	0.16	1.1	0.34	2000	< 0.040	9900	< 0.010	8600	130	25000	< 0.0020	< 0.20	< 2.0	0.33	< 0.20	1.0	0.11
	23-Oct-2022	< 0.0050	52	< 0.10	0.075	< 0.10	620	< 0.020	16	35000	100	0.00062	0.18	0.41	0.33	2100	< 0.040	9500	< 0.010	8400	130	25000	< 0.0020	< 0.20	< 2.0	0.34	< 0.20	1.0	0.11
(Duplicate)	23-Oct-2022	< 0.0050	52	< 0.10	0.084	0.14	770	0.033	16	36000	110	0.00055	0.22	0.41	0.32	2100	< 0.040	9700	< 0.010	8500	130	25000	< 0.0020	< 0.20	< 2.0	0.34	< 0.20	< 1.0	0.11
	31-Oct-2022	< 0.0050	43	< 0.10	0.067	0.065	560	0.013	15	32000	99	0.00080	0.081	0.42	0.29	2000	< 0.040	9000	< 0.0050	8100	130	23000	< 0.0020	< 0.20	< 0.50	0.35	< 0.20	1.7	0.13
	06-Nov-2022	< 0.0050	49	< 0.10	0.13	0.17	740	0.046	19	38000	120	0.00091	< 0.050	0.24	0.51	2700	< 0.040	8800	< 0.010	7700	160	31000	< 0.0020	< 0.20	< 2.0	0.56	0.28	3.9	0.18
	19-Feb-2023	0.0063	58	< 0.10	0.069	0.10	630	0.026	18	32000	83	0.00047	0.13	0.58	0.30	2000	< 0.040	8600	< 0.0050	10000	120	25000	< 0.0020	< 0.20	0.66	0.36	< 0.20	1.1	0.10
	28-Feb-2023	< 0.0050	64	< 0.10	0.056	0.070	540	0.014	16	30000	80	0.00065	0.16	0.67	0.27	2000	0.041	8200	< 0.0050	14000	120	29000	< 0.0020	< 0.20	< 0.50	0.37	< 0.20	0.53	< 0.10
	07-Mar-2023	< 0.0050	54	< 0.10	0.059	0.068	760	0.016	19	36000	85	0.00091	0.16	0.67	0.28	2100	< 0.040	9700	< 0.0050	11000	130	31000	< 0.0020	< 0.20	0.56	0.40	< 0.20	0.50	0.12
	14-Mar-2023	< 0.0050	53	< 0.10	0.055	0.11	550	0.010	17	31000	73	0.0012	0.17	0.68	0.29	2100	< 0.040	7900	< 0.0050	9900	120	28000	< 0.0020	< 0.20	< 0.50	0.36	< 0.20	0.88	0.13
	17-Mar-2023	< 0.0050	55	< 0.10	0.050	0.065	530	0.012	17	30000	70	0.00065	0.16	0.64	0.24	1900	< 0.040	7900	< 0.0050	9800	120	27000	< 0.0020	< 0.20	< 0.50	0.34	< 0.20	0.66	0.13
	25-Mar-2023	< 0.0050	50	< 0.10	0.064	0.16	710	0.027	15	29000	71	---	---	0.62	0.26	1700	0.065	8000	< 0.010	9500	100	21000	0.0025	< 0.20	< 2.0	0.32	0.26	1.6	0.13
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.0050	52	< 0.10	0.051	0.14	40	< 0.020	16	34000	60	0.00086	0.187	0.33	0.32	2200	< 0.040	8300	< 0.010	7200	130	20000	< 0.0020	< 0.20	< 2.0	0.29	< 0.20	**38** [#3,4]	< 0.10
	11-Sep-2022	< 0.0050	47	0.10	0.057	0.093	380	0.020	17	34000	65	0.00049	0.14	0.31	0.31	2100	< 0.040	9300	< 0.0050	7500	130	24000	< 0.0020	< 0.20	< 0.50	0.33	< 0.20	1.8	0.11
	28-Sep-2022	< 0.0050	48	0.17	0.12	0.17	1200	0.085	16	33000	110	0.00052	0.16	0.34	0.51	2200	< 0.040	9600	< 0.010	7500	130	22000	< 0.0020	< 0.20	2.0	0.32	0.30	6.3	0.11
	09-Oct-2022	< 0.010	42	< 0.20	0.075	< 0.20	390	< 0.040	16	35000	60	0.00049	0.17	0.33	0.37	2200	< 0.080	9800	< 0.020	7900	140	22000	< 0.0040	< 0.40	< 4.0	0.31	< 0.40	2.2	< 0.20
	23-Oct-2022	< 0.0050	46	< 0.10	0.60	0.20	490	0.070	16	35000	65	0.00087	0.14	0.37	0.52	2100	< 0.040	9500	< 0.010	8000	130	23000	< 0.0020	< 0.20	< 2.0	0.31	< 0.20	4.5	0.10
	01-Nov-2022	< 0.0050	44	< 0.10	0.076	0.27	550	0.050	17	37000	70	0.00095	0.14	0.35	0.40	2200	< 0.040	9600	< 0.010	8200	140	23000	< 0.0020	< 0.20	< 2.0	0.31	< 0.20	1.0	0.10
	25-Mar-2023	< 0.0050	51	0.12	0.073	0.13	360	0.051	15	32000	44	---	---	0.59	0.31	1900	0.088	8100	< 0.010	9500	110	21000	0.0033	< 0.20	< 2.0	0.32	0.36	< 1.0	0.12
WETA-Seep-03	07-Sep-2022	< 0.0050	48	0.41	0.28	0.34	960	0.22	18	34000	67	0.00069	0.115	0.28	0.83	2100	< 0.040	9500	< 0.010	6700	130	21000	0.0039	< 0.20	6.3	0.29	0.76	3.7	0.17
	11-Sep-2022	< 0.0050	48	< 0.10	0.047	0.10	190	0.027	18	34000	34	0.0012	0.052	0.28	0.28	2100	< 0.040	9400	< 0.0050	6900	140	23000	< 0.0020	< 0.20	< 0.50	0.29	< 0.20	1.5	0.15
	28-Sep-2022	< 0.0050	46	0.21	0.12	0.30	590	0.13	16	33000	55	0.00038	< 0.050	0.27	0.55	2100	0.040	9800	< 0.010	7000	140	21000	< 0.0020	< 0.20	2.9	0.27	0.38	5.1	0.11
	11-Oct-2022	< 0.0050	49	0.15	0.069	0.13	300	0.054	17	34000	40	0.00034	0.096	0.30	0.35	2200	< 0.040	9500	< 0.010	7200	140	20000	< 0.0020	< 0.20	< 2.0	0.27	0.21	2.7	< 0.10
	25-Oct-2022	< 0.0050	55	< 0.10	0.073	0.13	460	0.045	16	34000	68	0.00076	0.13	0.38	0.32	2100	< 0.040	9500	< 0.010	7900	130	22000	< 0.0020	< 0.20	< 2.0	0.31	< 0.20	< 1.0	0.10
	01-Nov-2022	0.0062	44	0.31	0.21	0.31	1200	0.25	19	37000	120	0.0016	0.13	0.24	0.80	2200	< 0.040	10000	< 0.010	7500	140	21000	0.0045	< 0.20	4.0	0.28	0.61	2.7	0.15
WETA-Seep-05	27-Mar-2023	< 0.0050	100	< 0.10	0.072	< 0.050	470	< 0.0050	16	30000	81	---	---	0.67	0.23	1500	< 0.040	8000	< 0.0050	7600	94	26000	< 0.0020	< 0.20	< 0.50	0.10	< 0.20	< 0.10	< 0.10
22-SEEP-02	15-May-2022	**< 0.40** [#3,4]	21	**< 20** [#3,4]	**< 6.0** [#3,4]	**< 20** [#1,3,4]	290	**< 4.0** [#3]	< 20	6200	15	**0.016** [#1,2,3,4]	---	< 4.0	< 10	4000	**< 4.0** [#3,4]	3700	**< 2.0** [#3,4]	1600	30	8500	**< 4.0** [#3,4]	< 20	< 20	< 2.0	< 20	**< 60** [#3,4]	---
	17-Mar-2023	< 0.0050	59	0.27	0.068	0.27	430	0.050	18	41000	46	0.00080	0.12	0.55	0.37	1900	0.070	9100	< 0.010	11000	130	27000	< 0.0020	< 0.20	< 2.0	0.34	0.29	2.2	0.16
22-SEEP-05	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-07	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-08	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-10	16-Oct-2022	< 0.0050	110	0.30	0.059	< 0.10	4100	< 0.020	42	43000	220	0.00049	< 0.050	0.20	0.36	3600	< 0.040	14000	< 0.010	5300	410	27000	< 0.0020	< 0.20	< 2.0	0.32	0.45	1.3	0.31
	23-Oct-2022	< 0.0050	69	< 0.10	0.025	< 0.10	560	< 0.020	28	42000	35	0.00031	< 0.050	0.14	0.22	3300	< 0.040	12000	< 0.010	3800	350	58000	< 0.0020	< 0.20	< 2.0	0.56	< 0.20	4.8	0.11
	31-Oct-2022	< 0.0050	94	0.17	0.036	< 0.050	830	< 0.0050	40	40000	150	0.00031	< 0.050	0.060	0.15	3500	< 0.040	12000	< 0.0050	4900	380	26000	< 0.0020	< 0.20	< 0.50	0.35	< 0.20	1.4	0.30
22-SEEP-12	11-Oct-2022	< 0.020	22	< 1.0	0.88	1.4	1900	< 0.20	< 20	41000	620	**0.0076** [#3,4]	---	0.84	0.80	1900	< 0.20	6600	< 0.10	3000	110	55000	< 0.20	< 1.0	< 1.0	0.92	< 1.0	< 3.0	---
22-SEEP-13	11-Oct-2022	< 0.020	81	< 1.0	< 0.30	< 1.0	1000	< 0.20	< 20	41000	53	0.0020	---	< 0.20	< 0.50	2100	< 0.20	8400	< 0.10	4700	130	29000	< 0.20	< 1.0	< 1.0	0.30	< 1.0	< 3.0	---
P24-DITCH-1	19-Mar-2023	0.034	410	0.54	**28** [#3,4]	1.3	23000	0.073	41	39000	690	0.00039	< 0.050	5.9	37	4300	0.16	8900	< 0.010	75000	410	92000	0.0047	< 0.20	< 2.0	1.5	1.9	**52** [#3,4]	0.71
	24-Mar-2023	0.029	440	0.35	**30** [#3,4]	0.53	24000	0.047	46	33000	770	---	---	6.3	39	4700	0.11	7800	< 0.0050	79000	510	95000	0.0056	< 0.20	0.68	1.6	1.3	**49** [#3,4]	0.29
P25-DITCH-1	06-Jun-2022	**0.21** [#3]	940	1.7	**120** [#3,4]	3.9	83000	0.28	98	47000	2500	< 0.0019	---	9.0	**160** [#3,4]	9800	0.22	9200	< 0.10	150000	1200	220000	< 0.20	< 1.0	1.7	3.1	5.8	**190** [#3,4]	---
	19-Mar-2023	0.067	680	0.87	**40** [#3,4]	1.6	35000	0.11	65	42000	1100	0.00033	< 0.050	8.2	**55** [#3]	6400	0.19	8900	< 0.010	130000	730	150000	0.0067	< 0.20	2.9	3.1	2.9	**85** [#3,4]	0.84
	24-Mar-2023	0.055	600	0.59	**32** [#3,4]	0.83	28000	0.055	59	35000	970	---	---	7.6	**44** [#3]	6000	0.12	7700	< 0.0050	110000	740	130000	0.0038	< 0.20	0.81	2.8	2.3	**62** [#3,4]	0.32

Water Quality Results

PROJECT No.: 417085-47599		BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons															
Monitoring Station	Date (dd-mmm-yyyy)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m & p-Xylene (ug/L)	o-Xylene (ug/L)	Xylenes-Total (ug/L)	PHC F4 (C34-C50+) (ug/L)	PHC F1 (C6-C10) (ug/L)	PHC F1 (C6-C10) - BTEX (ug/L)	PHC F2 (C10-C16) (ug/L)	PHC F3 (C16-C34) (ug/L)	Naphthenic acids (mg/L)	2-Methylnaphthalene (ug/L)	1-Methylnaphthalene (ug/L)	Acenaphthylene (ug/L)	Acenaphthene (ug/L)	Acridine (ug/L)	Anthracene (ug/L)	Benzo[a]anthracene (ug/L)	Benzo[a]pyrene (ug/L)	Benzo[a]pyrene equivalency (ug/L)	Benzo[b&j]fluoranthene (ug/L)	Benzo[c]phenanthrene (ug/L)	Benzo[e]pyrene (ug/L)	Benzo[g,h,i]perylene (ug/L)	Benzo[j]fluoranthene (ug/L)	Biphenyl (ug/L)	C1benzobjkfluoranthene/benzoapyrene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---
WETA SEEP																													
WETA-Seep-01	15-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	14-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	27-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	03-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	130	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	10-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	20-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	0.010	< 0.0085	< 0.050	< 0.050	0.072	< 0.0085	< 0.020	< 0.0075
	28-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	07-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	19-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	05-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	05-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	16-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	31-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	06-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	19-Feb-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Feb-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	07-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	14-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	25-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 160	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	01-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	25-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
WETA-Seep-03	07-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	25-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	01-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
WETA-Seep-05	27-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
22-SEEP-02	15-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
22-SEEP-05	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-07	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-08	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-10	16-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	31-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
22-SEEP-12	11-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
22-SEEP-13	11-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
P24-DITCH-1	19-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**140** [#1,2]	710	4.9	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**180** [#1,2]	580	5.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
P25-DITCH-1	06-Jun-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	7.9	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	19-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**220** [#1,2]	1200	8.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**200** [#1,2]	880	7.7	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																												
Monitoring Station	Date	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzobjkfluoranthene/benzospyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WETA SEEP																														
WETA-Seep-01	15-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
	14-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	24-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	27-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	03-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	10-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	20-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	24-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	07-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	19-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
(Duplicate)	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	05-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
(Duplicate)	05-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
(Duplicate)	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	16-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
(Duplicate)	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	31-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	06-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	19-Feb-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Feb-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	07-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	14-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	17-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	25-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	25-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
WETA-Seep-03	07-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	11-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	25-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
WETA-Seep-05	27-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
22-SEEP-02	15-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
	17-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
22-SEEP-05	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-07	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-08	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-10	16-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	31-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
22-SEEP-12	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
22-SEEP-13	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
P24-DITCH-1	19-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	24-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
P25-DITCH-1	06-Jun-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085
	19-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085
	24-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)											
Monitoring Station	Date (dd-mmm-yyyy)	Dibenz[a,h]anthracene (ug/L)	Dibenzothiophene (ug/L)	Fluoranthene (ug/L)	Fluorene (ug/L)	Indeno(1,2,3-cd)fluoranthene (ug/L)	Indeno[1,2,3-cd]pyrene (ug/L)	Naphthalene (ug/L)	Perylene (ug/L)	Phenanthrene (ug/L)	Pyrene (ug/L)	Quinoline (ug/L)	Retene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
WETA SEEP													
WETA-Seep-01	15-May-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	07-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	28-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	05-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	09-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	09-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	23-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	31-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	06-Nov-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Feb-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Feb-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	07-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	14-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WETA-Seep-02	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	09-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	01-Nov-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WETA-Seep-03	07-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Sep-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	01-Nov-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WETA-Seep-05	27-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
22-SEEP-02	15-May-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
22-SEEP-05	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-05B	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-06	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-07	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-08	25-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
22-SEEP-10	16-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	31-Oct-2022	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
22-SEEP-12	11-Oct-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
22-SEEP-13	11-Oct-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
P24-DITCH-1	19-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
P25-DITCH-1	06-Jun-2022	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	19-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Mar-2023	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

DP4

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters															
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative
DP4 SEEP																								
DP4-Seep-01	12-May-2022	---	---	---	---	---	---	1300	7.33	2900	---	650	630	430	< 1.0	< 10	5.0	270 [#3]	0.0033 [#3,4]	0.52 [#3,4]	0.55	860	800	2900
	17-May-2022	1284	54.1	7.05	8.2	6.36 [#3,4]	872	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	1552	30.7	6.92	11.1	3.36 [#1,2,3,4]	1138	1300	7.24	---	760	---	---	430	< 1.0	---	3.9	310 [#3,4]	---	1.2 [#3,4]	1.3	860	920	---
	06-Jul-2022	---	---	---	---	---	---	1400	7.29	---	800	---	---	500	< 1.0	---	4.4	340 [#3,4]	---	49 [#3,4]	52	1000	970	---
	14-Jul-2022	1208	12.7	7.05	11.6	1.38 [#1,2,3,4]	898	1300	7.35	1300	---	890	640	430	< 1.0	6.2	2.8	300 [#3]	0.026 [#3,4]	1.1 [#3,4]	1.1	810	830	1000
	24-Jul-2022	1373	12.2	6.75	13.7	1.26 [#1,2,3,4]	1077	1300	7.57	340	---	650	680	430	< 1.0	< 2.0	2.8	300 [#3]	0.034 [#3,4]	0.036 [#3,4]	0.038	900	860	150
	27-Jul-2022	1337	14.2	6.9	14.2	1.45 [#1,2,3,4]	1063	1200	7.14	200	---	690	630	450	< 1.0	< 2.0	2.8	330 [#3,4]	0.050 [#3,4]	0.069 [#3,4]	0.074	950	860	62
	03-Aug-2022	1195	16.7	6.76	14.8	1.67 [#1,2,3,4]	964	1200	7.21	2000	---	1900	670	400	< 1.0	150	6.8	320 [#3,4]	0.021 [#3,4]	8.6 [#3,4]	9.1	900	860	4000
	10-Aug-2022	1479	8.88	7.05	15.2	0.87 [#1,2,3,4]	1202	1300	7.22	440	---	830	790	460	< 1.0	< 2.0	5.0	330 [#3,4]	< 0.0036 [#3,4]	1.9 [#3,4]	2.1	990	970	2000
	20-Aug-2022	1433	21.4	6.99	15.1	2.15 [#1,2,3,4]	1160	1300	7.32	580	---	730	700	460	< 1.0	< 2.0	4.5	320 [#3,4]	0.035 [#3,4]	0.050 [#3,4]	0.053	960	890	81
	02-Oct-2022	1386	4.1	6.92	13	0.43 [#1,2,3,4]	1068	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	1687	14.2	6.7	10.1	1.59 [#1,2,3,4]	1206	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	1374	9.1	6.95	8.7	1.06 [#1,2,3,4]	947	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	1383	13.1	6.8	6.6	1.6 [#1,2,3,4]	898	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	137.5	38.6	6.94	1.4	1.83 [#1,2,3,4]	755	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	---	---	---	---	---	---	1700	7.68	350	---	730	750	510	< 1.0	6.4	9.5	470 [#3,4]	< 0.0018	0.0031 [#3,4]	0.0033	1300	1200	220
DP4-Seep-02	30-Aug-2022	1064	4	7.15	14	0.42 [#1,2,3,4]	841	1200	7.36	2000	---	680	650	440	< 1.0	< 2.0	5.6	290 [#3]	0.0076 [#3,4]	0.033 [#3,4]	0.035	900	820	1400
	07-Sep-2022	---	---	---	---	---	---	1300	7.51	2000	---	790	670	470	< 1.0	3.6	5.6	280 [#3]	0.0052 [#3,4]	0.11 [#3,4]	0.12	880	850	2300
	11-Sep-2022	1265	1.9	7.19	9.5	0.22 [#1,2,3,4]	891	1300	7.14	3700	---	730	680	460	< 1.0	20	5.5	300 [#3]	0.0027 [#3,4]	0.22 [#3,4]	0.23	920	870	2600
(Duplicate)	11-Sep-2022	---	---	---	---	---	---	1300	7.28	3500	---	830	670	460	< 1.0	38	5.1	300 [#3]	0.0037 [#3,4]	1.0 [#3,4]	1.1	940	870	3000
	19-Sep-2022	1285	12.3	7.34	10.8	1.32 [#1,2,3,4]	936	1300	7.41	580	---	770	690	480	< 1.0	6.1	6.9	310 [#3,4]	< 0.0018	0.081 [#3,4]	0.086	960	900	460
	27-Sep-2022	1062	2.1	7.15	10.3	0.24 [#1,2,3,4]	765	1300	7.16	980	---	770	690	470	< 1.0	7.7	5.8	300 [#3]	0.0038 [#3,4]	0.019 [#3,4]	0.020	950	890	850
	02-Oct-2022	1330	1.7	7.2	11.7	0.18 [#1,2,3,4]	993	1300	7.67	820	---	790	700	480	< 1.0	4.0	5.5	310 [#3,4]	0.0062 [#3,4]	0.45 [#3,4]	0.47	1000	910	710
	11-Oct-2022	1495	19.2	7.03	7.6	2.29 [#1,2,3,4]	999	1300	7.63	420	---	730	710	460	< 1.0	< 2.0	7.9	320 [#3,4]	0.0072 [#3,4]	0.026 [#3,4]	0.028	1000	900	280
	16-Oct-2022	1170	6.8	7.13	5.3	0.86 [#1,2,3,4]	730	1400	7.71	390	---	790	730	470	< 1.0	< 2.0	6.7	320 [#3,4]	0.0057 [#3,4]	0.016 [#3,4]	0.017	1000	930	110
	25-Oct-2022	1099	22.1	7.17	4.7	2.68 [#1,2,3,4]	672	1500	7.56	1600	---	890	780	450	< 1.0	23	8.0	430 [#3,4]	< 0.0018	1.3 [#3,4]	1.4	1100	1100	2200
	31-Oct-2022	1124	22.1	7.09	3.5	2.93 [#1,2,3,4]	662	1400	7.88	270	---	700	720	440	< 1.0	< 2.0	7.0	360 [#3,4]	0.0033 [#3,4]	0.023 [#3,4]	0.024	1000	930	84
	06-Nov-2022	1157	8.6	7.16	0	1.26 [#1,2,3,4]	605	1400	7.70	860	---	810	720	450	< 1.0	6.4	6.6	380 [#3,4]	0.0062 [#3,4]	0.27 [#3,4]	0.29	1000	960	510
DP4-Seep-03	17-May-2022	628.7	63.5	7.41	3.5	8.41	370.6	620	8.01	---	280	---	---	250	< 1.0	---	2.8	95	---	< 0.0018	< 0.0020	380	360	---
	28-Aug-2022	756	74.9	7.87	13.4	7.81	588	840	7.78	67	---	420	420	370	< 1.0	< 2.0	3.1	120	0.0027 [#3,4]	0.026 [#3,4]	0.028	580	510	120
	11-Sep-2022	857	73.8	7.88	10	8.31	611	940	7.81	14	---	440	440	400	< 1.0	< 2.0	3.8	130	0.0076 [#3,4]	0.017 [#3,4]	0.018	630	560	15
	28-Sep-2022	1007	58.8	7.82	11.1	6.46 [#3,4]	739	980	7.94	6.4	---	500	500	420	< 1.0	< 2.0	3.1	150	< 0.0018	< 0.0018	< 0.0020	670	600	6.7
	09-Oct-2022	786	80.3	7.48	5.6	10.06	494.9	920	7.63	110	---	550	480	400	< 1.0	---	3.1	110	0.0053 [#3,4]	0.14 [#3,4]	0.15	610	550	490
	23-Oct-2022	514	59.4	7.51	3.7	7.69	306	940	8.24	11	---	500	480	430	< 1.0	< 2.0	3.4	170	0.0092 [#3,4]	0.0092 [#3,4]	0.0098	650	620	15
	01-Nov-2022	710	78.2	7.82	2.4	10.67	403	920	8.18	4.2	---	480	470	370	< 1.0	< 2.0	3.9	170	< 0.0018	< 0.0018	< 0.0020	670	580	< 0.99
DP4-Seep-04	17-May-2022	435.8	41.8	7.24	3.1	5.63 [#3,4]	263.3	440	7.86	---	220	---	---	220	< 1.0	---	1.1	19	---	< 0.0018	< 0.0020	320	240	---
	28-Aug-2022	544	52.3	7.69	15.6	5.19 [#3,4]	446.5	630	7.94	11	---	340	330	360	< 1.0	< 2.0	1.2	< 1.0	< 0.0018	0.0022 [#3,4]	0.0024	400	340	3.1
	11-Sep-2022	613	36.5	7.47	12.5	3.9 [#1,2,3,4]	467	660	7.31	260	---	370	330	370	< 1.0	13	1.3	6.5	0.0042 [#3,4]	0.081 [#3,4]	0.086	400	360	660
	28-Sep-2022	670	31.2	7.54	12.4	3.33 [#1,2,3,4]	508	670	7.92	8.2	---	370	360	380	< 1.0	< 2.0	1.3	< 2.0	< 0.0018	< 0.0018	< 0.0020	400	360	3.1
	09-Oct-2022	520	4.3	7.3	5.8	0.53 [#1,2,3,4]	329.6	650	7.86	90	---	340	340	360	< 1.0	---	< 1.0	9.7	0.0043 [#3,4]	0.0092 [#3,4]	0.0098	690	360	73
	23-Oct-2022	514	59.4	7.51	3.7	7.69	306	600	8.21	16	---	330	330	340	< 1.0	< 2.0	< 1.0	< 1.0	0.0038 [#3,4]	0.0072 [#3,4]	0.0077	370	330	5.8
	01-Nov-2022	455.8	71.9	7.83	3	9.67	264	590	8.24	2.3	---	320	320	340	< 1.0	< 2.0	1.1	6.0	< 0.0018	< 0.0018	< 0.0020	410	330	3.0
(Duplicate)	01-Nov-2022	---	---	---	---	---	---	590	8.17	12	---	330	320	340	< 1.0	< 2.0	1.1	< 1.0	< 0.0018	< 0.0018	< 0.0020	390	320	32

Water Quality Results

PROJECT No.: 417085-47599		Conventional Parameters (cont.)				Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements											
Monitoring Station	Date	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper
	(dd-mmm-yyyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.303**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.473**	---	---	---	**50**	---	---	---	---	---	---	---	---	---	---	---	---
DP4 SEEP																												
DP4-Seep-01	12-May-2022	520	< 1.0	< 1.0	0.13	130	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.035	5.8	5.8	0.0046	2.8	< 0.020	0.92	170	0.011	< 0.0050	260	< 0.0050	170000	0.15	0.27	0.070
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	530	< 1.0	< 1.0	0.31	---	---	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.045	---	---	---	7.4	< 0.60	8.1	210	< 1.0	---	360	< 0.020	190000	< 1.0	0.69	< 1.0
	06-Jul-2022	610	< 1.0	< 1.0	0.34	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.86** [#3,4]	---	---	---	5.1	< 0.60	1.5	230	< 1.0	---	410	< 0.020	190000	< 1.0	< 0.30	2.1
	14-Jul-2022	520	< 1.0	< 1.0	0.28	140	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.044	6.7	6.7	0.0040	5.6	0.023	1.3	170	< 0.010	< 0.0050	350	< 0.0050	160000	0.19	0.50	0.075
	24-Jul-2022	520	< 1.0	< 1.0	0.27	97	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.050	0.95	0.95	0.0033	7.1	0.026	2.2	190	< 0.010	< 0.0050	310	< 0.0050	170000	0.27	0.37	2.4
	27-Jul-2022	550	< 1.0	< 1.0	0.29	110	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.83	0.83	< 0.0030	10	0.025	0.73	150	< 0.010	< 0.0050	320	0.010	150000	0.29	0.14	0.18
	03-Aug-2022	490	< 1.0	< 1.0	0.31	100	16	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.037	22	22	< 0.0030	5.1	< 0.020	4.7	180	< 0.010	< 0.0050	280	< 0.0050	170000	0.30	0.38	< 0.050
	10-Aug-2022	560	< 1.0	< 1.0	0.30	120	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.067	6.2	6.2	0.0040	8.2	0.022	4.6	310	< 0.010	< 0.0050	300	< 0.0050	190000	0.37	0.48	0.092
	20-Aug-2022	560	< 1.0	< 1.0	0.35	130	27	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.041	1.3	1.3	0.0045	4.9	< 0.020	1.2	220	< 0.010	< 0.0050	400	< 0.0050	180000	0.24	0.27	0.11
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	630	< 1.0	< 1.0	0.29	110	21	< 0.10	< 0.010	< 0.10	< 0.44	< 0.033	**0.60** [#3,4]	1.8	1.8	< 0.0030	8.9	0.030	2.4	150	< 0.010	< 0.0050	430	< 0.0050	190000	0.35	4.4	0.85
DP4-Seep-02	30-Aug-2022	530	< 1.0	< 1.0	0.34	120	23	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.016	1.0	1.0	0.0066	4.5	< 0.020	0.79	170	< 0.010	< 0.0050	330	< 0.0050	160000	0.17	0.32	0.050
	07-Sep-2022	580	< 1.0	< 1.0	0.36	120	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	3.1	3.1	0.0078	4.6	< 0.020	1.0	200	< 0.010	< 0.0050	260	< 0.0050	170000	0.15	0.33	< 0.050
	11-Sep-2022	560	< 1.0	< 1.0	0.34	130	26	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.094	26	26	0.0041	3.9	0.027	0.72	180	< 0.010	< 0.0050	240	< 0.0050	170000	0.17	0.35	0.13
(Duplicate)	11-Sep-2022	570	< 1.0	< 1.0	0.34	130	22	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.31** [#3]	< 2.0	< 2.0	0.0048	3.1	0.026	0.71	180	< 0.010	< 0.0050	240	< 0.0050	170000	0.13	0.36	0.11
	19-Sep-2022	580	< 1.0	< 1.0	0.34	120	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.45** [#3]	1.8	1.8	0.0069	4.0	0.026	0.82	190	< 0.010	< 0.0050	220	< 0.0050	170000	0.15	0.33	< 0.050
	27-Sep-2022	570	< 1.0	< 1.0	0.37	89	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.29	1.6	1.6	0.0053	6.1	< 0.020	0.96	210	< 0.010	< 0.0050	250	< 0.0050	170000	0.31	0.34	< 0.050
	02-Oct-2022	580	< 1.0	< 1.0	0.42	110	27	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.30	4.5	4.5	0.0040	4.9	< 0.020	1.2	210	< 0.010	< 0.0050	290	< 0.0050	180000	0.24	0.29	0.064
	11-Oct-2022	560	< 1.0	< 1.0	0.32	130	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.13	0.50	0.50	0.0037	4.4	0.055	0.91	200	< 0.010	< 0.0050	230	< 0.0050	170000	0.15	0.27	0.22
	16-Oct-2022	580	< 1.0	< 1.0	0.36	99	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.54	0.54	0.0040	8.8	< 0.020	0.96	180	< 0.010	< 0.0050	220	< 0.0050	180000	0.32	0.26	< 0.050
	25-Oct-2022	550	< 1.0	< 1.0	0.34	110	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.64** [#3,4]	9.0	9.0	< 0.30	6.6	0.044	1.3	190	< 0.010	< 0.0050	270	< 0.0050	190000	0.27	0.16	< 0.050
	31-Oct-2022	540	< 1.0	< 1.0	0.34	120	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.39** [#3]	0.73	0.73	0.0040	3.5	< 0.020	0.64	150	< 0.010	< 0.0050	260	< 0.0050	170000	0.13	0.21	< 0.050
	06-Nov-2022	540	< 1.0	< 1.0	0.32	120	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.37** [#3]	11	11	0.0049	5.4	< 0.020	0.58	140	< 0.010	< 0.0050	200	< 0.0050	180000	0.19	0.28	< 0.050
DP4-Seep-03	17-May-2022	310	< 1.0	< 1.0	0.27	---	---	0.042	< 0.010	0.042	0.19	< 0.033	0.042	---	---	---	< 3.0	< 0.60	0.31	59	< 1.0	---	120	< 0.020	63000	< 1.0	< 0.30	8.6
	28-Aug-2022	450	< 1.0	< 1.0	0.29	99	21	0.029	< 0.010	0.029	0.13	< 0.033	0.064	1.7	1.8	0.065	3.6	0.022	0.64	110	< 0.010	< 0.0050	170	< 0.0050	100000	< 0.10	0.23	0.12
	11-Sep-2022	490	< 1.0	< 1.0	0.34	110	22	0.028	< 0.010	0.028	0.13	< 0.033	0.083	1.3	1.3	0.032	9.6	0.021	0.51	100	< 0.010	< 0.0050	150	< 0.0050	110000	< 0.10	0.23	0.087
	28-Sep-2022	510	< 1.0	< 1.0	0.37	23	18	0.017	< 0.010	0.017	0.074	< 0.033	0.026	0.85	0.86	0.034	5.4	< 0.020	0.49	110	< 0.010	< 0.0050	170	< 0.0050	120000	0.10	0.24	0.20
	09-Oct-2022	480	< 1.0	< 1.0	0.32	110	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.16	10	10	0.013	5.4	0.055	0.56	100	< 0.010	< 0.0050	130	< 0.0050	110000	< 0.10	0.19	0.11
	23-Oct-2022	530	< 1.0	< 1.0	0.34	100	18	0.031	< 0.010	0.031	0.14	< 0.033	0.057	0.80	0.83	0.027	3.1	0.043	0.39	85	< 0.010	< 0.0050	140	< 0.0050	110000	< 0.10	0.17	< 0.050
	01-Nov-2022	450	< 1.0	< 1.0	0.34	96	16	0.043	< 0.010	0.043	0.19	< 0.033	0.049	1.3	1.3	0.026	2.6	< 0.020	0.34	84	< 0.010	< 0.0050	150	< 0.0050	110000	< 0.10	0.17	0.090
DP4-Seep-04	17-May-2022	270	< 1.0	< 1.0	0.29	---	---	0.019	< 0.010	0.019	0.085	< 0.033	0.023	---	---	---	< 3.0	0.69	0.25	56	< 1.0	---	76	< 0.020	50000	< 1.0	< 0.30	1.9
	28-Aug-2022	440	< 1.0	< 1.0	0.35	92	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.037	0.59	0.59	0.032	6.2	0.069	0.76	87	< 0.010	< 0.0050	86	< 0.0050	85000	< 0.10	0.26	0.29
	11-Sep-2022	450	< 1.0	< 1.0	0.36	97	24	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.24	17	17	0.0060	6.0	0.042	0.98	110	< 0.010	< 0.0050	84	< 0.0050	79000	0.10	0.29	0.10
	28-Sep-2022	470	< 1.0	< 1.0	0.38	98	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.020	0.79	0.79	0.014	2.8	< 0.020	0.55	74	< 0.010	< 0.0050	74	< 0.0050	85000	< 0.10	0.20	0.059
	09-Oct-2022	440	< 1.0	< 1.0	0.34	96	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.086	0.84	0.84	0.012	3.3	0.029	0.71	80	< 0.010	< 0.0050	57	< 0.0050	80000	< 0.10	0.22	0.097
	23-Oct-2022	420	< 1.0	< 1.0	0.36	93	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.086	0.55	0.55	0.012	5.0	0.077	0.60	71	0.014	< 0.0050	62	< 0.0050	76000	< 0.10	0.22	< 0.050
	01-Nov-2022	420	< 1.0	< 1.0	0.38	90	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.051	1.9	1.9	0.015	3.0	< 0.020	0.30	54	< 0.010	< 0.0050	61	< 0.0050	73000	< 0.10	0.090	0.50
(Duplicate)	01-Nov-2022	420	< 1.0	< 1.0	0.38	89	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.036	2.0	2.0	0.016	2.6	< 0.020	0.31	55	< 0.010	< 0.0050	60	< 0.0050	73000	< 0.10	0.098	0.077

Water Quality Results

PROJECT No.: 417085-47599		Dissolved Metals and Trace Elements (cont.)																				Total Metals and Trace Elements						
Monitoring Station	Date	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	---	---	---	---
DP4 SEEP																														
DP4-Seep-01	12-May-2022	17000 [#3,4]	< 0.0050	23	51000	1900	0.16	0.62	3500	0.096	11000	< 0.0050	27000	630	81000	< 0.0020	< 0.20	< 0.50	0.054	0.47	1.5	0.48	180	0.14	18 [#3,4]	600	< 0.010	< 0.010	180000
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	38000 [#3,4]	< 0.20	34	70000	2800	1.2	1.1	4700	0.20	11000	< 0.10	38000	700	120000	< 0.20	< 1.0	< 1.0	0.47	< 1.0	< 3.0	---	240	< 0.60	20 [#3,4]	230	< 1.0	---	180000
	06-Jul-2022	8800 [#3,4]	< 0.20	23	81000	2400	0.80	1.1	8200	< 0.20	10000	< 0.10	38000	780	120000	< 0.20	< 1.0	< 1.0	0.31	< 1.0	< 3.0	---	11000	< 12	600 [#3,4]	6200	< 20	---	1000000
	14-Jul-2022	14000 [#3,4]	0.0059	38	59000	1500	0.12	0.72	3700	0.074	10000	< 0.0050	31000	800	100000	< 0.0020	< 0.20	< 0.50	0.038	0.25	3.9	0.78	400	< 0.10	32 [#3,4]	880	0.12	< 0.050	230000
	24-Jul-2022	22000 [#3,4]	0.16	35	65000	1500	0.15	0.93	4500	0.087	10000	< 0.0050	33000	780	110000	< 0.0020	< 0.20	< 0.50	0.043	0.36	8.2	0.82	70	< 0.020	5.5 [#3,4]	260	0.014	< 0.010	160000
	27-Jul-2022	13000 [#3,4]	0.028	36	59000	1500	0.055	0.62	3000	0.064	8500	< 0.0050	28000	720	100000	< 0.0020	< 0.20	< 0.50	0.015	0.32	18	0.65	18	0.029	0.89	160	< 0.010	< 0.010	170000
	03-Aug-2022	29000 [#3,4]	< 0.0050	26	63000	2500	0.60	0.84	4300	0.081	9000	< 0.0050	34000	660	130000	< 0.0020	< 0.20	< 0.50	0.13	0.83	1.1	1.5	3700	< 0.40	370 [#3,4]	3300	0.69	< 0.20	630000
	10-Aug-2022	46000 [#3,4]	0.0085	35	79000	2500	0.92	0.90	5700	0.13	12000	< 0.0050	40000	790	140000	< 0.0020	< 0.20	< 0.50	0.25	0.84	16	2.0	670	0.038	9.4 [#3,4]	500	0.086	< 0.010	210000
	20-Aug-2022	16000 [#3,4]	0.0056	38	64000	2000	0.075	0.63	4500	0.10	11000	< 0.0050	32000	890	110000	< 0.0020	< 0.20	< 0.50	0.020	0.37	0.70	0.78	17	0.024	2.5	290	0.019	< 0.010	180000
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	23000 [#3,4]	0.022	18	66000	2800	1.8	4.5	4100	0.13	8300	< 0.0050	89000	560	150000	0.0025	< 0.20	0.62	2.3	0.73	3.1	1.9	62	< 0.10	2.6	160	< 0.050	< 0.025	180000
DP4-Seep-02	30-Aug-2022	8200 [#3,4]	< 0.0050	37	62000	1500	0.13	0.66	6300	0.082	9600	< 0.0050	31000	800	97000	< 0.0020	< 0.20	< 0.50	0.024	0.23	70	0.55	50	0.053	4.2	340	0.015	< 0.010	170000
	07-Sep-2022	16000 [#3,4]	< 0.0050	32	59000	1600	0.069	0.59	4700	0.098	10000	< 0.0050	29000	780	88000	< 0.0020	< 0.20	< 0.50	0.029	0.23	0.35	0.64	660	< 0.10	22 [#3,4]	1100	0.089	< 0.050	200000
	11-Sep-2022	16000 [#3,4]	0.0075	32	60000	1900	0.072	0.63	5100	0.17	10000	< 0.0050	30000	770	94000	< 0.0020	< 0.20	< 0.50	0.022	0.24	7.1	0.62	170	0.057	8.6 [#3,4]	550	< 0.020	< 0.020	180000
(Duplicate)	11-Sep-2022	15000 [#3,4]	0.0057	32	60000	1800	0.073	0.60	5100	0.15	10000	< 0.0050	30000	780	93000	< 0.0020	< 0.20	< 0.50	0.024	0.23	3.7	0.62	650	0.11	25 [#3,4]	1300	0.081	< 0.050	220000
	19-Sep-2022	17000 [#3,4]	< 0.0050	33	63000	1800	0.076	0.64	8400	0.10	11000	< 0.0050	30000	830	96000	< 0.0020	< 0.20	< 0.50	0.029	< 0.20	100	0.65	180	< 0.040	6.7 [#3,4]	500	0.045	< 0.020	200000
	27-Sep-2022	22000 [#3,4]	0.012	38	64000	1700	0.081	0.69	5100	0.086	12000	< 0.0050	32000	840	110000	< 0.0020	< 0.20	< 0.50	0.027	0.35	3.2	0.72	190	< 0.040	7.2 [#3,4]	510	0.041	< 0.020	200000
	02-Oct-2022	26000 [#3,4]	< 0.0050	40	65000	1800	0.091	0.60	5700	0.16	12000	< 0.0050	33000	880	100000	< 0.0020	< 0.20	< 0.50	0.028	0.38	0.63	0.80	590	< 0.10	14 [#3,4]	730	0.060	< 0.050	210000
	11-Oct-2022	24000 [#3,4]	0.014	42	66000	1800	0.090	0.59	6700	0.11	12000	< 0.0050	33000	820	100000	< 0.0020	< 0.20	< 0.50	0.024	0.29	0.73	0.65	7.6	< 0.020	1.1	210	< 0.010	< 0.010	180000
	16-Oct-2022	25000 [#3,4]	< 0.0050	38	70000	2000	0.060	0.62	6500	0.084	11000	< 0.0050	36000	870	110000	< 0.0020	< 0.20	< 0.50	0.022	0.33	3.1	0.66	49	< 0.020	1.9	230	< 0.010	< 0.010	200000
	25-Oct-2022	38000 [#3,4]	0.021	37	72000	2700	0.23	0.63	6100	0.085	11000	< 0.0050	41000	870	140000	< 0.0020	< 0.20	< 0.50	0.033	0.45	3.0	1.0	710	< 0.10	46 [#3,4]	1400	0.13	< 0.050	240000
	31-Oct-2022	12000 [#3,4]	0.0067	41	71000	1900	0.070	0.54	6000	0.075	11000	< 0.0050	37000	850	130000	< 0.0020	< 0.20	< 0.50	0.021	< 0.20	1.8	0.51	14	< 0.020	1.2	190	< 0.010	< 0.010	170000
	06-Nov-2022	15000 [#3,4]	< 0.0050	33	67000	2100	0.096	0.73	5400	0.071	11000	< 0.0050	37000	800	120000	< 0.0020	< 0.20	0.63	0.023	0.26	1.5	0.53	350	0.041	9.9 [#3,4]	720	0.045	< 0.020	200000
DP4-Seep-03	17-May-2022	250	< 0.20	29	30000	89	< 0.20	1.0	3300	< 0.20	7900	< 0.10	17000	390	31000	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	3.1	---	< 15	< 3.0	< 1.0	73	< 5.0	---	72000
	28-Aug-2022	400 [#3,4]	< 0.0050	41	39000	360	0.077	0.60	4300	0.054	9900	< 0.0050	23000	610	35000	< 0.0020	< 0.20	< 0.50	0.045	< 0.20	280	0.18	110	0.029	0.97	180	< 0.010	< 0.010	99000
	11-Sep-2022	430 [#3,4]	0.016	38	43000	430	< 0.050	0.52	4000	0.048	9900	< 0.0050	23000	660	38000	< 0.0020	< 0.20	< 0.50	0.024	< 0.20	1.6	0.18	31	0.027	0.56	110	< 0.010	< 0.010	100000
	28-Sep-2022	160	0.0071	46	50000	440	< 0.050	0.55	4400	0.045	11000	< 0.0050	25000	760	49000	< 0.0020	< 0.20	< 0.50	0.024	< 0.20	0.70	0.19	27	< 0.020	0.52	120	< 0.010	< 0.010	120000
	09-Oct-2022	1100 [#3,4]	0.0094	43	50000	500	< 0.050	0.48	4500	0.043	11000	< 0.0050	24000	680	40000	< 0.0020	< 0.20	< 0.50	0.021	< 0.20	16	0.16	1500	< 0.10	3.0	340	0.098	< 0.050	130000
	23-Oct-2022	200	0.0054	43	49000	350	< 0.050	0.47	4500	0.060	9800	< 0.0050	25000	670	52000	< 0.0020	< 0.20	< 0.50	0.028	< 0.20	1.2	0.16	190	0.023	0.66	110	0.019	< 0.010	120000
	01-Nov-2022	87	0.040	46	50000	310	< 0.050	0.48	4500	0.047	9500	< 0.0050	25000	680	56000	< 0.0020	< 0.20	< 0.50	0.025	< 0.20	0.93	0.15	3.5	< 0.020	0.36	85	< 0.010	< 0.0050	110000
DP4-Seep-04	17-May-2022	110	< 0.20	29	24000	130	< 0.20	0.57	3200	< 0.20	6600	< 0.10	7000	270	5900	< 0.20	< 1.0	< 1.0	0.12	< 1.0	< 3.0	---	< 15	< 3.0	< 1.0	61	< 5.0	---	54000
	28-Aug-2022	850 [#3,4]	0.021	39	30000	210	0.18	0.57	3800	0.046	11000	< 0.0050	6300	440	< 3000	< 0.0020	< 0.20	< 0.50	0.051	< 0.20	7.4	< 0.10	13	0.029	1.0	91	< 0.010	< 0.010	84000
	11-Sep-2022	2100 [#3,4]	0.0072	44	33000	340	0.18	0.58	4800	0.041	11000	< 0.0050	7200	450	< 3000	< 0.0020	< 0.20	< 0.50	0.29	< 0.20	3.9	< 0.10	780	0.073	2.0	170	0.050	< 0.010	88000
	28-Sep-2022	190	0.0072	44	35000	180	0.12	0.40	3600	0.041	11000	< 0.0050	6700	480	< 3000	< 0.0020	< 0.20	< 0.50	0.047	< 0.20	0.95	< 0.10	22	< 0.020	0.72	85	< 0.010	< 0.010	91000
	09-Oct-2022	2700 [#3,4]	0.0053	41	35000	220	0.10	0.34	3700	< 0.040	10000	< 0.0050	6400	430	< 3000	< 0.0020	< 0.20	< 0.50	0.041	< 0.20	1.8	< 0.10	120	< 0.040	3.6	190	< 0.020	< 0.020	81000
	23-Oct-2022	2700 [#3,4]	0.0065	42	33000	190	0.086	0.33	3800	< 0.040	9900	< 0.0050	6600	400	< 3000	< 0.0020	< 0.20	< 0.50	0.051	< 0.20	9.7	< 0.10	12	0.29	0.49	70	< 0.010	< 0.010	78000
	01-Nov-2022	120	0.017	43	33000	76	0.14	0.29	3400	< 0.040	9100	< 0.0050	6400	390	< 3000	< 0.0020	< 0.20	< 0.50	0.069	< 0.20	0.75	< 0.10	92	< 0.020	0.43	58	< 0.010	< 0.010	71000
(Duplicate)	01-Nov-2022	220	< 0.0050	43	33000	93	0.12	0.31	3400	< 0.040	9100	< 0.0050	6400	400	< 3000	< 0.0020	< 0.20	< 0.50	0.071	< 0.20	0.61	< 0.10	60	< 0.020	0.38	58	< 0.010	< 0.010	74000

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																												
Monitoring Station	Date	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**1.6**	**29000**	---	---	**12**	---	---	---	---	---	**0.013**	**2**	---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**3.4**	**29000**	---	---	**25**	---	---	---	---	---	**0.013**	**2**	---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**0.12**	**1500**	**8.9**	**0.91**	**7**	---	**2.2**	---	---	---	**0.005**	**1**	**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**0.23**	**1500**	**8.9**	**1.2**	**7**	---	**5.8**	---	---	---	**0.005**	**1**	**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
DP4 SEEP																													
DP4-Seep-01	12-May-2022	0.0052	270	1.1	0.67	0.51	130000	0.35	25	49000	2500	0.0033	0.232	0.42	1.6	3600	0.26	17000	< 0.010	26000	680	75000	0.0049	0.65	4.7	0.11	2.4	**160** [#3,4]	1.1
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	0.023	320	1.5	**1.8** [#3,4]	2.5	52000	0.40	< 20	63000	2900	0.0044	---	1.5	4.1	4500	0.21	11000	< 0.10	32000	650	100000	< 0.20	< 1.0	11	0.87	3.9	**95** [#3,4]	---
	06-Jul-2022	**0.88** [#3,4]	**< 2000** [#3,4]	**42** [#3,4]	**36** [#3,4]	**57** [#1,2,3,4]	2000000	**26** [#3,4]	< 2000	130000	21000	**0.027** [#1,2,3,4]	---	24	**76** [#3]	< 30000	**< 4.0** [#3,4]	120000	**< 2.0** [#3,4]	< 50000	3300	190000	**< 4.0** [#3,4]	< 20	410	6.0	130	**2200** [#3,4]	---
	14-Jul-2022	0.048	370	2.0	**3.4** [#3,4]	2.5	220000	1.2	40	74000	3100	**0.0092** [#3,4]	0.748	0.79	6.0	4500	0.34	21000	< 0.050	38000	1100	120000	0.018	< 1.0	13	0.22	4.0	29	4.9
	24-Jul-2022	0.0058	290	0.42	0.73	0.32	42000	0.20	38	59000	1600	0.0027	< 0.050	0.16	1.2	4400	0.090	12000	< 0.010	30000	860	100000	0.0040	< 0.20	3.0	0.075	0.98	12	1.3
	27-Jul-2022	0.019	330	0.27	0.15	0.22	16000	0.041	38	66000	1500	0.0017	0.079	0.089	0.73	3200	0.068	9600	< 0.010	31000	780	120000	< 0.0020	< 0.20	< 2.0	0.016	0.31	29	0.68
	03-Aug-2022	**0.50** [#3,4]	530	**18** [#3,4]	**11** [#3,4]	**20** [#1,3,4]	830000	**11** [#3,4]	38	87000	12000	0.0024	0.10	5.6	29	12000	1.8	60000	< 0.20	31000	2200	130000	0.19	< 4.0	140	2.1	60	**200** [#3,4]	21
	10-Aug-2022	0.044	340	1.8	**2.7** [#3,4]	1.7	72000	1.5	45	72000	2800	0.0037	0.31	0.20	5.2	5800	0.13	15000	< 0.010	35000	1000	120000	0.027	< 0.20	16	0.23	4.8	28	2.1
	20-Aug-2022	< 0.0050	330	0.31	0.34	0.13	30000	0.020	40	69000	2100	0.0018	0.283	0.081	0.81	4700	0.14	10000	< 0.010	33000	860	110000	< 0.0020	< 0.20	< 2.0	0.025	0.45	7.7	0.84
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	0.043	440	0.60	**4.8** [#3,4]	0.41	25000	0.094	19	70000	2900	0.00037	< 0.050	2.0	5.0	4400	< 0.20	8600	< 0.025	94000	620	150000	0.012	< 1.0	< 2.5	2.7	1.1	4.1	2.3
DP4-Seep-02	30-Aug-2022	< 0.0050	310	0.36	0.46	0.24	50000	0.070	37	62000	1600	0.00023	< 0.050	0.11	1.0	6100	0.11	12000	< 0.010	30000	860	98000	< 0.0020	< 0.20	< 2.0	0.038	0.74	6.8	0.83
	07-Sep-2022	0.047	380	2.0	**1.8** [#3,4]	2.7	240000	0.96	45	70000	2700	0.0010	0.199	0.36	4.0	5600	0.40	23000	< 0.050	31000	1100	110000	0.013	< 1.0	15	0.20	4.5	**94** [#3,4]	2.4
	11-Sep-2022	0.020	280	0.79	**0.97** [#3]	2.9	110000	0.42	40	67000	2300	0.0017	< 0.050	0.25	1.6	5300	0.21	16000	< 0.020	31000	920	110000	0.0045	< 0.40	5.1	0.068	1.8	**81** [#3,4]	1.2
(Duplicate)	11-Sep-2022	0.037	340	2.3	**2.7** [#3,4]	4.4	330000	1.2	43	70000	3400	0.0021	0.076	0.70	4.3	5800	0.45	28000	< 0.050	31000	1200	110000	0.018	< 1.0	17	0.20	5.4	28	2.7
	19-Sep-2022	< 0.010	320	0.85	0.89	0.61	95000	0.34	36	69000	2400	0.0033	0.11	0.19	1.6	9100	0.18	18000	< 0.020	33000	920	100000	0.0050	< 0.40	6.2	0.063	1.7	**120** [#3,4]	1.1
	27-Sep-2022	< 0.010	260	0.80	**0.94** [#3]	0.64	97000	0.47	39	66000	2200	0.00053	< 0.050	0.22	1.6	5200	0.18	17000	< 0.020	33000	950	110000	0.0054	< 0.40	6.1	0.078	1.7	10	1.1
	02-Oct-2022	< 0.025	280	2.0	**1.7** [#3,4]	1.7	150000	1.1	39	68000	2900	0.00079	< 0.050	0.37	3.0	5700	0.28	20000	< 0.050	33000	1000	100000	0.017	< 1.0	18	0.14	3.6	20	2.0
	11-Oct-2022	< 0.0050	250	0.77	0.27	0.23	28000	< 0.020	37	68000	1800	0.00042	< 0.050	0.093	0.71	6800	0.090	13000	< 0.010	33000	830	110000	< 0.0020	< 0.20	< 2.0	0.025	0.34	1.7	0.66
	16-Oct-2022	< 0.0050	230	0.26	0.36	0.16	38000	0.073	40	72000	2300	0.00070	< 0.050	0.13	0.80	6700	0.096	15000	< 0.010	37000	940	120000	0.0024	< 0.20	< 2.0	0.035	0.61	6.4	0.65
	25-Oct-2022	0.052	320	2.6	**2.4** [#3,4]	2.4	260000	1.1	35	72000	4500	0.00086	< 0.050	0.77	4.7	6300	0.44	22000	< 0.050	40000	1100	150000	< 0.010	< 1.0	19	0.24	7.2	26	3.5
	31-Oct-2022	< 0.0050	210	0.22	0.24	0.14	26000	0.023	36	65000	1800	0.00059	0.060	0.069	0.65	5800	0.076	12000	< 0.010	36000	800	120000	< 0.0020	< 0.20	< 2.0	0.022	0.27	**72** [#3,4]	0.58
	06-Nov-2022	0.024	280	1.2	**1.1** [#3]	1.2	130000	0.59	38	74000	2700	0.0015	< 0.050	0.27	2.3	5600	0.21	19000	< 0.020	39000	1000	130000	0.0085	< 0.40	10	0.11	2.6	**120** [#3,4]	1.6
DP4-Seep-03	17-May-2022	< 0.10	120	< 5.0	**< 1.5** [#3,4]	< 5.0	590	< 1.0	30	32000	110	< 0.0019	---	< 1.0	< 2.5	3600	< 1.0	7500	**< 0.50** [#3,4]	17000	430	28000	**< 1.0** [#3,4]	< 5.0	< 5.0	< 0.50	< 5.0	< 15	---
	28-Aug-2022	0.0075	170	0.22	0.41	0.47	4900	0.12	37	43000	440	0.0024	0.356	0.10	3.0	4300	0.066	8900	< 0.010	22000	630	37000	0.0028	< 0.20	3.0	0.053	0.46	13	0.26
	11-Sep-2022	< 0.0050	170	0.18	0.29	0.30	1300	0.039	44	46000	460	0.00041	0.082	< 0.050	0.59	4200	0.042	9900	< 0.010	23000	660	45000	< 0.0020	< 0.20	< 2.0	0.027	< 0.20	4.4	0.18
	28-Sep-2022	< 0.0050	170	0.18	0.28	0.10	890	0.045	44	48000	480	0.00044	0.14	< 0.050	0.65	4500	0.054	11000	< 0.010	25000	760	50000	< 0.0020	< 0.20	< 2.0	0.028	< 0.20	8.4	0.22
	09-Oct-2022	0.095	160	2.3	**2.7** [#3,4]	3.2	30000	1.9	47	52000	1300	0.00070	**1.2** [#3,4]	< 0.25	4.2	5300	< 0.20	15000	< 0.050	25000	880	42000	0.028	< 1.0	28	0.16	4.0	**76** [#3,4]	0.76
	23-Oct-2022	0.014	160	0.32	0.41	0.37	2800	0.23	49	52000	410	0.00062	0.057	0.063	0.96	4700	0.052	11000	< 0.010	25000	700	57000	0.0040	< 0.20	4.8	0.051	0.55	4.7	0.29
	01-Nov-2022	< 0.0050	150	0.11	0.18	< 0.050	400	< 0.0050	47	51000	320	0.0014	< 0.050	< 0.050	0.48	4400	0.23	9600	< 0.0050	25000	670	56000	< 0.0020	< 0.20	< 0.50	0.025	< 0.20	0.94	0.16
DP4-Seep-04	17-May-2022	< 0.10	76	< 5.0	**< 1.5** [#3,4]	< 5.0	220	< 1.0	29	24000	130	< 0.0019	---	< 1.0	< 2.5	3400	< 1.0	6300	**< 0.50** [#3,4]	6800	300	5400	**< 1.0** [#3,4]	< 5.0	< 5.0	< 0.50	< 5.0	< 15	---
	28-Aug-2022	< 0.0050	94	0.14	0.30	0.12	2600	< 0.020	37	32000	230	0.0013	0.202	0.18	0.55	3900	< 0.040	9800	< 0.010	6700	460	< 3000	< 0.0020	< 0.20	< 2.0	0.049	< 0.20	5.4	0.11
	11-Sep-2022	0.084	100	1.1	**1.0** [#3]	2.7	7100	0.81	47	36000	440	0.0020	0.84	0.34	2.7	4200	0.15	12000	0.014	7200	500	< 3000	0.0093	< 0.20	14	0.58	2.5	27	0.30
	28-Sep-2022	< 0.0050	78	< 0.10	0.27	< 0.10	1500	0.034	45	35000	280	0.00031	0.11	0.11	0.52	3700	< 0.040	12000	< 0.010	6800	480	< 3000	< 0.0020	< 0.20	< 2.0	0.050	< 0.20	**50** [#3,4]	< 0.10
	09-Oct-2022	< 0.010	57	0.22	0.58	0.42	24000	0.13	41	33000	440	0.00056	0.21	0.16	0.88	3500	0.081	12000	< 0.020	6200	470	< 6000	< 0.0040	< 0.40	< 4.0	0.069	0.67	4.3	< 0.20
	23-Oct-2022	< 0.0050	66	< 0.10	0.16	0.22	1900	0.025	44	34000	120	0.0011	< 0.050	0.12	0.40	3600	< 0.040	10000	< 0.010	6600	420	< 3000	< 0.0020	< 0.20	< 2.0	0.056	< 0.20	5.9	< 0.10
	01-Nov-2022	0.010	57	0.11	0.20	3.4	760	0.26	44	34000	100	0.00081	0.062	0.094	0.51	3400	< 0.040	9200	< 0.010	6500	390	< 3000	0.0020	< 0.20	< 2.0	0.10	0.26	23	< 0.10
(Duplicate)	01-Nov-2022	0.0072	59	< 0.10	0.16	0.25	610	0.078	45	35000	100	0.00067	0.13	0.090	0.45	3400	< 0.040	9500	< 0.010	6500	400	< 3000	< 0.0020	< 0.20	< 2.0	0.093	< 0.20	11	< 0.10

Water Quality Results

PROJECT No.: 417085-47599		BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons															
Monitoring Station	Date	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzo apyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---
DP4 SEEP																													
DP4-Seep-01	12-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	220	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	2.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	06-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	14-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	260	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	24-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	27-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	03-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	480	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	0.015
	10-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	240	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	20-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	120	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	130 [#1,2]	460	4.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
DP4-Seep-02	30-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	260	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	07-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	130	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	19-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	210	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	27-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	210	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	16-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	25-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	31-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	06-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
DP4-Seep-03	17-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	28-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	190	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 240	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	01-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
DP4-Seep-04	17-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---
	28-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	11-Sep-2022	< 0.40	2.9 [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	240	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	28-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	09-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 180	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	23-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
	01-Nov-2022	< 0.40	0.50 [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075
(Duplicate)	01-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																											
Monitoring Station	Date	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzobjkfluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DP4 SEEP																													
DP4-Seep-01	12-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	24-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	27-Jul-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	03-Aug-2022	< 0.10	0.017	< 0.020	< 0.020	0.023	< 0.050	< 0.10	< 0.050	0.015	0.058	< 0.020	0.026	0.033	< 0.050	< 0.10	< 0.050	0.018	< 0.020	0.049	< 0.050	< 0.10	0.057	< 0.0085	< 0.020	0.032	< 0.10	< 0.050
	10-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	20-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
DP4-Seep-02	30-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	07-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
(Duplicate)	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	19-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	27-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	02-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	11-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	16-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	25-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.029	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	0.037	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	31-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	06-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
DP4-Seep-03	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	0.028	< 0.020	0.025	< 0.020	< 0.050	< 0.10	< 0.050	0.012	< 0.020	0.039	< 0.050	< 0.10	< 0.050	< 0.0085	0.021	< 0.020	< 0.10	0.069
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
DP4-Seep-04	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	11-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	0.12
	28-Sep-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	09-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	23-Oct-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050
(Duplicate)	01-Nov-2022	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)												
Monitoring Station	Date	Chrysene	Dibenz[a,h]anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
DP4 SEEP														
DP4-Seep-01	12-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2022	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	06-Jul-2022	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Jul-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Jul-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2023	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
DP4-Seep-02	30-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	07-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	11-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	31-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	06-Nov-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
DP4-Seep-03	17-May-2022	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	28-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	09-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	0.081
	23-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	01-Nov-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
DP4-Seep-04	17-May-2022	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	28-Aug-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	11-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	0.17
	28-Sep-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	09-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Oct-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	01-Nov-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	01-Nov-2022	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																																												
CP-FT-A	03-Jul-2012	---	---	---	---	---	---	340	7.90	0.59	180	---	---	190	---	< 2.0	1.1	< 1.0	---	---	---	210	---	1.0	230	< 0.50	< 0.50	0.16	43	15	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.050	0.74	0.74	0.014	2.2	< 0.60	< 0.20	41	< 1.0
(Duplicate)	03-Jul-2012	---	---	---	---	---	---	340	7.99	0.76	180	---	---	180	---	< 2.0	1.0	< 1.0	---	---	---	210	---	2.0	220	< 0.50	< 0.50	0.16	44	16	0.0070	< 0.0030	0.0070	0.031	< 0.0099	< 0.050	0.70	0.71	0.013	1.9	< 0.60	< 0.20	41	< 1.0
	03-Jul-2012	354.1	---	7.2	21	**5.25** [#3,4]	325	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2012	336.4	---	7.6	23	**5.15** [#3,4]	322	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jul-2012	351.3	---	7.8	20	**6.17** [#3,4]	318	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2012	354.3	---	8.0	21	6.77	330	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2012	356.6	---	8.1	23	8.22	338	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Aug-2012	---	---	---	---	---	---	350	7.85	0.46	220	---	---	200	---	< 2.0	1.3	< 1.0	---	---	---	280	---	< 1.0	250	< 0.50	< 0.50	0.15	46	19	0.0040	< 0.0030	0.0040	0.018	< 0.0099	0.052	0.68	0.68	0.022	2.1	< 0.60	< 0.20	45	< 1.0
(Duplicate)	07-Aug-2012	---	---	---	---	---	---	370	7.95	0.29	210	---	---	200	---	< 2.0	1.3	< 1.0	---	---	---	250	---	1.0	250	< 0.50	< 0.50	0.15	48	18	0.0040	< 0.0030	0.0040	0.018	< 0.0099	< 0.050	0.69	0.70	0.022	< 1.0	< 0.60	< 0.20	44	< 1.0
	04-Sep-2012	---	---	---	---	---	---	360	8.11	0.46	210	---	---	200	---	< 2.0	1.7	< 1.0	---	---	---	250	---	< 1.0	250	< 0.50	< 0.50	0.14	52	16	0.33	< 0.0030	0.33	1.5	< 0.0099	0.061	0.74	1.1	0.024	< 1.0	< 0.60	< 0.20	44	< 1.0
(Duplicate)	04-Sep-2012	---	---	---	---	---	---	370	8.11	0.46	200	---	---	210	---	2.2	1.6	< 1.0	---	---	---	250	---	1.0	260	< 0.50	< 0.50	0.16	52	17	0.0040	< 0.0030	0.0040	0.018	< 0.0099	< 0.050	0.76	0.77	0.023	< 1.0	< 0.60	< 0.20	44	< 1.0
	03-Oct-2012	---	---	---	---	---	---	270	7.81	0.52	150	158	149	150	< 0.50	< 2.0	1.2	< 1.0	---	---	---	190	150	3.0	180	< 0.50	< 0.50	0.12	35	21	0.0040	< 0.0030	0.0040	0.018	< 0.0099	< 0.050	0.87	---	0.012	1.17	< 0.020	0.134	32.4	< 0.010
(Duplicate)	03-Oct-2012	---	---	---	---	---	---	270	7.83	0.47	150	157	149	150	< 0.50	< 2.0	1.4	< 1.0	---	---	---	190	150	< 2.0	180	< 0.50	< 0.50	0.12	34	24	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.70	---	0.013	1.19	< 0.020	0.130	32.4	< 0.010
	08-Feb-2013	---	---	---	---	---	---	350	7.36	2.5	200	202	---	190	< 0.50	3.4	1.3	< 1.0	---	---	---	240	190	2.3	230	< 0.50	< 0.50	0.13	47	19	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.68	---	0.0050	3.19	< 0.020	0.135	28.3	< 0.010
(Duplicate)	08-Feb-2013	---	---	---	---	---	---	350	7.51	1.7	210	209	---	190	< 0.50	4.1	1.4	< 1.0	---	---	---	220	190	1.7	240	< 0.50	< 0.50	0.13	45	19	0.014	< 0.0030	0.014	0.062	< 0.0099	< 0.050	0.78	---	0.0030	5.22	< 0.020	0.119	28.4	< 0.010
	10-Feb-2013	---	---	---	---	---	---	---	---	0.87	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2013	---	---	---	---	---	---	390	7.37	15	210	---	---	200	< 0.50	4.7	1.6	< 1.0	---	---	---	250	200	33	250	< 0.50	< 0.50	0.14	51	20	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	1.5	---	0.0040	---	---	---	---	---
(Duplicate)	13-Feb-2013	---	---	---	---	---	---	390	7.38	13	210	---	---	210	< 0.50	6.9	1.5	< 1.0	---	---	---	240	200	24	260	< 0.50	< 0.50	0.14	54	19	0.0080	< 0.0030	0.0080	0.035	< 0.0099	0.064	1.5	---	0.0030	---	---	---	---	---
	15-Feb-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2013	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Feb-2013	---	---	---	---	---	---	390	7.32	1.2	220	---	---	220	< 0.50	4.6	1.4	< 1.0	---	---	---	260	220	< 1.0	270	< 0.50	< 0.50	0.12	60	20	0.0060	< 0.0030	0.0060	0.027	< 0.0099	0.070	0.81	---	0.0070	---	---	---	---	---
(Duplicate)	20-Feb-2013	---	---	---	---	---	---	400	7.31	1.2	230	---	---	230	< 0.50	5.5	1.5	< 1.0	---	---	---	270	220	< 1.0	280	< 0.50	< 0.50	0.12	62	22	0.0070	< 0.0030	0.0070	0.031	< 0.0099	0.055	0.92	---	0.0070	---	---	---	---	---
	23-Feb-2013	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Feb-2013	---	---	---	---	---	---	380	7.36	1.6	210	---	---	200	< 0.50	4.3	1.2	< 1.0	---	---	---	260	200	< 1.0	240	< 0.50	< 0.50	0.12	52	25	0.0040	< 0.0030	0.0040	0.018	< 0.0099	0.10	0.85	---	0.0090	---	---	---	---	---
(Duplicate)	26-Feb-2013	---	---	---	---	---	---	390	7.39	1.0	210	---	---	200	< 0.50	5.9	1.2	< 1.0	---	---	---	250	200	< 1.0	240	< 0.50	< 0.50	0.12	56	25	0.010	< 0.0030	0.010	0.044	< 0.0099	0.099	0.91	---	0.0090	---	---	---	---	---
	28-Feb-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2013	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Mar-2013	---	---	---	---	---	---	300	6.99	1.5	160	---	---	150	< 0.50	8.4	1.9	< 1.0	---	---	---	230	150	< 1.0	180	< 0.50	< 0.50	0.083	44	32	0.015	< 0.0030	0.015	0.066	< 0.0099	0.26	0.87	---	0.018	---	---	---	---	---
(Duplicate)	04-Mar-2013	---	---	---	---	---	---	300	7.04	1.3	140	---	---	150	< 0.50	8.0	2.0	< 1.0	---	---	---	230	150	< 1.0	190	< 0.50	< 0.50	0.085	46	34	0.0080	< 0.0030	0.0080	0.035	< 0.0099	0.053	0.89	---	0.016	---	---	---	---	---
	05-Mar-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Mar-2013	---	---	---	---	---	---	300	7.22	1.3	170	180	173	160	< 0.50	3.1	1.2	< 1.0	---	---	---	210	160	< 1.0	190	< 0.50	< 0.50	0.083	46	29	< 0.0030	0.015	0.015	< 0.013	0.049	< 0.050	0.61	---	0.0090	3.43	< 0.020	0.301	39.0	< 0.010
(Duplicate)	12-Mar-2013	---	---	---	---	---	---	330	7.34	0.92	190	191	186	170	< 0.50	4.5	1.3	< 1.0	---	---	---	240	170	< 1.0	200	< 0.50	< 0.50	0.089	49	28	0.0070	**0.020** [#3,4]	0.027	0.031	0.066	0.068	0.98	---	0.0090	3.65	< 0.020	0.338	39.1	< 0.010
	14-Mar-2013	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2013	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2013	---	---	---	---	---	---	340	7.26	1.1	180	---	---	170	< 0.50	6.8	1.8	< 1.0	---	---	---	260	180	< 1.0	210	< 0.50	< 0.50	0.093	47	27	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.13	1.0	---	0.018	---	---	---	---	---
(Duplicate)	17-Mar-2013	---	---	---	---	---	---	340	7.23	1.2	170	---	---	180	< 0.50	7.1	1.9	< 1.0	---	---	---	260	170	1.3	220	< 0.50	< 0.50	0.094	49	27	< 0.0030	0.0042	0.0040	< 0.013	0.014	0.17	1.0	---	0.015	---	---	---	---	---
	23-Mar-2013	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2013	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2013	---	---	---	---	---	---	390	7.31	2.3	220	224	224	200	< 0.50	11	2.3	< 1.0	---	---	---	270	210	< 1.0	240	< 0.50	< 0.50	0.11	55	33	0.062	< 0.0030	0.062	0.27	< 0.0099	0.22	1.0	---	0.035	3.44	< 0.020	0.353	48.0	< 0.010
(Duplicate)	25-Mar-2013	---	---	---	---	---	---	390	7.30	1.9	220	220	224	200	< 0.50	9.5	2.5	< 1.0	---	---	---	260	210	2.0	250	< 0.50	< 0.50	0.11	57	34	0.061	< 0.0030	0.061	0.27	< 0.0099	0.21	1.1	---	0.036	3.62	< 0.020	0.357	48.4	< 0.010
	28-Mar-2013	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Mar-2013	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Apr-2013	---	---	---	---	---	---	420	7.21	0.92	230	234	234	210	< 0.50	13	1.8	< 1.0	---	---	---	290	220	< 1.0	260	< 0.50	< 0.50	0.11	58	27	0.015	< 0.0030	0.015	0.066	< 0.0099	0.25	1.1	---	0.037	10.5	< 0.020	0.288	50.2	< 0.010
(Duplicate)	01-Apr-2013	---	---	---	---	---	---	420	7.20	1.1	240	233	239	220	< 0.50	15	1.8	< 1.0	---	---	---	300	220	< 1.0	270	< 0.50	< 0.50	0.12	58	29	0.012	< 0.0030	0.012	0.053	< 0.0099	0.25	1.1	---	0.032	11.2	< 0.020	0.319	49.4	< 0.010
	03-Apr-2013	---	---	---	---	---	---	---	---	2.1	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Apr-2013	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2013	---	---	---	---	---	---	430	7.17	1.5	240	---	---	220	< 0.50	13	2.2	< 1.0	---	---	---	280	230	< 1.0	270	< 0.50	< 0.50	0.12	60	31	0.010	0.0030	0.013	0.046	0.010	0.20	1.0	---	0.022	---	---	---	---	---
(Duplicate)	09-Apr-2013	---	---	---	---	---	---	430	7.28	1.5	240	---	---	220	< 0.50	15	1.7	< 1.0	---	---	---	290	230	1.3	270	< 0.50	< 0.50	0.12	61	29	0.0077	0.0030	0.011	0.034	0.010	0.19	0.97	---	0.019	---	---	---	---	---
	11-Apr-2013	---	---	---	---	---	---	---	---	2.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Apr-2013	---	---	---	---	---	---	---	---	2.6	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Apr-2013	---	---	---	---	---	---	360	7.34	1.9	210	---	---	180	< 0.50	8.9	1.7	< 1.0	---	---	---	240	190	< 1.0	220	< 0.50	< 0.50	0.11	46	23	0.011	0.0078	0.018	0.047	0.026	< 0.050	0.62	---	0.0060	---	---	---	---	---
(Duplicate)	15-Apr-2013	---	---	---	---	---	---	360	7.45	2.0	210	---	---	180	< 0.50	9.5	1.8	1.0	---	---	---	250	190	< 1.0	230	< 0.50	< 0.50	0.12	47	23	0.036	0.0081	0.044	0.16	0.027	< 0.050	0.73	---	0.0060	---	---	---	---	---
	18-Apr-2013	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Apr-2013	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2013	---	---	---	---	---	---	190	7.21	2.1	110	93.7	---	85	< 0.50	---	1.7	1.3	---	---	---	150	98	< 1.5	100	< 0.50	< 0.50	0.070	22	38	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.74	---	0.0070	---	---	---	---	---
(Duplicate)	21-Apr-2013	---	---	---	---	---	---	180	7.23	3.4	93	96.5	---	81	< 0.50	---	2.3	2.0	---	---	---	170	91	< 1.5	99	< 0.50	< 0.50	0.066	20	41	< 0.0060	< 0.0060	< 0.0060	< 0.027	< 0.020	< 0.050	0.66	---	0.0080	---	---	---	---	---
	21-May-2022	372.8	97.5	7.91	12.4	10.37	282.5	380	7.97	---	190	---	---	180	< 1.0	---	< 1.0	17	---	< 0.0018	< 0.0020	210	210	---	230	< 1.0	< 1.0	0.16	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.019	---	---	---	< 3.0	< 0.60	< 0.20	31	< 1.0
CP-FT-A-2	21-Apr-2013	---	---	---	---	---	---	270	7.51	2.3	160	139	---	130	< 0.50	---	1.6	1.1	---	---	---	180	140	< 1.5	160	< 0.50	< 0.50	0.099	34	22	0.020	0.0036	0.024	0.088	0.012	< 0.050	0.63	---	0.0040	---	---	---	---	---
	23-Apr-2013	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	4.8	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2013	---	---	---	---	---	---	---	---	4.3	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2013	---	---	---	---	---	---	270	7.76	1.1	140	---	---	140	< 0.50	< 2.0	1.1	< 1.0	---	---	---	180	140	< 1.0	170	< 0.50	< 0.50	0.084	31	15	0.020	0.0060	0.026	0.089	0.020	0.094	0.49	---	0.0060	---	---	---	---	---
(Duplicate)	30-Apr-2013	---	---	---	---	---	---	270	7.75	1.1	140	---	---	140	< 0.50	2.5	1.1	< 1.0	---	---	---	170	140	< 1.0	170	< 0.50	< 0.50	0.083	30	14	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.055	0.49	---	0.0050	---	---	---	---	---
	04-May-2013	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-May-2013	---	---	---	---	---	---	200	7.92	1.3	110	---	---	100	< 0.50	< 2.0	1.3	1.1	---	---	---	140	110	< 1.5	130	< 0.50	< 0.50	0.086	24	15	0.011	< 0.0030	0.011	0.050	< 0.0099	< 0.050	0.47	---	0.0040	---	---	---	---	---
(Duplicate)	08-May-2013	---	---	---	---	---	---	210	8.01	0.90	120	---	---	110	< 0.50	< 2.0	1.4	1.0	---	---	---	160	110	< 1.0	140	< 0.50	< 0.50	0.093	25	14	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.43	---	0.0040	---	---	---	---	---
	10-May-2013	---	---	---	---	---	---	---	---	0.87	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2013	---	---	---	---	---	---	---	---	0.67	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2013	---	---	---	---	---	---	240	7.92	0.87	140	---	---	130	< 0.50	< 2.0	1.6	< 1.0	---	---	---	180	130	< 1.5	150	< 0.50	< 0.50	0.14	29	17	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.62	---	0.0040	---	---	---	---	---
(Duplicate)	14-May-2013	---	---	---	---	---	---	240	7.90	0.54	140	---	---	120	< 0.50	< 2.0	1.8	< 1.0	---	---	---	170	120	< 1.0	150	< 0.50	< 0.50	0.092	28	17	0.0043	< 0.0030	0.0040	0.019	< 0.0099	< 0.050	0.46	---	0.0030	---	---	---	---	---
	16-May-2013	---	---	---	---	---	---	---	---	0.74	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-May-2013	---	---	---	---	---	---	---	---	0.45	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-May-2013	---	---	---	---	---	---	270	7.96	0.39	150	147	153	140	< 0.50	< 2.0	1.8	< 1.0	---	---	---	160	140	< 1.0	170	< 0.50	< 0.50	0.10	32	17	< 0.0030	0.010	0.010	< 0.013	0.034	< 0.050	0.47	---	0.0054	3.83	< 0.020	0.136	32.3	< 0.010
(Duplicate)	20-May-2013	---	---	---	---	---	---	270	7.88	0.35	150	152	152	140	< 0.50	< 2.0	1.8	< 1.0	---	---	---	170	140	< 1.0	170	< 0.50	< 0.50	0.15	32	18	< 0.0030	0.0089	0.0090	< 0.013	0.029	< 0.050	0.46	---	0.0040	4.89	< 0.020	0.087	32.7	< 0.010
	22-May-2013	---	---	---	---	---	---	---	---	0.74	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2013	---	---	---	---	---	---	---	---	0.64	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2013	---	---	---	---	---	---	270	8.09	0.71	140	---	---	140	< 0.50	---	2.1	< 1.0	---	---	---	200	140	< 1.0	170	< 0.50	< 0.50	0.18	31	25	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.12	0.64	---	0.0050	---	---	---	---	---
(Duplicate)	29-May-2013	---	---	---	---	---	---	280	8.09	0.80	140	---	---	140	< 0.50	---	2.0	< 1.0	---	---	---	200	140	1.3	170	< 0.50	< 0.50	0.10	31	26	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.083	0.68	---	0.0050	---	---	---	---	---
	30-May-2013	---	---	---	---	---	---	---	---	0.88	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2013	---	---	---	---	---	---	---	---	0.64	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jun-2013	---	---	---	---	---	---	270	7.75	1.1	150	---	---	140	< 0.50	< 2.0	1.8	< 1.0	---	---	---	200	140	< 1.0	170	< 0.50	< 0.50	0.10	31	26	0.0080	< 0.0030	0.0080	0.035	< 0.0099	< 0.050	0.84	---	0.0050	---	---	---	---	---
(Duplicate)	06-Jun-2013	---	---	---	---	---	---	270	7.67	0.79	170	---	---	170	< 0.50	< 2.0	2.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.10	31	26	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.82	---	0.0040	---	---	---	---	---
	08-Jun-2013	---	---	---	---	---	---	---	---	0.91	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2013	---	---	---	---	---	---	---	---	0.95	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jun-2013	---	---	---	---	---	---	200	7.81	0.79	110	---	---	100	< 0.50	< 2.0	1.6	1.7	---	---	---	170	110	< 1.0	130	< 0.50	< 0.50	0.087	24	23	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.51	---	0.0050	---	---	---	---	---
(Duplicate)	12-Jun-2013	---	---	---	---	---	---	200	7.66	0.86	110	---	---	100	< 0.50	< 2.0	1.6	1.8	---	---	---	180	100	1.3	120	< 0.50	< 0.50	0.087	24	25	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.69	---	0.0040	---	---	---	---	---
	14-Jun-2013	---	---	---	---	---	---	---	---	0.43	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jun-2013	---	---	---	---	---	---	210	7.83	1.0	110	113	109	100	< 0.50	< 2.0	1.7	4.8	---	---	---	170	110	2.7	120	< 0.50	< 0.50	0.089	23	25	0.016	< 0.0030	0.016	0.072	< 0.0099	0.12	0.72	---	0.0033	10.2	< 0.020	0.294	25.5	< 0.010

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Dissolved Metals and Trace Elements (cont.)																										Total Metals and Trace Elements																	
		Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																					
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthenoheterobenzopyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																	
CP-FT-A	03-Jul-2012	< 0.20	< 0.50	---	< 0.20	4600	< 0.10	---	83	420	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	03-Jul-2012	< 0.20	0.59	---	< 0.20	4600	< 0.10	---	83	450	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
	03-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Aug-2012	< 0.20	< 0.50	---	< 0.20	9000	< 0.10	---	110	480	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	3.1	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	07-Aug-2012	< 0.20	< 0.50	---	< 0.20	9100	< 0.10	---	110	530	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	1.1	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
	04-Sep-2012	< 0.20	< 0.50	---	< 0.20	8300	< 0.10	---	84	490	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	04-Sep-2012	< 0.20	< 0.50	---	< 0.20	8200	**0.28** [#3,4]	---	82	460	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	170	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	---	< 0.0085	< 0.0085	---	---	---	---	---	---
	03-Oct-2012	< 0.050	0.090	1660	< 0.040	5940	< 0.0050	1690	64.1	< 10000	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	0.69	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	03-Oct-2012	< 0.050	0.114	1650	< 0.040	5820	< 0.0050	1700	64.4	< 10000	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	0.79	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
	08-Feb-2013	< 0.050	0.140	2830	< 0.040	7420	< 0.0050	1650	60.6	< 3000	< 0.0020	< 0.20	< 0.50	0.0020	< 0.20	3.02	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	08-Feb-2013	< 0.050	0.161	2840	0.040	7840	< 0.0050	1680	60.4	< 3000	< 0.0020	< 0.20	0.82	0.0020	< 0.20	3.05	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 100	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
	10-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Mar-2013	< 0.050	0.256	2130	< 0.040	8070	< 0.0050	1510	77.4	< 3000	< 0.0020	< 0.20	< 0.50	0.0140	< 0.20	5.76	< 0.10	---	---	---	---	---	---	< 200	---	---	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	12-Mar-2013	< 0.050	0.251	2100	0.048	8700	< 0.0050	1530	77.5	< 3000	< 0.0020	< 0.20	0.68	0.0140	< 0.20	6.20	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	---	< 100	< 100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2013	0.054	0.215	2240	< 0.040	9820	< 0.0050	1950	92.4	< 3000	0.0020	< 0.20	< 0.50	0.0080	< 0.20	5.08	< 0.10	< 0.40	**0.91** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	25-Mar-2013	< 0.050	0.265	2170	0.042	9630	< 0.0050	1940	92.0	< 3000	< 0.0020	< 0.20	< 0.50	0.0070	< 0.20	5.11	< 0.10	< 0.40	**0.82** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
	28-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Apr-2013	0.126	0.244	2210	< 0.040	9930	< 0.0050	2160	96.5	< 3000	< 0.0020	< 0.20	0.58	0.0060	< 0.20	4.01	< 0.10	< 0.40	**1.1** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
(Duplicate)	01-Apr-2013	< 0.050	0.240	2190	0.060	9980	< 0.0050	2150	96.7	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	4.30	< 0.10	< 0.40	**1.0** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
	03-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2013	0.054	0.281	3220	0.056	4080	0.0080	956	39.5	< 3000	< 0.0020	< 0.20	1.34	0.0070	0.25	5.88	0.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Apr-2013	0.056	0.299	3080	< 0.040	4460	< 0.0050	897	39.8	< 3000	< 0.0020	< 0.20	1.40	0.0070	0.25	5.54	0.15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2022	< 0.20	< 0.50	1800	< 0.20	2000	< 0.10	10000	75	4900	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---
CP-FT-A-2	21-Apr-2013	< 0.050	0.162	2090	< 0.040	5630	< 0.0050	1330	53.4	< 3000	< 0.0020	< 0.20	0.61	0.0060	< 0.20	1.74	< 0.10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	14-May-2013	---	---	---	---	---	---

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																		
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(e,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [81]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [82]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [83]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [84]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																																				
CP-FT-A	03-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
(Duplicate)	03-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
	03-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Aug-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
(Duplicate)	07-Aug-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
	04-Sep-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
(Duplicate)	04-Sep-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	---	< 0.050	< 0.020	< 0.20	---
	03-Oct-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	03-Oct-2012	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	08-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	08-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	10-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	12-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	25-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	28-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Mar-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	01-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	03-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
CP-FT-A-2	21-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	14-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	20-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**---**	**---**	**---**	**Narrative**	**5**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**640**	**---**	**---**	**---**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**124**	**0.06**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**100**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**---**	**---**	**---**	**Narrative**	**5**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**640**	**---**	**---**	**---**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**124**	**0.06**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**100**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**---**	**---**	**(6.5 - 9)**	**Narrative**	**6.5**	**---**	**---**	**(6.5 - 9)**	**Narrative**	**---**	**---**	**---**	**20**	**---**	**---**	**120**	**218**	**0.0019**	**0.0019**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**3**	**0.02**	**---**	**---**	**---**	**0.303**	**---**	**---**	**---**	**50**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**---**	**---**	**(6.5 - 9)**	**Narrative**	**6.5**	**---**	**---**	**(6.5 - 9)**	**Narrative**	**---**	**---**	**---**	**20**	**---**	**---**	**120**	**309**	**0.0019**	**0.0019**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**3**	**0.02**	**---**	**---**	**---**	**0.473**	**---**	**---**	**---**	**50**	**---**	**---**	**---**	**---**
Waterbody 3 Investigation																																												
(Duplicate)	17-Jun-2013	---	---	---	---	---	---	210	7.82	0.81	110	109	112	100	< 0.50	< 2.0	1.8	4.7	---	---	---	180	110	2.0	120	< 0.50	< 0.50	0.087	23	29	0.0057	< 0.0030	0.0060	0.025	< 0.0099	0.18	0.84	---	< 0.0030	11.2	< 0.020	0.338	24.9	< 0.010
	22-Jun-2013	---	---	---	---	---	---	---	---	0.54	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2013	---	---	---	---	---	---	---	---	0.68	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2013	---	---	---	---	---	---	230	7.60	0.94	120	---	---	120	< 0.50	3.4	2.5	1.4	---	---	---	210	130	2.0	140	< 0.50	< 0.50	0.090	26	34	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.25	0.90	---	0.013	---	---	---	---	---
(Duplicate)	25-Jun-2013	---	---	---	---	---	---	230	7.70	0.94	120	---	---	120	< 0.50	3.0	2.8	1.1	---	---	---	210	120	< 1.0	140	< 0.50	< 0.50	0.088	26	37	0.0060	< 0.0030	0.0060	0.027	< 0.0099	< 0.050	1.1	---	0.011	---	---	---	---	---
	27-Jun-2013	---	---	---	---	---	---	---	---	130	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jun-2013	---	---	---	---	---	---	---	---	4.1	---	---	---	---	---	---	---	---	---	---	---	---	---	8.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2013	---	---	---	---	---	---	270	7.49	6.5	180	---	---	140	< 0.50	7.1	2.8	< 1.0	---	---	---	300	170	12	180	< 0.50	< 0.50	0.084	31	46	0.0036	< 0.0030	0.0040	0.016	< 0.0099	< 0.050	1.5	---	0.13	---	---	---	---	---
(Duplicate)	02-Jul-2013	---	---	---	---	---	---	270	7.51	5.4	160	---	---	140	< 0.50	7.2	3.1	< 1.0	---	---	---	260	160	11	170	< 0.50	< 0.50	0.084	31	44	0.0037	< 0.0030	0.0040	0.016	< 0.0099	< 0.050	1.6	---	0.13	---	---	---	---	---
	04-Jul-2013	---	---	---	---	---	---	---	---	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2013	---	---	---	---	---	---	---	---	34	---	---	---	---	---	---	---	---	---	---	---	---	---	67	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jul-2013	---	---	---	---	---	---	---	---	3.7	---	---	---	---	---	---	---	---	---	---	---	---	---	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2013	---	---	---	---	---	---	280	7.69	6.2	160	---	---	140	< 0.50	3.4	2.7	< 1.0	---	---	---	230	150	8.0	170	< 0.50	< 0.50	0.090	32	38	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.79	---	0.048	---	---	---	---	---
(Duplicate)	09-Jul-2013	---	---	---	---	---	---	280	7.72	3.4	160	---	---	140	< 0.50	3.4	2.7	< 1.0	---	---	---	250	150	4.7	180	< 0.50	< 0.50	0.089	32	36	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.89	---	0.047	---	---	---	---	---
	11-Jul-2013	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2013	---	---	---	---	---	---	260	7.46	1.8	150	154	150	140	< 0.50	< 2.0	2.1	< 100	---	---	---	230	140	< 1.0	170	< 0.50	< 0.50	0.11	33	31	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.79	---	0.010	6.80	< 0.020	0.568	35.7	< 0.010
(Duplicate)	15-Jul-2013	---	---	---	---	---	---	270	7.53	1.8	150	156	148	140	< 0.50	< 2.0	2.3	< 100	---	---	---	230	140	1.3	170	< 0.50	< 0.50	0.10	32	30	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.88	---	0.010	8.43	< 0.020	0.565	35.8	< 0.010
	17-Jul-2013	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2013	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jul-2013	---	---	---	---	---	---	---	---	0.82	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2013	---	---	---	---	---	---	310	7.62	0.89	170	---	---	160	< 0.50	2.6	4.7	< 1.0	---	---	---	240	170	3.3	190	< 0.50	< 0.50	0.11	37	33	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.057	0.88	---	0.029	---	---	---	---	---
(Duplicate)	22-Jul-2013	---	---	---	---	---	---	310	7.60	0.90	170	---	---	150	< 0.50	2.3	3.0	< 1.0	---	---	---	250	160	1.3	190	< 0.50	< 0.50	0.11	37	34	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	< 0.050	0.94	---	0.028	---	---	---	---	---
	24-Jul-2013	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jul-2013	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jul-2013	---	---	---	---	---	---	310	6.89	1.3	190	---	---	170	< 0.50	< 2.0	2.3	< 1.0	---	---	---	240	180	3.3	210	< 0.50	< 0.50	0.10	37	27	0.0099	0.0034	0.013	0.044	0.011	0.056	0.86	---	0.027	---	---	---	---	---
(Duplicate)	29-Jul-2013	---	---	---	---	---	---	310	7.06	1.1	170	---	---	170	< 0.50	< 2.0	2.6	< 1.0	---	---	---	250	170	< 1.0	210	< 0.50	< 0.50	0.12	37	30	< 0.0030	0.0035	0.0040	< 0.013	0.011	0.060	0.94	---	0.028	---	---	---	---	---
	31-Jul-2013	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Aug-2013	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Aug-2013	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2013	---	---	---	---	---	---	340	7.56	2.8	200	---	---	170	< 0.50	< 2.0	1.9	3.0	---	---	---	250	180	2.7	210	< 0.50	< 0.50	0.12	40	24	0.0044	< 0.0030	0.0040	0.019	< 0.0099	< 0.050	0.83	---	0.018	---	---	---	---	---
(Duplicate)	08-Aug-2013	---	---	---	---	---	---	340	7.61	1.5	200	---	---	170	< 0.50	< 2.0	2.0	3.0	---	---	---	260	180	2.0	210	< 0.50	< 0.50	0.12	40	24	0.0044	< 0.0030	0.0040	0.019	< 0.0099	< 0.050	0.84	---	0.018	---	---	---	---	---
	10-Aug-2013	---	---	---	---	---	---	---	---	0.81	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2013	---	---	---	---	---	---	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2013	---	---	---	---	---	---	290	7.40	1.1	160	---	---	150	< 0.50	< 2.0	2.6	< 1.0	---	---	---	220	150	< 1.5	180	< 0.50	< 0.50	0.090	35	27	0.0080	< 0.0030	0.0080	0.035	< 0.0099	< 0.050	0.76	---	0.026	---	---	---	---	---
(Duplicate)	15-Aug-2013	---	---	---	---	---	---	300	7.51	1.3	160	---	---	150	< 0.50	< 2.0	2.6	< 1.0	---	---	---	220	150	< 1.0	180	< 0.50	< 0.50	0.093	35	24	0.0060	0.0030	0.0090	0.027	0.010	< 0.050	0.86	---	0.019	---	---	---	---	---
	17-Aug-2013	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-2013	---	---	---	---	---	---	350	7.79	0.97	200	184	198	180	< 0.50	< 2.0	1.8	2.2	---	---	---	240	180	< 1.0	210	< 0.50	< 0.50	0.13	41	27	0.014	< 0.0030	0.014	0.062	< 0.0099	0.15	0.86	---	0.020	4.96	< 0.020	0.453	40.4	< 0.010
(Duplicate)	20-Aug-2013	---	---	---	---	---	---	350	7.79	1.2	200	187	197	180	< 0.50	< 2.0	1.9	2.3	---	---	---	250	180	< 1.0	210	< 0.50	< 0.50	0.12	42	27	0.0034	< 0.0030	0.0030	0.015	< 0.0099	0.14	0.84	---	0.020	4.14	< 0.020	0.482	42.3	< 0.010
	21-Aug-2013	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Aug-2013	---	---	---	---	---	---	---	---	2.1	---	---	---	---	---	---	---	---	---	---	---	---	---	6.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Aug-2013	---	---	---	---	---	---	---	---	3.7	---	---	---	---	---	---	---	---	---	---	---	---	---	8.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2013	---	---	---	---	---	---	340	7.66	2.0	170	---	---	170	< 0.50	< 2.0	1.7	< 1.0	---	---	---	250	170	4.0	210	< 0.50	< 0.50	0.12	40	24	0.014	0.0039	0.018	0.061	0.013	0.096	1.1	---	0.015	---	---	---	---	---
(Duplicate)	28-Aug-2013	---	---	---	---	---	---	350	7.71	3.4	170	---	---	170	< 0.50	< 2.0	1.8	< 1.0	---	---	---	260	170	3.3	210	< 0.50	< 0.50	0.12	40	24	0.017	0.0053	0.022	0.074	0.017	0.11	1.1	---	0.014	---	---	---	---	---
	01-Sep-2013	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2013	---	---	---	---	---	---	---	---	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Sep-2013	---	---	---	---	---	---	380	7.74	74	190	---	---	190	< 0.50	< 2.0	1.9	< 1.0	---	---	---	270	190	170	230	< 0.50	< 0.50	0.13	45	24	0.015	< 0.0030	0.015	0.066	< 0.0099	0.084	2.0	---	0.0080	---	---	---	---	---
(Duplicate)	06-Sep-2013	---	---	---	---	---	---	380	7.78	23	190	---	---	190	< 0.50	< 2.0	2.2	< 1.0	---	---	---	270	190	59	230	< 0.50	< 0.50	0.13	46	24	0.012	< 0.0030	0.012	0.053	< 0.0099	0.12	1.0	---	0.010	---	---	---	---	---
	07-Sep-2013	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	36	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Sep-2013	---	---	---	---	---	---	370	7.75	1.8	210	---	---	200	< 0.50	< 2.0	2.1	< 1.0	---	---	---	260	200	2.7	240	< 0.50	< 0.50	0.14	47	25	0.014	< 0.0030	0.014	0.061	< 0.0099	0.058	0.78	---	0.011	---	---	---	---	---
(Duplicate)	11-Sep-2013	---	---	---	---	---	---	370	7.78	1.7	210	---	---	200	< 0.50	< 2.0	1.9	< 1.0	---	---	---	270	200	4.0	250	< 0.50	< 0.50	0.14	46	24	0.0095	< 0.0030	0.010	0.042	< 0.0099	< 0.050	0.66	---	0.010	---	---	---	---	---
	13-Sep-2013	---	---	---	---	---	---	---	---	0.98	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Sep-2013	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2013	---	---	---	---	---	---	---	---	3.8	---	---	---	---	---	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2013	---	---	---	---	---	---	370	7.89	4.7	190	191	189	170	< 0.50	2.0	2.8	< 1.0	---	---	---	240	180	9.3	210	< 0.50	< 0.50	0.12	44	21	0.015	< 0.0030	0.015	0.066	< 0.0099	0.12	0.85	---	0.012	6.02	< 0.020	0.314	35.8	< 0.010
(Duplicate)	18-Sep-2013	---	---	---	---	---	---	360	7.84	0.53	200	184	194	180	< 0.50	2.2	3.0	< 1.0	---	---	---	250	180	< 1.0	220	< 0.50	< 0.50	0.12	45	22	0.013	< 0.0030	0.013	0.058	< 0.0099	0.11	0.89	---	0.011	3.21	< 0.020	0.319	35.0	< 0.010
	21-Sep-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Sep-2013	---	---	---	---	---	---	---	---	4.4	---	---	---	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2013	---	---	---	---	---	---	370	7.83	2.3	200	---	---	180	< 0.50	< 2.0	1.9	< 1.0	---	---	---	230	180	2.7	220	< 0.50	< 0.50	0.16	44	23	0.024	0.0034	0.027	0.10	0.011	0.16	0.66	---	0.0090	---	---	---	---	---
(Duplicate)	25-Sep-2013	---	---	---	---	---	---	370	7.86	2.3	200	---	---	180	< 0.50	< 2.0	2.2	< 1.0	---	---	---	240	180	3.3	220	< 0.50	< 0.50	0.14	43	21	0.026	0.0038	0.030	0.11	0.012	0.14	0.80	---	0.0090	---	---	---	---	---
	28-Sep-2013	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Sep-2013	---	---	---	---	---	---	370	7.68	3.4	190	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	250	180	6.0	220	< 0.50	< 0.50	0.12	42	20	0.037	0.0040	0.041	0.16	0.013	0.21	0.82	---	0.0080	---	---	---	---	---
(Duplicate)	30-Sep-2013	---	---	---	---	---	---	370	7.70	0.72	190	---	---	180	< 0.50	< 2.0	1.7	< 1.0	---	---	---	240	180	1.3	220	< 0.50	< 0.50	0.13	44	20	0.033	< 0.0030	0.033	0.15	< 0.0099	0.21	0.85	---	0.0080	---	---	---	---	---
	03-Oct-2013	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2013	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Oct-2013	---	---	---	---	---	---	---	---	0.92	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2013	---	---	---	---	---	---	310	7.67	1.6	160	---	---	150	< 0.50	< 2.0	2.2	< 1.0	---	---	---	210	150	2.0	180	< 0.50	< 0.50	0.12	34	21	0.020	< 0.0030	0.020	0.089	< 0.0099	0.057	0.44	---	0.0070	---	---	---	---	---
(Duplicate)	10-Oct-2013	---	---	---	---	---	---	310	7.72	1.4	170	---	---	150	< 0.50	< 2.0	1.9	< 1.0	---	---	---	220	150	2.0	180	< 0.50	< 0.50	0.12	34	22	0.0092	< 0.0030	0.0090	0.041	< 0.0099	0.054	0.35	---	0.0061	---	---	---	---	---
	12-Oct-2013	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Oct-2013	---	---	---	---	---	---	---	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	8.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2013	---	---	---	---	---	---	310	7.75	1.4	150	---	---	140	< 0.50	< 2.0	2.2	< 1.0	---	---	---	220	140	< 1.0	180	< 0.50	< 0.50	0.11	34	23	0.032	0.0067	0.039	0.14	0.022	0.15	0.70	---	0.0067	---	---	---	---	---
(Duplicate)	17-Oct-2013	---	---	---	---	---	---	310	7.87	0.77	150	---	---	150	< 0.50	< 2.0	2.2	< 1.0	---	---	---	220	150	< 1.0	180	< 0.50	< 0.50	0.12	34	22	0.030	0.012	0.042	0.13	0.038	0.14	0.85	---	0.0064	---	---	---	---	---
	20-Oct-2013	---	---	---	---	---	---	---	---	0.43	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Oct-2013	---	---	---	---	---	---	320	7.75	1.0	180	181	175	150	< 0.50	< 2.0	2.4	< 1.0	---	---	---	210	160	1.3	180	< 0.50	< 0.50	0.11	36	22	0.033	0.0049	0.038	0.15	0.016	0.20	0.88	---	0.0080	4.25	< 0.020	0.314	25.5	< 0.010
(Duplicate)	23-Oct-2013	---	---	---	---	---	---	320	7.84	0.52	170	176	178	150	< 0.50	< 2.0	2.4	< 1.0	---	---	---	240	150	< 1.0	180	< 0.50	< 0.50	0.12	36	22	0.031	0.0048	0.035	0.14	0.016	0.23	0.82	---	0.010	4.08	< 0.020	0.299	24.4	< 0.010
	26-Oct-2013	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Oct-2013	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2013	---	---	---	---	---	---	350	7.81	0.74	190	---	---	160	< 0.50	< 2.0	2.2	17	---	---	---	240	190	< 1.0	200	< 0.50	< 0.50	0.13	39	46	0.033	0.0091	0.042	0.15	0.030	0.20	0.71	---	0.0080	---	---	---	---	---
(Duplicate)	31-Oct-2013	---	---	---	---	---	---	360	7.93	0.82	190	---	---	170	< 0.50	< 2.0	2.4	17	---	---	---	240	190	1.3	200	< 0.50	< 0.50	0.13	38	45	0.036	0.015	0.051	0.16	0.049	0.20	0.98	---	0.0090	---	---	---	---	---
	02-Nov-2013	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2013	---	---	---	---	---	---	---	---	6.5	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2013	---	---	---	---	---	---	340	7.43	3.5	170	---	---	160	< 0.50	< 2.0	2.4	5.6	---	---	---	250	170	< 1.0	190	< 0.50	< 0.50	0.11	37	31	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.14	0.73	---	0.020	---	---	---	---	---
(Duplicate)	07-Nov-2013	---	---	---	---	---	---	340	7.44	3.6	170	---	---	170	< 0.50	< 2.0	1.7	3.6	---	---	---	250	170	< 1.0	210	< 0.50	< 0.50	0.11	36	28	< 0.0030	< 0.0030	< 0.0030	< 0.013	< 0.0099	0.16	0.90	---	0.020	---	---	---	---	---
	09-Nov-2013	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Nov-2013	---	---	---	---	---	---	360	7.38	2.5	210	---	---	180	< 0.50	< 2.0	2.0	< 1.0	---	---	---	270	190	< 1.0	220	< 0.50	< 0.50	0.11	42	24	0.012	< 0.0030	0.012	0.052	< 0.0099	0.19	0.86	---	0.017	---	---	---	---	---
(Duplicate)	12-Nov-2013	---	---	---	---	---	---	370	7.84	1.8	200	---	---	180	< 0.50	< 2.0	2.2	< 1.0	---	---	---	260	190	< 1.0	220	< 0.50	< 0.50	0.12	42	25	0.063	< 0.0030	0.063	0.28	< 0.0099	0.19	1.3	---	0.019	---	---	---	---	---
	14-Nov-2013	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Nov-2013	---	---	---	---	---	---	---	---	4.5	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2013	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Nov-2013	---	---	---	---	---	---	410	7.71	2.0	210	230	221	200	< 0.50	3.3	1.6	< 1.0	---	---	---	270	200	4.0	240	< 0.50	< 0.50	0.13	48	27	0.0080	< 0.0030	0.0080	0.035	< 0.0099	0.23	0.87	---	0.016	9.11	< 0.020	0.388	43.9	< 0.010
(Duplicate)	20-Nov-2013	---	---	---	---	---	---	410	7.81	2.0	220	232	221	200	< 0.50	3.2	2.1	< 1.0	---	---	---	280	200	< 1.0	240	< 0.50	< 0.50	0.14	48	26	0.0051	< 0.0030	0.0050	0.023	< 0.0099	0.22	0.93	---	0.017	9.19	< 0.020	0.401	43.0	< 0.010
	23-Nov-2013	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Nov-2013	---	---	---	---	---	---	420	7.51	2.5	220	---	---	200	< 0.50	2.9	2.2	< 1.0	---	---	---	290	200	1.3	250	< 0.50	< 0.50	0.13	50	25	0.024	< 0.0030	0.024	0.10	< 0.0099	0.29	1.0	---	0.012	---	---	---	---	---

WB3

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Dissolved Metals and Trace Elements (cont.)																										Total Metals and Trace Elements																											
		Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L

PROJECT No.: 417085-47599

Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
(Duplicate)	17-Jun-2013	0.083	0.331	1920	< 0.040	4070	< 0.0050	794	46.7	< 3000	< 0.0020	< 0.20	0.52	0.0040	< 0.20	3.56	0.17	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2013	0.057	0.235	3360	< 0.040	7690	< 0.0050	1010	63.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	0.72	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Jul-2013	< 0.050	0.242	3390	0.044	7830	< 0.0050	1020	63.9	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	0.49	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-2013	< 0.050	0.198	2340	0.042	8710	< 0.0050	1700	81.9	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	0.81	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	20-Aug-2013	< 0.050	0.239	2440	< 0.040	8650	< 0.0050	1660	83.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	1.46	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	21-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2013	< 0.050	0.331	3960	< 0.040	8250	< 0.0050	2020	81.3	< 3000	< 0.0020	< 0.20	< 0.50	0.0060	< 0.20	1.97	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	18-Sep-2013	< 0.050	0.332	3830	< 0.040	7770	< 0.0050	1990	81.7	< 3000	< 0.0020	< 0.20	< 0.50	0.0060	< 0.20	2.85	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	21-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Oct-2013	0.114	0.287	2660	0.048	5910	< 0.0050	1660	68.9	4200	< 0.0020	< 0.20	< 0.50	0.0220	< 0.20	1.94	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	23-Oct-2013	0.109	0.323	2640	0.041	5880	< 0.0050	1650	70.2	3400	< 0.0020	< 0.20	< 0.50	0.0200	< 0.20	0.91	< 0.10	< 0.40	**0.92** [#3,4]	< 0.40	1.5	0.64	2.2	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	26-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Nov-2013	0.101	0.406	2480	< 0.040	8570	< 0.0050	2120	83.8	< 3000	< 0.0020	< 0.20	1.25	0.0510	< 0.20	3.27	0.25	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	20-Nov-2013	0.123	0.465	2480	< 0.040	8590	< 0.0050	2100	81.9	3200	< 0.0020	< 0.20	2.05	0.0490	< 0.20	4.68	0.22	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	23-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																		
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(j)fluoranthene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(e,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [41]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [42]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [43]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [44]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																																							
(Duplicate)	17-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jun-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	0.023	< 0.20	---
(Duplicate)	20-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	21-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Aug-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	18-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.040	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	21-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Sep-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	23-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	26-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	20-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	23-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

WB3

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	**Narrative**	**5**	---	---	---	**Narrative**	---	---	---	---	---	---	**640**	---	---	---	---	---	---	**Narrative**	---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	**Narrative**	**5**	---	---	---	**Narrative**	---	---	---	---	---	---	**640**	---	---	---	---	---	---	**Narrative**	---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**(6.5 - 9)**	**Narrative**	**6.5**	---	---	**(6.5 - 9)**	**Narrative**	---	---	---	**20**	---	---	**120**	**218**	**0.0019**	**0.0019**	---	---	---	**Narrative**	---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.303**	---	---	---	**50**	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**(6.5 - 9)**	**Narrative**	**6.5**	---	---	**(6.5 - 9)**	**Narrative**	---	---	---	**20**	---	---	**120**	**309**	**0.0019**	**0.0019**	---	---	---	**Narrative**	---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.473**	---	---	---	**50**	---	---	---	---
Waterbody 3 Investigation																																												
(Duplicate)	26-Nov-2013	---	---	---	---	---	---	430	7.44	3.3	230	---	---	210	< 0.50	3.0	1.9	< 1.0	---	---	---	290	210	< 1.0	260	< 0.50	< 0.50	0.16	52	24	0.0057	0.0045	0.010	0.025	0.015	**1.2** [#3,4]	0.96	---	0.011	---	---	---	---	---
	29-Nov-2013	---	---	---	---	---	---	---	---	2.6	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2013	---	---	---	---	---	---	440	7.31	1.8	210	---	---	210	< 0.50	3.2	1.6	< 1.0	---	---	---	280	210	< 1.0	260	< 0.50	< 0.50	0.13	54	23	0.0048	< 0.0030	0.0050	0.021	< 0.0099	0.29	1.1	---	0.016	---	---	---	---	---
(Duplicate)	03-Dec-2013	---	---	---	---	---	---	440	7.28	1.6	210	---	---	210	< 0.50	3.2	1.6	< 1.0	---	---	---	280	210	< 1.0	260	< 0.50	< 0.50	0.18	55	23	0.0063	< 0.0030	0.0060	0.028	< 0.0099	0.29	1.2	---	0.016	---	---	---	---	---
	05-Dec-2013	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Dec-2013	---	---	---	---	---	---	---	---	2.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2013	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Dec-2013	---	---	---	---	---	---	500	7.32	2.2	260	---	---	250	< 0.50	4.3	1.9	< 1.0	---	---	---	350	240	< 1.0	300	< 0.50	< 0.50	0.14	60	20	0.035	0.011	0.046	0.16	0.034	**0.39** [#3]	0.99	---	0.018	---	---	---	---	---
(Duplicate)	12-Dec-2013	---	---	---	---	---	---	500	7.42	2.7	250	---	---	250	< 0.50	4.1	1.9	< 1.0	---	---	---	330	240	2.0	300	< 0.50	< 0.50	0.19	61	19	0.11	< 0.0030	0.11	0.48	< 0.0099	**0.37** [#3]	1.0	---	0.018	---	---	---	---	---
	14-Dec-2013	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Dec-2013	---	---	---	---	---	---	510	7.54	3.3	270	264	274	250	< 0.50	---	1.8	< 1.0	---	---	---	330	250	< 1.0	310	< 0.50	< 0.50	0.17	64	24	0.029	< 0.0030	0.029	0.13	< 0.0099	**0.42** [#3]	1.1	---	0.017	6.88	< 0.020	0.487	54.7	< 0.010
(Duplicate)	17-Dec-2013	---	---	---	---	---	---	500	7.55	2.8	250	264	248	250	< 0.50	---	1.7	< 1.0	---	---	---	320	240	< 1.0	300	< 0.50	< 0.50	0.16	63	24	0.027	< 0.0030	0.027	0.12	< 0.0099	**0.40** [#3]	1.1	---	0.017	6.99	< 0.020	0.511	54.6	< 0.010
	19-Dec-2013	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	5.1	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Dec-2013	---	---	---	---	---	---	500	7.43	2.8	270	---	---	250	< 0.50	4.9	2.3	< 1.0	---	---	---	340	250	< 1.0	300	< 0.50	< 0.50	0.16	60	24	0.022	< 0.0030	0.022	0.097	< 0.0099	**0.41** [#3]	1.1	---	0.021	---	---	---	---	---
(Duplicate)	23-Dec-2013	---	---	---	---	---	---	500	7.40	3.7	270	---	---	250	< 0.50	5.4	2.5	< 1.0	---	---	---	320	250	< 1.0	300	< 0.50	< 0.50	0.15	61	25	0.0084	< 0.0030	0.0080	0.037	< 0.0099	**0.40** [#3]	1.1	---	0.022	---	---	---	---	---
	24-Dec-2013	---	---	---	---	---	---	---	---	6.1	---	---	---	---	---	---	---	---	---	---	---	---	---	6.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2013	---	---	---	---	---	---	---	---	6.7	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Dec-2013	---	---	---	---	---	---	---	---	5.8	---	---	---	---	---	---	---	---	---	---	---	---	---	8.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jan-2014	---	---	---	---	---	---	520	7.09	2.8	280	---	---	260	< 0.50	6.0	2.2	< 1.0	---	---	---	340	260	2.7	320	< 0.50	< 0.50	0.15	69	24	0.0030	< 0.0030	0.0030	0.013	< 0.0099	**0.44** [#3]	1.0	---	0.025	---	---	---	---	---
(Duplicate)	02-Jan-2014	---	---	---	---	---	---	520	7.29	4.1	280	---	---	260	< 0.50	7.0	2.3	< 1.0	---	---	---	350	260	3.3	320	< 0.50	< 0.50	0.16	69	25	0.0033	0.0031	0.0060	0.015	0.010	**0.44** [#3]	0.94	---	0.023	---	---	---	---	---
	03-Jan-2014	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jan-2014	---	---	---	---	---	---	560	7.40	4.3	300	---	---	280	< 0.50	5.9	2.3	< 1.0	---	---	---	340	280	< 1.0	340	< 0.50	< 0.50	0.19	71	24	0.0041	< 0.0030	0.0040	0.018	< 0.0099	**0.48** [#3,4]	1.2	---	0.025	---	---	---	---	---
(Duplicate)	06-Jan-2014	---	---	---	---	---	---	550	7.34	4.6	300	---	---	270	< 0.50	6.0	2.4	< 1.0	---	---	---	370	280	2.7	330	< 0.50	< 0.50	0.16	70	22	0.0032	< 0.0030	0.0030	0.014	< 0.0099	**0.47** [#3]	1.1	---	0.025	---	---	---	---	---
	07-Jan-2014	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2014	---	---	---	---	---	---	---	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jan-2014	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2014	---	---	---	---	---	---	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2014	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jan-2014	---	---	---	---	---	---	530	7.77	2.6	270	---	---	230	< 0.50	6.5	2.0	< 1.0	---	---	---	320	240	< 1.0	280	< 0.50	< 0.50	0.18	76	21	0.010	< 0.010	0.010	0.044	< 0.033	**0.57** [#3,4]	1.2	---	0.023	---	---	---	---	---
(Duplicate)	16-Jan-2014	---	---	---	---	---	---	530	7.65	2.6	280	---	---	270	< 0.50	7.1	1.9	< 1.0	---	---	---	320	270	< 1.0	330	< 0.50	< 0.50	0.18	75	21	0.010	< 0.010	0.010	0.046	< 0.033	**0.58** [#3,4]	1.2	---	0.024	---	---	---	---	---
	20-Jan-2014	---	---	---	---	---	---	500	7.56	2.8	260	272	256	250	< 0.50	6.5	1.3	< 1.0	---	---	---	320	250	< 1.0	310	< 0.50	< 0.50	0.25	69	22	0.014	< 0.010	0.014	0.062	< 0.033	**0.49** [#3,4]	1.1	---	0.022	6.21	< 0.020	0.378	56.0	< 0.010
(Duplicate)	20-Jan-2014	---	---	---	---	---	---	510	7.59	3.0	250	285	253	250	< 0.50	5.9	2.1	< 1.0	---	---	---	300	250	< 1.0	310	< 0.50	< 0.50	0.17	68	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.48** [#3,4]	1.1	---	0.021	5.81	< 0.020	0.337	55.9	< 0.010
	22-Jan-2014	---	---	---	---	---	---	---	---	5.0	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2014	---	---	---	---	---	---	---	---	4.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jan-2014	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jan-2014	---	---	---	---	---	---	520	7.42	2.4	260	---	---	260	< 0.50	5.8	< 1.0	< 1.0	---	---	---	320	250	< 1.0	320	< 0.50	< 0.50	0.16	72	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.57** [#3,4]	1.1	---	0.021	---	---	---	---	---
(Duplicate)	29-Jan-2014	---	---	---	---	---	---	520	7.50	2.3	260	---	---	260	< 0.50	6.1	1.1	< 1.0	---	---	---	310	250	< 1.0	310	< 0.50	< 0.50	0.27	72	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.54** [#3,4]	1.1	---	0.023	---	---	---	---	---
	31-Jan-2014	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Feb-2014	---	---	---	---	---	---	---	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Feb-2014	---	---	---	---	---	---	530	7.73	2.6	290	---	---	270	< 0.50	5.0	1.9	< 1.0	---	---	---	310	270	< 1.0	320	< 0.50	< 0.50	0.17	74	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.67** [#3,4]	1.2	---	0.027	---	---	---	---	---
(Duplicate)	06-Feb-2014	---	---	---	---	---	---	530	7.61	2.8	290	---	---	260	< 0.50	5.6	1.1	< 1.0	---	---	---	330	270	< 1.0	320	< 0.50	< 0.50	0.16	75	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.70** [#3,4]	1.2	---	0.028	---	---	---	---	---
	08-Feb-2014	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2014	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2014	---	---	---	---	---	---	570	7.69	2.2	300	---	---	300	< 0.50	5.9	2.1	< 1.0	---	---	---	350	290	< 1.0	360	< 0.50	< 0.50	0.23	78	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.79** [#3,4]	1.4	---	0.028	---	---	---	---	---
(Duplicate)	13-Feb-2014	---	---	---	---	---	---	570	7.59	2.6	300	---	---	290	< 0.50	5.5	1.7	< 1.0	---	---	---	350	280	< 1.0	350	< 0.50	< 0.50	0.17	78	18	0.011	0.011	0.022	0.050	0.036	**0.80** [#3,4]	1.4	---	0.028	---	---	---	---	---
	15-Feb-2014	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2014	---	---	---	---	---	---	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2014	---	---	---	---	---	---	580	7.52	3.3	290	311	309	300	< 0.50	7.3	1.8	< 1.0	---	---	---	360	290	2.7	360	< 0.50	< 0.50	0.25	76	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.83** [#3,4]	1.5	---	0.022	3.83	< 0.020	0.303	61.5	< 0.010
(Duplicate)	18-Feb-2014	---	---	---	---	---	---	580	7.46	3.6	290	308	309	290	< 0.50	8.3	2.1	< 1.0	---	---	---	360	290	2.3	360	< 0.50	< 0.50	0.17	77	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.82** [#3,4]	1.5	---	0.022	4.02	< 0.020	0.297	61.8	< 0.010
	20-Feb-2014	---	---	---	---	---	---	---	---	2.6	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2014	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Feb-2014	---	---	---	---	---	---	590	7.61	2.4	310	---	---	290	< 0.50	5.5	1.4	< 1.0	---	---	---	340	290	< 1.0	360	< 0.50	< 0.50	0.17	81	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.87** [#3,4]	1.1	---	0.027	---	---	---	---	---
(Duplicate)	25-Feb-2014	---	---	---	---	---	---	590	7.67	2.9	310	---	---	300	< 0.50	6.5	1.1	< 1.0	---	---	---	340	290	1.3	360	< 0.50	< 0.50	0.26	75	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.84** [#3,4]	1.8	---	0.027	---	---	---	---	---
	27-Feb-2014	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Mar-2014	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2014	---	---	---	---	---	---	590	7.77	2.3	320	---	---	310	< 0.50	7.1	1.6	< 1.0	---	---	---	360	300	< 1.0	370	< 0.50	< 0.50	0.20	79	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.88** [#3,4]	1.2	---	0.029	---	---	---	---	---
(Duplicate)	05-Mar-2014	---	---	---	---	---	---	590	7.74	2.0	320	---	---	320	< 0.50	6.7	1.5	< 1.0	---	---	---	380	310	< 1.0	390	< 0.50	< 0.50	0.21	78	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.84** [#3,4]	1.1	---	0.027	---	---	---	---	---
	07-Mar-2014	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Mar-2014	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Mar-2014	---	---	---	---	---	---	610	7.50	2.0	330	---	---	310	< 0.50	6.5	1.0	< 1.0	---	---	---	370	310	< 1.0	380	< 0.50	< 0.50	0.20	87	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.87** [#3,4]	1.1	---	0.026	---	---	---	---	---
(Duplicate)	11-Mar-2014	---	---	---	---	---	---	610	7.43	2.4	320	---	---	300	< 0.50	8.0	1.2	< 1.0	---	---	---	350	300	< 1.0	360	< 0.50	< 0.50	0.18	85	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.87** [#3,4]	1.3	---	0.027	---	---	---	---	---
	15-Mar-2014	---	---	---	---	---	---	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2014	---	---	---	---	---	---	570	7.48	2.3	310	297	310	290	< 0.50	7.1	2.0	< 1.0	---	---	---	340	290	< 1.0	350	< 0.50	< 0.50	0.20	75	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.75** [#3,4]	1.2	---	0.023	2.86	< 0.020	0.213	58.6	< 0.010
(Duplicate)	17-Mar-2014	---	---	---	---	---	---	570	7.45	2.3	310	300	309	290	< 0.50	< 2.0	2.0	< 1.0	---	---	---	330	290	< 1.0	350	< 0.50	< 0.50	0.17	78	17	< 0.010	0.010	0.010	< 0.044	0.034	**0.72** [#3,4]	1.2	---	0.024	2.85	< 0.020	0.225	59.5	< 0.010
	20-Mar-2014	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Mar-2014	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2014	---	---	---	---	---	---	---	---	3.7	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2014	---	---	---	---	---	---	610	7.60	3.6	340	---	---	300	< 0.50	6.2	2.3	13	---	---	---	380	320	< 1.0	370	< 0.50	< 0.50	0.18	83	19	0.054	< 0.010	0.054	0.24	< 0.033	**0.48** [#3,4]	1.0	---	0.016	---	---	---	---	---
(Duplicate)	25-Mar-2014	---	---	---	---	---	---	610	7.60	3.5	340	---	---	300	< 0.50	6.3	2.1	13	---	---	---	390	320	< 1.0	370	< 0.50	< 0.50	0.17	84	19	0.031	< 0.010	0.031	0.14	< 0.033	**0.48** [#3,4]	1.2	---	0.015	---	---	---	---	---
	28-Mar-2014	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2014	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2014	---	---	---	---	---	---	650	7.80	4.4	340	---	---	330	< 0.50	4.4	2.3	< 1.0	---	---	---	390	330	< 1.0	400	< 0.50	< 0.50	0.18	83	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.56** [#3,4]	1.1	---	0.020	---	---	---	---	---
(Duplicate)	03-Apr-2014	---	---	---	---	---	---	640	7.76	4.2	340	---	---	330	< 0.50	4.5	2.3	< 1.0	---	---	---	390	320	< 1.0	400	< 0.50	< 0.50	0.19	83	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.57** [#3,4]	0.95	---	0.020	---	---	---	---	---
	04-Apr-2014	---	---	---	---	---	---	---	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Apr-2014	---	---	---	---	---	---	---	---	4.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2014	---	---	---	---	---	---	220	7.66	5.7	100	---	---	93	< 0.50	3.5	4.1	5.4	---	---	---	140	110	4.0	110	< 0.50	< 0.50	0.061	21	9.7	0.16	< 0.010	0.16	0.69	< 0.033	0.23	0.61	---	0.013	---	---	---	---	---
(Duplicate)	09-Apr-2014	---	---	---	---	---	---	220	7.66	6.0	110	---	---	92	< 0.50	3.8	4.2	5.2	---	---	---	130	110	2.7	110	< 0.50	< 0.50	0.063	21	9.3	0.16	< 0.010	0.16	0.71	< 0.033	0.22	0.66	---	0.0090	---	---	---	---	---
	12-Apr-2014	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---	---	---	---	14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2014	---	---	---	---	---	---	---	---	7.7	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Apr-2014	---	---	---	---	---	---	410	7.75	5.2	210	---	---	200	< 0.50	3.8	2.9	2.0	---	---	---	220	200	1.3	250	< 0.50	< 0.50	0.12	48	15	0.025	< 0.010	0.025	0.11	< 0.033	0.20	0.57	---	0.0080	---	---	---	---	---
(Duplicate)	16-Apr-2014	---	---	---	---	---	---	410	7.71	5.4	210	---	---	200	< 0.50	3.4	2.9	1.7	---	---	---	240	200	< 1.0	240	< 0.50	< 0.50	0.11	51	15	0.028	< 0.010	0.028	0.12	< 0.033	0.21	0.53	---	0.0080	---	---	---	---	---
	18-Apr-2014	---	---	---	---	---	---	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2014	---	---	---	---	---	---	---	---	2.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2014	---	---	---	---	---	---	270	7.88	1.6	140	138	136	130	< 0.50	2.4	1.5	< 1.0	---	---	---	160	130	1.3	160	< 0.50	< 0.50	0.092	31	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.071	0.41	---	0.0080	2.02	< 0.020	0.162	29.1	< 0.010
(Duplicate)	23-Apr-2014	---	---	---	---	---	---	270	7.84	1.9	140	139	136	130	< 0.50	2.5	1.5	< 1.0	---	---	---	160	130	1.3	160	< 0.50	< 0.50	0.081	32	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.075	0.44	---	0.0060	1.97	< 0.020	0.178	28.7	< 0.010
	26-Apr-2014	---	---	---	---	---	---	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2014	---	---	---	---	---	---	---	---	1.6	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2014	---	---	---	---	---	---	250	7.88	1.7	130	---	---	120	< 0.50	< 2.0	1.3	< 1.0	---	---	---	160	120	1.3	140	< 0.50	< 0.50	0.092	31	12	0.011	< 0.010	0.011	0.050	< 0.033	< 0.050	0.54	---	0.0070	---	---	---	---	---
(Duplicate)	30-Apr-2014	---	---	---	---	---	---	240	7.82	1.3	130	---	---	120	< 0.50	< 2.0	1.1	< 1.0	---	---	---	140	120	1.3	150	< 0.50	< 0.50	0.090	30	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.42	---	0.0050	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Metals and Trace Elements | | | | | | | | | | | | | | | | | | |

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																				
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
(Duplicate)	26-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Dec-2013	0.120	0.404	2440	< 0.040	9850	0.0120	2920	104	3600	< 0.0020	< 0.20	0.93	0.0770	< 0.20	2.42	0.22	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	17-Dec-2013	0.109	0.387	2370	0.041	10500	0.0070	2850	102	3900	< 0.0020	0.21	0.78	0.0740	< 0.20	2.56	0.18	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	19-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jan-2014	< 0.050	0.238	2070	< 0.040	10400	< 0.0050	2690	111	< 3000	< 0.0020	< 0.20	< 0.50	0.0270	< 0.20	1.44	0.15	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	20-Jan-2014	< 0.050	0.282	2040	< 0.040	11100	< 0.0050	2830	116	< 3000	< 0.0020	< 0.20	0.82	0.0270	< 0.20	1.88	0.12	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2014	< 0.050	0.233	2190	< 0.040	11900	< 0.0050	3320	130	< 3000	< 0.0020	< 0.20	< 0.50	0.0160	< 0.20	1.71	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	18-Feb-2014	< 0.050	0.236	2230	< 0.040	11500	< 0.0050	3370	128	< 3000	< 0.0020	< 0.20	< 0.50	0.0140	< 0.20	1.67	0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2014	< 0.050	0.200	2460	< 0.040	11000	< 0.0050	3510	126	< 3000	< 0.0020	< 0.20	< 0.50	0.0100	< 0.20	1.14	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2014	< 0.050	0.173	2320	< 0.040	11100	< 0.0050	3390	125	< 3000	< 0.0020	< 0.20	< 0.50	0.0100	< 0.20	0.77	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	540	< 100	< 100	**130** [#1,2]	390	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2014	0.177	0.163	2040	< 0.040	4950	< 0.0050	1580	50.9	< 3000	< 0.0020	< 0.20	1.45	0.0280	< 0.20	1.63	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	23-Apr-2014	0.148	0.195	2030	< 0.040	5190	< 0.0050	1580	51.3	< 3000	< 0.0020	< 0.20	1.95	0.0280	0.23	0.75	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	26-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																				
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,l]pyrene	Dibenzo[e,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [41]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [42]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [43]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [44]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																						
(Duplicate)	26-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Dec-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Feb-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Apr-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**---**	**---**	**---**	**Narrative**	**5**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**640**	**---**	**---**	**---**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**124**	**0.06**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**100**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**---**	**---**	**---**	**Narrative**	**5**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**640**	**---**	**---**	**---**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**124**	**0.06**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**100**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**---**	**---**	**(6.5 - 9)**	**Narrative**	**6.5**	**---**	**---**	**(6.5 - 9)**	**Narrative**	**---**	**---**	**---**	**20**	**---**	**---**	**120**	**218**	**0.0019**	**0.0019**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**3**	**0.02**	**---**	**---**	**---**	**0.303**	**---**	**---**	**---**	**50**	**---**	**---**	**---**	**---**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**---**	**---**	**(6.5 - 9)**	**Narrative**	**6.5**	**---**	**---**	**(6.5 - 9)**	**Narrative**	**---**	**---**	**---**	**20**	**---**	**---**	**120**	**309**	**0.0019**	**0.0019**	**---**	**---**	**---**	**Narrative**	**---**	**---**	**---**	**---**	**---**	**---**	**3**	**0.02**	**---**	**---**	**---**	**0.473**	**---**	**---**	**---**	**50**	**---**	**---**	**---**	**---**
Waterbody 3 Investigation																																												
	02-May-2014	---	---	---	---	---	---	---	---	2.2	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-May-2014	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-May-2014	---	---	---	---	---	---	270	7.89	0.85	140	---	---	130	< 0.50	< 2.0	1.1	< 1.0	---	---	---	150	130	< 1.0	160	< 0.50	< 0.50	0.089	34	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.42	---	0.0050	---	---	---	---	---
(Duplicate)	07-May-2014	---	---	---	---	---	---	270	7.93	0.74	140	---	---	130	< 0.50	< 2.0	1.1	< 1.0	---	---	---	180	130	2.0	160	< 0.50	< 0.50	0.088	35	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.43	---	0.0040	---	---	---	---	---
	10-May-2014	---	---	---	---	---	---	---	---	0.75	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2014	---	---	---	---	---	---	280	8.10	1.4	150	---	---	140	< 0.50	< 2.0	1.1	< 1.0	---	---	---	170	140	< 1.0	170	< 0.50	< 0.50	0.094	34	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.39	---	0.0030	---	---	---	---	---
(Duplicate)	13-May-2014	---	---	---	---	---	---	280	8.11	1.8	150	---	---	140	< 0.50	< 2.0	1.2	< 1.0	---	---	---	180	140	< 1.0	180	< 0.50	< 0.50	0.095	34	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.37	---	0.0050	---	---	---	---	---
	15-May-2014	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2014	---	---	---	---	---	---	---	---	0.98	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-May-2014	---	---	---	---	---	---	280	8.11	0.51	150	149	150	140	< 0.50	< 2.0	1.5	< 1.0	---	---	---	180	140	< 1.0	170	< 0.50	< 0.50	0.10	34	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.15	0.45	---	< 0.0030	5.22	< 0.020	0.172	26.6	< 0.010
(Duplicate)	20-May-2014	---	---	---	---	---	---	280	8.17	0.47	150	149	151	140	< 0.50	< 2.0	1.3	< 1.0	---	---	---	190	140	< 1.0	170	< 0.50	< 0.50	0.095	33	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.37	---	0.0030	4.49	< 0.020	0.170	27.3	< 0.010
	22-May-2014	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-May-2014	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2014	---	---	---	---	---	---	270	7.84	1.6	150	---	---	130	< 0.50	< 2.0	1.4	< 1.0	---	---	---	180	130	1.3	160	< 0.50	< 0.50	0.099	31	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.45	---	< 0.0030	---	---	---	---	---
(Duplicate)	28-May-2014	---	---	---	---	---	---	270	7.90	1.6	160	---	---	150	< 0.50	< 2.0	1.5	< 1.0	---	---	---	170	150	2.7	180	< 0.50	< 0.50	0.10	32	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.068	0.32	---	< 0.0030	---	---	---	---	---
	31-May-2014	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	5.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2014	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2014	---	---	---	---	---	---	240	7.94	0.38	140	---	---	120	< 0.50	< 2.0	1.5	< 10	---	---	---	170	120	< 1.0	150	< 0.50	< 0.50	0.091	28	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.055	0.51	---	0.0030	---	---	---	---	---
(Duplicate)	05-Jun-2014	---	---	---	---	---	---	240	7.95	0.24	140	---	---	120	< 0.50	< 2.0	1.4	< 10	---	---	---	170	120	< 1.0	150	< 0.50	< 0.50	0.097	29	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.55	---	0.0030	---	---	---	---	---
	07-Jun-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2014	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jun-2014	---	---	---	---	---	---	260	8.07	0.63	140	---	---	130	< 0.50	< 2.0	1.7	< 1.0	---	---	---	180	130	< 1.0	160	< 0.50	< 0.50	0.10	33	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.37	---	0.023	---	---	---	---	---
(Duplicate)	12-Jun-2014	---	---	---	---	---	---	260	8.04	0.36	140	---	---	130	< 0.50	< 2.0	1.7	< 1.0	---	---	---	180	130	< 1.0	160	< 0.50	< 0.50	0.11	32	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.43	---	0.022	---	---	---	---	---
	14-Jun-2014	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jun-2014	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2014	---	---	---	---	---	---	290	7.84	1.7	170	---	---	150	< 0.50	---	1.6	1.3	---	---	---	190	150	4.7	180	< 0.50	< 0.50	0.11	35	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.64	---	0.0080	---	---	---	---	---
(Duplicate)	19-Jun-2014	---	---	---	---	---	---	290	7.72	2.2	170	---	---	150	< 0.50	---	1.2	1.2	---	---	---	190	150	7.3	180	< 0.50	< 0.50	0.11	37	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.58	---	0.0060	---	---	---	---	---
	21-Jun-2014	---	---	---	---	---	---	---	---	2.1	---	---	---	---	---	---	---	---	---	---	---	---	---	6.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2014	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	7.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2014	---	---	---	---	---	---	300	7.92	1.5	170	168	173	150	< 0.50	< 2.0	1.3	< 10	---	---	---	210	160	3.3	190	< 0.50	< 0.50	0.11	37	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.061	0.53	---	0.0070	4.00	< 0.020	0.216	32.5	< 0.010
(Duplicate)	25-Jun-2014	---	---	---	---	---	---	300	7.88	4.3	150	172	153	150	< 0.50	< 2.0	1.2	< 5.0	---	---	---	200	150	6.7	180	< 0.50	< 0.50	0.11	36	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.058	0.56	---	0.0070	3.83	< 0.020	0.225	33.0	< 0.010
	27-Jun-2014	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2014	---	---	---	---	---	---	310	7.51	0.98	140	---	---	160	< 0.50	< 2.0	1.1	< 1.0	---	---	---	200	150	< 1.0	200	< 0.50	< 0.50	0.10	39	15	0.017	< 0.010	0.017	0.076	< 0.033	< 0.050	0.53	---	0.0080	---	---	---	---	---
(Duplicate)	02-Jul-2014	---	---	---	---	---	---	320	7.68	0.79	190	---	---	160	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	220	170	< 1.0	200	< 0.50	< 0.50	0.10	37	16	0.012	< 0.010	0.012	0.054	< 0.033	0.16	0.52	---	0.0070	---	---	---	---	---
	04-Jul-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2014	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Jul-2014	---	---	---	---	---	---	330	7.78	1.2	180	---	---	170	< 0.50	< 2.0	1.7	< 1.0	---	---	---	210	160	< 1.0	200	< 0.50	< 0.50	0.11	38	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.17	0.76	---	0.0080	---	---	---	---	---
(Duplicate)	10-Jul-2014	---	---	---	---	---	---	330	7.89	1.5	190	---	---	180	< 0.50	< 2.0	1.3	< 1.0	---	---	---	220	170	< 1.0	220	< 0.50	< 0.50	0.11	38	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.076	0.77	---	0.0070	---	---	---	---	---
	12-Jul-2014	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2014	---	---	---	---	---	---	---	---	2.2	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jul-2014	---	---	---	---	---	---	330	7.81	1.4	190	---	---	170	< 0.50	< 2.0	1.2	0.74	---	---	---	190	170	2.7	200	< 0.50	< 0.50	0.11	43	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.31** [#3]	0.60	---	0.0080	---	---	---	---	---
(Duplicate)	17-Jul-2014	---	---	---	---	---	---	300	7.80	1.0	190	---	---	180	< 0.50	< 2.0	1.1	0.78	---	---	---	230	180	1.3	220	< 0.50	< 0.50	0.11	42	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.067	0.56	---	0.0060	---	---	---	---	---
	19-Jul-2014	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2014	---	---	---	---	---	---	330	7.96	2.4	180	178	183	180	< 0.50	6.1	1.2	< 1.0	---	---	---	240	170	3.3	220	< 0.50	< 0.50	0.12	37.0	18	0.047	< 0.010	0.047	0.21	< 0.033	0.050	0.64	---	0.0070	14.6	< 0.020	0.225	36.9	< 0.010
(Duplicate)	22-Jul-2014	---	---	---	---	---	---	330	7.97	1.1	200	173	199	190	< 0.50	< 2.0	1.3	< 1.0	---	---	---	250	190	< 1.0	230	< 0.50	< 0.50	0.12	37.4	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.60	---	0.0070	9.28	< 0.020	0.220	34.7	< 0.010
	24-Jul-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jul-2014	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	5.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2014	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2014	---	---	---	---	---	---	350	7.80	9.3	180	---	---	200	< 0.50	< 2.0	< 1.0	< 2.0	---	---	---	240	180	35	240	< 0.50	< 0.50	0.13	43.0	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.81	---	0.0070	---	---	---	---	---
(Duplicate)	30-Jul-2014	---	---	---	---	---	---	340	7.93	2.0	190	---	---	200	< 0.50	< 2.0	1.1	< 1.0	---	---	---	240	180	5.3	240	< 0.50	< 0.50	0.13	44.1	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	1.1	---	0.0080	---	---	---	---	---
	01-Aug-2014	---	---	---	---	---	---	---	---	1.6	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2014	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Aug-2014	---	---	---	---	---	---	360	7.96	0.76	190	---	---	190	< 0.50	< 2.0	1.2	< 2.0	---	---	---	200	180	1.3	230	< 0.50	< 0.50	0.11	45.6	19	0.014	< 0.010	0.014	0.060	< 0.033	0.057	0.75	---	0.0090	---	---	---	---	---
(Duplicate)	06-Aug-2014	---	---	---	---	---	---	350	7.90	0.65	190	---	---	180	< 0.50	< 2.0	1.1	< 10	---	---	---	260	180	< 1.0	230	< 0.50	< 0.50	0.12	45.1	21	0.014	< 0.010	0.014	0.060	< 0.033	< 0.050	0.69	---	0.0070	---	---	---	---	---
	08-Aug-2014	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2014	---	---	---	---	---	---	---	---	3.7	---	---	---	---	---	---	---	---	---	---	---	---	---	9.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2014	---	---	---	---	---	---	360	8.13	1.4	180	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	200	170	3.3	220	< 0.50	< 0.50	0.16	43.5	19	0.074	< 0.010	0.074	0.33	< 0.033	0.13	0.56	---	0.0080	---	---	---	---	---
(Duplicate)	13-Aug-2014	---	---	---	---	---	---	380	8.30	1.6	180	---	---	180	< 0.50	< 2.0	< 1.0	< 50	---	---	---	250	170	1.3	220	< 0.50	< 0.50	0.16	43.3	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.064	0.53	---	0.0070	---	---	---	---	---
	15-Aug-2014	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Aug-2014	---	---	---	---	---	---	460	7.96	0.37	270	262	275	210	< 0.50	< 2.0	2.1	33	---	---	---	310	260	< 1.0	260	< 0.50	< 0.50	0.19	49.8	26	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	4.9	---	0.0060	3.89	0.045	0.494	50.5	< 0.010
(Duplicate)	19-Aug-2014	---	---	---	---	---	---	460	7.96	0.48	250	259	249	210	< 0.50	< 2.0	2.0	32	---	---	---	300	250	< 1.0	260	< 0.50	< 0.50	0.18	49.6	25	< 0.020	< 0.020	< 0.020	< 0.089	< 0.066	< 0.050	0.71	---	0.0060	3.09	0.046	0.484	51.8	< 0.010
	21-Aug-2014	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Aug-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2014	---	---	---	---	---	---	---	---	0.40	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Aug-2014	---	---	---	---	---	---	470	7.92	0.45	260	---	---	210	< 0.50	< 2.0	2.5	39	---	---	---	280	260	1.3	260	< 0.50	< 0.50	0.16	47.9	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.077	0.69	---	0.0070	---	---	---	---	---
(Duplicate)	27-Aug-2014	---	---	---	---	---	---	470	7.96	0.49	260	---	---	210	< 0.50	< 2.0	2.6	39	---	---	---	300	260	2.0	260	< 0.50	< 0.50	0.17	50.9	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.20	0.40	---	0.0050	---	---	---	---	---
	29-Aug-2014	---	---	---	---	---	---	---	---	0.72	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Aug-2014	---	---	---	---	---	---	---	---	0.46	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2014	---	---	---	---	---	---	420	7.86	0.45	230	---	---	210	< 0.50	< 2.0	2.0	9.6	---	---	---	300	220	< 1.0	250	< 0.50	< 0.50	0.14	48.8	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.73	---	0.0080	---	---	---	---	---
(Duplicate)	04-Sep-2014	---	---	---	---	---	---	420	7.76	0.66	240	---	---	210	< 0.50	< 2.0	2.0	8.5	---	---	---	280	220	< 1.0	250	< 0.50	< 0.50	0.14	49.4	22	< 0.010	0.016	0.016	< 0.044	0.053	0.064	0.67	---	0.0080	---	---	---	---	---
	06-Sep-2014	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2014	---	---	---	---	---	---	---	---	0.71	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2014	---	---	---	---	---	---	460	7.90	0.67	250	---	---	200	< 0.50	< 2.0	2.2	38	---	---	---	310	250	< 1.0	250	< 0.50	< 0.50	0.15	49.7	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.54	---	0.0030	---	---	---	---	---
(Duplicate)	10-Sep-2014	---	---	---	---	---	---	460	7.94	0.74	250	---	---	200	< 0.50	< 2.0	2.3	38	---	---	---	310	260	< 1.0	250	< 0.50	< 0.50	0.15	53.2	25	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.54	---	0.0030	---	---	---	---	---
	13-Sep-2014	---	---	---	---	---	---	---	---	0.45	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2014	---	---	---	---	---	---	430	7.82	0.78	230	247	233	210	< 0.50	< 2.0	1.8	25	---	---	---	260	240	< 1.0	250	< 0.50	< 0.50	0.15	49.1	21	0.011	< 0.010	0.011	0.046	< 0.033	< 0.050	0.55	---	0.0030	2.97	0.030	0.301	38.0	< 0.010
(Duplicate)	17-Sep-2014	---	---	---	---	---	---	430	7.78	1.0	230	247	232	200	< 0.50	< 2.0	1.7	24	---	---	---	260	230	< 1.0	250	< 0.50	< 0.50	0.15	49.8	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.54	---	0.0040	2.98	0.024	0.281	37.9	< 0.010
	19-Sep-2014	---	---	---	---	---	---	---	---	0.90	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Sep-2014	---	---	---	---	---	---	---	---	0.73	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2014	---	---	---	---	---	---	---	---	0.36	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Sep-2014	---	---	---	---	---	---	420	7.98	0.54	230	---	---	200	< 0.50	< 2.0	2.0	13	---	---	---	250	220	1.3	250	< 0.50	< 0.50	0.16	48.3	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.54	---	0.0060	---	---	---	---	---
(Duplicate)	24-Sep-2014	---	---	---	---	---	---	420	7.90	0.45	230	---	---	210	< 0.50	< 2.0	1.9	13	---	---	---	210	220	1.3	250	< 0.50	< 0.50	0.16	49.7	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.54	---	0.0070	---	---	---	---	---
	26-Sep-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2014	---	---	---	---	---	---	---	---	0.49	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Oct-2014	---	---	---	---	---	---	390	7.99	0.66	210	---	---	190	< 0.50	< 2.0	1.7	11	---	---	---	210	200	< 1.0	230	< 0.50	< 0.50	0.16	46	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.57	---	0.0030	---	---	---	---	---
(Duplicate)	01-Oct-2014	---	---	---	---	---	---	390	7.94	0.55	210	---	---	190	< 0.50	< 2.0	1.8	10	---	---	---	250	200	< 1.0	230	< 0.50	< 0.50	0.17	46	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.52	---	0.0030	---	---	---	---	---
	04-Oct-2014	---	---	---	---	---	---	---	---	0.41	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2014	---	---	---	---	---	---	---	---	0.52	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2014	---	---	---	---	---	---	390	7.82	0.33	220	---	---	190	< 0.50	< 2.0	1.7	11	---	---	---	240	210	< 1.0	230	< 0.50	< 0.50	0.15	47	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.48	---	0.0040	---	---	---	---	---
(Duplicate)	09-Oct-2014	---	---	---	---	---	---	400	7.90	0.32	220	---	---	190	< 0.50	< 2.0	1.6	11	---	---	---	260	210	< 1.0	230	< 0.50	< 0.50	0.14	46	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.46	---	0.0040	---	---	---	---	---
	11-Oct-2014	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Metals and Trace Elements | | | | | | | | | | | | | | | | | | |

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																				
Monitoring Station	Date (dd-mmm-yyyy)	Total Molybdenum (ug/L)	Total Nickel (ug/L)	Total Potassium (ug/L)	Total Selenium (ug/L)	Total Silicon (ug/L)	Total Silver (ug/L)	Total Sodium (ug/L)	Total Strontium (ug/L)	Total Sulphur (ug/L)	Total Thallium (ug/L)	Total Tin (ug/L)	Total Titanium (ug/L)	Total Uranium (ug/L)	Total Vanadium (ug/L)	Total Zinc (ug/L)	Total Zirconium (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m & p-Xylene (ug/L)	o-Xylene (ug/L)	Xylenes-Total (ug/L)	PHC F4 (C34-C50+) (ug/L)	PHC F1 (C6-C10) (ug/L)	PHC F1 (C6-C10) - BTEX (ug/L)	PHC F2 (C10-C16) (ug/L)	PHC F3 (C16-C34) (ug/L)	Naphthenic acids (mg/L)	2-Methylnaphthalene (ug/L)	1-Methylnaphthalene (ug/L)	Acenaphthylene (ug/L)	Acenaphthene (ug/L)	Acridine (ug/L)	Anthracene (ug/L)	Benzo[a]anthracene (ug/L)	Benzo[a]pyrene (ug/L)	Benzo[a]pyrene equivalency (ug/L)	Benzo[b&j]fluoranthene (ug/L)	Benzo[c]phenanthrene (ug/L)	Benzo[e]pyrene (ug/L)	Benzo[g,h,i]perylene (ug/L)	Benzo[k]fluoranthene (ug/L)	Biphenyl (ug/L)	C1benzobjkfluoranthene/benzoapyrene (ug/L)	C1-Substituted Acenaphthene (ug/L)	C1-Substituted Benzo[a]anthracene/Chrysene (ug/L)	C1-Substituted Biphenyl (ug/L)	C1-Substituted Dibenzothiophene (ug/L)	C1-Substituted Fluoranthene/Pyrene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	370	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	700	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		73	41	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		73	78	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
	02-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-May-2014	0.232	0.125	1280	< 0.040	1630	< 0.0050	1610	54.5	< 3000	< 0.0020	< 0.20	< 0.50	0.0160	< 0.20	2.18	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	330	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	20-May-2014	0.121	0.148	1260	< 0.040	1630	< 0.0050	1600	56.4	< 3000	< 0.0020	< 0.20	< 0.50	0.0160	< 0.20	0.47	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2014	< 0.050	0.248	345	< 0.040	4260	< 0.0050	1660	67.2	< 3000	< 0.0020	< 0.20	< 0.50	0.0090	< 0.20	0.75	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	25-Jun-2014	< 0.050	0.340	359	< 0.040	4400	< 0.0050	1610	70.2	< 3000	< 0.0020	< 0.20	< 0.50	0.0090	< 0.20	2.10	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	27-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2014	< 0.050	0.134	100	< 0.040	6180	< 0.0050	1390	72.8	< 3000	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	0.36	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	22-Jul-2014	< 0.050	0.131	100	< 0.040	6200	< 0.0050	1310	68.2	< 3000	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	0.39	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	24-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Aug-2014	0.847	0.656	3310	0.074	7000	< 0.0050	2700	107	10600	< 0.0020	< 0.20	< 0.50	0.239	< 0.20	0.75	0.11	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	19-Aug-2014	0.855	0.592	3270	0.086	7060	< 0.0050	2660	107	10400	< 0.0020	< 0.20	< 0.50	0.229	< 0.20	0.33	0.12	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	21-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2014	0.588	0.649	2230	0.064	5590	< 0.0050	2470	97.0	7400	< 0.0020	< 0.20	< 0.50	0.330	< 0.20	0.28	0.11	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	17-Sep-2014	0.548	0.700	2150	0.046	5600	< 0.0050	2550	98.3	7000	< 0.0020	< 0.20	< 0.50	0.328	< 0.20	0.32	0.12	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	19-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																																				
Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(e,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [41]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [42]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [43]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [44]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																						
	02-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	20-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	25-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	27-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	22-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	24-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Jul-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	19-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	21-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Aug-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	17-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	19-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

WB3

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																																												
	13-Oct-2014	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	3.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Oct-2014	---	---	---	---	---	---	390	7.94	2.1	210	216	212	200	< 0.50	< 2.0	1.6	6.7	---	---	---	210	200	4.0	240	< 0.50	< 0.50	0.14	49	17	0.014	< 0.010	0.014	0.061	< 0.033	< 0.050	0.36	---	0.0030	2.60	< 0.020	0.178	35.0	< 0.010
(Duplicate)	15-Oct-2014	---	---	---	---	---	---	390	7.94	0.59	210	220	213	200	< 0.50	< 2.0	1.6	6.3	---	---	---	250	200	< 1.0	240	< 0.50	< 0.50	0.13	48	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.32	---	0.0050	2.68	< 0.020	0.184	34.4	< 0.010
	17-Oct-2014	---	---	---	---	---	---	---	---	0.63	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Oct-2014	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2014	---	---	---	---	---	---	390	8.02	0.76	210	---	---	200	< 0.50	< 2.0	1.5	10	---	---	---	240	210	1.3	240	< 0.50	< 0.50	0.14	48	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	1.0	---	0.0050	---	---	---	---	---
(Duplicate)	22-Oct-2014	---	---	---	---	---	---	390	8.03	0.72	220	---	---	210	< 0.50	< 2.0	1.6	10	---	---	---	240	220	1.3	250	< 0.50	< 0.50	0.14	48	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.39	---	0.0050	---	---	---	---	---
	25-Oct-2014	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2014	---	---	---	---	---	---	---	---	0.63	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Oct-2014	---	---	---	---	---	---	360	7.84	0.56	190	---	---	170	< 0.50	< 2.0	1.8	2.1	---	---	---	230	180	2.0	210	< 0.50	< 0.50	0.13	42	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.054	0.42	---	0.0050	---	---	---	---	---
(Duplicate)	29-Oct-2014	---	---	---	---	---	---	360	7.81	0.60	200	---	---	180	< 0.50	< 2.0	2.1	1.7	---	---	---	230	180	1.3	210	< 0.50	< 0.50	0.13	42	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.60	---	0.0040	---	---	---	---	---
	31-Oct-2014	---	---	---	---	---	---	---	---	0.67	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2014	---	---	---	---	---	---	370	8.09	0.28	200	---	---	190	< 0.50	< 2.0	2.2	7.7	---	---	---	200	200	< 1.0	230	< 0.50	< 0.50	0.16	44	17	0.031	< 0.010	0.031	0.14	< 0.033	< 0.050	0.52	---	0.0050	---	---	---	---	---
(Duplicate)	03-Nov-2014	---	---	---	---	---	---	370	8.09	0.26	210	---	---	180	< 0.50	< 2.0	2.5	4.1	---	---	---	240	190	< 1.0	220	< 0.50	< 0.50	0.16	44	16	0.016	< 0.010	0.016	0.069	< 0.033	< 0.050	0.40	---	0.0040	---	---	---	---	---
	06-Nov-2014	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Nov-2014	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Nov-2014	---	---	---	---	---	---	450	7.74	1.9	270	---	---	240	< 0.50	2.1	1.7	8.4	---	---	---	310	250	3.3	290	< 0.50	< 0.50	0.15	57	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.74	---	0.0050	---	---	---	---	---
(Duplicate)	09-Nov-2014	---	---	---	---	---	---	460	7.90	2.8	260	---	---	230	< 0.50	< 2.0	1.7	10	---	---	---	290	240	5.3	280	< 0.50	< 0.50	0.16	57	17	0.011	< 0.010	0.011	0.048	< 0.033	0.052	0.57	---	0.0040	---	---	---	---	---
	13-Nov-2014	---	---	---	---	---	---	---	---	1.6	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2014	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Nov-2014	---	---	---	---	---	---	500	7.56	0.88	250	275	253	260	< 0.50	3.0	2.4	5.1	---	---	---	310	250	< 1.0	310	< 0.50	< 0.50	0.16	61	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.12	0.62	---	0.0080	3.91	< 0.020	0.263	48.4	< 0.010
(Duplicate)	18-Nov-2014	---	---	---	---	---	---	500	7.51	1.1	270	274	266	260	< 0.50	3.1	2.5	4.6	---	---	---	330	260	< 1.0	320	< 0.50	< 0.50	0.17	60	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.11	0.60	---	0.0070	3.68	< 0.020	0.246	47.8	< 0.010
	20-Nov-2014	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Nov-2014	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Nov-2014	---	---	---	---	---	---	510	7.46	1.4	300	---	---	260	< 0.50	3.4	2.1	7.8	---	---	---	300	280	< 1.0	310	< 0.50	< 0.50	0.21	65	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.14	0.59	---	0.011	---	---	---	---	---
(Duplicate)	25-Nov-2014	---	---	---	---	---	---	510	7.38	1.5	310	---	---	260	< 0.50	3.4	1.9	7.9	---	---	---	380	280	< 1.0	320	< 0.50	< 0.50	0.16	66	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.14	0.53	---	0.012	---	---	---	---	---
	27-Nov-2014	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2014	---	---	---	---	---	---	---	---	5.8	---	---	---	---	---	---	---	---	---	---	---	---	---	6.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Dec-2014	---	---	---	---	---	---	---	---	3.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2014	---	---	---	---	---	---	560	7.59	2.5	320	---	---	290	< 0.50	3.6	2.7	< 1.0	---	---	---	350	300	< 1.0	360	< 0.50	< 0.50	0.17	70	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.18	0.68	---	0.012	---	---	---	---	---
(Duplicate)	03-Dec-2014	---	---	---	---	---	---	540	7.55	3.1	300	---	---	290	< 0.50	3.7	2.7	< 1.0	---	---	---	300	290	1.3	350	< 0.50	< 0.50	0.16	70	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.19	0.64	---	0.012	---	---	---	---	---
	06-Dec-2014	---	---	---	---	---	---	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2014	---	---	---	---	---	---	580	7.63	2.4	320	329	318	290	< 0.50	4.5	2.8	< 1.0	---	---	---	340	300	1.3	360	< 0.50	< 0.50	0.17	70	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.20	1.2	---	0.011	3.39	< 0.020	0.300	66.7	< 0.010
(Duplicate)	09-Dec-2014	---	---	---	---	---	---	580	7.53	2.6	320	330	320	290	< 0.50	4.1	1.6	< 1.0	---	---	---	340	300	< 1.0	360	< 0.50	< 0.50	0.17	70	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.22	0.83	---	0.012	3.43	< 0.020	0.314	68.6	< 0.010
	11-Dec-2014	---	---	---	---	---	---	---	---	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Dec-2014	---	---	---	---	---	---	---	---	3.4	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Dec-2014	---	---	---	---	---	---	560	7.56	4.3	300	---	---	290	< 0.50	5.0	2.1	< 1.0	---	---	---	300	280	1.3	350	< 0.50	< 0.50	0.16	69	22	0.029	0.013	0.042	0.13	0.042	**0.61** [#3,4]	0.78	---	0.020	---	---	---	---	---
(Duplicate)	16-Dec-2014	---	---	---	---	---	---	560	7.57	4.5	300	---	---	280	< 0.50	5.8	2.2	< 1.0	---	---	---	340	280	1.3	350	< 0.50	< 0.50	0.16	69	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.28	0.87	---	0.020	---	---	---	---	---
	18-Dec-2014	---	---	---	---	---	---	---	---	4.4	---	---	---	---	---	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Dec-2014	---	---	---	---	---	---	---	---	4.3	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Dec-2014	---	---	---	---	---	---	580	7.59	4.4	320	---	---	290	< 0.50	6.9	2.0	< 1.0	---	---	---	350	290	< 1.0	350	< 0.50	< 0.50	0.17	72	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.36** [#3]	0.86	---	0.016	---	---	---	---	---
(Duplicate)	22-Dec-2014	---	---	---	---	---	---	590	7.67	4.3	310	---	---	290	< 0.50	7.4	2.2	< 1.0	---	---	---	330	290	1.3	350	< 0.50	< 0.50	0.17	70	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.34** [#3]	0.87	---	0.017	---	---	---	---	---
	25-Dec-2014	---	---	---	---	---	---	---	---	6.1	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Dec-2014	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Dec-2014	---	---	---	---	---	---	610	7.43	8.4	350	---	---	310	< 0.50	9.2	2.3	< 1.0	---	---	---	310	320	1.3	380	< 0.50	< 0.50	0.19	72	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.42** [#3]	1.1	---	0.015	---	---	---	---	---
(Duplicate)	30-Dec-2014	---	---	---	---	---	---	620	7.38	8.9	350	---	---	310	< 0.50	6.8	2.3	< 1.0	---	---	---	240	320	3.3	380	< 0.50	< 0.50	0.20	73	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.40** [#3]	1.1	---	0.014	---	---	---	---	---
	01-Jan-2015	---	---	---	---	---	---	---	---	18	---	---	---	---	---	---	---	---	---	---	---	---	---	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2015	---	---	---	---	---	---	---	---	18	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jan-2015	---	---	---	---	---	---	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2015	---	---	---	---	---	---	650	7.49	8.4	360	---	---	340	< 0.50	5.0	2.5	< 100	---	---	---	380	340	3.1	410	< 0.50	< 0.50	0.22	95	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.56** [#3,4]	1.0	---	0.012	---	---	---	---	---
(Duplicate)	07-Jan-2015	---	---	---	---	---	---	640	7.49	7.4	360	---	---	340	< 0.50	6.0	2.6	< 100	---	---	---	410	340	2.6	410	< 0.50	< 0.50	0.20	91	24	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.58** [#3,4]	1.1	---	0.012	---	---	---	---	---
	10-Jan-2015	---	---	---	---	---	---	---	---	9.8	---	---	---	---	---	---	---	---	---	---	---	---	---	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2015	---	---	---	---	---	---	710	7.33	9.5	380	377	384	360	< 0.50	11	2.9	< 1.0	---	---	---	400	370	3.5	440	< 0.50	< 0.50	0.23	98	24	0.017	< 0.010	0.017	0.075	< 0.033	**0.79** [#3,4]	1.3	---	0.025	21.2	0.029	0.410	88.1	< 0.010
(Duplicate)	13-Jan-2015	---	---	---	---	---	---	710	7.40	9.7	380	417	382	370	< 0.50	11	2.9	< 1.0	---	---	---	420	370	3.8	450	< 0.50	< 0.50	0.22	95	25	0.016	< 0.010	0.016	0.071	< 0.033	**0.64** [#3,4]	1.2	---	0.014	21.6	0.027	0.421	85.0	< 0.010
	15-Jan-2015	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2015	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jan-2015	---	---	---	---	---	---	690	7.36	7.1	370	---	---	350	< 0.50	5.4	3.0	< 1.0	---	---	---	360	350	13	430	< 0.50	< 0.50	0.21	87	21	0.018	< 0.010	0.018	0.078	< 0.033	**0.69** [#3,4]	1.5	---	0.024	---	---	---	---	---
(Duplicate)	20-Jan-2015	---	---	---	---	---	---	690	7.44	6.9	360	---	---	360	< 0.50	5.9	2.3	< 1.0	---	---	---	390	350	11	430	< 0.50	< 0.50	0.21	86	21	0.015	< 0.010	0.015	0.068	< 0.033	**0.68** [#3,4]	1.5	---	0.020	---	---	---	---	---
	22-Jan-2015	---	---	---	---	---	---	---	---	8.5	---	---	---	---	---	---	---	---	---	---	---	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2015	---	---	---	---	---	---	---	---	5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	3.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jan-2015	---	---	---	---	---	---	630	7.32	6.8	340	---	---	320	< 0.50	5.5	2.2	3.4	---	---	---	400	320	3.5	390	< 0.50	< 0.50	0.18	81	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.62** [#3,4]	1.4	---	0.020	---	---	---	---	---
(Duplicate)	27-Jan-2015	---	---	---	---	---	---	630	7.33	6.2	350	---	---	320	< 0.50	7.0	2.2	3.4	---	---	---	380	330	7.5	390	< 0.50	< 0.50	0.19	81	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.59** [#3,4]	1.4	---	0.019	---	---	---	---	---
	29-Jan-2015	---	---	---	---	---	---	---	---	12	---	---	---	---	---	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2015	---	---	---	---	---	---	---	---	17	---	---	---	---	---	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Feb-2015	---	---	---	---	---	---	680	7.59	19	360	---	---	350	< 0.50	6.2	1.9	< 1.0	---	---	---	350	350	12	430	< 0.50	< 0.50	0.18	90	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.90** [#3,4]	1.5	---	0.0070	---	---	---	---	---
(Duplicate)	02-Feb-2015	---	---	---	---	---	---	690	7.57	18	360	---	---	360	< 0.50	5.2	1.7	< 1.0	---	---	---	330	350	13	440	< 0.50	< 0.50	0.19	89	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.86** [#3,4]	1.6	---	0.0060	---	---	---	---	---
	05-Feb-2015	---	---	---	---	---	---	---	---	29	---	---	---	---	---	---	---	---	---	---	---	---	---	41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2015	---	---	---	---	---	---	---	---	30	---	---	---	---	---	---	---	---	---	---	---	---	---	9.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2015	---	---	---	---	---	---	690	7.30	6.9	340	365	343	350	< 0.50	10	2.1	< 1.0	---	---	---	400	340	2.5	430	< 0.50	< 0.50	0.20	90	18	0.017	< 0.010	0.017	0.075	< 0.033	**0.89** [#3,4]	1.4	---	0.038	5.34	< 0.020	0.210	74.4	< 0.010
(Duplicate)	10-Feb-2015	---	---	---	---	---	---	690	7.27	7.0	350	370	351	350	< 0.50	12	2.1	< 1.0	---	---	---	320	340	2.1	430	< 0.50	< 0.50	0.20	91	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.0** [#3,4]	1.5	---	0.027	7.62	< 0.020	0.208	74.0	< 0.010
	12-Feb-2015	---	---	---	---	---	---	---	---	9.3	---	---	---	---	---	---	---	---	---	---	---	---	---	9.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Feb-2015	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2015	---	---	---	---	---	---	670	7.42	19	370	---	---	350	< 0.50	15	1.8	< 1.0	---	---	---	400	350	< 1.0	430	< 0.50	< 0.50	0.19	86	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.0** [#3,4]	1.5	---	0.074	---	---	---	---	---
(Duplicate)	17-Feb-2015	---	---	---	---	---	---	670	7.23	18	360	---	---	350	< 0.50	15	2.0	< 1.0	---	---	---	370	350	< 1.0	430	< 0.50	< 0.50	0.19	87	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.0** [#3,4]	1.6	---	0.068	---	---	---	---	---
	19-Feb-2015	---	---	---	---	---	---	---	---	19	---	---	---	---	---	---	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Feb-2015	---	---	---	---	---	---	---	---	23	---	---	---	---	---	---	---	---	---	---	---	---	---	6.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2015	---	---	---	---	---	---	710	7.42	29	380	---	---	370	< 0.50	11	2.0	< 1.0	---	---	---	420	370	< 1.0	460	< 0.50	< 0.50	0.22	93	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.91** [#3,4]	1.4	---	0.046	---	---	---	---	---
(Duplicate)	24-Feb-2015	---	---	---	---	---	---	700	7.38	28	360	---	---	390	< 0.50	13	1.7	< 1.0	---	---	---	410	370	1.4	470	< 0.50	< 0.50	0.22	92	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.91** [#3,4]	1.5	---	0.051	---	---	---	---	---
	26-Feb-2015	---	---	---	---	---	---	---	---	32	---	---	---	---	---	---	---	---	---	---	---	---	---	3.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2015	---	---	---	---	---	---	---	---	39	---	---	---	---	---	---	---	---	---	---	---	---	---	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2015	---	---	---	---	---	---	720	7.45	34	390	---	---	390	< 0.50	13	1.4	< 1.0	---	---	---	390	380	3.3	470	< 0.50	< 0.50	0.22	93	19	0.037	< 0.010	0.037	0.16	< 0.033	**0.85** [#3,4]	1.4	---	0.042	---	---	---	---	---
(Duplicate)	02-Mar-2015	---	---	---	---	---	---	720	7.46	32	390	---	---	380	< 0.50	13	1.8	< 1.0	---	---	---	410	370	4.7	470	< 0.50	< 0.50	0.22	92	18	0.037	< 0.010	0.037	0.16	< 0.033	**0.84** [#3,4]	1.4	---	0.034	---	---	---	---	---
	05-Mar-2015	---	---	---	---	---	---	---	---	35	---	---	---	---	---	---	---	---	---	---	---	---	---	6.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2015	---	---	---	---	---	---	---	---	36	---	---	---	---	---	---	---	---	---	---	---	---	---	11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Mar-2015	---	---	---	---	---	---	750	7.23	38	360	373	361	410	< 0.50	15	2.4	< 1.0	---	---	---	430	390	2.5	500	< 0.50	< 0.50	0.24	110	19	0.017	< 0.010	0.017	0.073	< 0.033	**1.1** [#3,4]	1.5	---	0.022	5.10	< 0.020	0.240	97.2	< 0.010
(Duplicate)	10-Mar-2015	---	---	---	---	---	---	750	7.22	34	350	392	347	380	< 0.50	13	2.3	< 1.0	---	---	---	410	360	2.9	470	< 0.50	< 0.50	0.24	110	21	0.014	< 0.010	0.014	0.061	< 0.033	**1.2** [#3,4]	1.6	---	0.023	9.30	< 0.020	0.267	94.7	< 0.010
	12-Mar-2015	---	---	---	---	---	---	---	---	27	---	---	---	---	---	---	---	---	---	---	---	---	---	7.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2015	---	---	---	---	---	---	---	---	15	---	---	---	---	---	---	---	---	---	---	---	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2015	---	---	---	---	---	---	590	7.41	4.3	300	---	---	290	< 0.50	5.3	2.6	< 1.0	---	---	---	320	290	< 1.0	360	< 0.50	< 0.50	0.18	74	13	0.010	< 0.010	0.010	0.045	< 0.033	**0.59** [#3,4]	1.0	---	0.026	---	---	---	---	---
(Duplicate)	17-Mar-2015	---	---	---	---	---	---	590	7.26	4.5	310	---	---	300	< 0.50	9.4	2.5	< 1.0	---	---	---	330	300	< 1.0	370	< 0.50	< 0.50	0.18	75	13	0.010	< 0.010	0.010	0.046	< 0.033	**0.55** [#3,4]	1.1	---	0.026	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Metals and Trace Elements | | | | | | | | | | | | | | | | | | |

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																				
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
	13-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Oct-2014	0.281	0.306	1690	< 0.040	5560	< 0.0050	2380	89.2	3500	< 0.0020	< 0.20	< 0.50	0.150	< 0.20	0.32	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Oct-2014	0.298	0.305	1690	< 0.040	5620	< 0.0050	2480	87.5	3300	< 0.0020	< 0.20	0.54	0.146	< 0.20	0.44	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Nov-2014	0.272	0.411	2160	< 0.040	6840	< 0.0050	3160	101	3700	< 0.0020	< 0.20	< 0.50	0.198	< 0.20	0.45	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	18-Nov-2014	0.266	0.612	2050	0.040	6770	< 0.0050	3040	101	3200	< 0.0020	< 0.20	< 0.50	0.194	< 0.20	0.62	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2014	0.240	0.444	2590	0.048	8000	< 0.0050	4060	124	< 3000	< 0.0020	< 0.20	< 0.50	0.166	< 0.20	0.70	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	09-Dec-2014	0.244	0.434	2510	< 0.040	8370	< 0.0050	3800	122	3400	< 0.0020	< 0.20	< 0.50	0.162	< 0.20	0.71	< 0.10	0.83	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	11-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2015	0.113	0.454	3070	0.063	10500	< 0.0050	4440	159	< 3000	< 0.0020	< 0.20	< 0.50	0.150	< 0.20	2.16	0.11	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	13-Jan-2015	0.137	0.510	3440	0.066	10600	< 0.0050	4880	171	< 3000	< 0.0020	< 0.20	0.58	0.144	< 0.20	5.13	0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	15-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2015	< 0.050	0.311	2640	< 0.040	12000	< 0.0050	4130	152	< 3000	< 0.0020	< 0.20	< 0.50	0.0389	< 0.20	4.54	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	10-Feb-2015	< 0.050	0.276	2710	< 0.040	11600	< 0.0050	4100	156	< 3000	< 0.0020	< 0.20	< 0.50	0.0368	< 0.20	3.52	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	12-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Mar-2015	< 0.050	0.270	3250	< 0.040	13100	< 0.0050	5390	171	< 3000	0.0026	< 0.20	0.86	0.0233	< 0.20	4.26	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	10-Mar-2015	< 0.050	0.409	3330	< 0.040	14000	< 0.0050	5650	181	< 3000	0.0020	< 0.20	2.22	0.0272	< 0.20	5.41	0.19	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	12-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																				
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(j)fluoranthene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(e,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [41]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [42]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [43]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [44]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																																						
	13-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	18-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	09-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	< 0.10	< 0.10	< 0.10	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	11-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Dec-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	15-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	10-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	12-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	10-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	12-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Field Parameters: Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Conventional Parameters: Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Carbon: Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrogen Parameters: Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Phosphorus: Orthophosphate (P)	Dissolved Metals and Trace Elements: Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																																												
	19-Mar-2015	---	---	---	---	---	---	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	5.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Mar-2015	---	---	---	---	---	---	---	---	9.7	---	---	---	---	---	---	---	---	---	---	---	---	---	8.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2015	---	---	---	---	---	---	630	7.40	10	350	---	---	340	< 0.50	18	3.2	< 1.0	---	---	---	360	340	5.0	410	< 0.50	< 0.50	0.21	84	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.45 [#3]	0.87	---	0.033	---	---	---	---	---
(Duplicate)	24-Mar-2015	---	---	---	---	---	---	630	7.37	10	360	---	---	330	< 0.50	13	2.0	< 1.0	---	---	---	370	340	5.0	400	< 0.50	< 0.50	0.22	83	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.46 [#3]	0.75	---	0.029	---	---	---	---	---
	26-Mar-2015	---	---	---	---	---	---	---	---	6.6	---	---	---	---	---	---	---	---	---	---	---	---	---	5.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2015	---	---	---	---	---	---	---	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	2.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2015	---	---	---	---	---	---	280	7.75	1.9	140	---	---	130	< 0.50	8.3	2.8	< 1.0	---	---	---	150	140	< 1.0	160	< 0.50	< 0.50	0.081	35	12	0.011	< 0.010	0.011	0.047	< 0.033	0.24	0.76	---	0.017	---	---	---	---	---
(Duplicate)	31-Mar-2015	---	---	---	---	---	---	280	7.80	1.8	140	---	---	130	< 0.50	9.2	2.7	< 1.0	---	---	---	160	140	< 1.0	160	< 0.50	< 0.50	0.076	36	12	0.013	< 0.010	0.013	0.058	< 0.033	0.26	0.83	---	0.017	---	---	---	---	---
	02-Apr-2015	---	---	---	---	---	---	---	---	0.92	---	---	---	---	---	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2015	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Apr-2015	---	---	---	---	---	---	390	7.54	1.6	220	---	---	200	< 0.50	3.3	1.9	< 1.0	---	---	---	190	200	< 1.0	240	< 0.50	< 0.50	0.12	50	9.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.11	0.49	---	0.014	---	---	---	---	---
(Duplicate)	07-Apr-2015	---	---	---	---	---	---	400	7.46	1.7	220	---	---	200	< 0.50	4.3	2.0	< 1.0	---	---	---	220	200	1.9	240	< 0.50	< 0.50	0.12	49	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.097	0.49	---	0.015	---	---	---	---	---
	09-Apr-2015	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2015	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2015	---	---	---	---	---	---	300	7.70	1.7	160	161	161	150	< 0.50	2.4	1.2	< 1.0	---	---	---	170	150	12	180	< 0.50	< 0.50	0.10	38	9.6	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.11	0.75	---	0.011	1.73	< 0.020	0.130	35.4	< 0.010
(Duplicate)	14-Apr-2015	---	---	---	---	---	---	300	7.66	1.4	160	158	163	150	< 0.50	2.2	1.2	< 1.0	---	---	---	160	150	9.2	180	< 0.50	< 0.50	0.10	40	9.4	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.099	0.60	---	0.012	5.92	0.032	0.122	34.5	< 0.010
	16-Apr-2015	---	---	---	---	---	---	---	---	1.2	---	---	---	---	---	---	---	---	---	---	---	---	---	5.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2015	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	4.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2015	---	---	---	---	---	---	280	7.91	0.74	160	---	---	140	< 0.50	< 2.0	2.4	< 1.0	---	---	---	160	140	< 1.0	170	< 0.50	< 0.50	0.10	35	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.45	---	0.018	---	---	---	---	---
(Duplicate)	21-Apr-2015	---	---	---	---	---	---	280	8.00	0.78	150	---	---	140	< 0.50	< 2.0	1.6	< 1.0	---	---	---	160	140	< 1.0	170	< 0.50	< 0.50	0.10	35	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.52	---	0.018	---	---	---	---	---
	23-Apr-2015	---	---	---	---	---	---	---	---	0.76	---	---	---	---	---	---	---	---	---	---	---	---	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2015	---	---	---	---	---	---	---	---	0.68	---	---	---	---	---	---	---	---	---	---	---	---	---	4.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2015	---	---	---	---	---	---	290	7.87	0.80	170	---	---	150	< 0.50	< 2.0	1.5	< 1.0	---	---	---	170	150	< 1.0	180	< 0.50	< 0.50	0.12	38	8.8	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.33	---	0.0050	---	---	---	---	---
(Duplicate)	28-Apr-2015	---	---	---	---	---	---	290	7.89	0.51	160	---	---	140	< 0.50	< 2.0	1.4	< 1.0	---	---	---	170	150	1.5	180	< 0.50	< 0.50	0.11	38	9.4	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.32	---	0.0040	---	---	---	---	---
	30-Apr-2015	---	---	---	---	---	---	---	---	0.46	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-May-2015	---	---	---	---	---	---	---	---	0.41	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-May-2015	---	---	---	---	---	---	---	---	0.34	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2015	---	---	---	---	---	---	320	8.03	0.47	170	---	---	160	< 0.50	< 2.0	1.3	< 1.0	---	---	---	160	160	< 1.0	190	< 0.50	< 0.50	0.12	40	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.36	---	0.0060	---	---	---	---	---
(Duplicate)	06-May-2015	---	---	---	---	---	---	320	8.00	0.38	170	---	---	160	< 0.50	< 2.0	1.3	< 1.0	---	---	---	180	160	< 1.0	190	< 0.50	< 0.50	0.11	41	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.41	---	0.0060	---	---	---	---	---
	09-May-2015	---	---	---	---	---	---	---	---	0.49	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-May-2015	---	---	---	---	---	---	340	7.93	0.61	200	182	199	190	< 0.50	< 2.0	2.3	< 1.0	---	---	---	170	190	12	230	< 0.50	< 0.50	0.12	43	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.31	---	0.0069	6.22	< 0.020	0.114	31.5	< 0.010
(Duplicate)	11-May-2015	---	---	---	---	---	---	330	7.84	0.41	200	180	199	190	< 0.50	< 2.0	2.5	< 1.0	---	---	---	190	190	1.5	230	< 0.50	< 0.50	0.12	44	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.46	---	0.0078	7.47	0.021	0.117	31.4	< 0.010
	14-May-2015	---	---	---	---	---	---	---	---	0.36	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2015	---	---	---	---	---	---	---	---	0.56	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-May-2015	---	---	---	---	---	---	340	7.99	0.31	180	---	---	170	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.13	43	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.37	---	0.0060	---	---	---	---	---
(Duplicate)	19-May-2015	---	---	---	---	---	---	340	8.07	0.29	180	---	---	170	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.12	44	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.39	---	0.0060	---	---	---	---	---
	21-May-2015	---	---	---	---	---	---	---	---	0.55	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2015	---	---	---	---	---	---	---	---	0.66	---	---	---	---	---	---	---	---	---	---	---	---	---	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2015	---	---	---	---	---	---	360	8.05	2.0	200	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	180	180	1.9	220	< 0.50	< 0.50	0.14	45	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.59	---	0.0070	---	---	---	---	---
(Duplicate)	26-May-2015	---	---	---	---	---	---	360	8.10	2.9	190	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	220	180	2.7	230	< 0.50	< 0.50	0.13	44	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.56	---	0.0074	---	---	---	---	---
	28-May-2015	---	---	---	---	---	---	---	---	0.40	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2015	---	---	---	---	---	---	---	---	0.32	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2015	---	---	---	---	---	---	---	---	0.34	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jun-2015	---	---	---	---	---	---	350	7.90	0.41	200	---	---	180	< 0.50	< 2.0	1.1	< 1.0	---	---	---	190	180	1.8	220	< 0.50	< 0.50	0.14	44	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.35	---	0.0040	---	---	---	---	---
(Duplicate)	04-Jun-2015	---	---	---	---	---	---	350	7.94	0.40	190	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	190	180	< 1.0	220	< 0.50	< 0.50	0.13	47	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.40	---	0.0040	---	---	---	---	---
	06-Jun-2015	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2015	---	---	---	---	---	---	350	7.94	0.53	200	200	196	180	< 0.50	< 2.0	1.1	< 1.0	---	---	---	220	180	< 1.0	220	< 0.50	< 0.50	0.14	47	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.38	---	0.0080	6.12	< 0.020	0.255	39.7	< 0.010
(Duplicate)	09-Jun-2015	---	---	---	---	---	---	360	8.01	0.54	200	201	196	180	< 0.50	< 2.0	1.2	< 1.0	---	---	---	200	180	< 1.0	220	< 0.50	< 0.50	0.14	46	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.0070	5.20	< 0.020	0.232	38.5	< 0.010
	11-Jun-2015	---	---	---	---	---	---	---	---	0.61	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2015	---	---	---	---	---	---	---	---	0.68	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jun-2015	---	---	---	---	---	---	350	8.06	0.38	200	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.14	45	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.47	---	0.0080	---	---	---	---	---
(Duplicate)	16-Jun-2015	---	---	---	---	---	---	350	8.06	0.46	190	---	---	180	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.14	43	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	0.0090	---	---	---	---	---
	18-Jun-2015	---	---	---	---	---	---	---	---	0.61	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jun-2015	---	---	---	---	---	---	---	---	0.58	---	---	---	---	---	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2015	---	---	---	---	---	---	370	8.10	0.96	190	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	180	1.3	230	< 0.50	< 0.50	0.15	47	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.39	---	0.011	---	---	---	---	---
(Duplicate)	23-Jun-2015	---	---	---	---	---	---	370	8.08	0.88	190	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	240	180	1.1	230	< 0.50	< 0.50	0.14	47	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.010	---	---	---	---	---
	25-Jun-2015	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jun-2015	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	7.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2015	---	---	---	---	---	---	---	---	1.6	---	---	---	---	---	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2015	---	---	---	---	---	---	380	7.78	1.3	210	---	---	200	< 0.50	< 2.0	1.3	< 1.0	---	---	---	230	200	< 1.0	240	< 0.50	< 0.50	0.14	50	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.013	---	---	---	---	---
(Duplicate)	02-Jul-2015	---	---	---	---	---	---	390	7.97	1.4	220	---	---	210	< 0.50	< 2.0	1.3	< 1.0	---	---	---	230	210	1.1	260	< 0.50	< 0.50	0.13	50	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.012	---	---	---	---	---
	04-Jul-2015	---	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2015	---	---	---	---	---	---	380	7.91	1.1	210	---	---	210	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	200	< 1.0	250	< 0.50	< 0.50	0.13	49	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.0070	---	---	---	---	---
(Duplicate)	06-Jul-2015	---	---	---	---	---	---	390	8.00	1.2	210	---	---	210	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	210	200	< 1.0	250	< 0.50	< 0.50	0.13	49	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.010	---	---	---	---	---
	09-Jul-2015	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2015	---	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---	---	---	---	---	---	---	---	8.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jul-2015	---	---	---	---	---	---	360	8.08	0.99	190	195	194	190	< 0.50	< 2.0	1.5	< 1.0	---	---	---	230	190	< 1.0	230	< 0.50	< 0.50	0.16	47	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.53	---	0.0080	5.95	< 0.020	0.240	40.0	< 0.010
(Duplicate)	13-Jul-2015	---	---	---	---	---	---	360	8.11	0.85	200	203	196	200	< 0.50	< 2.0	1.5	< 1.0	---	---	---	210	190	< 1.0	240	< 0.50	< 0.50	0.15	47	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.24	---	0.0080	5.29	< 0.020	0.255	40.7	< 0.010
	16-Jul-2015	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	1.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2015	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Jul-2015	---	---	---	---	---	---	370	7.95	0.58	210	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	190	< 1.0	230	< 0.50	< 0.50	0.17	47	15	0.041	< 0.010	0.041	0.18	< 0.033	< 0.050	0.46	---	0.0064	---	---	---	---	---
(Duplicate)	21-Jul-2015	---	---	---	---	---	---	380	7.95	0.60	210	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	220	190	< 1.0	230	< 0.50	< 0.50	0.15	48	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.0065	---	---	---	---	---
	23-Jul-2015	---	---	---	---	---	---	---	---	5.9	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2015	---	---	---	---	---	---	---	---	0.77	---	---	---	---	---	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2015	---	---	---	---	---	---	380	7.97	0.46	210	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	190	< 1.0	230	< 0.50	< 0.50	0.14	47	17	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.41	---	0.0050	---	---	---	---	---
(Duplicate)	28-Jul-2015	---	---	---	---	---	---	380	7.93	0.48	200	---	---	190	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	190	< 1.0	230	< 0.50	< 0.50	0.13	47	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.86	---	0.0053	---	---	---	---	---
	31-Jul-2015	---	---	---	---	---	---	---	---	0.63	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Aug-2015	---	---	---	---	---	---	---	---	0.81	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2015	---	---	---	---	---	---	370	8.35	0.95	210	---	---	210	1.6	< 2.0	1.1	< 1.0	---	---	---	220	200	1.2	250	1.9	< 0.50	0.16	48	17	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.53	---	0.0069	---	---	---	---	---
(Duplicate)	04-Aug-2015	---	---	---	---	---	---	360	8.39	0.79	210	---	---	200	2.5	< 2.0	1.2	< 1.0	---	---	---	230	200	1.0	240	3.0	< 0.50	0.17	50	17	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.53	---	0.011	---	---	---	---	---
	06-Aug-2015	---	---	---	---	---	---	---	---	0.76	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2015	---	---	---	---	---	---	---	---	0.85	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Aug-2015	---	---	---	---	---	---	380	7.97	0.51	200	224	203	200	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	240	190	< 1.0	240	< 0.50	< 0.50	0.14	52.8	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.43	---	0.0054	2.46	< 0.020	0.214	42.9	< 0.010
(Duplicate)	09-Aug-2015	---	---	---	---	---	---	390	7.96	0.53	200	206	202	200	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	240	190	< 1.0	240	< 0.50	< 0.50	0.14	49.2	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.51	---	0.0057	2.18	< 0.020	0.230	41.0	< 0.010
	13-Aug-2015	---	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---	---	12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2015	---	---	---	---	---	---	---	---	1.1	---	---	---	---	---	---	---	---	---	---	---	---	---	6.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Aug-2015	---	---	---	---	---	---	390	8.06	0.50	220	---	---	210	< 0.50	< 2.0	1.1	< 1.0	---	---	---	230	210	< 1.0	260	< 0.50	< 0.50	0.15	48	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.43	---	0.0060	---	---	---	---	---
(Duplicate)	18-Aug-2015	---	---	---	---	---	---	390	8.04	0.57	210	---	---	210	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	230	200	1.1	260	< 0.50	< 0.50	0.15	48	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.0060	---	---	---	---	---
	20-Aug-2015	---	---	---	---	---	---	---	---	0.69	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Aug-2015	---	---	---	---	---	---	---	---	0.68	---	---	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2015	---	---	---	---	---	---	370	7.73	0.78	220	---	---	210	< 0.50	< 2.0	1.6	< 1.0	---	---	---	230	210	1.1	260	< 0.50	< 0.50	0.14	48	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.66	---	0.0040	---	---	---	---	---
(Duplicate)	25-Aug-2015	---	---	---	---	---	---	380	7.83	0.78	220	---	---	200	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	240	200	4.1	250	< 0.50	< 0.50	0.15	47	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.57	---	0.0050	---	---	---	---	---
	27-Aug-2015	---	---	---	---	---	---	---	---	0.98	---	---	---	---	---	---	---	---	---	---	---	---	---	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | |

WB3

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																				
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	370	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	700	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		73	41	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		73	78	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
	19-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2015	0.193	0.52	1960	< 0.040	4850	0.0113	1610	56.6	< 15000	0.0036	< 0.20	< 5.0	0.0659	< 0.50	2.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	14-Apr-2015	0.182	0.54	1910	< 0.040	4720	0.0056	1680	54.5	< 15000	0.0022	< 0.20	< 5.0	0.0566	< 0.50	4.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	16-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-May-2015	0.175	0.146	1400	< 0.040	2750	< 0.0050	1770	67.0	< 3000	< 0.0020	< 0.20	< 0.50	0.0665	< 0.20	0.90	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	11-May-2015	0.175	0.143	1420	< 0.040	2880	< 0.0050	1750	69.7	< 3000	< 0.0020	< 0.20	< 0.50	0.0669	< 0.20	0.69	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	14-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2015	0.088	0.245	884	< 0.040	4590	< 0.0050	2140	84.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0303	< 0.20	1.22	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	09-Jun-2015	0.086	0.159	884	< 0.040	4740	< 0.0050	2120	87.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0309	< 0.20	0.52	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	11-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jul-2015	0.067	0.286	541	< 0.040	5300	< 0.0050	1650	83.5	< 3000	< 0.0020	< 0.20	< 0.50	0.0153	< 0.20	0.53	< 0.10	< 0.60	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	13-Jul-2015	0.068	0.260	545	< 0.040	5250	< 0.0050	1750	84.9	< 3000	< 0.0020	< 0.20	< 0.50	0.0156	< 0.20	0.27	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	16-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Aug-2015	< 0.050	0.311	302	< 0.040	6570	< 0.0050	2360	103	< 3000	< 0.0020	< 0.20	0.55	0.0145	< 0.20	3.60	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	09-Aug-2015	0.053	0.135	194	< 0.040	6490	< 0.0050	1810	87.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0131	< 0.20	1.49	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	13-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																																				
Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(e,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																						
	19-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	14-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	16-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Apr-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	11-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	09-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	11-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jun-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	16-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	09-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	13-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date (dd-mmm-yyyy)	Field: Specific Conductivity (uS/cm)	Field: Dissolved Oxygen (%) (%)	Field: pH (pH units)	Field: Temperature (deg C)	Field: Dissolved Oxygen (mg/L)	Field: Conductivity (uS/cm)	Specific Conductivity (Lab) (uS/cm)	pH (Laboratory) (pH Units)	Turbidity (ntu)	Total Hardness as CaCO3 (mg/L)	Total Hardness as CaCO3 - Calculated (mg/L)	Dissolved Hardness as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	PP Alkalinity as CaCO3 (mg/L)	Biochemical Oxygen Demand (BOD) (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---
Waterbody 3 Investigation																
	29-Aug-2015	---	---	---	---	---	---	---	---	0.63	---	---	---	---	---	---
	01-Sep-2015	---	---	---	---	---	---	390	7.66	0.62	230	---	---	220	< 0.50	< 2.0
(Duplicate)	01-Sep-2015	---	---	---	---	---	---	390	7.68	0.62	230	---	---	210	< 0.50	< 2.0
	03-Sep-2015	---	---	---	---	---	---	---	---	1.0	---	---	---	---	---	---
	05-Sep-2015	---	---	---	---	---	---	---	---	0.49	---	---	---	---	---	---
	08-Sep-2015	---	---	---	---	---	---	---	---	0.48	---	---	---	---	---	---
	10-Sep-2015	---	---	---	---	---	---	330	8.07	0.36	170	---	---	180	< 0.50	< 2.0
(Duplicate)	10-Sep-2015	---	---	---	---	---	---	340	8.12	0.39	170	---	---	180	< 0.50	< 2.0
	12-Sep-2015	---	---	---	---	---	---	---	---	0.61	---	---	---	---	---	---
	15-Sep-2015	---	---	---	---	---	---	340	7.99	0.28	190	193	190	170	< 0.50	< 2.0
(Duplicate)	15-Sep-2015	---	---	---	---	---	---	340	8.06	0.27	190	190	192	180	< 0.50	< 2.0
	17-Sep-2015	---	---	---	---	---	---	---	---	0.28	---	---	---	---	---	---
	19-Sep-2015	---	---	---	---	---	---	---	---	0.40	---	---	---	---	---	---
	22-Sep-2015	---	---	---	---	---	---	340	8.15	0.24	190	---	---	180	< 0.50	< 2.0
(Duplicate)	22-Sep-2015	---	---	---	---	---	---	350	8.13	0.25	200	---	---	190	< 0.50	< 2.0
	24-Sep-2015	---	---	---	---	---	---	---	---	0.51	---	---	---	---	---	---
	26-Sep-2015	---	---	---	---	---	---	---	---	0.44	---	---	---	---	---	---
	29-Sep-2015	---	---	---	---	---	---	350	8.06	0.20	200	---	---	190	< 0.50	< 2.0
(Duplicate)	29-Sep-2015	---	---	---	---	---	---	350	8.05	0.37	200	---	---	190	< 0.50	< 2.0
	01-Oct-2015	---	---	---	---	---	---	---	---	0.53	---	---	---	---	---	---
	03-Oct-2015	---	---	---	---	---	---	---	---	0.51	---	---	---	---	---	---
	06-Oct-2015	---	---	---	---	---	---	---	---	1.4	---	---	---	---	---	---
	08-Oct-2015	---	---	---	---	---	---	350	7.90	0.58	200	---	---	180	< 0.50	< 2.0
(Duplicate)	08-Oct-2015	---	---	---	---	---	---	350	7.92	0.31	200	---	---	180	< 0.50	< 2.0
	10-Oct-2015	---	---	---	---	---	---	---	---	0.33	---	---	---	---	---	---
	13-Oct-2015	---	---	---	---	---	---	360	8.11	0.41	190	189	194	190	< 0.50	< 2.0
(Duplicate)	13-Oct-2015	---	---	---	---	---	---	360	8.05	0.38	200	186	200	190	< 0.50	< 2.0
	15-Oct-2015	---	---	---	---	---	---	---	---	0.46	---	---	---	---	---	---
	17-Oct-2015	---	---	---	---	---	---	---	---	0.54	---	---	---	---	---	---
	20-Oct-2015	---	---	---	---	---	---	350	7.95	0.41	200	---	---	180	< 0.50	< 2.0
(Duplicate)	20-Oct-2015	---	---	---	---	---	---	360	7.91	0.40	200	---	---	180	< 0.50	< 2.0
	22-Oct-2015	---	---	---	---	---	---	---	---	0.53	---	---	---	---	---	---
	24-Oct-2015	---	---	---	---	---	---	---	---	0.30	---	---	---	---	---	---
	27-Oct-2015	---	---	---	---	---	---	350	8.18	0.25	230	---	---	180	< 0.50	---
(Duplicate)	27-Oct-2015	---	---	---	---	---	---	350	8.15	0.72	230	---	---	180	< 0.50	---
	03-Nov-2015	---	---	---	---	---	---	340	8.05	0.39	200	---	---	180	< 0.50	---
(Duplicate)	03-Nov-2015	---	---	---	---	---	---	340	8.08	0.34	200	---	---	180	< 0.50	---
	10-Nov-2015	---	---	---	---	---	---	390	7.96	0.31	230	210	225	210	< 0.50	---
(Duplicate)	10-Nov-2015	---	---	---	---	---	---	390	8.01	0.42	230	215	228	210	< 0.50	---
	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 2.0
(Duplicate)	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 2.0
	17-Nov-2015	---	---	---	---	---	---	400	7.85	0.37	200	---	---	200	< 0.50	---
(Duplicate)	17-Nov-2015	---	---	---	---	---	---	400	7.82	0.48	200	---	---	200	< 0.50	---
	24-Nov-2015	---	---	---	---	---	---	400	7.63	0.85	220	---	---	210	< 0.50	---
(Duplicate)	24-Nov-2015	---	---	---	---	---	---	400	7.62	0.60	220	---	---	210	< 0.50	---
	01-Dec-2015	---	---	---	---	---	---	410	7.63	0.51	240	---	---	210	< 0.50	---
(Duplicate)	01-Dec-2015	---	---	---	---	---	---	420	7.68	0.58	230	---	---	210	< 0.50	---
	09-Dec-2015	---	---	---	---	---	---	430	7.72	1.2	240	---	---	230	< 0.50	---
(Duplicate)	09-Dec-2015	---	---	---	---	---	---	430	7.73	1.3	240	---	---	230	< 0.50	---
	15-Dec-2015	---	---	---	---	---	---	440	7.79	1.3	250	236	245	230	< 0.50	< 2.0
(Duplicate)	15-Dec-2015	---	---	---	---	---	---	440	7.78	1.2	250	239	249	240	< 0.50	< 2.0
	22-Dec-2015	---	---	---	---	---	---	470	7.59	1.9	270	---	---	250	< 0.50	---
(Duplicate)	22-Dec-2015	---	---	---	---	---	---	480	7.60	2.1	260	---	---	240	< 0.50	---
	29-Dec-2015	---	---	---	---	---	---	510	7.65	2.4	250	---	---	260	< 0.50	---
(Duplicate)	29-Dec-2015	---	---	---	---	---	---	510	7.66	2.5	240	---	---	260	< 0.50	---
	06-Jan-2016	---	---	---	---	---	---	520	7.31	4.8	280	---	---	280	< 0.50	---
(Duplicate)	06-Jan-2016	---	---	---	---	---	---	520	7.36	4.6	280	---	---	270	< 0.50	---
	12-Jan-2016	---	---	---	---	---	---	530	7.51	3.6	320	295	320	280	< 0.50	3.9
(Duplicate)	12-Jan-2016	---	---	---	---	---	---	530	7.51	3.9	320	300	315	280	< 0.50	4.3
	26-Jan-2016	---	---	---	---	---	---	510	7.22	4.7	320	---	---	300	< 0.50	---
(Duplicate)	26-Jan-2016	---	---	---	---	---	---	520	7.25	5.1	310	---	---	290	< 0.50	---
	02-Feb-2016	---	---	---	---	---	---	570	7.38	9.1	330	---	---	310	< 0.50	---
(Duplicate)	02-Feb-2016	---	---	---	---	---	---	580	7.38	9.7	330	---	---	310	< 0.50	---
	09-Feb-2016	---	---	---	---	---	---	600	7.47	6.8	290	---	---	320	< 0.50	---
(Duplicate)	09-Feb-2016	---	---	---	---	---	---	610	7.45	7.3	370	---	---	350	< 0.50	---
	18-Feb-2016	---	---	---	---	---	---	620	7.53	9.4	360	328	357	320	< 0.50	10
(Duplicate)	18-Feb-2016	---	---	---	---	---	---	620	7.51	10	350	254	352	320	< 0.50	9.7
	23-Feb-2016	---	---	---	---	---	---	630	7.29	20	340	---	---	340	< 0.50	---
(Duplicate)	23-Feb-2016	---	---	---	---	---	---	630	7.29	19	350	---	---	340	< 0.50	---
	01-Mar-2016	---	---	---	---	---	---	610	7.29	17	340	---	---	320	< 0.50	---
(Duplicate)	01-Mar-2016	---	---	---	---	---	---	630	7.31	17	350	---	---	350	< 0.50	---
	08-Mar-2016	---	---	---	---	---	---	600	7.48	9.5	370	---	---	320	< 0.50	---
(Duplicate)	08-Mar-2016	---	---	---	---	---	---	590	7.41	9.6	380	---	---	340	< 0.50	---
	15-Mar-2016	---	---	---	---	---	---	590	7.37	5.4	320	329	315	320	< 0.50	2.6
(Duplicate)	15-Mar-2016	---	---	---	---	---	---	600	7.46	5.0	310	302	314	340	< 0.50	2.8
	22-Mar-2016	---	---	---	---	---	---	600	7.34	8.5	320	---	---	320	< 0.50	---
(Duplicate)	22-Mar-2016	---	---	---	---	---	---	610	7.56	11	320	---	---	320	< 0.50	---
	29-Mar-2016	---	---	---	---	---	---	580	7.51	3.8	290	---	---	300	< 0.50	---
(Duplicate)	29-Mar-2016	---	---	---	---	---	---	590	7.46	4.3	300	---	---	310	< 0.50	---
	05-Apr-2016	---	---	---	---	---	---	530	7.45	5.1	270	---	---	280	< 0.50	---
(Duplicate)	05-Apr-2016	---	---	---	---	---	---	530	7.43	4.6	270	---	---	280	< 0.50	---
	12-Apr-2016	---	---	---	---	---	---	490	7.52	4.6	280	288	280	260	< 0.50	5.4
(Duplicate)	12-Apr-2016	---	---	---	---	---	---	490	7.52	5.0	280	284	280	270	< 0.50	5.1
	20-Apr-2016	---	---	---	---	---	---	260	7.51	2.4	150	---	---	130	< 0.50	---
(Duplicate)	20-Apr-2016	---	---	---	---	---	---	270	7.52	2.4	150	---	---	130	< 0.50	---
	26-Apr-2016	---	---	---	---	---	---	290	7.94	1.1	160	---	---	140	< 0.50	---
(Duplicate)	26-Apr-2016	---	---	---	---	---	---	290	7.93	1.4	160	---	---	140	< 0.50	---
	03-May-2016	---	---	---	---	---	---	290	7.82	0.81	150	---	---	150	< 0.50	---
	16-May-2016	---	---	---	---	---	---	320	8.01	0.39	180	---	---	170	< 0.50	---
(Duplicate)	16-May-2016	---	---	---	---	---	---	320	8.00	0.42	180	---	---	170	< 0.50	---

Monitoring Station	Date (dd-mmm-yyyy)	Chloride:D (mg/L)	Sulphate:D (mg/L)	Dissolved Sulphide (mg/L)	Total Sulphide (mg/L)	Sulphide (as H2S) (mg/L)	Total Dissolved Solids (mg/L)	Total Dissolved Solids - Calculated (mg/L)	Total Suspended Solids (TSS) (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Hydroxide (mg/L)	Fluoride:D (mg/L)	Carbon: Dissolved Inorganic Carbon (DIC) (mg/L)	Carbon: Dissolved Organic Carbon (DOC) (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---
Waterbody 3 Investigation															
	29-Aug-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	01-Sep-2015	< 1.0	< 1.0	---	---	---	230	210	< 1.0	260	< 0.50	< 0.50	0.15	49	14
(Duplicate)	01-Sep-2015	1.2	< 1.0	---	---	---	240	210	< 1.0	260	< 0.50	< 0.50	0.15	49	13
	03-Sep-2015	---	---	---	---	---	---	---	1.5	---	---	---	---	---	---
	05-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	08-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	10-Sep-2015	< 1.0	< 1.0	---	---	---	210	170	< 1.0	220	< 0.50	< 0.50	0.15	44	17
(Duplicate)	10-Sep-2015	< 1.0	< 1.0	---	---	---	210	160	< 1.0	210	< 0.50	< 0.50	0.15	44	17
	12-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	15-Sep-2015	< 1.0	< 1.0	---	---	---	180	170	1.3	210	< 0.50	< 0.50	0.26	42	16
(Duplicate)	15-Sep-2015	< 1.0	< 1.0	---	---	---	190	170	< 1.0	210	< 0.50	< 0.50	0.25	42	17
	17-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	19-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	22-Sep-2015	< 1.0	< 1.0	---	---	---	220	180	< 1.0	220	< 0.50	< 0.50	0.15	45	13
(Duplicate)	22-Sep-2015	< 1.0	< 1.0	---	---	---	210	180	< 1.0	230	< 0.50	< 0.50	0.14	44	14
	24-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	26-Sep-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	29-Sep-2015	< 1.0	< 1.0	---	---	---	190	180	< 1.0	230	< 0.50	< 0.50	0.14	43	14
(Duplicate)	29-Sep-2015	< 1.0	< 1.0	---	---	---	200	190	< 1.0	230	< 0.50	< 0.50	0.14	43	14
	01-Oct-2015	---	---	---	---	---	---	---	1.8	---	---	---	---	---	---
	03-Oct-2015	---	---	---	---	---	---	---	1.3	---	---	---	---	---	---
	06-Oct-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	08-Oct-2015	< 1.0	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.16	43	15
(Duplicate)	08-Oct-2015	< 1.0	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.15	43	15
	10-Oct-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	13-Oct-2015	< 1.0	< 1.0	---	---	---	200	180	< 1.0	230	< 0.50	< 0.50	0.15	43	13
(Duplicate)	13-Oct-2015	1.2	< 1.0	---	---	---	210	190	< 1.0	230	< 0.50	< 0.50	0.15	43	13
	15-Oct-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	17-Oct-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	20-Oct-2015	1.8	< 1.0	---	---	---	200	180	< 1.0	220	< 0.50	< 0.50	0.14	45	14
(Duplicate)	20-Oct-2015	2.6	< 1.0	---	---	---	210	190	< 1.0	220	< 0.50	< 0.50	0.14	46	15
	22-Oct-2015	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	24-Oct-2015	---	---	---	---	---	---	---	2.0	---	---	---	---	---	---
	27-Oct-2015	1.3	< 1.0	---	---	---	230	190	< 1.0	220	< 0.50	< 0.50	0.14	44	13
(Duplicate)	27-Oct-2015	1.3	< 1.0	---	---	---	190	190	< 1.0	220	< 0.50	< 0.50	0.14	44	11
	03-Nov-2015	1.1	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.15	43	11
(Duplicate)	03-Nov-2015	1.0	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.14	43	11
	10-Nov-2015	1.4	< 1.0	---	---	---	230	210	< 1.0	260	< 0.50	< 0.50	0.14	49	12
(Duplicate)	10-Nov-2015	1.4	< 1.0	---	---	---	230	210	< 1.0	250	< 0.50	< 0.50	0.14	49	12
	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	< 1.0	< 1.0	---	---	---	230	190	< 1.0	250	< 0.50	< 0.50	0.15	53	12
(Duplicate)	17-Nov-2015	1.0	< 1.0	---	---	---	230	190	< 1.0	250	< 0.50	< 0.50	0.15	53	12
	24-Nov-2015	< 1.0	< 1.0	---	---	---	230	200	< 1.0	250	< 0.50	< 0.50	0.15	52	11
(Duplicate)	24-Nov-2015	< 1.0	< 1.0	---	---	---	230	210	< 1.0	250	< 0.50	< 0.50	0.14	52	11
	01-Dec-2015	1.4	< 1.0	---	---	---	250	220	< 1.0	260	< 0.50	< 0.50	0.15	51	13
(Duplicate)	01-Dec-2015	1.2	< 1.0	---	---	---	250	210	< 1.0	260	< 0.50	< 0.50	0.15	51	12
	09-Dec-2015	1.2	< 1.0	---	---	---	260	230	< 1.0	280	< 0.50	< 0.50	0.15	60	13
(Duplicate)	09-Dec-2015	1.2	< 1.0	---	---	---	260	230	< 1.0	280	< 0.50	< 0.50	0.15	60	13
	15-Dec-2015	1.1	< 1.0	---	---	---	260	230	< 1.0	280	< 0.50	< 0.50	0.16	59	12
(Duplicate)	15-Dec-2015	1.1	< 1.0	---	---	---	260	230	< 1.0	290	< 0.50	< 0.50	0.15	59	13
	22-Dec-2015	1.0	< 1.0	---	---	---	290	250	< 1.0	300	< 0.50	< 0.50	0.16	66	15
(Duplicate)	22-Dec-2015	< 1.0	< 1.0	---	---	---	290	240	< 1.0	300	< 0.50	< 0.50	0.16	66	16
	29-Dec-2015	1.5	< 1.0	---	---	---	310	250	< 1.0	320	< 0.50	< 0.50	0.16	68	17
(Duplicate)	29-Dec-2015	1.4	< 1.0	---	---	---	300	250	< 1.0	310	< 0.50	< 0.50	0.17	66	17
	06-Jan-2016	< 1.0	< 1.0	---	---	---	310	270	3.0	340	< 0.50	< 0.50	0.16	70	16
(Duplicate)	06-Jan-2016	< 1.0	< 1.0	---	---	---	310	270	3.3	340	< 0.50	< 0.50	0.16	70	16
	12-Jan-2016	1.4	< 1.0	---	---	---	310	290	1.5	350	< 0.50	< 0.50	0.15	75	15
(Duplicate)	12-Jan-2016	1.4	< 1.0	---	---	---	310	290	1.3	340	< 0.50	< 0.50	0.15	75	16
	26-Jan-2016	< 1.0	< 1.0	---	---	---	310	300	4.4	370	< 0.50	< 0.50	0.14	80	16
(Duplicate)	26-Jan-2016	1.1	< 1.0	---	---	---	310	290	5.1	350	< 0.50	< 0.50	0.15	80	15
	02-Feb-2016	1.3	< 1.0	---	---	---	330	310	7.7	380	< 0.50	< 0.50	0.18	83	17
(Duplicate)	02-Feb-2016	1.5	< 1.0	---	---	---	350	310	8.3	380	< 0.50	< 0.50	0.18	83	18
	09-Feb-2016	2.1	< 1.0	---	---	---	360	300	3.2	390	< 0.50	< 0.50	0.19	86	19
(Duplicate)	09-Feb-2016	2.1	< 1.0	---	---	---	360	350	4.7	420	< 0.50	< 0.50	0.19	87	19
	18-Feb-2016	2.1	< 1.0	---	---	---	390	330	6.9	390	< 0.50	< 0.50	0.20	82	20
(Duplicate)	18-Feb-2016	1.9	< 1.0	---	---	---	380	330	8.4	390	< 0.50	< 0.50	0.20	81	20
	23-Feb-2016	1.8	< 1.0	---	---	---	360	330	6.8	410	< 0.50	< 0.50	0.20	87	18
(Duplicate)	23-Feb-2016	1.9	< 1.0	---	---	---	370	340	5.7	410	< 0.50	< 0.50	0.20	87	18
	01-Mar-2016	2.4	< 1.0	---	---	---	350	330	3.3	400	< 0.50	< 0.50	0.20	83	18
(Duplicate)	01-Mar-2016	2.2	< 1.0	---	---	---	360	340	5.2	430	< 0.50	< 0.50	0.21	85	19
	08-Mar-2016	1.6	< 1.0	---	---	---	350	330	4.5	390	< 0.50	< 0.50	0.20	86	19
(Duplicate)	08-Mar-2016	1.2	< 1.0	---	---	---	340	350	5.5	410	< 0.50	< 0.50	0.20	86	20
	15-Mar-2016	1.6	< 1.0	---	---	---	340	310	< 1.0	390	< 0.50	< 0.50	0.20	80	17
(Duplicate)	15-Mar-2016	1.7	< 1.0	---	---	---	340	320	1.1	410	< 0.50	< 0.50	0.20	80	17
	22-Mar-2016	2.3	< 1.0	---	---	---	340	310	4.5	390	< 0.50	< 0.50	0.20	90	16
(Duplicate)	22-Mar-2016	1.6	< 1.0	---	---	---	340	310	9.7	390	< 0.50	< 0.50	0.20	91	16
	29-Mar-2016	1.9	< 1.0	---	---	---	330	290	2.9	370	< 0.50	< 0.50	0.18	77	17
(Duplicate)	29-Mar-2016	1.8	< 1.0	---	---	---	330	300	2.3	370	< 0.50	< 0.50	0.18	76	18
	05-Apr-2016	1.7	< 1.0	---	---	---	310	270	5.9	340	< 0.50	< 0.50	0.17	74	17
(Duplicate)	05-Apr-2016	1.9	< 1.0	---	---	---	310	270	4.1	340	< 0.50	< 0.50	0.16	74	17
	12-Apr-2016	1.5	< 1.0	---	---	---	280	260	2.9	310	< 0.50	< 0.50	0.17	66	16
(Duplicate)	12-Apr-2016	1.3	< 1.0	---	---	---	280	270	< 1.5	330	< 0.50	< 0.50	0.17	66	16
	20-Apr-2016	< 1.0	< 1.0	---	---	---	190	130	9.2	160	< 0.50	< 0.50	0.11	35	11
(Duplicate)	20-Apr-2016	< 1.0	< 1.0	---	---	---	160	130	8.5	160	< 0.50	< 0.50	0.11	36	11
	26-Apr-2016	1.5	< 1.0	---	---	---	160	150	1.1	180	< 0.50	< 0.50	0.11	37	11
(Duplicate)	26-Apr-2016	1.5	< 1.0	---	---	---	160	150	1.2	170	< 0.50	< 0.50	0.11	37	12
	03-May-2016	1.0	< 1.0	---	---	---	150	150	1.1	180	< 0.50	< 0.50	0.11	39	12
	16-May-2016	< 1.0	< 1.0	---	---	---	180	170	< 1.0	200	< 0.50	< 0.50	0.14	43	12
(Duplicate)	16-May-2016	1.2	< 1.0	---	---	---	190	170	< 1.0	200	< 0.50	< 0.50	0.14	44	12

Monitoring Station	Date (dd-mmm-yyyy)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Nitrate plus Nitrite as N (mg/L)	Nitrate (NO3) (mg/L)	Nitrite (NO2) (mg/L)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen (mg/L)	Phosphorus: Orthophosphate (P) (mg/L)	Dissolved Aluminum (ug/L)	Dissolved Antimony (ug/L)	Dissolved Arsenic (ug/L)	Dissolved Barium (ug/L)	Dissolved Beryllium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation															
	29-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.0050	---	---	---	---	---
(Duplicate)	01-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.0046	---	---	---	---	---
	03-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	0.0040	---	---	---	---	---
(Duplicate)	10-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.41	---	0.0034	---	---	---	---	---
	12-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.47	---	0.0038	2.10	< 0.020	0.165	30.0	< 0.010
(Duplicate)	15-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.0034	1.89	< 0.020	0.133	29.0	< 0.010
	17-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.45	---	0.011	---	---	---	---	---
(Duplicate)	22-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.45	---	0.011	---	---	---	---	---
	24-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.10	0.38	---	0.011	---	---	---	---	---
(Duplicate)	29-Sep-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.33	---	0.012	---	---	---	---	---
	01-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	0.0095	---	---	---	---	---
(Duplicate)	08-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.43	---	0.0092	---	---	---	---	---
	10-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.36	---	0.013	2.05	< 0.020	0.138	30.2	< 0.010
(Duplicate)	13-Oct-2015	0.019	< 0.010	< 0.020	0.083	< 0.033	< 0.050	0.36	---	0.014	1.96	< 0.020	0.157	30.9	< 0.010
	15-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.012	---	---	---	---	---
(Duplicate)	20-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.067	0.44	---	0.014	---	---	---	---	---
	22-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.33	---	0.012	---	---	---	---	---
(Duplicate)	27-Oct-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.074	0.42	---	0.012	---	---	---	---	---
	03-Nov-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.015	---	---	---	---	---
(Duplicate)	03-Nov-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.017	---	---	---	---	---
	10-Nov-2015	0.014	< 0.010	< 0.020	0.063	< 0.033	0.063	0.48	---	0.018	2.01	< 0.020	0.103	31.4	< 0.010
(Duplicate)	10-Nov-2015	0.016	< 0.010	< 0.020	0.070	< 0.033	0.051	0.50	---	0.017	1.38	< 0.020	0.131	32.7	< 0.010
	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	0.010	< 0.010	< 0.020	0.044	< 0.033	0.053	0.42	---	0.020	---	---	---	---	---
(Duplicate)	17-Nov-2015	0.011	< 0.010	< 0.020	0.047	< 0.033	0.096	0.49	---	0.018	---	---	---	---	---
	24-Nov-2015	0.016	< 0.010	< 0.020	0.070	< 0.033	0.065	0.54	---	0.020	---	---	---	---	---
(Duplicate)	24-Nov-2015	0.015	< 0.010	< 0.020	0.068	< 0.033	0.082	0.44	---	0.019	---	---	---	---	---
	01-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.062	0.49	---	0.018	---	---	---	---	---
(Duplicate)	01-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.060	0.41	---	0.018	---	---	---	---	---
	09-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.12	0.53	---	0.011	---	---	---	---	---
(Duplicate)	09-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.12	0.58	---	0.011	---	---	---	---	---
	15-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.092	0.50	---	0.020	1.73	< 0.020	0.155	44.0	< 0.010
(Duplicate)	15-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.11	1.8	---	0.020	1.58	< 0.020	0.131	44.3	< 0.010
	22-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.20	0.62	---	0.028	---	---	---	---	---
(Duplicate)	22-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.19	0.62	---	0.026	---	---	---	---	---
	29-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.25	0.71	---	0.031	---	---	---	---	---
(Duplicate)	29-Dec-2015	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.25	0.71	---	0.027	---	---	---	---	---
	06-Jan-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.30	0.87	---	0.027	---	---	---	---	---
(Duplicate)	06-Jan-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.31** [#3]	0.86	---	0.027	---	---	---	---	---
	12-Jan-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.36** [#3]	0.92	---	0.0072	2.43	< 0.020	0.159	58.5	< 0.010
(Duplicate)	12-Jan-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.35** [#3]	0.88	---	0.0070	2.64	< 0.020	0.161	60.7	< 0.010
	26-Jan-2016	0.012	< 0.010	< 0.020	0.054	< 0.033	**0.52** [#3,4]	1.3	---	0.013	---	---	---	---	---
(Duplicate)	26-Jan-2016	0.011	< 0.010	< 0.020	0.047	< 0.033	**0.54** [#3,4]	1.0	---	0.013	---	---	---	---	---
	02-Feb-2016	0.026	< 0.010	0.026	0.11	< 0.033	**0.46** [#3]	0.95	---	0.034	---	---	---	---	---
(Duplicate)	02-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.49** [#3,4]	0.97	---	0.034	---	---	---	---	---
	09-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.53** [#3,4]	0.86	---	0.011	---	---	---	---	---
(Duplicate)	09-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.48** [#3,4]	1.0	---	0.011	---	---	---	---	---
	18-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.46** [#3]	1.3	---	0.015	3.56	0.136	0.226	72.1	< 0.010
(Duplicate)	18-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.47** [#3]	1.3	---	0.015	2.67	0.131	0.231	70.0	< 0.010
	23-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.41** [#3]	1.2	---	0.024	---	---	---	---	---
(Duplicate)	23-Feb-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.41** [#3]	1.2	---	0.025	---	---	---	---	---
	01-Mar-2016	0.018	< 0.010	< 0.020	0.081	< 0.033	**0.57** [#3,4]	1.4	---	0.012	---	---	---	---	---
(Duplicate)	01-Mar-2016	0.019	< 0.010	< 0.020	0.082	< 0.033	**0.49** [#3,4]	1.2	---	0.048	---	---	---	---	---
	08-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.51** [#3,4]	1.2	---	0.028	---	---	---	---	---
(Duplicate)	08-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.51** [#3,4]	1.4	---	0.028	---	---	---	---	---
	15-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.52** [#3,4]	1.1	---	0.026	2.18	< 0.020	0.193	69.4	< 0.010
(Duplicate)	15-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.77** [#3,4]	0.88	---	0.025	1.83	< 0.020	0.191	67.5	< 0.010
	22-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.41** [#3]	1.1	---	0.014	---	---	---	---	---
(Duplicate)	22-Mar-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	**0.42** [#3]	1.0	---	0.013	---	---	---	---	---
	29-Mar-2016	0.011	< 0.010	< 0.020	0.049	< 0.033	**0.33** [#3]	0.88	---	0.016	---	---	---	---	---
(Duplicate)	29-Mar-2016	0.013	< 0.010	< 0.020	0.057	< 0.033	**0.34** [#3]	0.84	---	0.015	---	---	---	---	---
	05-Apr-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.16	0.75	---	0.012	---	---	---	---	---
(Duplicate)	05-Apr-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.16	0.85	---	0.013	---	---	---	---	---
	12-Apr-2016	0.032	< 0.010	0.032	0.14	< 0.033	0.17	1.2	---	0.013	2.07	< 0.020	0.158	54.1	< 0.010
(Duplicate)	12-Apr-2016	0.033	< 0.010	0.033	0.15	< 0.033	0.20	1.1	---	0.012	2.14	< 0.020	0.130	54.7	< 0.010
	20-Apr-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.70	---	< 0.0030	---	---	---	---	---
(Duplicate)	20-Apr-2016	< 0.010	0.012	< 0.020	< 0.044	0.041	**0.31** [#3]	0.73	---	< 0.0030	---	---	---	---	---
	26-Apr-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.48	---	0.0055	---	---	---	---	---
(Duplicate)	26-Apr-2016	0.010	< 0.010	< 0.020	0.045	< 0.033	0.056	0.50	---	0.0059	---	---	---	---	---
	03-May-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.0031	---	---	---	---	---
	16-May-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.053	0.36	---	< 0.0030	---	---	---	---	---
(Duplicate)	16-May-2016	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	< 0.0030	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Metals and Trace Elements | | | | | | | | | | | | | | | | | | |

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)																BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																				
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	370	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	700	---	---	---	---	---	---	---	---	---	---	33	---	---	---	---	---	---	---	---	---	---	150	150	110	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		73	41	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		73	78	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---	40	0.5	90	---	---	30	---	---	---	---	---	---	---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
	29-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Sep-2015	0.067	0.100	437	< 0.040	5130	< 0.0050	2110	72.7	< 3000	< 0.0020	< 0.20	0.51	0.0330	< 0.20	0.26	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Sep-2015	0.065	0.098	430	< 0.040	5060	< 0.0050	2080	70.7	< 3000	< 0.0020	< 0.20	< 0.50	0.0320	< 0.20	0.17	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Oct-2015	0.098	0.103	586	< 0.040	5080	< 0.0050	2270	73.6	< 3000	< 0.0020	< 0.20	< 0.50	0.0380	< 0.20	0.46	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	13-Oct-2015	0.085	0.097	570	< 0.040	4980	< 0.0050	2240	73.9	< 3000	< 0.0020	< 0.20	0.65	0.0390	< 0.20	0.34	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	15-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Nov-2015	0.111	0.065	713	< 0.040	6450	< 0.0050	2500	79.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0490	< 0.20	0.45	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	10-Nov-2015	0.117	0.128	732	< 0.040	6540	< 0.0050	2560	80.4	< 3000	< 0.0020	< 0.20	< 0.50	0.0500	< 0.20	0.86	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Dec-2015	0.057	0.095	876	< 0.040	7080	< 0.0050	2840	87.6	< 3000	< 0.0020	< 0.20	< 0.50	0.0330	< 0.20	0.78	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Dec-2015	0.058	0.090	894	< 0.040	7270	< 0.0050	2880	91.9	< 3000	< 0.0020	< 0.20	< 0.50	0.0330	< 0.20	0.81	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jan-2016	< 0.050	0.13	1310	< 0.040	8790	< 0.0050	3430	116	< 15000	< 0.0020	< 0.20	< 5.0	0.0250	< 0.50	2.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	12-Jan-2016	< 0.050	0.12	1290	< 0.040	9040	< 0.0050	3420	111	< 15000	< 0.0020	< 0.20	< 5.0	0.0260	< 0.50	2.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	26-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2016	< 0.050	0.39	2060	< 0.040	10100	< 0.0050	4060	146	< 15000	0.0020	< 0.20	< 5.0	0.0280	< 0.50	7.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	18-Feb-2016	< 0.050	0.31	1630	< 0.040	8070	< 0.0050	3230	112	< 15000	0.0020	< 0.20	< 5.0	0.0230	< 0.50	5.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	23-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2016	< 0.050	0.120	1980	< 0.040	10200	< 0.0050	3830	138	< 3000	< 0.0020	< 0.20	< 0.50	0.0140	< 0.20	0.86	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Mar-2016	< 0.050	0.118	2010	< 0.040	9780	< 0.0050	3850	136	< 3000	< 0.0020	< 0.20	< 0.50	0.0160	< 0.20	1.03	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Apr-2016	0.146	0.32	2700	0.043	9980	< 0.0050	3310	116	< 15000	< 0.0020	< 0.20	< 5.0	0.0310	< 0.50	5.6	0.13	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	12-Apr-2016	0.138	0.38	2620	< 0.040	9880	< 0.0050	3290	111	< 15000	< 0.0020	< 0.20	< 5.0	0.0320	< 0.50	5.5	0.14	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																			
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(j)fluoranthene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,l]pyrene	Dibenzo[e,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [81]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [82]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [83]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [84]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																																					
	29-Aug-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	15-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Oct-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	10-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Dec-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	12-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	26-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Jan-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	02-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	18-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	23-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Feb-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	12-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Apr-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																							Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																																														
	24-May-2016	---	---	---	---	---	---	330	7.97	0.39	180	183	177	170	< 0.50	< 2.0	1.7	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.13	45	12	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.36	---	0.0044	2.47	< 0.020	0.124	32.2	< 0.010
(Duplicate)	24-May-2016	---	---	---	---	---	---	330	7.99	0.40	180	189	178	170	< 0.50	< 2.0	2.1	< 1.0	---	---	---	210	170	< 1.0	210	< 0.50	< 0.50	0.14	45	12	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.40	---	0.0039	1.79	< 0.020	0.149	32.4	< 0.010
	07-Jun-2016	---	---	---	---	---	---	330	8.14	0.54	190	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.15	46	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.051	0.50	---	0.0055	---	---	---	---	---
(Duplicate)	07-Jun-2016	---	---	---	---	---	---	330	8.13	0.60	190	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.15	46	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.057	0.47	---	0.0052	---	---	---	---	---
	14-Jun-2016	---	---	---	---	---	---	310	7.96	0.40	170	155	174	160	< 0.50	< 2.0	1.6	< 1.0	---	---	---	190	160	< 1.0	190	< 0.50	< 0.50	0.13	41	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.43	---	0.0043	3.60	< 0.020	0.147	35.9	< 0.010
(Duplicate)	14-Jun-2016	---	---	---	---	---	---	310	7.93	0.34	180	164	178	160	< 0.50	< 2.0	1.6	< 1.0	---	---	---	210	160	< 1.0	190	< 0.50	< 0.50	0.13	41	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	0.0049	2.93	< 0.020	0.156	32.1	< 0.010
CP-FT-A-3	24-Jun-2016	---	---	---	---	---	---	320	8.09	1.2	180	---	---	170	< 0.50	---	1.1	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.14	42	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.44	---	< 0.0030	---	---	---	---	---
(Duplicate)	24-Jun-2016	---	---	---	---	---	---	320	8.11	1.1	180	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.14	42	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	0.0039	---	---	---	---	---
	28-Jun-2016	---	---	---	---	---	---	310	8.21	1.2	170	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	180	160	< 1.0	200	< 0.50	< 0.50	0.15	42	11	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	< 0.0030	---	---	---	---	---
(Duplicate)	28-Jun-2016	---	---	---	---	---	---	310	8.23	1.4	180	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	180	160	< 1.0	200	< 0.50	< 0.50	0.15	42	11	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.51	---	< 0.0030	---	---	---	---	---
	07-Jul-2016	---	---	---	---	---	---	300	7.97	0.87	180	165	180	160	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	190	160	1.6	200	< 0.50	< 0.50	0.15	41	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.55	---	< 0.0030	1.53	< 0.020	0.166	35.5	< 0.010
(Duplicate)	07-Jul-2016	---	---	---	---	---	---	300	7.94	0.85	180	169	178	170	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	190	160	1.4	200	< 0.50	< 0.50	0.15	41	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.43	---	< 0.0030	5.13	< 0.020	0.189	35.5	< 0.010
	12-Jul-2016	---	---	---	---	---	---	310	8.19	2.5	170	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	190	160	5.0	210	< 0.50	< 0.50	0.16	42	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.052	0.56	---	0.0036	---	---	---	---	---
(Duplicate)	12-Jul-2016	---	---	---	---	---	---	310	8.19	2.6	170	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	200	160	5.7	210	< 0.50	< 0.50	0.16	43	15	0.011	< 0.010	< 0.020	0.047	< 0.033	< 0.050	0.45	---	0.0031	---	---	---	---	---
	19-Jul-2016	---	---	---	---	---	---	300	8.27	0.75	150	---	---	160	< 0.50	---	1.1	< 1.0	---	---	---	200	150	< 1.0	200	< 0.50	< 0.50	0.15	39	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.47	---	0.0038	---	---	---	---	---
(Duplicate)	19-Jul-2016	---	---	---	---	---	---	300	8.29	0.78	150	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	200	150	< 1.0	200	< 0.50	< 0.50	0.15	40	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.48	---	0.0032	---	---	---	---	---
	26-Jul-2016	---	---	---	---	---	---	310	8.31	0.68	170	---	---	160	< 0.50	---	1.4	< 1.0	---	---	---	180	160	1.1	200	< 0.50	< 0.50	0.17	39	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.67	---	0.0032	---	---	---	---	---
(Duplicate)	26-Jul-2016	---	---	---	---	---	---	290	8.30	0.88	170	---	---	160	< 0.50	---	1.5	< 1.0	---	---	---	190	160	< 1.0	200	< 0.50	< 0.50	0.17	39	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.66	---	0.0034	---	---	---	---	---
	03-Aug-2016	---	---	---	---	---	---	270	8.25	0.59	150	---	---	150	< 0.50	---	1.4	< 1.0	---	---	---	180	150	< 1.0	190	< 0.50	< 0.50	0.16	37	15	0.011	< 0.010	< 0.020	0.046	< 0.033	< 0.050	0.65	---	< 0.0030	---	---	---	---	---
(Duplicate)	03-Aug-2016	---	---	---	---	---	---	280	8.28	0.58	150	---	---	150	< 0.50	---	1.5	< 1.0	---	---	---	180	150	< 1.0	190	< 0.50	< 0.50	0.16	37	16	0.011	< 0.010	< 0.020	0.048	< 0.033	< 0.050	0.52	---	< 0.0030	---	---	---	---	---
	09-Aug-2016	---	---	---	---	---	---	300	8.28	0.60	180	---	---	170	< 0.50	---	1.5	< 1.0	---	---	---	190	170	< 1.0	210	< 0.50	< 0.50	0.17	41	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.60	---	< 0.0030	---	---	---	---	---
(Duplicate)	09-Aug-2016	---	---	---	---	---	---	300	8.26	0.77	180	---	---	170	< 0.50	---	1.7	< 1.0	---	---	---	180	170	< 1.0	210	< 0.50	< 0.50	0.17	41	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.60	---	< 0.0030	---	---	---	---	---
	16-Aug-2016	---	---	---	---	---	---	290	8.14	0.84	160	131	158	170	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	190	160	1.1	210	< 0.50	< 0.50	0.16	39	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.66	---	< 0.0030	1.31	< 0.020	0.155	30.5	< 0.010
(Duplicate)	16-Aug-2016	---	---	---	---	---	---	290	8.26	0.82	160	157	161	160	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	180	150	< 1.0	200	< 0.50	< 0.50	0.16	38	17	0.011	< 0.010	< 0.020	0.049	< 0.033	< 0.050	0.66	---	< 0.0030	1.46	< 0.020	0.162	31.5	< 0.010
	23-Aug-2016	---	---	---	---	---	---	280	8.23	0.53	160	---	---	150	< 0.50	---	< 1.0	< 1.0	---	---	---	170	150	< 1.0	180	< 0.50	< 0.50	0.16	38	17	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.053	0.77	---	< 0.0030	---	---	---	---	---
(Duplicate)	23-Aug-2016	---	---	---	---	---	---	280	8.23	0.55	160	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	170	160	1.0	210	< 0.50	< 0.50	0.17	38	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.67	---	< 0.0030	---	---	---	---	---
	30-Aug-2016	---	---	---	---	---	---	300	8.28	0.48	170	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	170	160	< 1.0	200	< 0.50	< 0.50	0.15	40	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.47	---	< 0.0030	---	---	---	---	---
(Duplicate)	30-Aug-2016	---	---	---	---	---	---	300	8.31	0.57	180	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	180	160	< 1.0	200	< 0.50	< 0.50	0.15	40	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.52	---	< 0.0030	---	---	---	---	---
	07-Sep-2016	---	---	---	---	---	---	280	8.28	0.58	160	155	158	160	< 0.50	< 2.0	1.1	< 1.0	---	---	---	170	150	< 1.0	190	< 0.50	< 0.50	0.15	39	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.56	---	< 0.0030	1.92	< 0.020	0.140	28.3	< 0.010
(Duplicate)	07-Sep-2016	---	---	---	---	---	---	280	8.28	0.64	160	152	158	160	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	170	150	< 1.0	190	< 0.50	< 0.50	0.15	39	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.59	---	< 0.0030	1.31	< 0.020	0.161	28.6	< 0.010
	14-Sep-2016	---	---	---	---	---	---	310	8.10	0.40	180	---	---	160	< 0.50	---	1.2	< 1.0	---	---	---	190	160	< 1.0	200	< 0.50	< 0.50	0.16	42	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.42	---	< 0.0030	---	---	---	---	---
(Duplicate)	14-Sep-2016	---	---	---	---	---	---	310	8.09	0.49	170	---	---	160	< 0.50	---	1.5	1.0	---	---	---	190	160	< 1.0	190	< 0.50	< 0.50	0.15	42	15	0.022	< 0.010	0.022	0.095	< 0.033	< 0.050	0.36	---	0.0039	---	---	---	---	---
	20-Sep-2016	---	---	---	---	---	---	320	8.12	0.88	180	---	---	170	< 0.50	---	< 1.0	< 1.0	---	---	---	200	170	< 1.0	210	< 0.50	< 0.50	0.15	44	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.055	0.69	---	< 0.0030	---	---	---	---	---
(Duplicate)	20-Sep-2016	---	---	---	---	---	---	320	8.13	0.86	180	---	---	160	< 0.50	---	1.3	< 1.0	---	---	---	180	160	< 1.0	200	< 0.50	< 0.50	0.15	44	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.64	---	< 0.0030	---	---	---	---	---
	27-Sep-2016	---	---	---	---	---	---	330	8.12	0.87	190	---	---	170	< 0.50	---	1.6	< 1.0	---	---	---	200	180	< 1.0	210	< 0.50	< 0.50	0.16	45	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.71	---	< 0.0030	---	---	---	---	---
(Duplicate)	27-Sep-2016	---	---	---	---	---	---	330	8.14	0.71	190	---	---	170	< 0.50	---	1.5	< 1.0	---	---	---	200	180	< 1.0	210	< 0.50	< 0.50	0.16	45	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.58	---	< 0.0030	---	---	---	---	---
	04-Oct-2016	---	---	---	---	---	---	340	8.15	0.65	180	---	---	170	< 0.50	---	2.1	2.3	---	---	---	210	170	< 1.0	210	< 0.50	< 0.50	0.15	45	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.70	---	< 0.0030	---	---	---	---	---
(Duplicate)	04-Oct-2016	---	---	---	---	---	---	340	8.07	0.72	180	---	---	170	< 0.50	---	1.6	1.4	---	---	---	210	170	< 1.0	210	< 0.50	< 0.50	0.16	45	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.64	---	< 0.0030	---	---	---	---	---
	11-Oct-2016	---	---	---	---	---	---	350	8.11	0.73	200	192	199	180	< 0.50	< 2.0	1.6	< 1.0	---	---	---	200	180	< 1.0	220	< 0.50	< 0.50	0.16	46	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.64	---	< 0.0030	1.44	< 0.020	0.127	32.3	< 0.010
(Duplicate)	11-Oct-2016	---	---	---	---	---	---	350	8.11	0.67	200	193	196	180	< 0.50	2.0	1.7	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.16	46	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.54	---	< 0.0030	1.18	< 0.020	0.138	32.0	< 0.010
	18-Oct-2016	---	---	---	---	---	---	350	8.21	0.71	180	---	---	180	< 0.50	---	1.5	< 1.0	---	---	---	210	180	< 1.0	220	< 0.50	< 0.50	0.16	46	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.51	---	< 0.0030	---	---	---	---	---
(Duplicate)	18-Oct-2016	---	---	---	---	---	---	350	8.22	0.78	170	---	---	180	< 0.50	---	1.5	< 1.0	---	---	---	210	170	< 1.0	220	< 0.50	< 0.50	0.15	47	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.52	---	< 0.0030	---	---	---	---	---
	24-Oct-2016	---	---	---	---	---	---	350	8.16	0.49	220	---	---	230	< 0.50	---	1.9	< 1.0	---	---	---	200	220	< 1.0	280	< 0.50	< 0.50	0.15	46	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.51	---	< 0.0030	---	---	---	---	---
(Duplicate)	24-Oct-2016	---	---	---	---	---	---	350	8.17	0.54	190	---	---	180	< 0.50	---	1.9	< 1.0	---	---	---	180	180	< 1.0	220	< 0.50	< 0.50	0.14	46	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.061	0.44	---	< 0.0030	---	---	---	---	---
	01-Nov-2016	---	---	---	---	---	---	380	8.08	0.82	200	---	---	190	< 0.50	---	1.7	< 1.0	---	---	---	220	190	< 1.0	230	< 0.50	< 0.50	0.15	50	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.47	---	< 0.0030	---	---	---	---	---
(Duplicate)	01-Nov-2016	---	---	---	---	---	---	380	8.10	0.92	200	---	---	190	< 0.50	---	1.8	< 1.0	---	---	---	230	190	< 1.0	240	< 0.50	< 0.50	0.15	50	15	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	< 0.0030	---	---	---	---	---
	08-Nov-2016	---	---	---	---	---	---	380	8.15	0.96	210	---	---	200	< 0.50	---	1.9	2.8	---	---	---	220	200	< 1.0	250	< 0.50	< 0.50	0.15	52	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.52	---	< 0.0030	---	---	---	---	---
(Duplicate)	08-Nov-2016	---	---	---	---	---	---	380	8.15	0.90	220	---	---	210	< 0.50	---	1.9	2.3	---	---	---	220	210	< 1.0	250	< 0.50	< 0.50	0.16	53	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.52	---	< 0.0030	---	---	---	---	---
	15-Nov-2016	---	---	---	---	---	---	380	8.12	0.57	210	210	210	190	< 0.50	< 2.0	1.3	2.8	---	---	---	210	200	< 1.0	230	< 0.50	< 0.50	0.15	52	13	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.50	---	< 0.0030	1.3	< 0.020	0.11	32	< 0.010
(Duplicate)	15-Nov-2016	---	---	---	---	---	---	380	8.10	0.60	210	200	210	190	< 0.50	< 2.0	1.1	3.8	---	---	---	220	200	< 1.0	230	< 0.50	< 0.50	0.15	52	14	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.58	---	< 0.0030	1.3	< 0.020	0.13	32	< 0.010
	22-Nov-2016	---	---	---	---	---	---	440	8.08	0.62	240	---	---	230	< 0.50	---	1.8	4.8	---	---	---	280	230	< 1.0	280	< 0.50	< 0.50	0.17	60	16	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.48	---	< 0.0030	---	---	---	---	---
(Duplicate)	22-Nov-2016	---	---	---	---	---	---	440	8.14	0.70	240	---	---	230	< 0.50	---	1.7	2.8	---	---	---	280	230	< 1.0	280	< 0.50	< 0.50	0.18	60	17	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	< 0.050	0.46	---	< 0.0030	---	---	---	---	---
	29-Nov-2016	---	---	---	---	---	---	440	7.84	0.48	250	---	---	220	< 0.50	---	1.8	1.1	---	---	---	270	230	< 1.0	270	< 0.50	< 0.50	0.18	61	16	0.017	< 0.010	< 0.020	0.075	< 0.033	0.060	0.51	---	< 0.0030	---	---	---	---	---
(Duplicate)	29-Nov-2016	---	---	---	---	---	---	450	7.96	0.46	250	---	---	260	< 0.50	---	2.0	2.1	---	---	---	270	250	< 1.0	310	< 0.50	< 0.50	0.19	62	18	0.014	< 0.010	< 0.020	0.060	< 0.033	< 0.050	0.58	---	< 0.0030	---	---	---	---	---
	06-Dec-2016	---	---	---	---	---	---	410	7.73	1.2	240	---	---	240	< 0.50	---	1.8	< 1.0	---	---	---	250	230	< 1.0	290	< 0.50	< 0.50	0.18	57	17	0.014	< 0.010	< 0.020	0.062	< 0.033	0.050	0.59	---	< 0.0030	---	---	---	---	---
(Duplicate)	06-Dec-2016	---	---	---	---	---	---	400	7.64	1.1	230	---	---	200	< 0.50	---	1.8	< 1.0	---	---	---	260	210	< 1.0	250	< 0.50	< 0.50	0.17	57	17	0.014	< 0.010	< 0.020	0.063	< 0.033	0.055	0.63	---	0.0035	---	---	---	---	---
	13-Dec-2016	---	---	---	---	---	---	570	7.89	1.5	310	240	310	290	< 0.50	3.9	2.5	< 1.0	---	---	---	350	290	< 1.0	350	< 0.50	< 0.50	0.21	81	22	0.035	< 0.010	0.035	0.15	< 0.033	0.072	0.78	---	0.0037	1.7	0.020	0.21	50	< 0.010
(Duplicate)	13-Dec-2016	---	---	---	---	---	---	570	7.89	1.4	320	300	320	310	< 0.50	4.4	2.3	< 1.0	---	---	---	340	300	< 1.0	380	< 0.50	< 0.50	0.21	82	23	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.060	0.83	---	0.0033	2.7	< 0.020	0.21	50	< 0.010
	20-Dec-2016	---	---	---	---	---	---	640	7.72	2.5	400	---	---	330	< 0.50	---	2.4	1.6	---	---	---	400	350	< 1.0	400	< 0.50	< 0.50	0.23	93	22	0.012	< 0.010	< 0.020	0.054	< 0.033	0.054	0.79	---	< 0.0030	---	---	---	---	---
(Duplicate)	20-Dec-2016	---	---	---	---	---	---	640	7.72	2.5	400	---	---	330	< 0.50	---	2.2	1.4	---	---	---	410	350	< 1.0	400	< 0.50	< 0.50	0.23	92	22	0.013	< 0.010	< 0.020	0.056	< 0.033	0.060	0.65	---	< 0.0030	---	---	---	---	---
	27-Dec-2016	---	---	---	---	---	---	660	7.68	11	370	---	---	340	< 0.50	---	2.7	8.1	---	---	---	400	350	3.2	420	< 0.50	< 0.50	0.24	92	23	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.059	0.88	---	< 0.0030	---	---	---	---	---
(Duplicate)	27-Dec-2016	---	---	---	---	---	---	660	7.69	11	370	---	---	370	< 0.50	---	2.7	8.5	---	---	---	410	370	3.9	450	< 0.50	< 0.50	0.24	94	24	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.065	0.94	---	< 0.0030	---	---	---	---	---
	03-Jan-2017	---	---	---	---	---	---	680	7.61	9.1	350	---	---	360	< 0.50	---	2.5	< 1.0	---	---	---	450	350	< 1.0	440	< 0.50	< 0.50	0.25	100	23	0.013	< 0.010	< 0.020	0.058	< 0.033	0.12	0.67	---	< 0.0030	---	---	---	---	---
(Duplicate)	03-Jan-2017	---	---	---	---	---	---	680	7.64	9.4	350	---	---	360	< 0.50	---	2.5	< 1.0	---	---	---	440	350	3.3	440	< 0.50	< 0.50	0.26	100	23	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.13	0.77	---	< 0.0030	---	---	---	---	---
	09-Jan-2017	---	---	---	---	---	---	680	7.54	14	360	270	350	350	< 0.50	---	2.2	< 1.0	---	---	---	420	350	1.4	430	< 0.50	< 0.50	0.26	96	21	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.18	0.78	---	< 0.0030	3.2	< 0.020	0.22	81	< 0.010
(Duplicate)	09-Jan-2017	---	---	---	---	---	---	670	7.53	15	360	370	360	350	< 0.50	---	< 1.0	< 1.0	---	---	---	420	340	< 1.0	420	< 0.50	< 0.50	0.26	97	22	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.20	0.83	---	< 0.0030	2.7	< 0.020	0.25	83	< 0.010
	18-Jan-2017	---	---	---	---	---	---	700	7.60	19	390	---	---	360	< 0.50	16	3.0	< 1.0	---	---	---	430	360	5.4	440	< 0.50	< 0.50	0.26	93	24	< 0.010	< 0.010	< 0.020	< 0.044	< 0.033	0.14	1.0	---	< 0.0030	---	---	---	---	---
(Duplicate)	18-Jan-2017	---	---	---	---	---	---	700	7.60	20	390	---	---	360	< 0.50	15	2.9	< 1.0	---	---	---	430	360	7.7	430	< 0.50	< 0.50	0.26	94	25	0.012	< 0.010	< 0.020	0.053	< 0.033	0.14	1.0	---	< 0.0030	---	---	---	---	---
	24-Jan-2017	---	---	---	---	---	---	710	7.70	12	390	---	---	360	< 0.50	---	2.8	< 1.0	---	---	---	440	360	< 1.0	440	< 0.50	< 0.50	0.27	92	20	0.057	< 0.010	0.057	0.25	< 0.033	0.22	1.2	---	0.0063	---	---	---	---	---
(Duplicate)	24-Jan-2017	---	---	---	---	---	---	710	7.68	12	380	---	---	360	< 0.50	---	2.9	< 1.0	---	---	---	440	360	< 1.0	440	< 0.50	< 0.50	0.26	96	22	0.055	< 0.010	0.055	0.24	< 0.033	0.22	1.4	---	0.0074	---	---	---	---	---
	31-Jan-2017	---	---	---	---	---	---	690	7.67	9.1	380	---	---	350	< 0.50	---	2.6	< 1.0	---	---	---	410	360	2.9	430	< 0.50	< 0.50	0.25	90	22	0.038	< 0.010	0.038	0.17	< 0.033	0.15	0.88	---	0.0068	---	---	---	---	---
(Duplicate)	31-Jan-2017	---	---	---	---	---	---	690	7.65	8.7	380	---	---	350	< 0.50	---	2.6	< 1.0	---	---	---	420	360	2.6	430	< 0.50	< 0.50	0.25	90	22	0.038	< 0.010	0.038	0.17	< 0.033	0.14	0.94	---	0.0072	---	---	---	---	---
	07-Feb-2017	---	---	---	---	---	---	800	7.69	30	450	350	450	420	< 0.50	19	2.9	< 1.0	---	---	---	560	420	28	510	< 0.50	< 0.50	0.29	110	28	0.015	< 0.010	0.015	0.068	< 0.033	0.12	2.1	---	< 0.0030	3.3	0.040	0.25	98	< 0.010
(Duplicate)	07-Feb-2017	---	---	---	---	---	---	820	7.64	31	460	480	460	420	< 0.50	19	3.2	< 1.0	---	---	---	550	420	28	520	< 0.50	< 0.50	0.29	120	29	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.11	1.8	---	< 0.0030	3.3	0.037	0.25	99	< 0.010
	14-Feb-2017	---	---	---	---	---	---	870	7.62	29	460	---	---	460	< 0.50	---	2.7	< 1.0	---	---	---	550	450	1.4	560	< 0.50	< 0.50	0.31	120	24	0.015	< 0.010	0.015	0.066	< 0.033	0.21	1.1	---	< 0.0030	---	---	---	---	---
(Duplicate)	14-Feb-2017	---	---	---	---	---	---	870	7.61	29	460	---	---	460	< 0.50	---	2.7	< 1.0	---	---	---	530	450	3.1	560	< 0.50	< 0.50	0.31	120	29	0.017	< 0.010	0.017	0.074	< 0.033	0.20	1.0	---	< 0.0030	---	---	---	---	---
	21-Feb-2017	---	---	---	---	---	---	570	7.56	4.3	310	---	---	290	< 0.50	---	1.9	4.5	---	---	---	350	300	< 1.0	360	< 0.50	< 0.50	0.22	74	17	0.059	< 0.010	0.059	0.26	< 0.033	0.10	0.56	---	< 0.0030	---	---	---	---	---
(Duplicate)	21-Feb-2017	---	---	---	---	---	---	570	7.57	4.1	300	---	---	290	< 0.50	---	2.0	4.1	---	---	---	350	290	< 1.0	350	< 0.50	< 0.50	0.22	73	17	0.059	< 0.010	0.059	0.26	< 0.033	0.10	0.53	---	< 0.0030	---	---	---	---	---
	01-Mar-2017	---	---	6.84	1.9	**0.48** [#1,2,3,4]	933	700	7.69	2.7	400	---	---	360	< 0.50	---	1.8	7.8	---	---	---	430	370	< 1.0	430	< 0.50	< 0.50	0.26	93	18	0.010	< 0.010	0.010	0.045	< 0.033	0.076	0.46	---	0.0036	---	---	---	---	---
(Duplicate)	01-Mar-2017	---	---	---	---	---	---	700	7.70	2.1	410	---	---	360	< 0.50	---	1.9	8.1	---	---	---	420	370	< 1.0	440	< 0.50	< 0.50	0.26	94	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.084	0.53	---	0.0031	---	---	---	---	---
	10-Mar-2017	---	---	6.54	0	**0.81** [#1,2,3,4]	912.2	950	7.60	15	540	---	---	500	< 0.50	---	2.8	4.5	---	---	---	590	510	13	610	< 0.50	< 0.50	0.35	140	25	0.013	< 0.010	0.013	0.058	< 0.033	0.12	1.4	---	< 0.0030	---	---	---	---	---
(Duplicate)	10-Mar-2017	---	---	---	---	---	---	950	7.63	15	540	---	---	500	< 0.50	---	2.7	5.0	---	---	---	590	510	16	610	< 0.50	< 0.50	0.35	140	24	0.013	< 0.010	0.013	0.057	< 0.033	0.13	1.2	---	< 0.0030	---	---	---	---	---
	15-Mar-2017	---	---	6.76	0.3	**1.23** [#1,2,3,4]	1060	960	7.53	20	540	550	540	510	< 0.50	16	2.6	< 1.0	---	---	---	590	510	19	630	< 0.50	< 0.50	0.30	150	23	0.019	< 0.010	0.019	0.085	< 0.033	**0.78** [#3,4]	1.7	---	0.013	2.6	0.030	0.27	100	< 0.010
(Duplicate)	15-Mar-2017	---	---	---	---	---	---	970	7.54	23	530	540	530	510	< 0.50	15	2.5	< 1.0	---	---	---	580	510	21	620	< 0.50	< 0.50	0.29	150	24	0.020	< 0.010	0.020	0.087	< 0.033	**0.78** [#3,4]	1.7	---	0.013	2.4	0.029	0.29	100	< 0.010
	21-Mar-2017	---	---	7.62	0.2	**1.19** [#1,2,3,4]	1104	940	7.45	14	560	---	---	490	< 0.50	---	3.2	9.3	---	---	---	560	520	< 1.0	600	< 0.50	< 0.50	0.34	140	19	0.020	< 0.010	0.020	0.088	< 0.033	0.20	0.84	---	0.0044	---	---	---	---	---
(Duplicate)	21-Mar-2017	---	---	---	---	---	---	950	7.49	15	510	---	---	500	< 0.50	---	2.5	8.3	---	---	---	550	500	< 1.0	600	< 0.50	< 0.50	0.35	130	19	0.018	< 0.010	0.018	0.081	< 0.033	0.20	0.83	---	0.0037	---	---	---	---	---
	28-Mar-2017	---	---	7.98	0.8	**4.8** [#1,2,3,4]	876.4	560	7.79	12	290	---	---	270	< 0.50	---	1.9	20	---	---	---	330	290	28	330	< 0.50	< 0.50	0.19	70	13	0.12	< 0.010	0.12	0.52	< 0.033	0.18	1.1	---	0.0039	---	---	---	---	---
(Duplicate)	28-Mar-2017	---	---	---	---	---	---	550	7.81	11	290	---	---	270	< 0.50	---	2.0	20	---	---	---	320	290	28	330	< 0.50	< 0.50	0.19	69	13	0.11	< 0.010	0.11	0.48	< 0.033	0.20	1.2	---	0.0039	---	---	---	---	---
	04-Apr-2017	---	---	---	---	---	---	130	7.65	4.5	59	---	---	58	< 0.50	---	1.0	3.6	---	---	---	85	63	23	71	< 0.50	< 0.50	0.057	17	3.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.58	---	0.0035	---	---	---	---	---
(Duplicate)	04-Apr-2017	---	---	---	---	---	---	130	7.61	4.6	59	---	---	57	< 0.50	---	< 1.0	3.5	---	---	---	83	61	24	70	< 0.50	< 0.50	0.059	16	3.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.56	---	< 0.0030	---	---	---	---	---
	11-Apr-2017	---	---	---	---	---	---	97	7.27	1.3	49	36	49	44	< 0.50	6.5	< 1.0	3.2	---	---	---	58	48	2.1	54	< 0.50	< 0.50	0.058	12	2.6	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.31	---	0.0040	2.2	0.026	0.047	8.5	< 0.010

Water Quality Results

PROJECT No.: 417085-47599

| Monitoring Station | Date | Dissolved Metals and Trace Elements (cont.) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total Metals and Trace Elements | | | | | | | | | | | | | | | | | | |

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)															BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																			
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzobjkfluoranthenoheterobenzopyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																
	24-May-2016	0.085	0.102	973	< 0.040	2480	< 0.0050	1940	69.2	< 3000	< 0.0020	< 0.20	0.53	0.0310	< 0.20	0.50	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	24-May-2016	0.082	0.141	931	< 0.040	2500	< 0.0050	2050	68.5	< 3000	0.0020	< 0.20	< 0.50	0.0340	< 0.20	0.38	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	07-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jun-2016	0.390	0.30	270	< 0.040	3140	0.020	1460	62.1	< 15000	< 0.0020	< 0.20	< 5.0	0.0310	< 0.50	2.5	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	14-Jun-2016	0.064	0.21	280	< 0.040	3490	0.013	1560	66.8	< 15000	< 0.0020	< 0.20	< 5.0	0.0250	< 0.50	< 1.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
CP-FT-A-3	24-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jul-2016	< 0.050	0.129	414	< 0.040	3020	< 0.0050	1990	97.7	< 3000	< 0.0020	< 0.20	< 0.50	0.0210	< 0.20	3.13	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	07-Jul-2016	< 0.050	0.109	414	< 0.040	3010	< 0.0050	2030	99.2	< 3000	< 0.0020	< 0.20	< 0.50	0.0190	< 0.20	2.49	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	12-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Aug-2016	< 0.050	< 0.10	440	< 0.040	3220	< 0.010	2070	71.8	< 3000	< 0.0020	< 0.20	< 2.0	0.0120	< 0.20	< 1.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	16-Aug-2016	< 0.050	0.089	493	< 0.040	3770	< 0.0050	2550	82.1	< 3000	< 0.0020	< 0.20	< 0.50	0.0140	< 0.20	0.31	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	23-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Sep-2016	< 0.050	0.11	950	< 0.040	2620	< 0.010	2690	82.3	< 3000	< 0.0020	< 0.20	< 2.0	0.0120	< 0.20	< 1.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	07-Sep-2016	< 0.050	< 0.10	950	< 0.040	2710	< 0.010	2690	86.1	< 3000	< 0.0020	< 0.20	< 2.0	0.0120	< 0.20	< 1.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.20	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	14-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	14-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2016	< 0.050	0.095	1470	< 0.040	2650	< 0.0050	3190	91.5	< 3000	< 0.0020	< 0.20	< 0.50	0.0190	< 0.20	0.35	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	11-Oct-2016	< 0.050	0.099	1490	< 0.040	2650	< 0.0050	3190	92.0	< 3000	< 0.0020	< 0.20	< 0.50	0.0180	< 0.20	0.37	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 200	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	18-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2016	0.050	0.11	1300	< 0.040	4800	< 0.0050	2900	98	< 3000	< 0.0020	< 0.20	< 0.50	0.032	< 0.20	0.40	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	15-Nov-2016	< 0.050	0.11	1300	< 0.040	4800	< 0.0050	3000	96	< 3000	< 0.0020	< 0.20	< 0.50	0.031	< 0.20	0.36	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	22-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Dec-2016	< 0.050	0.16	1300	< 0.040	6300	< 0.010	3300	110	< 3000	< 0.0020	< 0.20	< 2.0	0.030	< 0.20	2.6	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	13-Dec-2016	0.067	0.20	1600	< 0.040	7600	< 0.010	4100	140	< 3000	< 0.0020	< 0.20	< 2.0	0.039	< 0.20	3.6	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	20-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2017	0.054	0.12	1600	< 0.040	8700	< 0.010	4000	150	< 3000	< 0.0020	< 0.20	< 2.0	0.027	< 0.20	1.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	130	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
(Duplicate)	09-Jan-2017	0.051	0.14	2100	< 0.040	12000	< 0.010	5200	210	< 3000	< 0.0020	< 0.20	< 2.0	0.028	< 0.20	1.4	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---
	18-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--

Water Quality Results

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																																				
Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,l]pyrene	Dibenzo[e,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																						
	24-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	24-May-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	07-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	07-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	14-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
CP-FT-A-3	24-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Jun-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	07-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	12-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	12-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	19-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Jul-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	16-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	23-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	07-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	14-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	20-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Sep-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	11-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	18-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Oct-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	08-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	22-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	29-Nov-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	06-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	20-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Dec-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	09-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	18-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	24-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	31-Jan-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	07-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	14-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Feb-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	10-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	21-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	21-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	28-Mar-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	04-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date (dd-mmm-yyyy)	Field Parameters: Specific Conductivity (uS/cm)	Dissolved Oxygen (%) (%)	pH (pH units)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Conductivity (uS/cm)	Conventional Parameters: Specific Conductivity (Lab) (uS/cm)	pH (Laboratory) (pH Units)	Turbidity (ntu)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative
Waterbody 3 Investigation										
(Duplicate)	11-Apr-2017	---	---	---	---	---	---	97	7.27	1.3
	18-Apr-2017	---	---	---	---	---	---	110	7.66	4.3
(Duplicate)	18-Apr-2017	---	---	---	---	---	---	110	7.59	4.3
	25-Apr-2017	---	---	---	---	---	---	95	7.73	5.5
(Duplicate)	25-Apr-2017	---	---	---	---	---	---	94	7.74	4.5
	03-May-2017	---	---	---	---	---	---	300	7.97	0.87
(Duplicate)	03-May-2017	---	---	---	---	---	---	300	8.01	0.78
	09-May-2017	---	---	---	---	---	---	350	8.49	1.0
(Duplicate)	09-May-2017	---	---	---	---	---	---	350	8.49	0.96
	15-May-2017	---	---	---	---	---	---	350	8.37	0.58
(Duplicate)	15-May-2017	---	---	---	---	---	---	350	8.39	0.51
	16-May-2017	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---
	23-May-2017	---	---	---	---	---	---	350	8.37	0.64
(Duplicate)	23-May-2017	---	---	---	---	---	---	350	8.35	0.85
	30-May-2017	---	---	---	---	---	---	350	8.11	0.97
(Duplicate)	30-May-2017	---	---	---	---	---	---	350	8.37	0.75
	05-Jun-2017	---	---	---	---	---	---	330	8.27	0.68
(Duplicate)	05-Jun-2017	---	---	---	---	---	---	330	8.26	0.71
	13-Jun-2017	---	---	---	---	---	---	330	8.32	0.66
(Duplicate)	13-Jun-2017	---	---	---	---	---	---	320	8.32	0.61
	19-Jun-2017	---	---	---	---	---	---	300	8.27	1.0
(Duplicate)	19-Jun-2017	---	---	---	---	---	---	300	8.27	0.80
	27-Jun-2017	---	---	---	---	---	---	300	8.31	0.74
(Duplicate)	27-Jun-2017	---	---	---	---	---	---	300	8.33	0.63
	05-Jul-2017	---	---	---	---	---	---	330	8.26	0.80
(Duplicate)	05-Jul-2017	---	---	---	---	---	---	330	8.27	0.80
	11-Jul-2017	---	---	---	---	---	---	290	8.15	0.73
(Duplicate)	11-Jul-2017	---	---	---	---	---	---	290	8.13	0.84
	18-Jul-2017	---	---	---	---	---	---	310	8.30	0.74
(Duplicate)	18-Jul-2017	---	---	---	---	---	---	310	8.32	0.67
	25-Jul-2017	---	---	---	---	---	---	300	8.29	0.82
	31-Jul-2017	---	---	---	---	---	---	300	8.40	0.59
	08-Aug-2017	---	---	---	---	---	---	290	8.46	0.57
	15-Aug-2017	---	---	---	---	---	---	300	8.04	1.1
	22-Aug-2017	---	---	---	---	---	---	330	8.27	0.88
	29-Aug-2017	---	---	---	---	---	---	320	8.57	0.85
	05-Sep-2017	---	---	---	---	---	---	320	8.49	0.66
	13-Sep-2017	---	---	---	---	---	---	350	8.26	0.44
(Duplicate)	13-Sep-2017	---	---	---	---	---	---	350	8.27	0.73
	19-Sep-2017	---	---	---	---	---	---	330	8.41	0.65
	26-Sep-2017	---	---	---	---	---	---	350	8.36	0.65
	03-Oct-2017	---	---	---	---	---	---	400	8.13	0.61
	10-Oct-2017	---	---	---	---	---	---	390	8.27	0.35
	17-Oct-2017	---	---	---	---	---	---	400	8.30	0.34
(Duplicate)	17-Oct-2017	---	---	---	---	---	---	390	8.25	0.30
	24-Oct-2017	---	---	---	---	---	---	390	8.26	0.31
	31-Oct-2017	---	---	---	---	---	---	430	8.25	0.57
	07-Nov-2017	---	---	---	---	---	---	520	8.11	0.81
	15-Nov-2017	---	---	---	---	---	---	580	7.79	0.85
(Duplicate)	15-Nov-2017	---	---	---	---	---	---	570	7.73	0.84
	21-Nov-2017	---	---	---	---	---	---	600	7.75	1.2
	28-Nov-2017	---	---	---	---	---	---	580	7.90	5.9
	05-Dec-2017	---	---	---	---	---	---	580	7.83	2.7
	15-Dec-2017	---	---	---	---	---	---	540	7.49	4.6
(Duplicate)	15-Dec-2017	---	---	---	---	---	---	540	7.54	4.3
	19-Dec-2017	---	---	---	---	---	---	550	7.84	5.4
	25-Dec-2017	---	---	---	---	---	---	530	7.62	3.5
	01-Jan-2018	---	---	---	---	---	---	540	7.76	4.9
	09-Jan-2018	---	---	---	---	---	---	580	7.65	3.5
	15-Jan-2018	---	---	---	---	---	---	670	7.94	9.1
	23-Jan-2018	---	---	---	---	---	---	700	7.74	8.4
	24-Jan-2018	---	---	---	---	---	---	700	7.72	2.5
	30-Jan-2018	---	---	---	---	---	---	740	7.65	26
	07-Feb-2018	---	---	---	---	---	---	830	7.84	18
	13-Feb-2018	---	---	---	---	---	---	800	7.54	25
	20-Feb-2018	---	---	---	---	---	---	920	7.58	34
	28-Feb-2018	---	---	---	---	---	---	880	7.62	32
	07-Mar-2018	---	---	---	---	---	---	890	7.68	43
	13-Mar-2018	---	---	---	---	---	---	870	7.84	39
(Duplicate)	13-Mar-2018	---	---	---	---	---	---	870	7.71	42
	20-Mar-2018	---	---	---	---	---	---	730	7.81	29
	27-Mar-2018	---	---	---	---	---	---	790	7.63	27
	03-Apr-2018	928.3	6	6.94	0	**0.8** [#1,2,3,4]	484.6	920	7.70	21
	10-Apr-2018	993	47.8	6.82	1.2	6.7	535	1000	7.68	18
	17-Apr-2018	893.1	12.2	6.87	0.1	**1.79** [#1,2,3,4]	470.9	430	7.77	22
	25-Apr-2018	481.5	9	6.75	2.9	**1.21** [#1,2,3,4]	278.3	190	7.79	12
	01-May-2018	---	---	---	---	---	---	390	7.89	1.7
	10-May-2018	---	---	---	---	---	---	400	8.26	1.2
	15-May-2018	---	---	---	---	---	---	380	8.32	0.57
	22-May-2018	---	---	---	---	---	---	360	8.31	1.1
	29-May-2018	---	---	---	---	---	---	350	8.30	0.41
	07-Jun-2018	---	---	---	---	---	---	320	8.29	0.41
	11-Jun-2018	---	---	---	---	---	---	340	8.24	0.78
	19-Jun-2018	---	---	---	---	---	---	330	8.55	0.80
	28-Jun-2018	---	---	---	---	---	---	330	8.16	1.4
	04-Jul-2018	---	---	---	---	---	---	320	8.31	1.7
	09-Jul-2018	---	---	---	---	---	---	320	8.24	1.1
	17-Jul-2018	---	---	---	---	---	---	330	8.34	0.61
	24-Jul-2018	---	---	---	---	---	---	330	8.15	0.74
	31-Jul-2018	---	---	---	---	---	---	340	8.12	0.71

Monitoring Station	Date (dd-mmm-yyyy)	Total Hardness as CaCO3 (mg/L)	Total Hardness as CaCO3 - Calculated (mg/L)	Dissolved Hardness as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	PP Alkalinity as CaCO3 (mg/L)	Biochemical Oxygen Demand (BOD) (mg/L)	Chloride:D (mg/L)	Sulphate:D (mg/L)	Dissolved Sulphide (mg/L)	Total Sulphide (mg/L)	Sulphide (as H2S) (mg/L)	Total Dissolved Solids (mg/L)	Total Dissolved Solids - Calculated (mg/L)	Total Suspended Solids (TSS) (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Hydroxide (mg/L)	Fluoride:D (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
Waterbody 3 Investigation																			
(Duplicate)	11-Apr-2017	48	45	48	44	< 0.50	4.6	< 1.0	3.1	---	---	---	57	48	1.9	54	< 0.50	< 0.50	0.058
	18-Apr-2017	54	---	---	50	< 0.50	---	< 1.0	3.2	---	---	---	75	55	14	62	< 0.50	< 0.50	0.058
(Duplicate)	18-Apr-2017	54	---	---	49	< 0.50	---	< 1.0	3.5	---	---	---	66	54	16	60	< 0.50	< 0.50	0.057
	25-Apr-2017	48	---	---	45	< 0.50	---	< 1.0	2.1	---	---	---	58	48	23	55	< 0.50	< 0.50	0.063
(Duplicate)	25-Apr-2017	47	---	---	43	< 0.50	---	< 1.0	2.1	---	---	---	52	46	12	53	< 0.50	< 0.50	0.062
	03-May-2017	140	---	---	150	< 0.50	---	< 1.0	2.4	---	---	---	150	140	7.1	180	< 0.50	< 0.50	0.11
(Duplicate)	03-May-2017	140	---	---	150	< 0.50	---	< 1.0	2.9	---	---	---	170	140	< 1.0	180	< 0.50	< 0.50	0.11
	09-May-2017	190	---	---	180	4.5	---	1.2	5.7	---	---	---	200	190	< 1.0	210	5.4	< 0.50	0.16
(Duplicate)	09-May-2017	190	---	---	190	4.5	---	1.0	5.8	---	---	---	200	190	< 1.0	220	5.4	< 0.50	0.16
	15-May-2017	170	170	170	190	2.3	---	< 1.0	5.9	---	---	---	200	180	< 1.0	220	2.7	< 0.50	0.16
(Duplicate)	15-May-2017	170	180	170	190	2.5	---	< 1.0	5.6	---	---	---	200	180	< 1.0	220	3.0	< 0.50	0.18
	16-May-2017	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	2.1	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	190	---	---	180	1.1	---	1.0	5.0	---	---	---	200	180	< 1.0	220	1.3	< 0.50	0.16
(Duplicate)	23-May-2017	200	---	---	180	0.94	---	< 1.0	4.6	---	---	---	200	180	< 1.0	220	1.1	< 0.50	0.15
	30-May-2017	200	---	---	180	< 0.50	---	1.3	3.4	---	---	---	200	180	< 1.0	220	< 0.50	< 0.50	0.17
(Duplicate)	30-May-2017	190	---	---	180	2.0	---	1.0	3.6	---	---	---	190	180	< 1.5	210	2.4	< 0.50	0.17
	05-Jun-2017	180	---	---	190	14	---	< 1.0	3.6	---	---	---	210	180	< 1.0	190	17	< 0.50	0.17
(Duplicate)	05-Jun-2017	180	---	---	170	< 0.50	---	1.0	4.2	---	---	---	200	170	< 1.0	200	< 0.50	< 0.50	0.16
	13-Jun-2017	170	---	---	160	< 0.50	---	1.0	4.3	---	---	---	180	160	< 1.0	190	< 0.50	< 0.50	0.16
(Duplicate)	13-Jun-2017	170	---	---	160	< 0.50	---	< 1.0	4.1	---	---	---	200	160	1.2	190	< 0.50	< 0.50	0.18
	19-Jun-2017	160	160	160	150	< 0.50	2.0	< 1.0	2.0	---	---	---	180	150	< 1.0	190	< 0.50	< 0.50	0.16
(Duplicate)	19-Jun-2017	160	160	160	150	< 0.50	< 2.0	< 1.0	1.2	---	---	---	160	150	1.6	190	< 0.50	< 0.50	0.15
	27-Jun-2017	170	---	---	150	< 0.50	---	< 1.0	3.3	---	---	---	180	160	< 1.0	190	< 0.50	< 0.50	0.17
(Duplicate)	27-Jun-2017	170	---	---	150	< 0.50	---	< 1.0	2.5	---	---	---	180	160	< 1.0	190	< 0.50	< 0.50	0.17
	05-Jul-2017	170	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	220	160	< 1.0	200	< 0.50	< 0.50	0.17
(Duplicate)	05-Jul-2017	170	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	170	160	< 1.0	200	< 0.50	< 0.50	0.17
	11-Jul-2017	160	150	160	150	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	130	140	< 1.0	180	< 0.50	< 0.50	0.16
(Duplicate)	11-Jul-2017	160	160	160	150	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	170	140	< 1.0	180	< 0.50	< 0.50	0.16
	18-Jul-2017	150	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	190	150	< 1.0	190	< 0.50	< 0.50	0.18
(Duplicate)	18-Jul-2017	150	---	---	160	< 0.50	---	< 1.0	< 1.0	---	---	---	160	150	< 1.0	190	< 0.50	< 0.50	0.17
	25-Jul-2017	170	---	---	140	< 0.50	---	< 1.0	2.5	---	---	---	210	150	2.7	170	< 0.50	< 0.50	0.14
	31-Jul-2017	160	---	---	150	2.2	---	1.1	< 1.0	---	---	---	180	150	< 1.0	180	2.6	< 0.50	0.17
	08-Aug-2017	140	---	---	150	3.1	---	< 1.0	< 1.0	---	---	---	160	140	2.5	170	3.7	< 0.50	0.17
	15-Aug-2017	160	170	160	150	< 0.50	< 2.0	< 1.0	< 1.0	---	---	---	170	150	2.5	190	< 0.50	< 0.50	0.16
	22-Aug-2017	180	---	---	180	< 0.50	---	1.2	< 1.0	---	---	---	160	170	< 1.0	210	< 0.50	< 0.50	0.17
	29-Aug-2017	180	---	---	170	5.5	---	< 1.0	2.2	---	---	---	170	160	< 1.0	190	6.6	< 0.50	0.17
	05-Sep-2017	170	---	---	170	4.1	---	< 1.0	4.0	---	---	---	180	160	< 1.5	190	4.9	< 0.50	0.19
	13-Sep-2017	180	180	180	180	< 0.50	< 2.0	< 1.0	3.4	---	---	---	220	180	< 1.0	220	< 0.50	< 0.50	0.19
(Duplicate)	13-Sep-2017	180	180	180	180	< 0.50	< 2.0	< 1.0	3.2	---	---	---	220	180	< 1.0	220	< 0.50	< 0.50	0.19
	19-Sep-2017	200	---	---	180	2.4	---	1.0	4.0	---	---	---	240	180	< 1.5	210	2.9	< 0.50	0.19
	26-Sep-2017	220	---	---	180	1.6	---	1.3	4.8	---	---	---	210	190	< 1.0	220	1.9	< 0.50	0.19
	03-Oct-2017	200	---	---	200	< 0.50	---	< 1.0	9.2	---	---	---	230	200	< 1.0	240	< 0.50	< 0.50	0.19
	10-Oct-2017	210	---	---	200	< 0.50	---	1.5	8.1	---	---	---	180	210	< 1.0	240	< 0.50	< 0.50	0.18
	17-Oct-2017	200	220	200	200	< 0.50	2.4	1.3	7.5	---	---	---	200	200	< 1.0	250	< 0.50	< 0.50	0.19
(Duplicate)	17-Oct-2017	200	220	200	200	< 0.50	2.2	3.7	18	---	---	---	220	210	< 1.0	240	< 0.50	< 0.50	0.19
	24-Oct-2017	210	---	---	210	< 1.0	---	1.2	8.0	---	---	---	240	210	< 1.0	250	< 1.0	< 1.0	0.18
	31-Oct-2017	220	---	---	220	< 1.0	---	1.1	12	---	---	---	260	230	< 1.0	270	< 1.0	< 1.0	0.20
	07-Nov-2017	290	---	---	270	< 1.0	---	1.3	13	---	---	---	340	280	< 1.5	330	< 1.0	< 1.0	0.19
	15-Nov-2017	290	320	290	310	< 1.0	2.9	2.3	12	---	---	---	330	310	< 1.0	370	< 1.0	< 1.0	0.21
(Duplicate)	15-Nov-2017	300	330	300	300	< 1.0	2.8	2.3	12	---	---	---	320	310	< 1.0	370	< 1.0	< 1.0	0.20
	21-Nov-2017	300	---	---	320	< 1.0	---	2.1	11	---	---	---	300	310	< 1.5	390	< 1.0	< 1.0	0.25
	28-Nov-2017	280	---	---	300	< 1.0	---	1.9	10	---	---	---	340	300	21	370	< 1.0	< 1.0	0.20
	05-Dec-2017	300	320	300	310	< 1.0	4.3	4.1	10	---	---	---	320	310	4.9	380	< 1.0	< 1.0	0.22
	15-Dec-2017	280	---	---	290	< 1.0	---	2.4	9.6	---	---	---	280	290	10	350	< 1.0	< 1.0	0.22
(Duplicate)	15-Dec-2017	280	---	---	290	< 1.0	---	2.4	10	---	---	---	320	290	9.7	360	< 1.0	< 1.0	0.22
	19-Dec-2017	290	---	---	280	< 1.0	---	2.4	12	---	---	---	270	290	26	350	< 1.0	< 1.0	0.21
	25-Dec-2017	230	---	---	270	< 1.0	---	3.2	11	---	---	---	310	260	7.0	320	< 1.0	< 1.0	0.19
	01-Jan-2018	290	---	---	280	< 1.0	---	2.2	10	---	---	---	310	290	11	340	< 1.0	< 1.0	0.21
	09-Jan-2018	290	---	---	300	< 1.0	---	2.1	12	---	---	---	350	300	9.4	360	< 1.0	< 1.0	0.20
	15-Jan-2018	340	390	340	310	< 1.0	27	3.5	13	---	---	---	360	330	22	380	< 1.0	< 1.0	0.22
	23-Jan-2018	340	---	---	360	< 1.0	---	3.3	9.1	---	---	---	440	350	38	440	< 1.0	< 1.0	0.25
	24-Jan-2018	360	---	---	360	< 1.0	---	2.6	8.2	---	---	---	380	360	7.6	440	< 1.0	< 1.0	0.23
	30-Jan-2018	390	---	---	360	< 1.0	---	3.9	9.2	---	---	---	470	370	82	440	< 1.0	< 1.0	0.25
	07-Feb-2018	460	---	---	430	< 1.0	---	4.0	6.4	---	---	---	510	440	16	520	< 1.0	< 1.0	0.28
	13-Feb-2018	430	480	430	420	< 1.0	< 2.0	3.9	< 1.0	---	---	---	480	420	21	510	< 1.0	< 1.0	0.25
	20-Feb-2018	470	---	---	470	< 1.0	---	5.7	< 1.0	---	---	---	580	460	57	570	< 1.0	< 1.0	0.28
	28-Feb-2018	480	---	---	470	< 1.0	---	3.9	1.8	---	---	---	500	470	58	580	< 1.0	< 1.0	0.33
	07-Mar-2018	480	---	---	460	< 1.0	---	4.1	< 1.0	---	---	---	580	460	60	560	< 1.0	< 1.0	0.30
	13-Mar-2018	430	480	430	450	< 1.0	34	4.3	< 1.0	---	---	---	550	440	64	550	< 1.0	< 1.0	0.28
(Duplicate)	13-Mar-2018	430	480	430	450	< 1.0	< 100	4.3	< 1.0	---	---	---	450	440	84	550	< 1.0	< 1.0	0.29
	20-Mar-2018	380	---	---	410	< 1.0	---	3.3	2.2	---	---	---	410	390	25	500	< 1.0	< 1.0	0.25
	27-Mar-2018	430	---	---	420	< 1.0	---	3.4	16	---	---	---	450	430	< 1.5	510	< 1.0	< 1.0	0.23
	03-Apr-2018	470	---	---	500	< 1.0	---	5.6	12	---	---	---	520	490	16	610	< 1.0	< 1.0	0.27
	10-Apr-2018	490	590	490	560	< 1.0	22	6.0	< 1.0	---	---	---	550	530	26	690	< 1.0	< 1.0	0.26
	17-Apr-2018	230	---	---	220	< 1.0	---	2.3	7.4	---	---	---	260	230	16	270	< 1.0	< 1.0	0.14
	25-Apr-2018	93	---	---	90	< 1.0	---	1.8	8.1	---	---	---	130	100	40	110	< 1.0	< 1.0	0.060
	01-May-2018	200	---	---	180	< 1.0	---	2.7	18	---	---	---	230	210	< 1.0	220	< 1.0	< 1.0	0.12
	10-May-2018	200	210	200	200	< 1.0	< 2.0	2.2	16	---	---	---	200	210	< 1.0	240	< 1.0	< 1.0	0.16
	15-May-2018	200	---	---	190	< 1.0	---	2.0	15	---	---	---	220	210	< 1.0	230	< 1.0	< 1.0	0.16
	22-May-2018	190	---	---	180	< 1.0	---	1.9	13	---	---	---	220	190	< 1.0	220	< 1.0	< 1.0	0.14
	29-May-2018	200	---	---	180	< 1.0	---	1.5	11	---	---	---	190	190	< 1.0	220	< 1.0	< 1.0	0.17
	07-Jun-2018	190	170	190	170	< 1.0	< 2.0	1.1	10	---	---	---	210	180	< 1.0	210	< 1.0	< 1.0	0.15
	11-Jun-2018	170	---	---	170	< 1.0	---	1.3	9.6	---	---	---	210	180	< 1.0	210	< 1.0	< 1.0	0.15
	19-Jun-2018	160	---	---	160	5.5	---	< 1.0	9.8	---	---	---	180	170	< 1.0	180	6.6	< 1.0	0.17
	28-Jun-2018	180	---	---	160	< 1.0	---	< 1.0	5.1	---	---	---	240	170	< 1.0	200	< 1.0	< 1.0	0.15
	04-Jul-2018	160	---	---	160	< 1.0	---	< 1.0	5.5	---	---	---	200	160	< 1.0	190	< 1.0	< 1.0	0.14
	09-Jul-2018	170	160	170	160	< 1.0	2.8	< 1.0	5.2	---	---	---	210	170	< 1.0	200	< 1.0	< 1.0	0.15
	17-Jul-2018	160	---	---	160	< 1.0	---	1.3	5.0	---	---	---	200	160	< 1.0	200	< 1.0	< 1.0	0.17
	24-Jul-2018	180	---	---	160	< 1.0	---	1.4	5.4	---	---	---	210	170	< 1.0	200	< 1.0	< 1.0	0.15
	31-Jul-2018	180	---	---	170	< 1.0	---	1.3	4.8	---	---	---	230	180	1.5	210	< 1.0	< 1.0	0.15

Monitoring Station	Date (dd-mmm-yyyy)	Carbon: Dissolved Inorganic Carbon (DIC) (mg/L)	Dissolved Organic Carbon (DOC) (mg/L)	Nitrogen Parameters: Nitrate as N (mg/L)	Nitrite as N (mg/L)	Nitrate plus Nitrite as N (mg/L)	Nitrate (NO3) (mg/L)	Nitrite (NO2) (mg/L)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen (mg/L)	Phosphorus: Orthophosphate (P) (mg/L)	Dissolved Metals and Trace Elements: Dissolved Aluminum (ug/L)	Dissolved Antimony (ug/L)	Dissolved Arsenic (ug/L)	Dissolved Barium (ug/L)	Dissolved Beryllium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																	
(Duplicate)	11-Apr-2017	12	2.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.26	---	0.0039	1.7	0.029	0.048	8.9	< 0.010
	18-Apr-2017	13	1.8	0.029	< 0.010	0.029	0.13	< 0.033	< 0.050	0.54	---	0.0060	---	---	---	---	---
(Duplicate)	18-Apr-2017	13	1.9	0.022	< 0.010	0.022	0.099	< 0.033	< 0.050	0.60	---	0.0057	---	---	---	---	---
	25-Apr-2017	12	1.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.99	---	0.0076	---	---	---	---	---
(Duplicate)	25-Apr-2017	11	1.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.62	---	0.0076	---	---	---	---	---
	03-May-2017	40	6.3	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.24	---	< 0.0030	---	---	---	---	---
(Duplicate)	03-May-2017	41	6.5	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.45	---	< 0.0030	---	---	---	---	---
	09-May-2017	46	7.6	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.35	---	0.0049	---	---	---	---	---
(Duplicate)	09-May-2017	47	7.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.024	0.35	---	0.0043	---	---	---	---	---
	15-May-2017	46	8.0	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.041	0.37	---	0.0034	0.83	< 0.020	0.077	26	< 0.010
(Duplicate)	15-May-2017	46	8.3	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.37	---	0.0035	< 0.50	< 0.020	0.075	26	< 0.010
	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	48	10	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	0.81	---	< 0.0030	---	---	---	---	---
(Duplicate)	23-May-2017	48	9.2	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.019	0.90	---	< 0.0030	---	---	---	---	---
	30-May-2017	48	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.015	0.38	---	< 0.0030	---	---	---	---	---
(Duplicate)	30-May-2017	48	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.71	---	< 0.0030	---	---	---	---	---
	05-Jun-2017	39	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.49	---	< 0.0030	---	---	---	---	---
(Duplicate)	05-Jun-2017	39	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.58	---	< 0.0030	---	---	---	---	---
	13-Jun-2017	44	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.031	0.45	---	< 0.0030	---	---	---	---	---
(Duplicate)	13-Jun-2017	45	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.030	0.47	---	< 0.0030	---	---	---	---	---
	19-Jun-2017	43	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.035	0.58	---	0.0038	0.85	< 0.020	0.11	28	< 0.010
(Duplicate)	19-Jun-2017	43	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.037	0.48	---	0.0032	1.1	< 0.020	0.11	27	< 0.010
	27-Jun-2017	43	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.020	0.59	---	0.0035	---	---	---	---	---
(Duplicate)	27-Jun-2017	42	13	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.60	---	< 0.0030	---	---	---	---	---
	05-Jul-2017	45	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.63	---	0.0054	---	---	---	---	---
(Duplicate)	05-Jul-2017	45	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.020	0.63	---	0.0050	---	---	---	---	---
	11-Jul-2017	41	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.70	---	0.0059	0.91	< 0.020	0.15	28	< 0.010
(Duplicate)	11-Jul-2017	41	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.016	0.69	---	0.0061	0.80	< 0.020	0.14	29	< 0.010
	18-Jul-2017	42	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.028	0.57	---	0.0065	---	---	---	---	---
(Duplicate)	18-Jul-2017	43	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.023	0.58	---	0.0069	---	---	---	---	---
	25-Jul-2017	40	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.022	0.59	---	0.012	---	---	---	---	---
	31-Jul-2017	42	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.027	1.1	---	0.0084	---	---	---	---	---
	08-Aug-2017	40	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.030	0.73	---	< 0.0030	---	---	---	---	---
	15-Aug-2017	43	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.018	0.59	---	< 0.0030	1.3	< 0.020	0.16	27	< 0.010
	22-Aug-2017	46	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.17	0.59	---	< 0.0030	---	---	---	---	---
	29-Aug-2017	44	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.031	0.54	---	< 0.0030	---	---	---	---	---
	05-Sep-2017	47	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.033	0.60	---	< 0.0030	---	---	---	---	---
	13-Sep-2017	51	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.061	0.67	---	< 0.0030	0.75	< 0.020	0.14	32	< 0.010
(Duplicate)	13-Sep-2017	51	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.12	0.57	---	< 0.0030	0.79	< 0.020	0.14	33	< 0.010
	19-Sep-2017	46	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.022	0.73	---	< 0.0030	---	---	---	---	---
	26-Sep-2017	47	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.025	0.52	---	< 0.0030	---	---	---	---	---
	03-Oct-2017	51	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.66	---	< 0.0030	---	---	---	---	---
	10-Oct-2017	51	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.034	0.72	---	< 0.0030	---	---	---	---	---
	17-Oct-2017	53	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.018	0.54	---	< 0.0030	0.54	< 0.020	0.11	31	< 0.010
(Duplicate)	17-Oct-2017	52	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.016	0.46	---	< 0.0030	0.59	< 0.020	0.12	30	< 0.010
	24-Oct-2017	52	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.54	---	< 0.0030	---	---	---	---	---
	31-Oct-2017	56	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.41	---	0.0033	---	---	---	---	---
	07-Nov-2017	69	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.61	---	< 0.0030	---	---	---	---	---
	15-Nov-2017	78	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.87	---	< 0.0030	1.2	0.031	0.24	51	< 0.010
(Duplicate)	15-Nov-2017	78	20	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.021	0.83	---	0.0036	1.1	0.035	0.23	53	< 0.010
	21-Nov-2017	85	21	0.012	< 0.010	< 0.014	0.053	< 0.033	0.097	1.0	---	< 0.0030	---	---	---	---	---
	28-Nov-2017	79	20	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.016	1.5	---	0.0037	---	---	---	---	---
	05-Dec-2017	79	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.046	0.91	---	0.0032	1.0	< 0.020	0.20	58	< 0.010
	15-Dec-2017	73	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.076	0.88	---	0.0042	---	---	---	---	---
(Duplicate)	15-Dec-2017	73	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.072	0.99	---	0.0031	---	---	---	---	---
	19-Dec-2017	73	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.14	1.1	---	0.0046	---	---	---	---	---
	25-Dec-2017	69	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.15	0.87	---	0.0044	---	---	---	---	---
	01-Jan-2018	73	18	0.027	< 0.010	0.027	0.12	< 0.033	0.23	1.0	---	0.0038	---	---	---	---	---
	09-Jan-2018	75	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.23	0.96	---	0.0092	---	---	---	---	---
	15-Jan-2018	86	31	0.016	< 0.010	0.016	0.071	< 0.033	**0.33** [#3]	1.7	---	0.029	2.1	0.025	0.32	70	< 0.010
	23-Jan-2018	92	26	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.25	1.9	---	0.0080	---	---	---	---	---
	24-Jan-2018	94	25	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.24	1.9	---	0.0067	---	---	---	---	---
	30-Jan-2018	100	36	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.37** [#3]	3.8	---	0.082	---	---	---	---	---
	07-Feb-2018	110	34	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.56** [#3,4]	4.5	---	0.038	---	---	---	---	---
	13-Feb-2018	120	33	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.43** [#3]	1.7	---	0.0065	2.4	0.046	0.34	92	< 0.010
	20-Feb-2018	130	32	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.58** [#3,4]	3.4	---	0.0097	---	---	---	---	---
	28-Feb-2018	130	31	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.49** [#3,4]	2.7	---	0.0075	---	---	---	---	---
	07-Mar-2018	120	27	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.60** [#3,4]	2.4	---	0.0046	---	---	---	---	---
	13-Mar-2018	130	27	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.78** [#3,4]	3.0	---	0.0097	1.8	0.030	0.29	97	< 0.010
(Duplicate)	13-Mar-2018	120	26	< 0.010	0.010	< 0.014	< 0.044	0.034	**0.72** [#3,4]	4.0	---	0.0086	1.7	0.027	0.31	100	< 0.010
	20-Mar-2018	98	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.37** [#3]	1.2	---	0.0031	---	---	---	---	---
	27-Mar-2018	110	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.29	0.85	---	0.013	---	---	---	---	---
	03-Apr-2018	140	20	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.46** [#3]	1.3	---	0.017	---	---	---	---	---
	10-Apr-2018	150	29	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.66** [#3,4]	2.3	---	0.015	2.5	0.035	0.40	110	< 0.010
	17-Apr-2018	55	15	0.088	< 0.010	0.088	0.39	< 0.033	**0.31** [#3]	1.4	---	0.0086	---	---	---	---	---
	25-Apr-2018	23	9.9	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.29	2.1	---	0.0073	---	---	---	---	---
	01-May-2018	49	10	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.39	---	0.011	---	---	---	---	---
	10-May-2018	50	11	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.35	---	0.0048	0.72	< 0.020	0.13	36	< 0.010
	15-May-2018	47	11	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.023	0.40	---	0.0036	---	---	---	---	---
	22-May-2018	45	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.59	---	< 0.0030	---	---	---	---	---
	29-May-2018	45	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.023	0.60	---	0.12	---	---	---	---	---
	07-Jun-2018	42	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.52	---	< 0.0030	0.50	< 0.020	0.13	29	< 0.010
	11-Jun-2018	44	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.69	---	0.0035	---	---	---	---	---
	19-Jun-2018	41	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.63	---	0.0037	---	---	---	---	---
	28-Jun-2018	44	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.84	---	0.0032	---	---	---	---	---
	04-Jul-2018	41	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.68	---	0.0060	---	---	---	---	---
	09-Jul-2018	43	19	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.018	0.58	---	0.0032	0.67	< 0.020	0.17	30	< 0.010
	17-Jul-2018	43	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.025	0.73	---	< 0.0030	---	---	---	---	---
	24-Jul-2018	44	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.86	---	0.0039	---	---	---	---	---
	31-Jul-2018	44	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.63	---	0.0040	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Dissolved Metals and Trace Elements (cont.)																										Total Metals and Trace Elements																	
		Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L

Water Quality Results

PROJECT No.: 417085-47599

Total Metals and Trace Elements (cont.)

Monitoring Station	Date (dd-mmm-yyyy)	Total Molybdenum (ug/L)	Total Nickel (ug/L)	Total Potassium (ug/L)	Total Selenium (ug/L)	Total Silicon (ug/L)	Total Silver (ug/L)	Total Sodium (ug/L)	Total Strontium (ug/L)	Total Sulphur (ug/L)	Total Thallium (ug/L)	Total Tin (ug/L)	Total Titanium (ug/L)	Total Uranium (ug/L)	Total Vanadium (ug/L)	Total Zinc (ug/L)	Total Zirconium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---
Waterbody 3 Investigation																	
(Duplicate)	11-Apr-2017	0.068	0.15	710	< 0.040	1100	< 0.010	450	24	< 3000	< 0.0020	< 0.20	< 2.0	0.014	< 0.20	3.4	< 0.10
	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2017	< 0.050	0.079	1400	< 0.040	1100	< 0.0050	2600	85	< 3000	< 0.0020	< 0.20	0.66	0.029	< 0.20	0.25	< 0.10
(Duplicate)	15-May-2017	< 0.050	0.083	1400	< 0.040	1100	< 0.0050	2600	84	< 3000	< 0.0020	< 0.20	< 0.50	0.030	< 0.20	0.36	< 0.10
	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2017	< 0.050	0.12	900	< 0.040	1600	< 0.0050	2900	77	< 3000	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	1.2	< 0.10
(Duplicate)	19-Jun-2017	< 0.050	0.091	890	< 0.040	1500	< 0.0050	2900	77	< 3000	< 0.0020	< 0.20	< 0.50	0.017	< 0.20	0.22	< 0.10
	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2017	< 0.050	0.12	580	< 0.040	4300	< 0.010	2900	80	< 3000	< 0.0020	< 0.20	< 2.0	0.014	< 0.20	< 1.0	< 0.10
(Duplicate)	11-Jul-2017	< 0.050	0.18	590	< 0.040	4700	< 0.010	2800	78	< 3000	< 0.0020	< 0.20	< 2.0	0.014	< 0.20	< 1.0	< 0.10
	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2017	< 0.050	0.18	710	< 0.040	6000	< 0.0050	3500	87	< 3000	< 0.0020	< 0.20	< 0.50	0.0090	< 0.20	0.67	< 0.10
	22-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2017	< 0.050	0.15	1300	< 0.040	5100	< 0.010	4300	100	< 3000	< 0.0020	< 0.20	< 2.0	0.0080	< 0.20	< 1.0	< 0.10
(Duplicate)	13-Sep-2017	< 0.050	< 0.10	1200	< 0.040	5000	< 0.010	4200	100	< 3000	< 0.0020	< 0.20	< 2.0	0.0080	< 0.20	< 1.0	< 0.10
	19-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2017	< 0.050	0.097	1700	< 0.040	4800	< 0.0050	5000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.018	< 0.20	0.47	< 0.10
(Duplicate)	17-Oct-2017	< 0.050	0.079	1800	< 0.040	4700	< 0.0050	5200	120	< 3000	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	0.43	< 0.10
	24-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2017	< 0.050	0.23	2300	< 0.040	7700	< 0.0050	6100	190	4000	< 0.0020	< 0.20	< 0.50	0.032	< 0.20	2.5	< 0.10
(Duplicate)	15-Nov-2017	< 0.050	0.28	2400	0.046	7600	< 0.0050	6200	180	3700	< 0.0020	< 0.20	0.60	0.029	< 0.20	2.6	< 0.10
	21-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2017	< 0.050	0.23	2400	< 0.040	8100	< 0.010	6000	180	3500	< 0.0020	< 0.20	< 2.0	0.025	< 0.20	14	< 0.10
	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2018	0.099	0.53	4200	< 0.040	13000	< 0.010	6000	170	4300	< 0.0020	< 0.20	< 2.0	0.056	< 0.20	3.4	0.10
	23-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2018	0.12	0.83	3500	0.062	17000	0.20	5700	230	< 3000	0.0029	< 0.20	3.6	0.046	0.70	18	0.15
	20-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Mar-2018	0.095	0.58	3800	0.042	15000	0.015	7300	240	< 3000	0.0024	< 0.20	3.2	0.038	0.46	12	0.12
(Duplicate)	13-Mar-2018	0.12	0.78	3800	0.051	15000	0.013	7400	250	3100	0.0041	< 0.20	4.6	0.054	0.80	13	0.15
	20-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Apr-2018	< 0.050	1.8	5200	0.054	20000	< 0.010	10000	300	4100	< 0.0020	< 0.20	< 2.0	0.016	0.30	**93** #3,4	0.14
	17-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2018	0.052	0.15	2100	< 0.040	3400	< 0.0050	5600	99	3600	< 0.0020	< 0.20	< 0.50	0.030	< 0.20	0.41	< 0.10
	15-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2018	< 0.050	0.19	1600	< 0.040	720	< 0.0050	5400	92	< 3000	< 0.0020	< 0.20	< 0.50	0.014	< 0.20	3.4	< 0.10
	11-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2018	< 0.050	0.15	1400	< 0.040	5900	< 0.0050	5600	92	< 3000	< 0.0020	0.21	< 0.50	0.0095	< 0.20	0.87	< 0.10
	17-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

BTEX / **Select Hydrocarbons**

Monitoring Station	Date (dd-mmm-yyyy)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m & p-Xylene (ug/L)	o-Xylene (ug/L)	Xylenes-Total (ug/L)	PHC F4 (C34-C50+) (ug/L)	PHC F1 (C6-C10) (ug/L)	PHC F1 (C6-C10) - BTEX (ug/L)	PHC F2 (C10-C16) (ug/L)	PHC F3 (C16-C34) (ug/L)	Naphthenic acids (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	---	---	---	---	**150**	**150**	**110**	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	---	---	---	---	**150**	**150**	**110**	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---
Waterbody 3 Investigation													
(Duplicate)	11-Apr-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	15-May-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	19-Jun-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	11-Jul-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	22-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	13-Sep-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	19-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	17-Oct-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	24-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	15-Nov-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.80	< 200	< 100	< 100	< 100	< 100	< 1.0
	21-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---
	28-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2017	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---
	19-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2018	< 0.40	**1.0** #3,4	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	23-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2018	< 0.40	**2.4** #3,4	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	20-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---
	13-Mar-2018	< 0.40	**0.98** #3,4	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
(Duplicate)	13-Mar-2018	< 0.40	**0.98** #3,4	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	20-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---
	27-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---
	10-Apr-2018	< 0.40	**1.1** #3,4	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.2
	17-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---
	01-May-2018	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	15-May-2018	---	---	---	---	---	---	---	---	---	---	---	---
	22-May-2018	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2018	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.1
	11-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	17-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---

Polycyclic Aromatic Hydrocarbons

Monitoring Station	Date (dd-mmm-yyyy)	2-Methylnaphthalene (ug/L)	1-Methylnaphthalene (ug/L)	Acenaphthylene (ug/L)	Acenaphthene (ug/L)	Acridine (ug/L)	Anthracene (ug/L)	Benzo[a]anthracene (ug/L)	Benzo[a]pyrene (ug/L)	Benzo[a]pyrene equivalency (ug/L)	Benzo[b&j]fluoranthene (ug/L)	Benzo[c]phenanthrene (ug/L)	Benzo[e]pyrene (ug/L)	Benzo[g,h,i]perylene (ug/L)	Benzo[k]fluoranthene (ug/L)	Biphenyl (ug/L)	C1benzobjkfluoranthene/benzoapyrene (ug/L)	C1-Substituted Acenaphthene (ug/L)	C1-Substituted Benzo[a]anthracene/Chrysene (ug/L)	C1-Substituted Biphenyl (ug/L)	C1-Substituted Dibenzothiophene (ug/L)	C1-Substituted Fluoranthene/Pyrene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																						
(Duplicate)	11-Apr-2017	< 0.10	---	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-May-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	19-Jun-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	11-Jul-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	22-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	13-Sep-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	19-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	17-Oct-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	24-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	15-Nov-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	21-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2017	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	23-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Mar-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
(Duplicate)	13-Mar-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Apr-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	15-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	11-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date	Polycyclic Aromatic Hydrocarbons (cont.)																																		
		C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo(b)fluoranthene/benzo(a)pyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo(a,h)pyrene	Dibenzo(a,l)pyrene	Dibenzo(a,l)pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [41]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [42]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [43]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [44]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																				
(Duplicate)	11-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	25-Apr-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	03-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	09-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	23-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	30-May-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	13-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	19-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	27-Jun-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	11-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	18-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	22-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	19-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Sep-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	17-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	24-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	15-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	21-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Nov-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	15-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Dec-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	23-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30-Jan-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Feb-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
(Duplicate)	13-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Apr-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	15-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	11-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Jun-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	24-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-Jul-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																					Carbon		Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements				
Monitoring Station	Date (dd-mmm-yyyy)	Specific Conductivity (uS/cm)	Dissolved Oxygen (%) (%)	pH (pH units)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Conductivity (uS/cm)	Specific Conductivity (Lab) (uS/cm)	pH (Laboratory) (pH Units)	Turbidity (ntu)	Total Hardness as CaCO3 (mg/L)	Total Hardness as CaCO3 - Calculated (mg/L)	Dissolved Hardness as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	PP Alkalinity as CaCO3 (mg/L)	Biochemical Oxygen Demand (BOD) (mg/L)	Chloride:D (mg/L)	Sulphate:D (mg/L)	Dissolved Sulphide (mg/L)	Total Sulphide (mg/L)	Sulphide (as H2S) (mg/L)	Total Dissolved Solids (mg/L)	Total Dissolved Solids - Calculated (mg/L)	Total Suspended Solids (TSS) (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Hydroxide (mg/L)	Fluoride:D (mg/L)	Dissolved Inorganic Carbon (DIC) (mg/L)	Dissolved Organic Carbon (DOC) (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Nitrate plus Nitrite as N (mg/L)	Nitrate (NO3) (mg/L)	Nitrite (NO2) (mg/L)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen (mg/L)	Orthophosphate (P) (mg/L)	Dissolved Aluminum (ug/L)	Dissolved Antimony (ug/L)	Dissolved Arsenic (ug/L)	Dissolved Barium (ug/L)	Dissolved Beryllium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---	---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---	---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																																												
	09-Aug-2018	356.7	57.3	7.76	20.1	**5.27** #3,4	324.9	360	8.22	1.2	200	---	---	180	< 1.0	---	1.3	3.1	---	---	---	190	190	< 1.0	220	< 1.0	< 1.0	0.18	47	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.82	---	0.0036	---	---	---	---	---
	13-Aug-2018	373.8	60.6	7.41	17.1	**5.81** #3,4	317.5	370	8.01	0.77	200	200	200	190	< 1.0	2.2	1.6	3.1	---	---	---	190	190	2.4	230	< 1.0	< 1.0	0.19	49	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.017	0.71	---	0.0033	0.78	< 0.020	0.17	34	< 0.010
	20-Aug-2018	381.2	29.4	7.99	17.6	**2.78** #1,2,3,4	328	380	8.12	0.64	200	---	---	200	< 1.0	---	1.8	2.9	---	---	---	77	200	< 1.0	240	< 1.0	< 1.0	0.18	50	19	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.016	0.61	---	< 0.0030	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	390	8.21	1.5	200	---	---	200	< 1.0	---	2.1	4.4	---	---	---	240	200	< 1.0	240	< 1.0	< 1.0	0.19	52	21	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.018	0.64	---	< 0.0030	---	---	---	---	---
	04-Sep-2018	---	---	---	---	---	---	400	8.08	0.37	190	210	190	200	< 1.0	< 2.0	1.6	3.5	---	---	---	260	200	< 1.0	250	< 1.0	< 1.0	0.18	54	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.022	0.64	---	< 0.0030	0.83	< 0.020	0.13	33	< 0.010
	11-Sep-2018	---	---	---	---	---	---	410	8.19	0.31	210	---	---	210	< 1.0	---	1.7	4.8	---	---	---	230	210	< 1.0	250	< 1.0	< 1.0	0.18	54	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.017	0.65	---	< 0.0030	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	410	8.25	0.67	220	---	---	210	< 1.0	---	1.6	4.7	---	---	---	240	220	2.1	250	< 1.0	< 1.0	0.18	55	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.026	0.72	---	0.0032	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	430	8.36	0.47	230	---	---	230	2.4	---	2.0	4.7	---	---	---	280	230	1.6	270	2.8	< 1.0	0.20	56	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.022	0.76	---	0.0047	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	430	8.21	1.1	240	---	---	230	< 1.0	---	2.1	7.3	---	---	---	230	240	2.8	280	< 1.0	< 1.0	0.17	58	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.59	---	< 0.0030	---	---	---	---	---
	09-Oct-2018	---	---	---	---	---	---	480	8.31	0.87	250	250	250	260	< 1.0	2.6	1.7	7.6	---	---	---	230	260	2.9	320	< 1.0	< 1.0	0.20	63	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.78	---	0.0036	0.94	< 0.020	0.14	38	< 0.010
	17-Oct-2018	---	---	---	---	---	---	420	8.04	1.6	220	---	---	220	< 1.0	---	1.8	8.3	---	---	---	220	230	5.1	270	< 1.0	< 1.0	0.17	55	17	0.030	< 0.010	0.030	0.13	< 0.033	< 0.015	0.59	---	< 0.0030	---	---	---	---	---
	19-Sep-2019	825	---	7.81	11.9	8.91	594	390	8.17	0.67	210	200	210	220	< 1.0	2.0	1.9	1.1	**0.0034** #3,4	**0.0049** #3,4	0.0050	230	210	2.0	270	< 1.0	< 1.0	0.24	53	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.69	---	< 0.0030	0.57	< 0.020	0.12	36	< 0.010
	22-Oct-2019	421.1	---	7.83	3.4	14.56	246.9	440	8.21	0.51	250	210	---	240	< 1.0	< 2.0	2.0	4.5	**0.0083** #3,4	**0.0068** #3,4	0.0070	240	240	2.0	290	< 1.0	< 1.0	0.16	57	18	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.59	---	< 0.0030	0.90	< 0.020	0.17	37	< 0.010
	05-Jan-2020	774.4	---	6.73	0	**3.15** #1,2,3,4	404.5	780	7.38	14	440	400	440	410	< 1.0	17	< 10	< 10	**0.16** #3,4	**0.28** #3,4	0.29	430	410	5.1	500	< 1.0	< 1.0	0.28	110	22	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.54** #3,4	1.6	---	0.0034	2.1	0.021	0.24	85	< 0.010
(Duplicate)	05-Jan-2020	---	---	---	---	---	---	780	7.42	14	430	390	430	410	< 1.0	13	< 10	< 10	**0.14** #3,4	**0.27** #3,4	0.28	390	410	5.1	500	< 1.0	< 1.0	0.28	120	24	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**0.49** #3,4	1.6	---	0.0051	2.0	< 0.020	0.25	85	< 0.010
	31-May-2020	370.5	44	6.95	16.5	**4.29** #1,2,3,4	310.5	350	7.56	0.90	180	170	180	190	< 1.0	2.4	1.8	7.3	< 0.0018	< 0.0018	< 0.0020	230	190	2.2	230	< 1.0	< 1.0	0.15	41	11	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.019	0.55	---	0.0034	4.5	0.022	0.10	33	< 0.010
	10-Aug-2020	352.1	85.5	7.65	17.2	8.23	299.5	340	8.18	1.5	---	180	180	180	< 1.0	2.2	1.7	< 1.0	**0.0050** #3,4	**0.0063** #3,4	0.0067	220	170	3.6	220	< 1.0	< 1.0	0.15	41	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.080	0.66	---	0.0032	1.5	< 0.020	0.12	36	< 0.010
	01-Nov-2020	400.4	---	7.11	3.4	**5.7** #3,4	235.2	400	6.97	1.7	210	210	210	240	< 1.0	7.8	2.8	< 1.0	**0.0060** #3,4	**0.011** #3,4	0.012	180	230	7.4	290	< 1.0	< 1.0	0.13	48	22	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.026	1.6	---	0.0057	3.0	0.023	0.21	32	< 0.010
	17-Jan-2021	678.7	---	6.78	0.9	**2.58** #1,2,3,4	367.8	460	6.89	2.8	240	240	240	290	< 1.0	10	1.3	< 1.0	**0.74** #3,4	**0.79** #3,4	0.84	220	260	14	350	< 1.0	< 1.0	0.15	61	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.26	1.0	---	< 0.0030	2.1	< 0.020	0.12	42	< 0.010
	11-Apr-2021	624.2	55.7	6.67	2.7	7.44	359	590	6.77	3.2	240	330	240	320	< 1.0	> 17	1.8	< 1.0	**0.20** #3,4	**0.31** #3,4	0.33	380	280	32	390	< 1.0	< 1.0	0.19	82	11	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.43** #3	1.2	---	0.0083	1.5	< 0.020	0.13	45	< 0.010
	08-Aug-2021	455.3	28.3	7.12	18.3	**2.66** #1,2,3,4	397.2	400	7.87	1.0	---	190	190	220	< 1.0	< 2.0	2.4	7.1	< 0.0018	**0.0059** #3,4	0.0063	300	220	2.3	270	< 1.0	< 1.0	0.21	52	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.18	0.92	0.92	0.0036	3.2	< 0.020	0.12	34	< 0.010
	12-Oct-2021	493.4	108.2	8.19	4.8	13.85	303.7	500	8.11	2.0	---	210	230	260	< 1.0	< 2.0	2.8	18	**0.0027** #3,4	**0.0064** #3,4	0.0068	300	270	2.4	320	< 1.0	< 1.0	0.19	73	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.74	0.74	0.0060	2.4	< 0.020	0.14	39	< 0.010
	08-Jan-2022	945	74.5	6.84	0.7	10.59	606	670	7.08	8.5	---	310	310	370	< 1.0	8.7	3.2	< 1.0	**0.77** #3,4	**0.98** #3,4	1.0	420	350	1.8	450	< 1.0	< 1.0	0.22	99	20	0.015	< 0.010	0.015	0.064	< 0.033	**0.32** #3	1.0	1.1	0.0047	2.6	< 0.020	0.095	52	< 0.010
	17-Apr-2022	163.7	26	**6.42** #3,4	0.3	**3.77** #1,2,3,4	93.1	180	6.81	1.9	---	87	83	92	< 1.0	5.3	< 1.0	1.6	**0.036** #3,4	**0.042** #3,4	0.044	96	90	2.4	110	< 1.0	< 1.0	< 0.050	24	6.2	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.60	0.60	0.0062	3.0	< 0.020	0.076	13	< 0.010
	21-May-2022	379.3	110	8.08	11.9	11.87	294.2	390	8.12	---	180	---	---	190	< 1.0	---	< 1.0	19	---	**0.0049** #3,4	0.0052	220	210	---	230	< 1.0	< 1.0	0.17	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.015	---	---	---	5.5	< 0.60	< 0.20	32	< 1.0
	28-Aug-2022	434.8	69.4	7.75	20.1	**6.3** #3,4	393.7	430	7.91	1.2	---	190	190	220	< 1.0	< 2.0	2.0	1.6	< 0.0018	< 0.0018	< 0.0020	290	220	1.3	270	< 1.0	< 1.0	0.23	59	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.027	0.90	0.90	< 0.0030	3.5	< 0.020	0.13	42	< 0.010
	12-Nov-2022	626.9	81	7.93	0.1	11.78	328.4	610	8.07	1.4	---	300	290	320	< 1.0	< 2.0	3.4	23	**0.0048** #3,4	**0.0033** #3,4	0.0035	330	340	1.1	380	< 1.0	< 1.0	0.31	88	19	< 0.10	< 0.010	< 0.10	< 0.44	< 0.033	0.082	1.8	1.8	0.0037	2.1	< 0.020	0.15	48	< 0.010
	15-Jan-2023	638.4	22	6.72	0	**3.21** #1,2,3,4	333	660	7.81	3.0	---	310	310	350	< 1.0	12	2.3	7.2	---	---	---	370	350	2.3	430	< 1.0	< 1.0	0.27	90	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.44** #3	1.1	1.1	0.0053	2.4	< 0.020	0.081	59	< 0.010
	14-Mar-2023	716.6	11.7	6.95	-0.1	**1.72** #1,2,3,4	372.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	592.1	28.9	6.88	0.1	**3.24** #1,2,3,4	310.9	580	7.20	1.3	---	270	300	310	< 1.0	12	1.9	5.5	**0.14** #3,4	**1.8** #3,4	1.9	350	310	1.6	380	< 1.0	< 1.0	0.23	89	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.36** #3	0.74	0.74	0.0068	3.2	< 0.020	0.084	40	< 0.010
	17-Mar-2023	865.6	12.7	6.58	1.2	**1.78** #1,2,3,4	472.5	570	7.45	7.3	---	300	270	320	< 1.0	7.2	2.3	5.3	**0.034** #3,4	**1.6** #3,4	1.7	360	300	8.7	390	< 1.0	< 1.0	0.23	85	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.40** #3	< 2.0	< 2.0	0.0068	2.1	< 0.020	0.060	41	< 0.010
WB3-SW-01	21-May-2022	1565	20.1	7.05	8.7	**2.21** #1,2,3,4	1077	1300	7.73	---	440	---	---	520	< 1.0	---	14	200	---	---	---	850	860	---	640	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---
	28-May-2022	1532	51.1	7.32	9.1	**5.78** #3,4	1066	1300	7.69	---	400	---	---	500	< 1.0	---	14	200	---	**< 0.0090** #3,4	< 0.010	760	820	---	610	< 1.0	< 1.0	1.5	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.70** #3,4	---	---	---	< 3.0	< 0.60	0.48	77	< 1.0
	19-Jun-2022	1384	27.1	7.15	18.6	**2.42** #1,2,3,4	1215	1300	7.86	---	420	---	---	540	< 1.0	---	14	180	---	**0.0075** #3,4	0.0079	870	840	---	660	< 1.0	< 1.0	1.6	---	---	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**1.1** #3,4	---	---	---	< 3.0	< 0.60	0.50	100	< 1.0
	14-Jul-2022	1671	6.6	7.1	12.6	**0.7** #1,2,3,4	1277	1400	7.60	61	---	440	390	600	< 1.0	< 2.0	16	180	**0.0064** #3,4	**0.021** #3,4	0.023	890	850	13	730	< 1.0	< 1.0	1.6	170	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.8** #3,4	2.4	2.4	0.0034	3.2	< 0.020	0.85	97	< 0.010
	23-Jul-2022	1476	21.3	7.04	15.3	**2.13** #1,2,3,4	1208	1300	7.91	45	---	380	370	570	< 1.0	< 2.0	16	170	**0.0044** #3,4	**0.012** #3,4	0.013	920	820	12	690	< 1.0	< 1.0	1.8	140	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.3** #3,4	1.8	1.8	0.0033	1.5	< 0.020	0.96	93	< 0.010
	27-Jul-2022	1466	33.1	7.16	17.2	**3.17** #1,2,3,4	1243	1400	7.74	48	---	370	370	580	< 1.0	< 2.0	16	170	**0.0059** #3,4	**0.0059** #3,4	0.0063	940	820	14	710	< 1.0	< 1.0	1.6	150	25	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.7** #3,4	2.2	2.2	< 0.0030	1.7	< 0.020	0.91	99	< 0.010
	03-Aug-2022	1360	28.2	7.34	18.4	**2.69** #1,2,3,4	1188	1300	7.78	75	---	380	360	590	< 1.0	9.0	18	150	**0.0052** #3,4	**0.0047** #3,4	0.0050	920	820	27	720	< 1.0	< 1.0	1.6	150	27	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.9** #3,4	1.7	1.7	0.0041	2.6	< 0.020	1.1	92	< 0.010
	10-Aug-2022	1376	32.4	7.42	22.3	**2.8** #1,2,3,4	1303	1300	7.75	30	---	380	390	540	< 1.0	< 2.0	17	170	**0.0042** #3,4	**0.0047** #3,4	0.0050	870	810	8.6	660	< 1.0	< 1.0	1.6	140	23	0.011	< 0.010	0.011	0.047	< 0.033	**1.4** #3,4	2.1	2.1	0.0038	2.5	< 0.020	0.98	95	< 0.010
	20-Aug-2022	1341	24.8	7.16	25.2	**2.03** #1,2,3,4	1345	1300	7.76	50	---	370	360	560	< 1.0	< 2.0	17	170	**0.0032** #3,4	**0.014** #3,4	0.015	920	820	4.9	690	< 1.0	< 1.0	1.6	160	28	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.6** #3,4	2.2	2.2	0.0033	1.9	< 0.020	1.0	100	0.011
	25-Aug-2022	1126	16.1	7.21	19.2	**1.49** #1,2,3,4	1000	1300	7.55	50	---	330	320	560	< 1.0	6.7	16	160	**0.0066** #3,4	**0.018** #3,4	0.019	850	780	15	680	< 1.0	< 1.0	1.8	160	20	0.071	< 0.010	0.071	0.32	< 0.033	**1.3** #3,4	1.7	1.8	0.0036	5.0	< 0.020	1.5	97	< 0.010
	30-Aug-2022	1093	19.9	7.23	15.2	**1.99** #1,2,3,4	888	1300	7.53	220	---	340	320	530	< 1.0	5.0	17	140	**0.0022** #3,4	**0.014** #3,4	0.015	850	760	170	650	< 1.0	< 1.0	1.5	130	26	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.6** #3,4	2.8	2.8	< 0.0030	4.2	0.061	1.7	110	< 0.010
	07-Sep-2022	1237	20.9	7.24	12.8	**2.2** #1,2,3,4	949	1300	7.78	55	---	360	340	550	< 1.0	5.6	17	170	**0.0022** #3,4	**0.0066** #3,4	0.0071	870	800	9.9	670	< 1.0	< 1.0	1.7	150	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.5** #3,4	2.5	2.5	0.0030	2.4	< 0.020	1.9	110	< 0.010
	13-Sep-2022	1146	25.7	7.15	10.6	**2.84** #1,2,3,4	831	1300	7.72	220	---	320	330	540	< 1.0	13	19	150	**0.0061** #3,4	**0.014** #3,4	0.015	860	790	44	650	< 1.0	< 1.0	1.8	140	29	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.3** #3,4	1.9	1.9	0.0038	4.5	< 0.020	2.4	100	< 0.010
	18-Sep-2022	1257	16.9	7.18	12.9	**1.79** #1,2,3,4	967	1200	7.55	120	---	310	310	520	< 1.0	< 2.0	16	130	< 0.0018	**0.0072** #3,4	0.0077	770	720	510	630	< 1.0	< 1.0	1.7	140	27	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.76** #3,4	1.9	1.9	0.0041	1.6	< 0.020	1.4	85	< 0.010
(Duplicate)	18-Sep-2022	---	---	---	---	---	---	1300	7.57	160	---	330	310	570	< 1.0	7.3	18	120	**0.0053** #3,4	**0.017** #3,4	0.018	820	750	79	690	< 1.0	< 1.0	1.7	150	35	< 0.050	**< 0.050** #3,4	< 0.050	< 0.22	< 0.16	**0.78** #3,4	2.0	2.0	0.0038	4.6	< 0.020	1.9	97	0.016
	27-Sep-2022	1040	32.1	7.1	10.8	**3.54** #1,2,3,4	758	1300	7.42	78	---	360	350	530	< 1.0	7.2	19	190	**0.0043** #3,4	**0.0053** #3,4	0.0056	890	830	19	650	< 1.0	< 1.0	1.8	120	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**2.3** #3,4	2.4	2.4	0.0036	2.7	< 0.020	1.2	79	< 0.010
	02-Oct-2022	1268	36.5	7.16	12.4	**3.89** #1,2,3,4	961	1300	7.93	980	---	360	350	530	< 1.0	6.0	18	200	**0.0033** #3,4	**0.0038** #3,4	0.0040	940	840	14	650	< 1.0	< 1.0	2.0	130	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.7** #3,4	2.5	2.5	< 0.0030	3.7	< 0.020	0.98	81	< 0.010
	10-Oct-2022	999	30.5	7.33	9.5	**3.48** #1,2,3,4	793	1300	7.64	680	---	350	340	490	< 1.0	8.5	20	210	< 0.0018	**< 0.0090** #3,4	< 0.0020	880	820	430	590	< 1.0	< 1.0	1.8	120	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.2** #3,4	3.9	3.9	0.0063	3.8	< 0.020	1.3	95	< 0.010
(Duplicate)	10-Oct-2022	---	---	---	---	---	---	1300	7.62	130	---	350	360	500	< 1.0	11	19	210	**0.0023** #3,4	**0.0082** #3,4	0.0087	920	830	62	610	< 1.0	< 1.0	1.7	140	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.7** #3,4	2.6	2.6	0.0044	5.8	0.023	1.0	81	< 0.010
	16-Oct-2022	1076	38	7.19	5.7	**4.75** #1,2,3,4	679	1300	7.83	57	---	330	330	460	< 1.0	9.8	20	**230** #3	< 0.0018	**0.0072** #3,4	0.0077	780	810	10	560	< 1.0	< 1.0	1.8	120	49	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.7** #3,4	2.0	2.0	0.0044	2.3	< 0.020	0.86	70	< 0.010
	24-Oct-2022	1105	30	7.04	5.6	**3.72** #1,2,3,4	692	1300	7.84	99	---	370	310	470	< 1.0	8.8	21	**230** #3	< 0.0018	**0.0072** #3,4	0.0077	850	840	27	570	< 1.0	< 1.0	2.0	120	25	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**1.3** #3,4	2.1	2.1	0.0042	3.8	< 0.020	1.5	82	0.013
(Duplicate)	24-Oct-2022	---	---	---	---	---	---	1300	7.80	150	---	330	300	460	< 1.0	15	22	**240** #3	**0.0028** #3,4	**0.033** #3,4	0.035	870	840	130	570	< 1.0	< 1.0	2.1	120	28	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	**1.3** #3,4	2.2	2.2	0.0047	5.0	0.054	1.6	87	0.014
	30-Oct-2022	1076	42.5	7.06	4.7	**5.45** #3,4	658	1300	7.93	320	---	340	330	490	< 1.0	7.7	20	**230** #3	**0.0043** #3,4	**0.0043** #3,4	0.0045	860	840	120	600	< 1.0	< 1.0	1.8	120	26	0.22	< 0.010	0.22	0.99	< 0.033	**2.0** #3,4	2.4	2.6	0.0050	4.7	< 0.020	1.1	68	< 0.010
(Duplicate)	30-Oct-2022	---	---	---	---	---	---	1300	7.95	140	---	350	330	500	< 1.0	8.1	21	**220** #3	**0.0043** #3,4	**0.0048** #3,4	0.0051	890	840	40	610	< 1.0	< 1.0	1.8	110	27	0.17	< 0.010	0.17	0.77	< 0.033	**2.0** #3,4	2.4	2.6	0.0043	7.0	< 0.020	1.4	81	< 0.010
	06-Nov-2022	1092	6.7	7.32	3.1	**0.89** #1,2,3,4	634	1300	7.98	320	---	300	270	460	< 1.0	6.6	23	190	< 0.0018	**0.016** #3,4	0.017	900	790	160	570	< 1.0	< 1.0	2.3	120	30	< 0.10	< 0.010	< 0.10	< 0.44	< 0.033	**0.79** #3,4	3.2	3.2	0.0056	11	< 0.020	2.0	94	0.010
(Duplicate)	06-Nov-2022	---	---	---	---	---	---	1300	7.99	220	---	300	270	480	< 1.0	12	22	200	**0.0023** #3,4	**< 0.0090** #3,4	< 0.0020	920	800	73	580	< 1.0	< 1.0	2.4	120	29	0.053	< 0.010	0.053	0.23	< 0.033	**0.78** #3,4	1.7	1.8	0.0063	15	< 0.020	2.1	93	0.010
	19-Feb-2023	1345	32.4	7.78	0.4	**4.66** #1,2,3,4	713	1300	7.78	---	280	---	---	300	< 1.0	---	30	**370** #3,4	---	**0.030** #3,4	0.032	970	910	---	370	< 1.0	< 1.0	2.7	---	---	0.034	< 0.010	0.034	0.15	< 0.033	**0.88** #3,4	---	---	---	< 3.0	< 0.60	2.1	140	< 1.0
	08-Mar-2023	1539	18.7	7.03	1.8	**2.59** #1,2,3,4	856	1500	7.63	130	---	350	380	500	< 1.0	33	20	**320** #3,4	**0.0044** #3,4	**0.025** #3,4	0.027	1100	1000	20	620	< 1.0	< 1.0	2.0	130	29	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**2.9** #3,4	4.1	4.1	< 0.0030	8.0	< 0.10	5.9	230	< 0.050
	19-Mar-2023	1488	20.8	6.71	3.4	**2.67** #1,2,3,4	875	1500	7.47	370	---	420	380	590	< 1.0	18	18	**240** #3	**0.0036** #3,4	**0.017** #3,4	0.018	1000	980	67	730	< 1.0	< 1.0	1.7	130	28	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**2.1** #3,4	< 2.0	< 2.0	< 0.0030	7.1	0.14	5.3	160	0.055
	28-Mar-2023	---	---	---	---	---	---	1500	7.26	210	---	---	---	460	< 1.0	---	26	**350** #3,4	**0.0041** #3,4	**0.0055** #3,4	0.0059	1000	980	59	560	< 1.0	< 1.0	2.3	120	25	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.2** #3,4	1.6	1.6	0.0030	---	---	---	---	---
	29-Mar-2023	---	---	---	---	---	---	1400	7.14	---	390	---	---	470	< 1.0	---	21	**290** #3	---	**0.010** #3,4	0.011	960	940	---	570	< 1.0	< 1.0	1.6	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.9** #3,4	---	---	---	< 3.0	< 0.60	2.9	150	< 1.0
WB3-Pond-02	21-May-2022	395	109.1	7.88	11.1	12.02	279.8	380	8.10	---	200	---	---	200	< 1.0	---	< 1.0	17	---	---	---	220	220	---	250	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	382.7	118.9	8.07	11.3	12.92	283.1	390	8.15	---	210	---	---	190	< 1.0	---	< 1.0	20	---	---	---	220	220	---	230	< 1.0	< 1.0	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---
	14-Jul-2022	389	105.4	8.18	19.4	9.69	347.6	390	7.87	3.2	---	190	180	200	< 1.0	< 2.0	1.2	12	**0.010** #3,4	**0.013** #3,4	0.013	250	210	73	250	< 1.0	< 1.0	0.20	62	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.95	0.95	0.0039	2.2	< 0.020	0.13	36	< 0.010
	23-Jul-2022	432.8	88.1	7.61	19.5	7.94	390.4	400	8.01	1.4	---	200	180	210	< 1.0	< 2.0	< 1.0	12	< 0.0018	**0.0049** #3,4	0.0052	260	210	2.3	250	< 1.0	< 1.0	0.21	55	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.86	0.86	0.0033	1.6	< 0.020	0.14	35	< 0.010
	27-Jul-2022	440.1	92.3	8.03	20.1	8.33	398.7	410	8.07	0.93	---	180	180	210	< 1.0	< 2.0	1.5	11	**0.0059** #3,4	**0.0059** #3,4	0.0063	270	210	1.4	250	< 1.0	< 1.0	0.22	52	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.93	0.93	< 0.0030	1.9	< 0.020	0.15	36	< 0.010
	03-Aug-2022	410.8	75.1	7.43	20.2	7.15	374.2	420	8.07	0.83	---	190	180	210	< 1.0	< 2.0	1.7	11	**0.0042** #3,4	< 0.0018	< 0.0020	250	210	< 1.0	260	< 1.0	< 1.0	0.20	54	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.020	1.6	1.6	0.0031	4.2	< 0.020	0.15	35	< 0.010
	10-Aug-2022	408.3	67.8	7.93	20.2	**6.13** #3,4	371.1	400	7.96	1.4	---	200	200	210	< 1.0	19	1.4	10	**0.0042** #3,4	**0.0076** #3,4	0.0081	260	220	1.7	260	< 1.0	< 1.0	0.21	57	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.69	0.69	0.0032	3.1	< 0.020	0.14	39	< 0.010
	20-Aug-2022	428.4	96.2	7.53	22.5	8.31	408.9	420	7.95	1.7	---	200	190	220	< 1.0	< 2.0	2.1	9.4	**0.0027** #3,4	**0.0052** #3,4	0.0055	270	220	3.4	270	< 1.0	< 1.0	0.21	62	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.0	1.0	0.0038	4.6	0.024	0.18	41	< 0.010
	29-Aug-2022	375.9	54.1	7.64	18.2	**5.09** #3,4	327.3	460	8.15	1.5	---	200	200	240	< 1.0	< 2.0	2.3	13	**0.0086** #3,4	**0.010** #3,4	0.011	300	240	3.0	290	< 1.0	< 1.0	0.27	67	13	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.032	0.88	0.88	0.0034	1.3	< 0.020	0.15	43	< 0.010
(Duplicate)	29-Aug-2022	---	---	---	---	---	---	460	8.12	1.1	---	210	200	240	< 1.0	< 2.0	2.0	12	**0.0076** #3,4	**0.0096** #3,4	0.010	290	240	1.1	290	< 1.0	< 1.0	0.26	66	15	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.026	0.87	0.87	0.0033	2.6	< 0.020	0.15	43	< 0.010
	05-Sep-2022	460	70	7.68	17.6	6.7	377	450	8.06	1.9	---	210	200	240	< 1.0	< 2.0	2.2	10	**0.0047** #3,4	**0.0037** #3,4	0.0039	290	240	11	290	< 1.0	< 1.0	0.26	63	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.2	1.2	0.0034	1.4	< 0.020	0.14	44	< 0.010
(Duplicate)	05-Sep-2022	---	---	---	---	---	---	450	8.10	1.0	---	210	200	260	< 1.0	< 2.0	2.1	9.9	**0.0052** #3,4	**0.0037** #3,4	0.0039	280	250	< 1.0	320	< 1.0	< 1.0	0.27	61	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.015	1.0	1.0	0.0040	0.95	< 0.020	0.14	43	< 0.010
	12-Sep-2022	453	82	7.8	13.5	8.61	353	480	7.99	0.93	---	210	220	260	< 1.0	< 2.0	2.7	10	**0.0042** #3,4	**0.0081** #3,4	0.0086	280	260	1.5	310	< 1.0	< 1.0	0.24	71	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.76	0.76	0.0036	1.5	< 0.020	0.15	44	< 0.010
	18-Sep-2022	467.7	63.9	7.72	14.6	**6.49** #3,4	375.2	480	7.85	1.1	---	230	210	250	< 1.0	< 2.0	2.5	10	**0.0062** #3,4	**0.0082** #3,4	0.0087	300	260	< 0.95	310	< 1.0	< 1.0	0.22	64	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	0.96	0.96	0.0053	2.0	< 0.020	0.14	44	< 0.010
	27-Sep-2022	374.9	81.7	7.92	10.7	9.06	272.5	490	7.89	1.3	---	220	230	270	< 1.0	< 2.0	2.7	9.7	**0.0067** #3,4	**0.0057** #3,4	0.0061	310	270	1.0	330	< 1.0	< 1.0	0.26	68	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.86	0.86	0.0047	2.0	< 0.020	0.14	45	< 0.010
	03-Oct-2022	482.1	71.2	7.79	11.2	7.8	355.3	530	7.67	1.7	---	240	240	270	< 1.0	< 2.0	2.7	14	**0.0043** #3,4	**0.0028** #3,4	0.0030	320	280	2.4	330	< 1.0	< 1.0	0.25	70	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.019	0.99	0.99	0.0035	1.3	< 0.020	0.14	46	< 0.010
	10-Oct-2022	399.4	47.7	7.32	9.3	**5.34** #3,4	279.9	510	8.15	1.1	---	230	240	280	< 1.0	< 2.0	2.7	13	**0.0028** #3,4	**0.014** #3,4	0.015	320	280	1.8	340	< 1.0	< 1.0	0.25	71	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.80	0.80	0.0042	1.6	< 0.020	0.13	44	< 0.010
	17-Oct-2022	415.5	90.4	8.06	3.4	12.03	244	510	7.94	2.0	---	240	240	270	< 1.0	< 2.0	3.4	16	< 0.0018	**0.026** #3,4	0.027	280	280	2.1	330	< 1.0	< 1.0	0.27	74	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.95	0.95	0.0065	4.8	< 0.020	0.14	42	< 0.010
	24-Oct-2022	426.6	80.9	8.06	3.4	10.74	251.1	520	8.29	1.4	---	250	240	270	< 1.0	< 2.0	3.4	13	< 0.0018	**0.014** #3,4	0.015	310	280	2.1	340	< 1.0	< 1.0	0.28	71	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.74	0.74	0.0047	3.4	0.038	0.13	41	< 0.010
	30-Oct-2022	414.7	87.3	8.11	2.4	11.91	236	520	8.35	1.5	---	240	240	280	2.1	< 2.0	3.8	15	**0.011** #3,4	**0.013** #3,4	0.013	330	290	1.1	330	2.5	< 1.0	0.27	73	17	0.29	< 0.010	0.29	1.3	< 0.033	< 0.015	0.39	0.68	0.0050	2.4	< 0.020	0.13	39	< 0.010
	17-Mar-2023	815.2	11.4	6.89	0.2	**1.66** #1,2,3,4	420.7	800	7.48	3.6	---	320	330	400	< 1.0	7.7	8.1	49	**2.2** #3,4	**4.8** #3,4	5.1	510	460	< 1.0	490	< 1.0	< 1.0	0.48	100	15	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.57** #3,4	1.3	1.3	0.031	2.0	< 0.020	0.11	46	< 0.010

PROJECT No.: 417085-47599

Dissolved Metals and Trace Elements (cont.)

Monitoring Station	Date (dd-mmm-yyyy)	Dissolved Bismuth (ug/L)	Dissolved Boron (ug/L)	Dissolved Cadmium (ug/L)	Dissolved Calcium (ug/L)	Dissolved Chromium (ug/L)	Dissolved Cobalt (ug/L)	Dissolved Copper (ug/L)	Dissolved Iron (ug/L)	Dissolved Lead (ug/L)	Dissolved Lithium (ug/L)	Dissolved Magnesium (ug/L)	Dissolved Manganese (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---		---	---	300	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---		---	---	300	---	---	---	---
Waterbody 3 Investigation													
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	< 0.0050	33	< 0.0050	41000	< 0.10	0.033	< 0.050	63	< 0.0050	9.8	23000	0.63
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	< 0.0050	33	< 0.0050	42000	< 0.10	0.022	< 0.050	29	< 0.0050	11	22000	1.4
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	< 0.0050	29	< 0.0050	57000	< 0.10	0.027	< 0.050	22	< 0.0050	11	26000	2.7
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	< 0.0050	31	< 0.0050	47000	< 0.10	0.025	< 0.050	49	0.0089	8.2	21000	5.7
	22-Oct-2019	< 0.0050	29	< 0.0050	52000	< 0.10	0.026	0.060	32	< 0.0050	8.4	22000	5.2
	05-Jan-2020	< 0.0050	23	< 0.0050	100000	0.11	0.13	< 0.050	**2600** [#3,4]	< 0.0050	14	37000	790
(Duplicate)	05-Jan-2020	< 0.0050	23	< 0.0050	100000	< 0.10	0.13	< 0.050	**2600** [#3,4]	< 0.0050	14	37000	790
	31-May-2020	< 0.0050	17	< 0.0050	44000	< 0.10	0.035	0.090	65	0.0056	6.6	15000	16
	10-Aug-2020	< 0.0050	36	< 0.0050	43000	0.12	0.031	0.14	200	0.021	6.4	17000	6.6
	01-Nov-2020	< 0.0050	28	< 0.0050	52000	< 0.10	0.045	0.30	130	0.0081	5.0	18000	59
	17-Jan-2021	< 0.0050	14	< 0.0050	61000	< 0.10	0.043	< 0.050	**620** [#3,4]	< 0.0050	7.1	22000	200
	11-Apr-2021	< 0.0050	< 10	< 0.0050	69000	< 0.10	0.11	0.14	**650** [#3,4]	0.0051	5.2	17000	400
	08-Aug-2021	< 0.0050	57	< 0.0050	44000	< 0.10	0.032	0.12	120	0.0053	8.5	20000	10
	12-Oct-2021	< 0.0050	41	< 0.0050	57000	0.29	0.039	0.088	34	0.013	9.1	21000	10
	08-Jan-2022	< 0.0050	43	< 0.0050	77000	0.14	0.086	0.093	**800** [#3,4]	< 0.0050	14	28000	210
	17-Apr-2022	< 0.0050	13	< 0.0050	24000	< 0.10	0.062	0.086	200	0.012	2.5	5700	79
	21-May-2022	---	39	< 0.020	46000	< 1.0	< 0.30	< 1.0	< 60	< 0.20	< 20	16000	5.8
	28-Aug-2022	< 0.0050	55	< 0.0050	44000	< 0.10	0.036	0.17	120	0.017	9.2	20000	17
	12-Nov-2022	< 0.0050	64	< 0.0050	67000	< 0.10	0.057	0.082	81	0.012	15	29000	84
	15-Jan-2023	< 0.0050	42	< 0.0050	80000	< 0.10	0.047	0.071	**910** [#3,4]	< 0.0050	18	27000	190
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.0050	34	< 0.0050	78000	0.10	0.035	0.068	**340** [#3,4]	0.0066	13	26000	170
	17-Mar-2023	< 0.0050	30	< 0.0050	67000	< 0.10	0.048	0.57	**430** [#3,4]	< 0.0050	12	24000	210
WB3-SW-01	21-May-2022	---	840	---	100000	---	---	---	< 60	---	---	46000	510
	28-May-2022	---	840	< 0.020	95000	< 1.0	0.78	< 1.0	< 60	< 0.20	38	40000	490
	19-Jun-2022	---	880	< 0.020	100000	< 1.0	0.97	2.4	83	< 0.20	43	42000	590
	14-Jul-2022	< 0.0050	860	< 0.0050	92000	0.16	0.68	0.10	67	0.0068	45	40000	450
	23-Jul-2022	< 0.0050	880	< 0.0050	88000	0.17	0.59	0.081	77	< 0.0050	44	37000	430
	27-Jul-2022	< 0.0050	840	< 0.0050	87000	0.21	0.61	0.052	150	< 0.0050	43	38000	460
	03-Aug-2022	< 0.0050	900	< 0.0050	82000	0.21	0.65	< 0.050	**1100** [#3,4]	< 0.0050	41	37000	410
	10-Aug-2022	< 0.0050	850	< 0.0050	85000	0.17	0.57	0.076	**330** [#3,4]	0.0063	43	43000	390
	20-Aug-2022	< 0.0050	1000	< 0.0050	84000	0.26	0.52	0.14	85	< 0.0050	42	36000	430
	25-Aug-2022	< 0.0050	910	< 0.0050	72000	0.12	0.47	0.20	**440** [#3,4]	0.017	39	33000	360
	30-Aug-2022	< 0.0050	980	< 0.0050	73000	0.21	0.52	0.83	**3500** [#3,4]	0.0056	40	33000	380
	07-Sep-2022	< 0.0050	920	< 0.0050	77000	0.21	0.53	< 0.050	**5400** [#3,4]	0.0057	37	35000	390
	13-Sep-2022	< 0.0050	1100	< 0.0050	72000	0.33	0.59	< 0.050	**8200** [#3,4]	0.0055	46	37000	400
	18-Sep-2022	< 0.0050	780	< 0.0050	70000	0.16	0.46	< 0.050	**2000** [#3,4]	< 0.0050	36	33000	300
(Duplicate)	18-Sep-2022	< 0.0050	820	< 0.0050	71000	0.19	0.51	0.063	**5700** [#3,4]	0.011	36	33000	340
	27-Sep-2022	< 0.0050	830	< 0.0050	80000	0.20	0.56	< 0.050	**1500** [#3,4]	< 0.0050	43	37000	470
	02-Oct-2022	< 0.0050	910	< 0.0050	81000	0.27	0.51	< 0.050	**870** [#3,4]	< 0.0050	45	36000	500
	10-Oct-2022	< 0.0050	930	< 0.0050	74000	0.23	0.52	0.089	**3900** [#3,4]	< 0.0050	43	39000	400
(Duplicate)	10-Oct-2022	< 0.0050	900	< 0.0050	80000	0.21	0.49	< 0.050	**1000** [#3,4]	0.0073	43	39000	440
	16-Oct-2022	< 0.0050	910	< 0.0050	75000	0.22	0.54	< 0.050	**940** [#3,4]	< 0.0050	44	35000	450
	24-Oct-2022	< 0.0050	1100	< 0.0050	70000	0.26	0.57	0.056	**4800** [#3,4]	0.0079	42	32000	420
(Duplicate)	24-Oct-2022	< 0.0050	1100	< 0.0050	67000	0.26	0.53	0.082	**6900** [#3,4]	0.012	40	31000	390
	30-Oct-2022	< 0.0050	920	< 0.0050	78000	0.24	0.56	0.076	**3100** [#3,4]	0.0063	45	34000	490
(Duplicate)	30-Oct-2022	< 0.0050	990	< 0.0050	75000	0.27	0.56	0.071	**5700** [#3,4]	0.017	46	34000	470
	06-Nov-2022	< 0.0050	1000	< 0.0050	59000	0.27	0.48	< 0.050	**11000** [#3,4]	0.0073	38	30000	260
(Duplicate)	06-Nov-2022	< 0.0050	1000	< 0.0050	58000	0.32	0.49	0.10	**11000** [#3,4]	0.016	36	29000	260
	19-Feb-2023	---	1100	< 0.020	61000	< 1.0	0.39	1.5	**13000** [#3,4]	< 0.20	61	31000	310
	08-Mar-2023	< 0.025	1100	0.39	88000	0.70	0.48	0.37	**38000** [#3,4]	< 0.025	65	38000	630
	19-Mar-2023	< 0.0050	900	< 0.025	85000	0.57	0.87	1.1	**29000** [#3,4]	< 0.025	45	40000	730
	28-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2023	---	920	< 0.020	86000	< 1.0	0.42	< 1.0	**17000** [#3,4]	< 0.20	57	42000	500
WB3-Pond-02	21-May-2022	---	33	---	50000	---	---	---	< 60	---	---	18000	7.0
WB3-Pond-03	21-May-2022	---	40	---	53000	---	---	---	< 60	---	---	19000	8.1
	14-Jul-2022	< 0.0050	48	< 0.0050	41000	< 0.10	0.044	0.17	38	0.0071	11	19000	9.0
	23-Jul-2022	< 0.0050	88	< 0.0050	41000	< 0.10	0.039	0.13	38	0.014	9.9	20000	3.5
	27-Jul-2022	< 0.0050	64	< 0.0050	43000	< 0.10	0.032	0.45	40	0.034	10	22000	6.0
	03-Aug-2022	< 0.0050	66	< 0.0050	40000	0.13	0.036	0.21	39	0.015	10	20000	6.8
	10-Aug-2022	< 0.0050	64	< 0.0050	45000	< 0.10	0.041	0.098	54	0.012	11	22000	20
	20-Aug-2022	0.012	67	< 0.0050	43000	0.12	0.038	0.077	46	0.0064	11	21000	19
	29-Aug-2022	< 0.0050	72	< 0.0050	45000	< 0.10	0.043	0.29	67	< 0.0050	10	21000	31
(Duplicate)	29-Aug-2022	< 0.0050	72	< 0.0050	46000	< 0.10	0.042	0.30	63	< 0.0050	10	21000	30
	05-Sep-2022	< 0.0050	59	< 0.0050	45000	< 0.10	0.039	0.16	64	0.0097	9.3	21000	21
(Duplicate)	05-Sep-2022	< 0.0050	64	< 0.0050	46000	< 0.10	0.039	0.19	58	0.0065	9.9	21000	21
	12-Sep-2022	< 0.0050	87	0.0052	50000	< 0.10	0.043	0.14	49	0.020	13	23000	12
	18-Sep-2022	< 0.0050	69	< 0.0050	49000	< 0.10	0.035	0.12	41	0.0050	11	23000	22
	27-Sep-2022	< 0.0050	59	< 0.0050	51000	< 0.10	0.035	0.068	36	< 0.0050	12	24000	11
	03-Oct-2022	0.011	75	< 0.0050	56000	< 0.10	0.050	0.074	41	< 0.0050	13	25000	21
	10-Oct-2022	< 0.0050	65	< 0.0050	54000	< 0.10	0.033	0.077	26	< 0.0050	12	25000	9.4
	17-Oct-2022	< 0.0050	61	< 0.0050	54000	0.44	0.048	0.15	39	0.011	13	25000	12
	24-Oct-2022	< 0.0050	63	< 0.0050	56000	0.59	0.036	1.0	35	0.025	12	24000	14
	30-Oct-2022	< 0.0050	59	< 0.0050	55000	< 0.10	0.045	0.094	31	0.0073	13	24000	9.9
	17-Mar-2023	< 0.0050	86	< 0.0050	81000	< 0.10	0.055	0.51	150	0.0060	18	30000	180

Monitoring Station	Date (dd-mmm-yyyy)	Dissolved Molybdenum (ug/L)	Dissolved Nickel (ug/L)	Dissolved Potassium (ug/L)	Dissolved Selenium (ug/L)	Dissolved Silicon (ug/L)	Dissolved Silver (ug/L)	Dissolved Sodium (ug/L)	Dissolved Strontium (ug/L)	Dissolved Sulphur (ug/L)	Dissolved Thallium (ug/L)	Dissolved Tin (ug/L)	Dissolved Titanium (ug/L)	Dissolved Uranium (ug/L)	Dissolved Vanadium (ug/L)	Dissolved Zinc (ug/L)	Dissolved Zirconium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																	
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	< 0.050	0.10	1700	< 0.040	7700	< 0.0050	7100	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0043	< 0.20	0.16	< 0.10
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	< 0.050	0.077	1800	< 0.040	5900	< 0.0050	6900	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0055	< 0.20	0.30	< 0.10
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	< 0.050	0.097	2400	< 0.040	5300	< 0.0050	8700	140	3100	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	0.84	< 0.10
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	< 0.050	0.10	2000	0.043	4000	< 0.0050	7700	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0031	< 0.20	0.23	< 0.10
	22-Oct-2019	< 0.050	0.11	1900	< 0.040	4700	< 0.0050	7800	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0067	< 0.20	1.6	< 0.10
	05-Jan-2020	< 0.050	0.16	2700	1.5	14000	< 0.0050	9400	220	3300	< 0.0020	< 0.20	< 0.50	0.0066	< 0.20	0.50	< 0.10
(Duplicate)	05-Jan-2020	< 0.050	0.17	2700	1.7	14000	< 0.0050	9400	220	3100	< 0.0020	< 0.20	0.70	0.0072	< 0.20	0.49	< 0.10
	31-May-2020	< 0.050	0.14	2000	< 0.040	1100	< 0.0050	6500	96	< 3000	< 0.0020	< 0.20	< 0.50	0.010	< 0.20	0.72	< 0.10
	10-Aug-2020	< 0.050	0.11	790	< 0.040	5900	< 0.0050	5900	99	< 3000	< 0.0020	< 0.20	< 0.50	0.0031	< 0.20	0.52	< 0.10
	01-Nov-2020	0.078	0.19	1600	0.043	5400	< 0.0050	5800	86	< 3000	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	3.2	< 0.10
	17-Jan-2021	< 0.050	0.087	1200	0.51	9000	< 0.0050	4500	93	7100	0.0059	< 0.20	< 0.50	0.0025	< 0.20	8.7	< 0.10
	11-Apr-2021	< 0.050	0.22	1700	1.8	8100	< 0.0050	2400	120	< 3000	0.011	< 0.20	< 0.50	0.011	< 0.20	2.1	< 0.10
	08-Aug-2021	< 0.050	0.075	1200	< 0.040	5400	< 0.0050	9700	99	< 3000	< 0.0020	< 0.20	< 0.50	0.0023	< 0.20	< 0.10	< 0.10
	12-Oct-2021	< 0.050	0.22	2700	< 0.040	5400	< 0.0050	14000	120	< 3000	< 0.0020	< 0.20	0.65	0.012	0.30	8.5	< 0.10
	08-Jan-2022	< 0.050	0.28	2400	2.4	9600	< 0.0050	13000	150	6300	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	0.14	< 0.10
	17-Apr-2022	0.061	0.14	1800	< 0.040	3300	< 0.0050	1700	35	< 3000	< 0.0020	< 0.20	< 0.50	0.0068	< 0.20	3.6	< 0.10
	21-May-2022	< 0.20	< 0.50	1900	< 0.20	2000	< 0.10	12000	85	5800	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
	28-Aug-2022	< 0.050	0.64	1200	< 0.040	4500	< 0.0050	13000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0051	< 0.20	0.27	< 0.10
	12-Nov-2022	0.057	0.37	2800	< 0.040	7400	< 0.0050	22000	160	5400	< 0.0020	< 0.20	< 0.50	0.019	< 0.20	2.1	< 0.10
	15-Jan-2023	< 0.050	0.18	2100	0.046	9000	< 0.0050	13000	190	< 3000	< 0.0020	< 0.20	< 0.50	0.0026	< 0.20	1.1	< 0.10
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.050	0.17	1900	0.063	8500	< 0.0050	12000	110	13000	< 0.0020	< 0.20	< 0.50	0.0020	< 0.20	1.5	< 0.10
	17-Mar-2023	< 0.050	0.18	1600	< 0.040	8000	< 0.0050	10000	110	7300	< 0.0020	< 0.20	< 0.50	0.0023	< 0.20	0.79	< 0.10
WB3-SW-01	21-May-2022	---	---	8200	---	---	---	170000	---	---	---	---	---	---	---	---	---
	28-May-2022	5.8	5.1	7500	< 0.20	10000	< 0.10	160000	240	70000	< 0.20	< 1.0	< 1.0	0.83	< 1.0	< 3.0	---
	19-Jun-2022	6.2	5.4	7800	< 0.20	11000	< 0.10	160000	270	66000	< 0.20	< 1.0	< 1.0	0.95	< 1.0	< 3.0	---
	14-Jul-2022	5.9	4.4	7900	0.062	12000	< 0.0050	150000	330	61000	< 0.0020	< 0.20	< 0.50	0.81	< 0.20	3.6	1.4
	23-Jul-2022	6.5	4.3	7300	0.049	11000	< 0.0050	160000	300	58000	< 0.0020	< 0.20	< 0.50	0.80	< 0.20	0.33	1.1
	27-Jul-2022	5.8	4.4	7400	0.054	12000	< 0.0050	150000	320	56000	< 0.0020	< 0.20	< 0.50	0.79	0.26	0.76	1.4
	03-Aug-2022	6.4	4.5	7100	0.062	11000	< 0.0050	160000	280	50000	< 0.0020	< 0.20	< 0.50	0.70	0.42	2.0	1.8
	10-Aug-2022	6.1	4.4	7200	0.12	10000	< 0.0050	160000	270	59000	< 0.0020	< 0.20	< 0.50	0.73	< 0.20	3.6	1.2
	20-Aug-2022	5.8	4.6	7200	0.069	12000	< 0.0050	160000	300	56000	< 0.0020	< 0.20	< 0.50	0.67	0.23	1.4	1.2
	25-Aug-2022	5.9	4.3	6700	0.062	8200	< 0.0050	150000	260	49000	< 0.0020	< 0.20	< 0.50	0.58	0.33	4.1	1.5
	30-Aug-2022	5.7	4.5	7000	0.068	11000	< 0.0050	160000	280	49000	< 0.0020	< 0.20	< 0.50	0.55	0.51	1.3	2.1
	07-Sep-2022	6.3	4.3	6700	0.078	11000	< 0.0050	160000	270	51000	< 0.0020	< 0.20	< 0.50	0.53	0.62	13	2.3
	13-Sep-2022	6.1	4.7	6900	0.066	11000	< 0.0050	160000	300	52000	< 0.0020	< 0.20	< 0.50	0.52	0.96	0.51	3.0
	18-Sep-2022	8.0	3.7	6000	0.065	9800	< 0.0050	150000	260	50000	< 0.0020	< 0.20	< 0.50	0.57	0.46	8.6	1.8
(Duplicate)	18-Sep-2022	6.6	4.0	6100	0.083	11000	< 0.0050	160000	250	48000	< 0.0020	< 0.20	< 0.50	0.55	0.68	1.8	2.3
	27-Sep-2022	5.1	4.3	7200	0.065	11000	< 0.0050	170000	300	71000	< 0.0020	< 0.20	< 0.50	0.51	0.48	0.57	1.7
	02-Oct-2022	4.8	4.1	7200	0.14	11000	< 0.0050	170000	300	68000	< 0.0020	< 0.20	< 0.50	0.54	0.48	63	1.5
	10-Oct-2022	6.1	3.7	7100	0.071	11000	< 0.0050	170000	280	71000	< 0.0020	< 0.20	< 0.50	0.50	0.62	0.43	2.0
(Duplicate)	10-Oct-2022	4.9	3.7	7400	0.058	11000	< 0.0050	160000	300	70000	< 0.0020	< 0.20	< 0.50	0.49	0.44	1.1	1.5
	16-Oct-2022	5.5	3.7	6800	0.051	9500	< 0.0050	170000	290	77000	< 0.0020	< 0.20	< 0.50	0.54	0.35	< 0.10	1.4
	24-Oct-2022	7.2	3.7	6100	0.078	11000	< 0.0050	180000	280	83000	< 0.0020	< 0.20	< 0.50	0.50	0.77	27	2.4
(Duplicate)	24-Oct-2022	7.6	3.7	5800	0.080	11000	< 0.0050	180000	270	83000	< 0.0020	< 0.20	< 0.50	0.47	0.93	0.72	2.8
	30-Oct-2022	5.2	3.9	6800	0.058	11000	< 0.0050	170000	300	77000	< 0.0020	< 0.20	< 0.50	0.49	0.47	0.91	1.7
(Duplicate)	30-Oct-2022	5.3	3.9	6800	0.055	11000	< 0.0050	170000	290	77000	< 0.0020	< 0.20	< 0.50	0.47	0.55	0.78	1.9
	06-Nov-2022	11	3.6	5000	0.093	9200	< 0.0050	190000	250	75000	< 0.0020	< 0.20	1.2	0.51	1.2	0.67	3.5
(Duplicate)	06-Nov-2022	11	4.0	5000	0.085	9300	< 0.0050	190000	240	77000	< 0.0020	< 0.20	1.4	0.50	1.1	1.4	3.6
	19-Feb-2023	14	2.7	8000	0.27	9800	< 0.10	210000	250	130000	< 0.20	< 1.0	< 1.0	0.32	< 1.0	< 3.0	---
	08-Mar-2023	5.0	5.0	9300	< 0.20	14000	< 0.025	210000	430	120000	< 0.010	< 1.0	< 2.5	0.41	2.0	7.6	3.1
	19-Mar-2023	4.4	4.2	9800	< 0.20	13000	< 0.025	190000	420	76000	< 0.010	< 1.0	< 0.50	0.74	1.3	< 0.50	1.8
	28-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2023	8.9	2.9	9300	< 0.20	9800	< 0.10	190000	400	100000	< 0.20	< 1.0	< 1.0	0.72	< 1.0	< 3.0	---
WB3-Pond-02	21-May-2022	---	---	2000	---	---	---	11000	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	2200	---	---	---	14000	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.050	0.36	1300	< 0.040	5800	< 0.0050	13000	110	4200	< 0.0020	< 0.20	< 0.50	0.0051	< 0.20	3.1	< 0.10
	23-Jul-2022	0.10	0.31	1000	< 0.040	6100	< 0.0050	15000	110	4400	< 0.0020	< 0.20	< 0.50	0.011	< 0.20	6.9	< 0.10
	27-Jul-2022	< 0.050	0.33	1100	< 0.040	6100	< 0.0050	16000	110	3500	< 0.0020	< 0.20	< 0.50	0.0051	< 0.20	1.3	< 0.10
	03-Aug-2022	< 0.050	0.66	960	< 0.040	5900	< 0.0050	15000	110	3700	< 0.0020	< 0.20	< 0.50	0.0029	< 0.20	2.2	< 0.10
	10-Aug-2022	< 0.050	0.38	1000	< 0.040	6000	< 0.0050	15000	110	3500	< 0.0020	< 0.20	< 0.50	0.0053	< 0.20	3.9	< 0.10
	20-Aug-2022	0.078	0.32	1100	0.088	6200	0.0060	14000	120	3200	< 0.0020	< 0.20	< 0.50	0.0039	< 0.20	27	< 0.10
	29-Aug-2022	< 0.050	0.41	1500	< 0.040	5300	< 0.0050	17000	120	3900	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	21	< 0.10
(Duplicate)	29-Aug-2022	< 0.050	0.40	1500	< 0.040	5500	< 0.0050	17000	120	3700	< 0.0020	< 0.20	< 0.50	0.0044	< 0.20	6.7	< 0.10
	05-Sep-2022	< 0.050	0.28	1600	< 0.040	5200	< 0.0050	15000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	8.6	< 0.10
(Duplicate)	05-Sep-2022	< 0.050	0.27	1600	< 0.040	5300	< 0.0050	15000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0048	< 0.20	6.4	< 0.10
	12-Sep-2022	< 0.050	0.43	1800	< 0.040	5600	< 0.0050	17000	130	3300	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	3.6	< 0.10
	18-Sep-2022	< 0.050	0.30	1800	< 0.040	4800	< 0.0050	17000	130	3400	< 0.0020	< 0.20	< 0.50	0.0046	< 0.20	560	< 0.10
	27-Sep-2022	< 0.050	0.32	1900	< 0.040	5300	< 0.0050	17000	140	3800	< 0.0020	< 0.20	< 0.50	0.0068	< 0.20	9.8	< 0.10
	03-Oct-2022	< 0.050	0.39	2300	0.066	6100	< 0.0050	21000	140	5100	< 0.0020	< 0.20	< 0.50	0.0095	< 0.20	5.9	< 0.10
	10-Oct-2022	< 0.050	0.30	2300	< 0.040	5700	< 0.0050	18000	130	4000	< 0.0020	< 0.20	< 0.50	0.0080	< 0.20	6.2	< 0.10
	17-Oct-2022	< 0.050	0.85	2200	< 0.040	5700	< 0.0050	20000	140	4200	< 0.0020	< 0.20	< 0.50	0.012	< 0.20	100	< 0.10
	24-Oct-2022	< 0.050	0.52	2300	< 0.040	6400	< 0.0050	20000	140	4600	< 0.0020	< 0.20	< 0.50	0.011	< 0.20	7.5	< 0.10
	30-Oct-2022	< 0.050	0.33	2200	< 0.040	6200	< 0.0050	19000	140	4900	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	76	< 0.10
	17-Mar-2023	< 0.050	0.78	3400	0.14	10000	< 0.0050	42000	130	57000	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	1.1	0.12

Total Metals and Trace Elements

Monitoring Station	Date (dd-mmm-yyyy)	Total Aluminum (ug/L)	Total Antimony (ug/L)	Total Arsenic (ug/L)	Total Barium (ug/L)	Total Beryllium (ug/L)	Total Bismuth (ug/L)	Total Calcium (ug/L)	Total Cadmium (ug/L)	Total Boron (ug/L)	Total Chromium (ug/L)	Total Cobalt (ug/L)	Total Copper (ug/L)	Total Iron (ug/L)	Total Lead (ug/L)	Total Lithium (ug/L)	Total Magnesium (ug/L)	Total Manganese (ug/L)	Total Mercury (ug/L)	Total Methyl Mercury (ng/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	1.6	29000	---	---	12	---	---	---	---	---	0.013	2
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	3.4	29000	---	---	25	---	---	---	---	---	0.013	2
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	5	---	---	---	---	0.12	1500	8.9	0.91	7	---	2.2	---	---	---	0.005	1
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	5	---	---	---	---	0.23	1500	8.9	1.2	7	---	5.8	---	---	---	0.005	1
Waterbody 3 Investigation																				
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	8.3	0.032	0.17	37	< 0.010	< 0.010	41000	< 0.0050	35	< 0.10	0.037	< 0.10	190	< 0.020	9.9	23000	20	0.00051	---
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	3.5	< 0.020	0.13	33	< 0.010	< 0.0050	45000	< 0.0050	33	< 0.10	0.024	< 0.050	54	0.0066	11	24000	6.3	0.00089	---
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	7.4	< 0.020	0.15	40	< 0.010	< 0.010	56000	< 0.0050	28	< 0.10	0.041	< 0.10	48	< 0.020	10	26000	5.9	0.00063	---
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	2.1	< 0.020	0.11	35	< 0.010	< 0.0050	47000	< 0.0050	31	< 0.10	0.042	< 0.050	75	< 0.0050	8.2	21000	11	0.00063	0.062
	22-Oct-2019	1.2	< 0.020	0.17	36	< 0.010	< 0.0050	51000	< 0.0050	28	< 0.10	0.027	0.079	38	< 0.0050	8.6	21000	6.6	0.00062	0.058
	05-Jan-2020	6.0	< 0.020	0.27	96	< 0.010	< 0.010	100000	< 0.0050	19	0.10	0.14	< 0.10	2600	< 0.020	12	36000	820	0.00261	**1.68** [#3,4]
(Duplicate)	05-Jan-2020	7.4	< 0.020	0.28	93	< 0.010	< 0.010	99000	< 0.0050	20	0.13	0.14	< 0.10	2600	0.025	13	35000	820	0.00263	**1.58** [#3,4]
	31-May-2020	10	0.023	0.099	36	< 0.010	< 0.010	41000	< 0.0050	22	< 0.10	0.036	< 0.10	110	< 0.020	6.3	16000	29	0.00090	0.076
	10-Aug-2020	11	0.033	0.15	37	< 0.010	< 0.0050	45000	< 0.0050	38	0.16	0.036	0.11	280	0.020	6.4	17000	8.7	0.00096	0.122
	01-Nov-2020	10	0.022	0.16	33	< 0.010	< 0.010	54000	< 0.0050	24	0.19	0.067	0.20	140	0.030	5.5	19000	61	0.00260	0.311
	17-Jan-2021	5.2	< 0.020	0.12	42	< 0.010	< 0.010	61000	0.012	11	< 0.10	0.044	< 0.10	630	< 0.020	6.7	21000	180	0.00399	**1.15** [#3,4]
	11-Apr-2021	15	< 0.020	0.13	66	< 0.010	< 0.010	94000	< 0.0050	14	< 0.10	0.15	0.15	1100	0.023	8.6	24000	430	**0.00634** [#3,4]	0.276
	08-Aug-2021	3.4	0.021	0.14	35	< 0.010	< 0.0050	43000	< 0.0050	56	< 0.10	0.034	< 0.050	200	< 0.0050	8.6	19000	17	0.00081	0.078
	12-Oct-2021	7.2	< 0.020	0.16	36	< 0.010	< 0.010	52000	< 0.0050	48	0.53	0.057	< 0.10	78	< 0.020	10	20000	16	0.00044	0.062
	08-Jan-2022	3.6	< 0.020	0.13	55	0.012	< 0.0050	79000	< 0.0050	41	< 0.10	0.10	0.075	930	0.0059	15	28000	210	0.0026	**1.64** [#3,4]
	17-Apr-2022	11	< 0.020	0.079	15	0.011	< 0.0050	25000	< 0.0050	14	< 0.10	0.072	0.18	270	0.026	2.5	5700	83	0.00084	0.284
	21-May-2022	3.2	< 0.60	< 0.20	29	< 1.0	---	46000	< 0.020	37	< 1.0	< 0.30	< 1.0	120	< 0.20	< 20	16000	21	< 0.0019	---
	28-Aug-2022	4.4	< 0.020	0.14	42	< 0.010	< 0.0050	44000	< 0.0050	54	< 0.10	0.039	0.12	170	0.0090	9.1	20000	27	0.00058	< 0.050
	12-Nov-2022	5.4	< 0.020	0.17	49	< 0.010	< 0.010	71000	< 0.0050	77	0.11	0.067	0.14	120	0.028	16	31000	90	0.00053	< 0.050
	15-Jan-2023	3.3	< 0.020	0.092	62	< 0.010	< 0.0050	80000	0.018	47	< 0.10	0.075	0.082	970	0.028	18	28000	190	0.00092	**1.2** [#3,4]
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	2.8	< 0.020	0.10	45	< 0.010	< 0.0050	69000	0.0097	28	0.16	0.052	1.0	580	0.011	13	24000	170	0.0018	0.99
	17-Mar-2023	9.9	0.027	0.12	43	< 0.010	< 0.010	73000	< 0.0050	35	0.25	0.060	0.25	510	0.027	12	29000	200	0.0015	0.75
WB3-SW-01	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2022	5.8	< 0.60	1.3	92	< 1.0	---	94000	< 0.020	790	< 1.0	**0.95** [#3]	< 1.0	6100	< 0.20	38	39000	530	< 0.0019	---
	19-Jun-2022	9.0	< 0.60	1.1	110	< 1.0	---	93000	< 0.020	800	< 1.0	**1.1** [#3]	< 1.0	5800	< 0.20	< 20	39000	620	< 0.0019	---
	14-Jul-2022	29	0.031	1.6	120	< 0.010	< 0.010	100000	< 0.0050	820	0.31	0.83	0.17	5600	0.091	46	44000	500	0.0021	0.081
	23-Jul-2022	12	0.030	1.6	110	< 0.010	< 0.010	90000	0.0051	840	0.25	0.72	0.37	5200	0.045	43	38000	450	0.0011	0.056
	27-Jul-2022	5.3	< 0.020	1.5	120	< 0.010	< 0.0050	87000	< 0.0050	820	0.26	0.65	0.20	5400	0.015	41	37000	470	0.0012	< 0.050
	03-Aug-2022	21	< 0.020	2.2	120	0.011	< 0.010	86000	< 0.0050	940	0.29	0.71	< 0.10	8500	0.040	45	41000	410	0.0012	< 0.050
	10-Aug-2022	72	< 0.020	2.5	110	0.011	< 0.010	89000	< 0.0050	880	0.33	0.72	0.46	6500	0.069	43	38000	410	0.0026	0.052
	20-Aug-2022	33	0.057	1.5	120	< 0.010	< 0.0050	86000	< 0.0050	950	0.23	0.56	0.50	4000	0.032	43	39000	420	0.00069	0.106
	25-Aug-2022	20	< 0.020	2.4	110	< 0.010	< 0.0050	75000	< 0.0050	900	0.25	0.57	0.38	5600	0.038	39	35000	410	0.00064	0.098
	30-Aug-2022	260	0.030	**13** [#3,4]	170	0.060	< 0.010	80000	0.010	980	0.83	**1.0** [#3]	0.56	29000	0.27	38	33000	460	0.00049	< 0.050
	07-Sep-2022	23	< 0.020	2.3	120	< 0.010	< 0.010	80000	< 0.0050	970	0.31	0.61	0.12	7500	0.043	46	39000	440	0.0012	0.193
	13-Sep-2022	22	< 0.020	3.2	120	0.013	< 0.010	73000	< 0.0050	900	0.41	0.67	0.12	15000	0.033	43	34000	410	0.00062	< 0.050
	18-Sep-2022	90	< 0.020	4.6	110	0.019	< 0.010	73000	< 0.0050	860	0.41	0.67	0.46	12000	0.11	35	32000	340	0.0014	< 0.050
(Duplicate)	18-Sep-2022	220	< 0.020	3.9	120	0.020	< 0.010	76000	0.0059	940	0.64	0.78	0.68	16000	0.22	37	34000	370	0.0014	0.11
	27-Sep-2022	12	< 0.040	1.6	96	< 0.020	< 0.020	86000	< 0.010	890	0.25	0.59	< 0.20	7800	< 0.040	45	36000	500	0.00051	< 0.050
	02-Oct-2022	5.0	< 0.020	1.5	95	< 0.010	< 0.010	83000	< 0.0050	900	0.26	0.58	< 0.10	6100	< 0.020	47	38000	490	0.00077	< 0.050
	10-Oct-2022	71	0.021	**8.0** [#3,4]	130	0.027	< 0.010	81000	< 0.0050	880	0.45	0.75	0.19	20000	0.098	46	36000	490	0.0015	0.11
(Duplicate)	10-Oct-2022	63	< 0.020	2.3	96	< 0.010	< 0.010	81000	< 0.0050	870	0.45	0.68	0.16	8900	0.064	48	37000	500	0.00046	< 0.050
	16-Oct-2022	4.7	< 0.020	1.2	78	< 0.010	0.015	78000	< 0.0050	920	0.15	0.57	< 0.050	4800	< 0.0050	43	34000	490	0.0012	< 0.050
	24-Oct-2022	350	0.043	**11** [#3,4]	180	0.083	< 0.010	84000	0.019	1200	1.1	**1.3** [#3,4]	2.9	30000	0.71	50	38000	510	0.0016	< 0.050
(Duplicate)	24-Oct-2022	34	< 0.020	3.1	110	0.014	< 0.010	73000	< 0.0050	1100	0.31	0.57	0.12	12000	0.064	50	36000	410	0.0018	< 0.050
	30-Oct-2022	8.7	< 0.020	1.8	89	0.011	< 0.010	81000	< 0.0050	880	0.27	0.59	< 0.10	10000	0.035	45	34000	490	0.0011	< 0.050
(Duplicate)	30-Oct-2022	48	0.024	2.9	100	0.016	< 0.010	84000	< 0.0050	920	0.39	0.69	0.15	14000	0.077	44	34000	500	0.0010	< 0.050
	06-Nov-2022	250	0.032	**14** [#3,4]	190	0.052	< 0.010	67000	0.0066	1100	0.85	**0.95** [#3]	0.57	38000	0.34	43	33000	300	0.0013	< 0.050
(Duplicate)	06-Nov-2022	400	0.041	**21** [#3,4]	250	0.089	< 0.010	67000	0.014	1100	1.3	**1.3** [#3,4]	0.91	50000	0.54	41	32000	330	0.0017	< 0.050
	19-Feb-2023	68	< 0.60	**6.3** [#3,4]	160	< 1.0	---	60000	< 0.020	1100	< 1.0	0.55	< 1.0	25000	< 0.20	77	28000	340	< 0.0019	---
	08-Mar-2023	6.9	< 0.10	**5.4** [#3,4]	210	< 0.050	< 0.025	83000	< 0.025	960	0.53	0.46	< 0.25	36000	< 0.025	60	36000	580	0.0020	0.11
	19-Mar-2023	95	< 0.10	**7.3** [#3,4]	170	< 0.050	< 0.050	95000	< 0.025	910	0.77	**1.0** [#3]	0.55	34000	< 0.10	43	45000	780	0.0038	0.071
	28-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2023	60	< 3.0	4.8	160	< 5.0	---	86000	< 0.10	950	< 5.0	**< 1.5** [#3,4]	< 5.0	24000	< 1.0	53	41000	580	< 0.0019	---
WB3-Pond-02	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	7.2	< 0.020	0.14	37	0.013	< 0.010	42000	0.0066	66	< 0.10	0.066	< 0.10	85	0.025	9.8	20000	23	< 0.00010	0.076
	23-Jul-2022	< 3.0	< 0.020	0.14	37	< 0.010	< 0.010	43000	< 0.0050	75	< 0.10	0.049	< 0.10	80	< 0.020	11	21000	21	0.00074	0.12
	27-Jul-2022	2.9	< 0.020	0.14	38	< 0.010	< 0.0050	41000	< 0.0050	68	< 0.10	0.041	0.19	69	0.019	10	20000	17	**0.0051** [#3,4]	< 0.050
	03-Aug-2022	5.2	< 0.020	0.14	38	< 0.010	< 0.010	42000	< 0.0050	76	< 0.10	0.046	< 0.10	73	< 0.020	11	22000	16	0.0011	< 0.050
	10-Aug-2022	5.7	< 0.020	0.15	40	< 0.010	< 0.010	46000	< 0.0050	61	< 0.10	0.044	< 0.10	68	< 0.020	11	21000	25	0.00058	0.10
	20-Aug-2022	4.9	< 0.020	0.14	42	< 0.010	< 0.0050	44000	< 0.0050	66	< 0.10	0.044	0.15	75	0.012	11	22000	26	0.00043	0.110
	29-Aug-2022	9.5	< 0.020	0.15	44	< 0.010	< 0.0050	46000	< 0.0050	69	0.83	0.057	0.28	120	0.017	10	21000	41	0.0020	0.554
(Duplicate)	29-Aug-2022	24	0.038	0.15	45	< 0.010	< 0.010	48000	< 0.0050	81	1.5	0.061	0.31	130	0.035	11	23000	39	0.00070	0.186
	05-Sep-2022	11	< 0.020	0.16	47	< 0.010	< 0.010	47000	< 0.0050	69	0.17	0.053	0.49	140	0.028	11	23000	45	0.00051	0.126
(Duplicate)	05-Sep-2022	18	< 0.020	0.16	46	< 0.010	< 0.010	49000	< 0.0050	73	< 0.10	0.058	0.42	160	0.044	11	22000	35	0.00070	0.126
	12-Sep-2022	4.8	< 0.020	0.12	43	< 0.010	< 0.010	48000	< 0.0050	69	< 0.10	0.053	< 0.10	82	< 0.020	12	23000	16	0.00031	0.071
	18-Sep-2022	2.6	< 0.020	0.13	46	< 0.010	< 0.0050	50000	< 0.0050	73	< 0.10	0.040	0.083	59	< 0.0050	12	25000	30	0.00036	< 0.050
	27-Sep-2022	1.8	< 0.020	0.15	43	< 0.010	< 0.0050	51000	< 0.0050	65	< 0.10	0.035	0.060	58	0.0098	13	23000	19	0.00031	< 0.050
	03-Oct-2022	2.1	< 0.020	0.14	48	< 0.010	< 0.0050	54000	< 0.0050	79	< 0.10	0.042	< 0.050	89	0.0082	14	26000	29	0.00026	0.11
	10-Oct-2022	12	0.025	0.13	45	< 0.010	< 0.010	53000	< 0.0050	60	0.12	0.057	0.28	120	0.035	13	24000	16	0.00025	0.093
	17-Oct-2022	4.7	< 0.020	0.13	42	< 0.010	< 0.010	57000	< 0.0050	63	< 0.10	0.039	0.10	64	< 0.020	13	25000	23	0.00040	0.063
	24-Oct-2022	6.9	< 0.020	0.13	43	< 0.010	< 0.010	58000	< 0.0050	77	0.24	0.047	0.12	91	0.021	13	26000	25	0.00055	0.096
	30-Oct-2022	3.7	< 0.020	0.13	40	< 0.010	< 0.0050	55000	< 0.0050	59	< 0.10	0.054	0.054	49	0.0081	13	24000	14	0.00046	< 0.050
	17-Mar-2023	1.6	< 0.020	0.13	46	< 0.010	< 0.0050	79000	< 0.0050	81	< 0.10	0.069	0.070	380	< 0.0050	19	29000	160	0.0017	0.86

PROJECT No.: 417085-47599

Total Metals and Trace Elements (cont.)

Monitoring Station	Date (dd-mmm-yyyy)	Total Molybdenum (ug/L)	Total Nickel (ug/L)	Total Potassium (ug/L)	Total Selenium (ug/L)	Total Silicon (ug/L)	Total Silver (ug/L)	Total Sodium (ug/L)	Total Strontium (ug/L)	Total Sulphur (ug/L)	Total Thallium (ug/L)	Total Tin (ug/L)	Total Titanium (ug/L)	Total Uranium (ug/L)	Total Vanadium (ug/L)	Total Zinc (ug/L)	Total Zirconium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	370	---	---	---	---	---	---	---	---	---	---	33	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	700	---	---	---	---	---	---	---	---	---	---	33	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		73	41	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		73	78	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---
Waterbody 3 Investigation																	
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	< 0.050	0.11	1700	< 0.040	7400	< 0.010	6800	120	< 3000	< 0.0020	< 0.20	< 2.0	0.0061	< 0.20	< 1.0	< 0.10
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	< 0.050	0.083	1800	< 0.040	5900	< 0.0050	7500	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0056	< 0.20	0.12	< 0.10
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	< 0.050	0.16	2400	< 0.040	5100	< 0.010	8500	140	< 3000	< 0.0020	< 0.20	< 2.0	0.014	< 0.20	1.1	< 0.10
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	< 0.050	0.083	1900	< 0.040	4100	< 0.0050	7400	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0034	< 0.20	0.17	< 0.10
	22-Oct-2019	5.5	0.11	1900	< 0.040	4600	< 0.0050	7600	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0075	0.25	1.2	< 0.10
	05-Jan-2020	< 0.050	0.23	2800	< 0.040	13000	< 0.010	9000	230	< 3000	< 0.0020	< 0.20	< 2.0	0.010	< 0.20	4.0	< 0.10
(Duplicate)	05-Jan-2020	< 0.050	0.20	2800	< 0.040	13000	< 0.010	9100	230	< 3000	< 0.0020	< 0.20	< 2.0	0.0096	< 0.20	3.7	< 0.10
	31-May-2020	< 0.050	0.11	2100	< 0.040	1000	< 0.010	6900	94	< 3000	< 0.0020	< 0.20	< 2.0	0.013	< 0.20	< 1.0	< 0.10
	10-Aug-2020	< 0.050	0.18	860	0.055	6200	< 0.0050	5900	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0052	< 0.20	2.5	< 0.10
	01-Nov-2020	< 0.050	0.18	1600	< 0.040	5400	< 0.010	5900	92	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	2.2	< 0.10
	17-Jan-2021	< 0.050	0.12	1100	< 0.040	8700	< 0.010	4300	88	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	3.1	< 0.10
	11-Apr-2021	< 0.050	0.21	1300	< 0.040	12000	< 0.010	3500	200	< 3000	< 0.0020	< 0.20	< 2.0	0.0081	< 0.20	1.6	< 0.10
	08-Aug-2021	< 0.050	0.083	1200	< 0.040	5200	< 0.0050	9500	100	< 3000	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	0.24	< 0.10
	12-Oct-2021	< 0.050	0.22	2200	< 0.040	4600	< 0.010	13000	100	< 3000	< 0.0020	< 0.20	< 2.0	0.012	0.52	< 1.0	< 0.10
	08-Jan-2022	< 0.050	0.29	2500	**2.0** [#3,4]	9200	0.0073	13000	160	8400	< 0.0020	< 0.20	< 0.50	0.022	< 0.20	0.48	< 0.10
	17-Apr-2022	0.082	0.18	1900	0.040	3600	< 0.0050	1600	38	< 3000	< 0.0020	< 0.20	0.70	0.0085	< 0.20	6.3	< 0.10
	21-May-2022	< 0.20	< 0.50	2000	< 0.20	2100	< 0.10	12000	82	5600	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
	28-Aug-2022	< 0.050	0.50	1300	< 0.040	4400	< 0.0050	13000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	4.2	< 0.10
	12-Nov-2022	< 0.050	0.56	2900	< 0.040	8000	< 0.010	23000	170	5800	< 0.0020	< 0.20	< 2.0	0.020	< 0.20	7.3	< 0.10
	15-Jan-2023	< 0.050	0.22	2000	< 0.040	9900	< 0.0050	14000	200	< 3000	0.0029	< 0.20	< 0.50	0.024	< 0.20	< 0.10	< 0.10
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	0.092	0.28	1800	0.089	8000	< 0.0050	11000	120	19000	< 0.0020	< 0.20	< 0.50	0.0039	< 0.20	2.6	< 0.10
	17-Mar-2023	< 0.050	0.26	1500	0.052	8500	< 0.010	12000	130	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	7.2	< 0.10
WB3-SW-01	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2022	6.0	4.7	7400	< 0.20	10000	< 0.10	160000	240	66000	< 0.20	< 1.0	< 1.0	0.84	1.8	3.2	---
	19-Jun-2022	6.5	5.6	7200	< 0.20	10000	< 0.10	150000	240	62000	< 0.20	< 1.0	< 1.0	0.90	< 1.0	< 3.0	---
	14-Jul-2022	5.8	4.8	8600	0.072	13000	< 0.010	170000	360	66000	0.0032	< 0.20	< 2.0	0.87	0.51	10	1.8
	23-Jul-2022	6.5	4.9	7600	0.14	11000	< 0.010	170000	300	59000	< 0.0020	< 0.20	< 2.0	0.84	0.47	11	1.5
	27-Jul-2022	5.6	4.6	7300	0.063	12000	< 0.0050	150000	330	54000	< 0.0020	< 0.20	< 0.50	0.78	0.48	6.1	1.6
	03-Aug-2022	7.2	4.7	7600	0.093	13000	0.026	170000	310	50000	< 0.0020	< 0.20	< 2.0	0.76	0.82	4.0	2.5
	10-Aug-2022	6.2	5.0	7000	0.074	13000	< 0.010	160000	290	59000	< 0.0020	< 0.20	< 2.0	0.76	0.59	14	1.8
	20-Aug-2022	6.1	4.8	7700	0.056	13000	< 0.0050	170000	320	60000	< 0.0020	< 0.20	< 0.50	0.67	0.39	**41** [#3,4]	1.8
	25-Aug-2022	6.0	4.6	7000	0.070	8700	< 0.0050	160000	280	53000	< 0.0020	< 0.20	0.72	0.60	0.60	3.1	2.0
	30-Aug-2022	6.1	5.8	6800	0.10	15000	< 0.010	160000	280	49000	0.0076	< 0.20	7.5	0.66	2.9	5.2	6.3
	07-Sep-2022	6.2	4.7	7400	0.078	12000	< 0.010	170000	310	63000	< 0.0020	< 0.20	< 2.0	0.61	0.75	9.0	2.4
	13-Sep-2022	6.1	4.9	6500	0.089	11000	< 0.010	150000	300	55000	< 0.0020	< 0.20	< 2.0	0.51	1.3	**56** [#3,4]	4.0
	18-Sep-2022	7.5	4.4	5900	0.072	11000	< 0.010	150000	260	49000	0.0020	< 0.20	2.9	0.60	1.2	**46** [#3,4]	3.0
(Duplicate)	18-Sep-2022	7.0	5.1	6300	0.083	13000	< 0.010	160000	280	47000	0.0042	< 0.20	6.8	0.70	1.7	7.2	3.2
	27-Sep-2022	4.9	4.3	7300	< 0.080	12000	< 0.020	170000	320	71000	< 0.0040	< 0.40	< 4.0	0.53	0.49	6.5	1.8
	02-Oct-2022	4.9	3.9	7300	0.062	12000	< 0.010	170000	320	70000	< 0.0020	< 0.20	< 2.0	0.52	0.55	1.7	1.6
	10-Oct-2022	5.6	4.3	7000	0.094	13000	< 0.010	170000	310	73000	0.0029	< 0.20	3.0	0.55	1.5	1.1	4.1
(Duplicate)	10-Oct-2022	5.1	4.2	7200	0.077	12000	< 0.010	160000	320	72000	< 0.0020	< 0.20	2.3	0.54	0.78	1.1	2.0
	16-Oct-2022	5.4	3.9	6900	0.067	11000	< 0.0050	170000	280	76000	< 0.0020	< 0.20	< 0.50	0.53	0.53	1.3	1.3
	24-Oct-2022	7.8	5.5	6600	0.096	14000	< 0.010	200000	320	90000	0.014	< 0.20	14	0.60	3.5	4.9	6.7
(Duplicate)	24-Oct-2022	6.8	4.0	6500	0.066	12000	< 0.010	190000	300	87000	< 0.0020	< 0.20	< 2.0	0.50	1.1	1.1	3.2
	30-Oct-2022	5.4	3.9	7000	0.064	12000	< 0.010	170000	310	78000	< 0.0020	< 0.20	< 2.0	0.53	0.71	2.1	2.1
(Duplicate)	30-Oct-2022	5.6	4.2	7100	0.070	12000	< 0.010	170000	320	80000	< 0.0020	< 0.20	< 2.0	0.54	1.0	**35** [#3,4]	2.5
	06-Nov-2022	12	5.0	5000	0.12	13000	< 0.010	200000	280	84000	0.011	< 0.20	9.7	0.61	3.5	4.8	7.8
(Duplicate)	06-Nov-2022	12	6.3	5000	0.12	15000	< 0.010	190000	280	77000	0.017	< 0.20	14	0.62	4.7	4.8	9.6
	19-Feb-2023	14	3.1	7800	< 0.20	11000	< 0.10	200000	240	120000	< 0.20	< 1.0	3.0	0.38	1.7	< 3.0	---
	08-Mar-2023	4.5	3.0	9100	< 0.20	12000	< 0.025	200000	380	99000	< 0.010	< 1.0	< 2.5	0.36	1.9	1.5	3.1
	19-Mar-2023	4.2	4.6	9900	< 0.20	15000	< 0.050	210000	460	77000	< 0.010	< 1.0	< 10	0.76	2.0	< 5.0	1.7
	28-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Mar-2023	8.6	3.5	9200	< 1.0	11000	**< 0.50** [#3,4]	180000	400	100000	**< 1.0** [#3,4]	< 5.0	< 5.0	0.79	< 5.0	**34** [#3,4]	---
WB3-Pond-02	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.050	0.30	1300	< 0.040	5700	< 0.010	13000	120	4100	< 0.0020	< 0.20	< 2.0	0.012	< 0.20	10	< 0.10
	23-Jul-2022	0.11	0.31	1100	0.081	6400	< 0.010	16000	110	3700	< 0.0020	< 0.20	< 2.0	0.0076	< 0.20	1.2	< 0.10
	27-Jul-2022	< 0.050	0.41	1000	< 0.040	6300	< 0.0050	14000	110	4000	< 0.0020	< 0.20	< 0.50	0.0046	< 0.20	3.9	< 0.10
	03-Aug-2022	< 0.050	0.38	1000	< 0.040	7000	< 0.010	16000	110	4100	< 0.0020	< 0.20	< 2.0	0.0070	< 0.20	2.3	< 0.10
	10-Aug-2022	< 0.050	0.35	1100	< 0.040	7300	< 0.010	15000	120	3500	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	4.8	< 0.10
	20-Aug-2022	< 0.050	0.32	1200	< 0.040	6500	< 0.0050	15000	120	3500	< 0.0020	< 0.20	< 0.50	0.0058	< 0.20	14	< 0.10
	29-Aug-2022	0.057	0.68	1500	< 0.040	5400	0.0077	17000	120	3500	< 0.0020	< 0.20	< 0.50	0.0048	< 0.20	1.7	< 0.10
(Duplicate)	29-Aug-2022	0.22	2.1	1600	< 0.040	6100	< 0.010	18000	130	4000	< 0.0020	< 0.20	< 2.0	0.0062	< 0.20	**32** [#3,4]	0.23
	05-Sep-2022	< 0.050	0.46	1600	< 0.040	5700	< 0.010	16000	130	3400	< 0.0020	< 0.20	< 2.0	0.0059	< 0.20	16	< 0.10
(Duplicate)	05-Sep-2022	< 0.050	0.41	1600	< 0.040	5900	< 0.010	15000	130	3500	< 0.0020	< 0.20	< 2.0	0.0068	< 0.20	18	< 0.10
	12-Sep-2022	< 0.050	0.32	1800	< 0.040	5100	< 0.010	15000	130	3500	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	3.1	< 0.10
	18-Sep-2022	< 0.050	0.28	1900	< 0.040	4900	< 0.0050	18000	140	3500	< 0.0020	< 0.20	< 0.50	0.0052	< 0.20	6.2	< 0.10
	27-Sep-2022	< 0.050	0.26	1900	< 0.040	5300	< 0.0050	17000	140	3700	< 0.0020	< 0.20	< 0.50	0.0071	< 0.20	4.9	< 0.10
	03-Oct-2022	< 0.050	0.32	2300	< 0.040	5900	< 0.0050	21000	150	5000	< 0.0020	< 0.20	< 0.50	0.0074	< 0.20	5.4	< 0.10
	10-Oct-2022	< 0.050	0.70	2300	0.049	5500	< 0.010	18000	140	4100	0.0054	< 0.20	< 2.0	0.0084	< 0.20	8.1	< 0.10
	17-Oct-2022	< 0.050	0.34	2100	< 0.040	6700	< 0.010	19000	140	5100	< 0.0020	< 0.20	< 2.0	0.0075	< 0.20	4.2	< 0.10
	24-Oct-2022	< 0.050	0.43	2300	< 0.040	6600	0.021	20000	150	4900	< 0.0020	< 0.20	< 2.0	0.012	< 0.20	6.0	< 0.10
	30-Oct-2022	< 0.050	0.32	2300	< 0.040	6200	< 0.0050	19000	140	5000	< 0.0020	< 0.20	< 0.50	0.014	< 0.20	2.2	< 0.10
	17-Mar-2023	0.059	0.69	3200	0.38	11000	< 0.0050	40000	130	39000	< 0.0020	< 0.20	< 0.50	0.012	< 0.20	1.9	0.12

BTEX and Select Hydrocarbons

Monitoring Station	Date (dd-mmm-yyyy)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m & p-Xylene (ug/L)	o-Xylene (ug/L)	Xylenes-Total (ug/L)	PHC F4 (C34-C50+) (ug/L)	PHC F1 (C6-C10) (ug/L)	PHC F1 (C6-C10) - BTEX (ug/L)	PHC F2 (C10-C16) (ug/L)	PHC F3 (C16-C34) (ug/L)	Naphthenic acids (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	150	150	110	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	150	150	110	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		40	0.5	90	---	---	30	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		40	0.5	90	---	---	30	---	---	---	---	---	---
Waterbody 3 Investigation													
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 1.0
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	22-Oct-2019	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	05-Jan-2020	< 0.40	**0.61** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
(Duplicate)	05-Jan-2020	< 0.40	**0.54** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	31-May-2020	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	10-Aug-2020	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	01-Nov-2020	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	---	---	< 100	---	< 100	< 100	< 2.0
	17-Jan-2021	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	11-Apr-2021	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	08-Aug-2021	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	12-Oct-2021	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	08-Jan-2022	< 0.40	**3.0** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	17-Apr-2022	< 0.40	**0.50** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	21-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0
	28-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	12-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	15-Jan-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.5
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
WB3-SW-01	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	11
	19-Jun-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	11
	14-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**330** [#1,2]	2200	12
	23-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**340** [#1,2]	1800	13
	27-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**200** [#1,2]	700	13
	03-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**350** [#1,2]	2500	14
	10-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**290** [#1,2]	1600	13
	20-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**380** [#1,2]	1200	12
	25-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**370** [#1,2]	2000	13
	30-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**390** [#1,2]	2700	15
	07-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**420** [#1,2]	3200	13
	13-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**330** [#1,2]	1700	17
	18-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**450** [#1,2]	3000	15
(Duplicate)	18-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**380** [#1,2]	2300	16
	27-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**210** [#1,2]	610	12
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**390** [#1,2]	3000	15
	10-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**220** [#1,2]	950	12
(Duplicate)	10-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**290** [#1,2]	1400	11
	16-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**430** [#1,2]	2800	13
	24-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**390** [#1,2]	3500	15
(Duplicate)	24-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**410** [#1,2]	3400	15
	30-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**400** [#1,2]	2900	14
(Duplicate)	30-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**440** [#1,2]	3300	16
	06-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**350** [#1,2]	2200	16
(Duplicate)	06-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**590** [#1,2]	5100	15
	19-Feb-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	20
	08-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**480** [#1,2]	3500	14
	19-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**270** [#1,2]	1600	14
	28-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**550** [#1,2]	3200	16
	29-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	13
WB3-Pond-02	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	260	< 2.0
	23-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	190	< 2.0
	27-Jul-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	120	< 2.0
	03-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	10-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	20-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
	29-Aug-2022	< 0.40	< 0.40	< 0.40	< 1.4	< 0.40	< 1.5	< 200	< 100	< 100	< 100	< 100	< 2.0
(Duplicate)	29-Aug-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	05-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
(Duplicate)	05-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	12-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	18-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5
	27-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5
	03-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	10-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	110	< 2.0
	17-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5
	24-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	120	< 2.0
	30-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0

Polycyclic Aromatic Hydrocarbons

Monitoring Station	Date (dd-mmm-yyyy)	2-Methylnaphthalene (ug/L)	1-Methylnaphthalene (ug/L)	Acenaphthylene (ug/L)	Acenaphthene (ug/L)	Acridine (ug/L)	Anthracene (ug/L)	Benzo[a]anthracene (ug/L)	Benzo[a]pyrene (ug/L)	Benzo[a]pyrene equivalency (ug/L)	Benzo[b&j]fluoranthene (ug/L)	Benzo[c]phenanthrene (ug/L)	Benzo[e]pyrene (ug/L)	Benzo[g,h,i]perylene (ug/L)	Benzo[k]fluoranthene (ug/L)	Biphenyl (ug/L)	C1benzobjkfluoranthene/benzoapyrene (ug/L)	C1-Substituted Acenaphthene (ug/L)	C1-Substituted Benzo[a]anthracene/Chrysene (ug/L)	C1-Substituted Biphenyl (ug/L)	C1-Substituted Dibenzothiophene (ug/L)	C1-Substituted Fluoranthene/Pyrene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																						
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	< 0.10	< 0.10	< 0.10	< 0.10	< 0.050	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jan-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jan-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-May-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Nov-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Oct-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Jan-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Apr-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	28-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	17-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-01	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	19-Jun-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	14-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	23-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	0.021
	27-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	20-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	25-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	0.023
	30-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	07-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	13-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	18-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	18-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	10-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	16-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	24-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	30-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	30-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	06-Nov-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	06-Nov-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	19-Feb-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
	08-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	19-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	28-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	29-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---
WB3-Pond-02	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	23-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Jul-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	20-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	29-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	29-Aug-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	05-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	05-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	18-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	17-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	30-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	17-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020

PROJECT No.: 417085-47599

Polycyclic Aromatic Hydrocarbons (cont.)

Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzobjkfluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,i]pyrene	Dibenzo[a,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																																							
	09-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	13-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	20-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	11-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	09-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	17-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	19-Sep-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Oct-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Jan-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	05-Jan-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	31-May-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	10-Aug-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Nov-2020	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Apr-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Aug-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Oct-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Jan-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Apr-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	28-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	12-Nov-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-01	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	19-Jun-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.050	0.020	0.061	< 0.10	0.059	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.076	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.097	< 0.020	0.072	< 0.10	0.068	< 0.0085	0.044	< 0.020	< 0.050	< 0.10	0.11	< 0.0085	0.026	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.066	0.033	0.065	< 0.10	0.055	< 0.0085	0.052	0.064	0.29	< 0.10	0.092	< 0.0085	0.037	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.062	< 0.020	0.051	< 0.10	< 0.050	< 0.0085	0.045	< 0.020	0.082	< 0.10	0.093	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.060	< 0.020	0.055	< 0.10	0.051	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.089	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.066	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.094	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.070	< 0.020	0.051	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.094	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.057	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.054	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	07-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.044	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	0.053	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	13-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.028	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.034	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.044	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	0.026	0.022	< 0.050	< 0.10	0.051	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.036	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.0097	< 0.020	0.027	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.028	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.024	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.024	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.024	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	06-Nov-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.014	< 0.020	0.022	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	06-Nov-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.0089	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	08-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	19-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	28-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	0.089	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	29-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
WB3-Pond-02	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-03	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

Water Quality Results

PROJECT No.: 417085-47599

Monitoring Station	Date (dd-mmm-yyyy)	Field Parameters: Specific Conductivity (uS/cm)	Dissolved Oxygen (%) (%)	pH (pH units)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Conductivity (uS/cm)	Conventional Parameters: Specific Conductivity (Lab) (uS/cm)	pH (Laboratory) (pH Units)	Turbidity (ntu)	Total Hardness as CaCO3 (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---
Waterbody 3 Investigation											
WB3-Pond-04	21-May-2022	370.6	127.7	8.02	11.5	13.91	275	380	8.21	---	210
WB3-Pond-05	28-May-2022	401.3	32.1	7.26	12.9	**3.34** [#1,2,3,4]	311.9	390	7.83	---	200
	14-Jul-2022	419.9	93.3	7.91	19.5	8.56	375.6	420	7.81	1.2	---
	23-Jul-2022	496.4	76.6	7.42	19.9	6.8	432.3	420	7.97	1.2	---
	27-Jul-2022	443.2	95.5	8.08	20.2	8.67	402.3	410	8.09	1.2	---
	03-Aug-2022	413.9	73.8	7.83	20.3	6.6	377.2	430	8.10	2.2	---
	10-Aug-2022	516.7	64.2	7.77	19.9	**5.82** [#3,4]	458.4	520	7.93	1.6	---
	20-Aug-2022	580	59.2	7.22	21.6	**5.21** [#3,4]	543	430	7.92	1.4	---
	25-Aug-2022	408.2	36.9	7.34	18.2	**3.47** [#1,2,3,4]	355.2	470	7.68	1.7	---
(Duplicate)	25-Aug-2022	---	---	---	---	---	---	470	7.66	4.0	---
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	438.6	51.8	7.61	17.6	**4.94** [#1,2,3,4]	376.6	500	8.18	1.6	---
	05-Sep-2022	486.8	57.6	7.63	17.3	**5.53** [#3,4]	414.7	530	7.98	1.5	---
	12-Sep-2022	496	87	7.87	14.6	8.82	398	560	8.00	1.1	---
	18-Sep-2022	468.7	79.3	7.81	14.5	8.08	374.5	480	7.94	1.2	---
	27-Sep-2022	408.8	58.7	7.69	10.5	6.54	295.7	520	7.89	1.1	---
	03-Oct-2022	483.6	73.6	7.83	10.7	8.17	351.3	520	8.25	1.2	---
	10-Oct-2022	387.1	86.1	7.99	9.2	9.91	270.4	530	8.11	1.2	---
	17-Oct-2022	440.9	82.5	7.94	3.6	10.92	260.4	520	8.16	0.93	---
(Duplicate)	17-Oct-2022	---	---	---	---	---	---	520	8.17	1.1	---
	24-Oct-2022	429.5	80.8	7.99	3.5	10.73	253	540	8.27	1.5	---
	30-Oct-2022	441.9	74.9	7.72	2.6	10.17	253	550	8.34	1.5	---
	08-Mar-2023	760.8	19.4	6.97	0.1	**2.92** [#1,2,3,4]	398.8	790	7.73	40	---
	15-Mar-2023	739.3	17.7	7.05	0.2	**2.8** [#1,2,3,4]	384.2	740	7.35	2.6	---
WB3-Pond-06	14-Jul-2022	391.2	98.3	7.97	19.3	9.03	348.6	390	7.83	1.2	---
	23-Jul-2022	430	92.2	7.47	21.2	8.12	397.4	400	8.15	1.4	---
	27-Jul-2022	437.8	101.5	8.02	19.6	9.28	392.7	410	8.04	0.85	---
	03-Aug-2022	412	71.2	7.84	20.9	**6.33** [#3,4]	380.2	410	8.05	1.5	---
	10-Aug-2022	395.3	75.9	8.28	20.1	6.98	356.9	410	7.96	1.7	---
	20-Aug-2022	442.3	97	7.54	22.1	8.45	417.9	430	7.94	2.0	---
	29-Aug-2022	360	63	7.62	17.8	**5.98** [#3,4]	310.7	430	8.13	2.3	---
	05-Sep-2022	428.8	82.3	7.72	18	7.78	371.5	450	8.02	0.84	---
	12-Sep-2022	447	86	7.96	14.6	8.78	357	470	7.98	0.94	---
	18-Sep-2022	464.5	83.7	7.96	14.5	8.52	371.3	470	7.99	0.92	---
	27-Sep-2022	407.4	55.3	7.4	10.1	6.62	291.5	500	7.77	1.1	---
	03-Oct-2022	450.5	76.2	7.7	11.2	8.36	331.4	490	7.76	1.4	---
	10-Oct-2022	342.2	55.7	7.43	9.2	6.89	238.9	490	8.12	1.1	---
	17-Oct-2022	412.2	75.5	7.77	4.2	9.84	248.4	500	8.10	0.97	---
	24-Oct-2022	445.2	75.4	7.83	3.6	9.99	262.9	540	8.23	1.2	---
	30-Oct-2022	407.3	87	8	2.6	11.81	233.4	510	8.28	1.4	---
WB3-Pond-07	14-Jul-2022	379.2	102.8	8.06	19.4	9.44	338.8	370	7.85	1.2	---
	23-Jul-2022	412.5	94.7	7.4	20.3	10.27	375.5	390	8.10	0.80	---
	27-Jul-2022	412.3	103	8.02	20.4	9.28	376.2	380	8.02	0.71	---
	03-Aug-2022	396.8	75	7.81	20.4	6.72	326.3	410	8.00	1.5	---
	10-Aug-2022	---	---	---	---	---	---	410	8.13	1.1	---
	20-Aug-2022	422	101.7	7.93	23	8.72	403.5	410	8.01	3.2	---
	29-Aug-2022	346.9	65	7.53	18.9	**6.04** [#3,4]	306.4	420	8.06	1.3	---
	05-Sep-2022	411.5	79.7	7.66	18.1	7.83	357.2	440	8.06	1.7	---
	12-Sep-2022	429.5	93.4	7.95	14.8	9.45	345.6	450	8.07	0.76	---
	18-Sep-2022	449.7	67.8	7.62	14.2	6.92	357.1	460	7.79	0.82	---
	27-Sep-2022	368.6	92.5	8.03	11	10.19	270.1	480	7.98	1.7	---
	03-Oct-2022	433.1	69.3	7.48	11	7.63	317.1	470	7.68	1.1	---
	10-Oct-2022	342.7	80.9	7.77	9.2	9.3	239.2	450	8.12	0.71	---
	17-Oct-2022	404.1	92.7	8.03	4.4	12.02	244.9	500	8.18	1.1	---
	24-Oct-2022	424	79.1	7.74	3.7	10.43	251	520	8.09	1.2	---
	30-Oct-2022	394.9	85.3	7.95	2.7	11.55	394.9	500	8.34	1.6	---
WB3-Pond-08	14-Jul-2022	364.1	97.6	7.92	19.4	8.97	325.2	360	7.73	0.92	---
	23-Jul-2022	413.4	93.4	7.71	22.3	8.04	392.1	390	8.10	1.1	---
	27-Jul-2022	203.4	93.7	7.74	20.3	8.46	185.2	360	7.80	0.90	---
	03-Aug-2022	378.7	68	7.72	20	**6.15** [#3,4]	342.7	370	8.00	0.79	---
	10-Aug-2022	369	74.3	7.68	19.9	6.71	333	360	7.86	0.83	---
	20-Aug-2022	396.1	101.9	7.56	24	8.56	388.8	390	7.90	1.1	---
	29-Aug-2022	322.5	73.3	7.55	19.1	6.78	286	390	8.11	1.6	---
	05-Sep-2022	397.5	69.1	7.56	18.1	6.52	345.5	420	7.95	0.87	---
	12-Sep-2022	364	50	7.15	12.6	**5.39** [#3,4]	276	430	7.99	1.1	---
	18-Sep-2022	413.4	60.1	7.29	13.9	**6** [#3,4]	35.6	420	7.53	0.65	---
	27-Sep-2022	330.6	56.6	7.27	11.1	**6.22** [#3,4]	242.8	430	7.57	0.73	---
	03-Oct-2022	407.7	77	7.54	11.2	8.44	300.3	440	8.14	1.0	---
	10-Oct-2022	315	86.9	7.69	9.2	10	219.8	420	8.05	8.5	---
	17-Oct-2022	384.3	86.4	7.73	5.1	10.99	238.3	470	8.06	1.5	---
	24-Oct-2022	393.7	79.3	7.64	4.1	10.36	236	480	8.19	0.98	---
	30-Oct-2022	372.2	80.2	7.63	2.9	10.8	215.3	470	8.26	1.4	---
WB3-SW-09	02-Sep-2022	1279	---	6.89	18.4	---	1065	870	7.66	5.6	---
	10-Sep-2022	1519	1.2	6.83	11.8	**0.13** [#1,2,3,4]	1135	1300	7.24	12	---
WB3-SW-10	09-Sep-2022	997	57.8	7.64	16.4	**5.68** [#3,4]	832	1000	7.83	9.6	---
	16-Sep-2022	679	17.4	7.43	13.5	**1.81** [#1,2,3,4]	530	1200	7.73	1.8	---
	25-Sep-2022	1135	27.3	7.25	9.8	**3.09** [#1,2,3,4]	805	1100	7.82	22	---
	02-Oct-2022	985	37.4	7.53	12.5	**3.97** [#1,2,3,4]	749	1000	8.03	42	---
WB3-SW-11	09-Sep-2022	1182	8.4	7.55	14.3	**0.85** [#1,2,3,4]	941	1300	7.58	530	---
	16-Sep-2022	1022	25.3	7.54	13.3	**2.64** [#1,2,3,4]	795	1300	7.77	250	---

Monitoring Station	Date (dd-mmm-yyyy)	Total Hardness as CaCO3 - Calculated (mg/L)	Dissolved Hardness as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	PP Alkalinity as CaCO3 (mg/L)	Biochemical Oxygen Demand (BOD) (mg/L)	Chloride:D (mg/L)	Sulphate:D (mg/L)	Dissolved Sulphide (mg/L)	Total Sulphide (mg/L)	Sulphide (as H2S) (mg/L)	Total Dissolved Solids (mg/L)	Total Dissolved Solids - Calculated (mg/L)	Total Suspended Solids (TSS) (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Hydroxide (mg/L)	Fluoride:D (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
WB3-Pond-04	21-May-2022	---	---	180	< 1.0	---	< 1.0	19	---	---	---	200	210	---	220	< 1.0	< 1.0	---
WB3-Pond-05	28-May-2022	---	---	190	< 1.0	---	1.8	21	---	**0.020** [#3,4]	0.022	220	220	---	230	< 1.0	< 1.0	0.17
	14-Jul-2022	210	190	220	< 1.0	< 2.0	1.4	13	**0.013** [#3,4]	**0.011** [#3,4]	0.012	290	230	1.9	260	< 1.0	< 1.0	0.21
	23-Jul-2022	200	200	210	< 1.0	< 2.0	1.1	14	**0.0039** [#3,4]	**0.0039** [#3,4]	0.0041	260	220	1.3	260	< 1.0	< 1.0	0.25
	27-Jul-2022	180	190	210	< 1.0	< 2.0	1.3	13	**0.0054** [#3,4]	**0.0070** [#3,4]	0.0074	260	220	2.9	260	< 1.0	< 1.0	0.23
	03-Aug-2022	190	190	210	< 1.0	< 2.0	1.8	12	**0.0057** [#3,4]	**0.0057** [#3,4]	0.0060	250	220	5.7	260	< 1.0	< 1.0	0.21
	10-Aug-2022	220	210	250	< 1.0	< 2.0	3.2	27	**0.0061** [#3,4]	**0.014** [#3,4]	0.015	320	270	1.4	310	< 1.0	< 1.0	0.30
	20-Aug-2022	200	200	220	< 1.0	< 2.0	1.4	11	**0.0042** [#3,4]	**0.0076** [#3,4]	0.0081	260	230	1.9	270	< 1.0	< 1.0	0.22
	25-Aug-2022	220	210	240	< 1.0	< 2.0	3.0	15	**0.017** [#3,4]	**0.028** [#3,4]	0.029	280	260	3.3	300	< 1.0	< 1.0	0.27
(Duplicate)	25-Aug-2022	220	200	250	< 1.0	< 2.0	2.4	16	**0.039** [#3,4]	**0.047** [#3,4]	0.050	290	250	7.0	300	< 1.0	< 1.0	0.27
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	220	210	250	< 1.0	< 2.0	3.0	17	**0.0052** [#3,4]	**0.011** [#3,4]	0.011	310	260	3.3	310	< 1.0	< 1.0	0.32
	05-Sep-2022	230	210	270	< 1.0	< 2.0	3.2	23	**0.025** [#3,4]	**0.16** [#3,4]	0.17	340	290	20	330	< 1.0	< 1.0	0.36
	12-Sep-2022	230	230	280	< 1.0	< 2.0	4.2	28	**0.014** [#3,4]	**0.029** [#3,4]	0.030	330	310	< 1.0	340	< 1.0	< 1.0	0.30
	18-Sep-2022	220	220	260	< 1.0	< 2.0	2.5	12	**0.0067** [#3,4]	**0.0082** [#3,4]	0.0087	300	260	3.1	320	< 1.0	< 1.0	0.22
	27-Sep-2022	230	230	270	< 1.0	< 2.0	3.0	18	**0.0053** [#3,4]	**0.0097** [#3,4]	0.010	330	280	1.2	330	< 1.0	< 1.0	0.30
	03-Oct-2022	250	240	280	< 1.0	< 2.0	2.9	13	**0.0038** [#3,4]	**0.0038** [#3,4]	0.0040	320	290	1.7	340	< 1.0	< 1.0	0.31
	10-Oct-2022	240	240	280	< 1.0	< 2.0	2.6	19	**0.0048** [#3,4]	**0.010** [#3,4]	0.011	330	290	1.1	340	< 1.0	< 1.0	0.28
	17-Oct-2022	240	240	270	< 1.0	< 2.0	3.3	18	**0.0033** [#3,4]	**0.0062** [#3,4]	0.0066	290	290	< 1.0	330	< 1.0	< 1.0	0.28
(Duplicate)	17-Oct-2022	240	240	280	< 1.0	< 2.0	3.0	14	< 0.0018	**0.0043** [#3,4]	0.0045	330	290	< 1.0	350	< 1.0	< 1.0	0.29
	24-Oct-2022	240	250	280	< 1.0	< 2.0	3.9	18	**0.017** [#3,4]	**0.028** [#3,4]	0.030	310	300	1.9	340	< 1.0	< 1.0	0.30
	30-Oct-2022	250	250	280	1.7	< 2.0	3.7	24	**0.0057** [#3,4]	**0.0087** [#3,4]	0.0093	350	310	1.5	340	2.1	< 1.0	0.31
	08-Mar-2023	320	350	410	< 1.0	13	7.1	41	**0.86** [#3,4]	**3.6** [#3,4]	3.9	480	460	< 1.0	500	< 1.0	< 1.0	0.41
	15-Mar-2023	330	360	380	< 1.0	6.1	2.6	34	**0.11** [#3,4]	**0.99** [#3,4]	1.1	470	420	< 1.0	470	< 1.0	< 1.0	0.32
WB3-Pond-06	14-Jul-2022	190	190	210	< 1.0	< 2.0	1.1	9.3	< 0.0018	**0.0054** [#3,4]	0.0058	260	210	3.8	250	< 1.0	< 1.0	0.19
	23-Jul-2022	200	190	210	< 1.0	< 2.0	< 1.0	8.6	**0.0028** [#3,4]	**0.0023** [#3,4]	0.0025	250	210	2.2	250	< 1.0	< 1.0	0.21
	27-Jul-2022	190	190	210	< 1.0	< 2.0	1.6	9.4	**0.0044** [#3,4]	**0.0059** [#3,4]	0.0063	270	210	1.9	260	< 1.0	< 1.0	0.22
	03-Aug-2022	200	180	220	< 1.0	< 2.0	1.6	8.8	**0.0052** [#3,4]	**0.0032** [#3,4]	0.0034	250	220	2.2	270	< 1.0	< 1.0	0.20
	10-Aug-2022	200	200	210	< 1.0	< 2.0	1.9	9.0	**0.0032** [#3,4]	**0.0037** [#3,4]	0.0039	250	220	1.8	250	< 1.0	< 1.0	0.21
	20-Aug-2022	210	200	220	< 1.0	< 2.0	1.4	9.0	**0.0027** [#3,4]	**0.0027** [#3,4]	0.0029	270	220	14	270	< 1.0	< 1.0	0.25
	29-Aug-2022	210	200	230	< 1.0	< 2.0	1.6	6.1	< 0.0018	**0.0027** [#3,4]	0.0029	280	230	8.2	280	< 1.0	< 1.0	0.23
	05-Sep-2022	210	200	240	< 1.0	< 2.0	2.8	8.1	**0.0037** [#3,4]	< 0.0018	< 0.0020	280	240	2.1	290	< 1.0	< 1.0	0.26
	12-Sep-2022	220	220	250	< 1.0	< 2.0	2.6	13	< 0.0018	**0.0037** [#3,4]	0.0039	270	260	< 1.0	300	< 1.0	< 1.0	0.23
	18-Sep-2022	230	220	260	< 1.0	< 2.0	2.3	8.2	< 0.0018	**0.0023** [#3,4]	0.0024	280	260	1.5	320	< 1.0	< 1.0	0.21
	27-Sep-2022	230	240	280	< 1.0	< 2.0	3.0	9.2	**0.0023** [#3,4]	**0.0023** [#3,4]	0.0024	320	280	1.9	340	< 1.0	< 1.0	0.24
	03-Oct-2022	240	230	260	< 1.0	< 2.0	2.3	6.9	< 0.0018	**0.0023** [#3,4]	0.0024	300	260	1.8	320	< 1.0	< 1.0	0.22
	10-Oct-2022	250	240	260	< 1.0	< 2.0	2.0	7.5	**0.0023** [#3,4]	**0.0038** [#3,4]	0.0040	290	260	1.4	320	< 1.0	< 1.0	0.23
	17-Oct-2022	240	240	280	< 1.0	< 2.0	2.6	13	< 0.0018	**0.0067** [#3,4]	0.0072	300	280	1.1	340	< 1.0	< 1.0	0.27
	24-Oct-2022	250	250	280	< 1.0	< 2.0	3.9	18	< 0.0018	**0.0038** [#3,4]	0.0040	320	300	< 1.0	350	< 1.0	< 1.0	0.29
	30-Oct-2022	240	250	270	< 1.0	< 2.0	2.9	13	**0.0023** [#3,4]	**0.0043** [#3,4]	0.0045	430	280	< 1.0	330	< 1.0	< 1.0	0.26
WB3-Pond-07	14-Jul-2022	190	180	200	< 1.0	< 2.0	1.1	8.2	**0.0044** [#3,4]	**0.0044** [#3,4]	0.0047	250	200	2.7	240	< 1.0	< 1.0	0.19
	23-Jul-2022	190	190	200	< 1.0	< 2.0	< 1.0	8.0	**0.0039** [#3,4]	**0.0033** [#3,4]	0.0036	250	210	< 0.99	250	< 1.0	< 1.0	0.23
	27-Jul-2022	180	180	200	< 1.0	< 2.0	3.4	8.0	**0.0039** [#3,4]	**0.0049** [#3,4]	0.0052	260	200	1.3	240	< 1.0	< 1.0	0.20
	03-Aug-2022	190	180	210	< 1.0	< 2.0	1.6	6.6	**0.0047** [#3,4]	**0.0042** [#3,4]	0.0045	240	210	2.5	250	< 1.0	< 1.0	0.18
	10-Aug-2022	190	200	210	< 1.0	< 2.0	2.5	8.8	**0.0027** [#3,4]	**0.0037** [#3,4]	0.0039	250	220	< 0.97	250	< 1.0	< 1.0	0.21
	20-Aug-2022	200	190	220	< 1.0	< 2.0	1.5	8.4	< 0.0018	< 0.0018	< 0.0020	260	220	3.1	270	< 1.0	< 1.0	0.21
	29-Aug-2022	210	200	230	< 1.0	< 2.0	1.7	1.2	**0.0022** [#3,4]	**0.0042** [#3,4]	0.0045	270	220	7.9	280	< 1.0	< 1.0	0.21
	05-Sep-2022	210	200	230	< 1.0	< 2.0	2.7	8.9	**0.0037** [#3,4]	**0.0066** [#3,4]	0.0071	280	230	33	280	< 1.0	< 1.0	0.25
	12-Sep-2022	220	210	240	< 1.0	< 2.0	2.9	8.5	< 0.0018	**0.0052** [#3,4]	0.0055	270	240	< 1.0	290	< 1.0	< 1.0	0.22
	18-Sep-2022	220	210	240	< 1.0	< 2.0	2.2	6.7	< 0.0018	**0.0033** [#3,4]	0.0035	270	240	< 1.0	300	< 1.0	< 1.0	0.20
	27-Sep-2022	230	220	260	< 1.0	< 2.0	2.7	10	**0.0038** [#3,4]	**0.0087** [#3,4]	0.0093	310	260	5.0	320	< 1.0	< 1.0	0.25
	03-Oct-2022	230	230	250	< 1.0	< 2.0	2.0	5.1	< 0.0018	**0.0033** [#3,4]	0.0035	290	250	1.3	310	< 1.0	< 1.0	0.20
	10-Oct-2022	210	220	240	< 1.0	< 2.0	1.5	4.6	< 0.0018	< 0.0018	< 0.0020	310	240	1.0	300	< 1.0	< 1.0	0.22
	17-Oct-2022	240	240	260	< 1.0	< 2.0	2.6	10	< 0.0018	**0.0043** [#3,4]	0.0045	290	270	1.1	320	< 1.0	< 1.0	0.27
	24-Oct-2022	250	250	280	< 1.0	< 2.0	3.6	13	**0.0028** [#3,4]	< 0.0018	< 0.0020	320	290	< 1.0	340	< 1.0	< 1.0	0.26
	30-Oct-2022	250	230	260	1.1	< 2.0	3.1	12	< 0.0018	**0.0043** [#3,4]	0.0045	480	270	1.7	320	1.3	< 1.0	0.26
WB3-Pond-08	14-Jul-2022	180	180	200	< 1.0	< 2.0	< 1.0	6.1	< 0.0018	**0.0039** [#3,4]	0.0041	240	190	2.9	240	< 1.0	< 1.0	0.17
	23-Jul-2022	190	190	200	< 1.0	< 2.0	< 1.0	7.6	**0.0028** [#3,4]	**0.0033** [#3,4]	0.0036	240	210	1.8	250	< 1.0	< 1.0	0.20
	27-Jul-2022	170	170	180	< 1.0	< 2.0	1.2	4.7	**0.0054** [#3,4]	**0.0080** [#3,4]	0.0085	240	180	1.1	220	< 1.0	< 1.0	0.19
	03-Aug-2022	190	180	200	< 1.0	< 2.0	1.5	5.0	**0.0037** [#3,4]	**0.0032** [#3,4]	0.0034	230	200	1.7	250	< 1.0	< 1.0	0.17
	10-Aug-2022	190	180	190	< 1.0	< 2.0	1.6	2.8	**0.0037** [#3,4]	**0.0047** [#3,4]	0.0050	240	190	< 0.97	230	< 1.0	< 1.0	0.19
	20-Aug-2022	190	190	210	< 1.0	< 2.0	1.5	5.1	**0.0027** [#3,4]	**0.0032** [#3,4]	0.0034	260	210	< 0.97	260	< 1.0	< 1.0	0.19
	29-Aug-2022	180	180	210	< 1.0	< 2.0	1.5	3.3	**0.0032** [#3,4]	**0.0032** [#3,4]	0.0034	250	210	24	260	< 1.0	< 1.0	0.20
	05-Sep-2022	200	190	220	< 1.0	< 2.0	2.2	5.5	**0.0047** [#3,4]	**0.0037** [#3,4]	0.0039	270	220	1.6	270	< 1.0	< 1.0	0.23
	12-Sep-2022	200	200	230	< 1.0	< 2.0	2.3	7.1	**0.0022** [#3,4]	**0.0027** [#3,4]	0.0029	250	230	1.7	280	< 1.0	< 1.0	0.21
	18-Sep-2022	210	200	230	< 1.0	< 2.0	1.8	< 1.0	< 0.0018	< 0.0018	< 0.0020	260	220	< 1.0	280	< 1.0	< 1.0	0.18
	27-Sep-2022	200	210	230	< 1.0	< 2.0	2.6	2.6	**0.0028** [#3,4]	< 0.0018	< 0.0020	280	230	< 0.96	280	< 1.0	< 1.0	0.20
	03-Oct-2022	220	210	240	< 1.0	< 2.0	1.9	2.6	< 0.0018	**0.0023** [#3,4]	0.0024	280	240	1.9	300	< 1.0	< 1.0	0.23
	10-Oct-2022	220	210	230	< 1.0	< 2.0	1.1	< 1.0	< 0.0018	**0.014** [#3,4]	0.015	240	220	100	280	< 1.0	< 1.0	0.19
	17-Oct-2022	230	230	260	< 1.0	< 2.0	2.3	8.9	< 0.0018	< 0.0018	< 0.0020	280	260	< 1.0	310	< 1.0	< 1.0	0.24
	24-Oct-2022	230	230	260	< 1.0	< 2.0	3.1	8.5	< 0.0018	< 0.0018	< 0.0020	280	260	< 1.0	310	< 1.0	< 1.0	0.25
	30-Oct-2022	230	220	250	< 1.0	< 2.0	2.9	9.7	< 0.0018	**0.0033** [#3,4]	0.0035	290	260	< 1.0	310	< 1.0	< 1.0	0.24
WB3-SW-09	02-Sep-2022	350	340	340	< 1.0	---	5.0	150	**0.29** [#3,4]	**0.50** [#3,4]	0.53	610	520	13	420	< 1.0	< 1.0	0.25
	10-Sep-2022	530	540	460	< 1.0	---	12	**260** [#3]	**4.5** [#3,4]	**4.2** [#3,4]	4.5	850	830	7.5	570	< 1.0	< 1.0	0.19
WB3-SW-10	09-Sep-2022	350	380	480	< 1.0	---	13	100	**0.32** [#3,4]	**0.25** [#3,4]	0.27	700	630	8.3	590	< 1.0	< 1.0	0.61
	16-Sep-2022	350	320	500	< 1.0	---	15	130	**0.17** [#3,4]	**0.24** [#3,4]	0.26	780	700	5.2	610	< 1.0	< 1.0	1.1
	25-Sep-2022	410	380	450	< 1.0	21	12	110	**0.41** [#3,4]	**0.22** [#3,4]	0.23	700	610	49	550	< 1.0	< 1.0	0.56
	02-Oct-2022	450	380	490	< 1.0	27	13	110	**1.0** [#3,4]	**3.4** [#3,4]	3.7	720	650	160	600	< 1.0	< 1.0	0.67
WB3-SW-11	09-Sep-2022	350	320	530	< 1.0	---	20	150	**0.24** [#3,4]	**0.35** [#3,4]	0.37	840	780	2700	650	< 1.0	< 1.0	1.6
	16-Sep-2022	460	330	530	< 1.0	---	17	160	**0.022** [#3,4]	**0.053** [#3,4]	0.056	840	780	1000	640	< 1.0	< 1.0	1.4

Monitoring Station	Date (dd-mmm-yyyy)	Carbon: Dissolved Inorganic Carbon (DIC) (mg/L)	Dissolved Organic Carbon (DOC) (mg/L)	Nitrogen Parameters: Nitrate as N (mg/L)	Nitrite as N (mg/L)	Nitrate plus Nitrite as N (mg/L)	Nitrate (NO3) (mg/L)	Nitrite (NO2) (mg/L)	Ammonia as N (mg/L)	Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen (mg/L)	Phosphorus: Orthophosphate (P) (mg/L)	Dissolved Metals and Trace Elements: Dissolved Aluminum (ug/L)	Dissolved Antimony (ug/L)	Dissolved Arsenic (ug/L)	Dissolved Barium (ug/L)	Dissolved Beryllium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
WB3-Pond-04	21-May-2022	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	---	---	---	---	---	---	---	---	---
WB3-Pond-05	28-May-2022	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.016	---	---	---	< 3.0	< 0.60	< 0.20	33	< 1.0
	14-Jul-2022	67	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.82	0.82	0.0030	3.5	< 0.020	0.13	38	< 0.010
	23-Jul-2022	56	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.055	0.76	0.76	< 0.0030	3.2	< 0.020	0.22	52	< 0.010
	27-Jul-2022	58	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	< 0.0030	0.95	0.024	0.14	36	< 0.010
	03-Aug-2022	57	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.023	0.98	0.98	< 0.0030	1.1	< 0.020	0.14	36	< 0.010
	10-Aug-2022	68	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.020	0.89	0.89	< 0.0030	2.2	< 0.020	0.15	41	< 0.010
	20-Aug-2022	63	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.94	0.94	0.0038	1.1	< 0.020	0.14	41	< 0.010
	25-Aug-2022	71	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.028	0.94	0.94	0.0034	1.8	0.067	0.14	42	< 0.010
(Duplicate)	25-Aug-2022	71	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.042	1.0	1.0	0.0060	3.6	0.091	0.15	42	< 0.010
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	71	14	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.021	1.1	1.1	0.0039	2.1	0.034	0.15	44	< 0.010
	05-Sep-2022	71	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	1.6	1.6	< 0.0030	0.89	< 0.020	0.16	45	< 0.010
	12-Sep-2022	81	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.78	0.78	0.0041	1.5	< 0.020	0.15	45	< 0.010
	18-Sep-2022	64	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.94	0.94	0.0080	1.4	< 0.020	0.14	43	< 0.010
	27-Sep-2022	66	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	0.92	0.92	0.0040	1.7	< 0.020	0.15	45	< 0.010
	03-Oct-2022	72	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	0.0031	1.7	< 0.020	0.14	46	< 0.010
	10-Oct-2022	74	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.027	0.85	0.85	0.0039	1.9	0.034	0.14	45	< 0.010
	17-Oct-2022	72	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.93	0.93	0.0040	1.9	< 0.020	0.14	42	< 0.010
(Duplicate)	17-Oct-2022	73	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.89	0.89	0.0041	6.0	< 0.020	0.14	42	< 0.010
	24-Oct-2022	72	16	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.025	0.67	0.67	0.046	3.8	0.021	0.13	42	< 0.010
	30-Oct-2022	74	17	0.31	< 0.010	0.31	1.4	< 0.033	< 0.015	0.37	0.67	0.0056	1.8	< 0.020	0.13	40	< 0.010
	08-Mar-2023	110	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.61** [#3,4]	1.4	1.4	0.072	3.3	< 0.020	0.13	55	< 0.010
	15-Mar-2023	94	12	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.24	0.76	0.76	0.020	2.2	< 0.020	0.14	44	< 0.010
WB3-Pond-06	14-Jul-2022	64	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	< 0.0030	1.7	< 0.020	0.12	38	< 0.010
	23-Jul-2022	54	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.80	0.80	0.0032	1.1	< 0.020	0.18	35	< 0.010
	27-Jul-2022	54	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	< 0.0030	1.6	< 0.020	0.15	36	< 0.010
	03-Aug-2022	58	13	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.75	0.75	0.0034	0.94	< 0.020	0.15	36	< 0.010
	10-Aug-2022	56	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.0	1.0	0.0035	1.6	< 0.020	0.12	36	< 0.010
	20-Aug-2022	64	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.89	0.89	0.0043	6.0	< 0.020	0.13	41	< 0.010
	29-Aug-2022	64	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.92	0.92	0.0037	2.7	0.022	0.13	42	< 0.010
	05-Sep-2022	63	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.95	0.95	0.0039	1.5	< 0.020	0.14	44	< 0.010
	12-Sep-2022	69	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.018	0.75	0.75	0.0037	1.0	< 0.020	0.14	44	< 0.010
	18-Sep-2022	66	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.83	0.83	0.0041	3.3	< 0.020	0.14	43	< 0.010
	27-Sep-2022	71	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.87	0.87	0.0034	1.8	< 0.020	0.13	45	< 0.010
	03-Oct-2022	66	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	< 0.0030	1.3	< 0.020	0.13	45	< 0.010
	10-Oct-2022	69	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.015	0.76	0.76	0.0037	1.8	< 0.020	0.14	42	< 0.010
	17-Oct-2022	73	18	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.83	0.83	0.0048	2.4	< 0.020	0.13	43	< 0.010
	24-Oct-2022	73	17	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.64	0.64	0.0042	1.9	< 0.020	0.13	41	< 0.010
	30-Oct-2022	71	16	0.29	< 0.010	0.29	1.3	< 0.033	< 0.015	0.57	0.86	0.0044	1.8	< 0.020	0.097	42	< 0.010
WB3-Pond-07	14-Jul-2022	60	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.83	0.83	< 0.0030	1.7	< 0.020	0.12	36	< 0.010
	23-Jul-2022	54	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.72	0.72	0.0039	1.1	< 0.020	0.17	35	< 0.010
	27-Jul-2022	51	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.90	0.90	< 0.0030	5.4	< 0.020	0.14	34	< 0.010
	03-Aug-2022	55	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.82	0.82	0.0037	1.3	< 0.020	0.13	36	< 0.010
	10-Aug-2022	54	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.92	0.92	< 0.0030	0.91	< 0.020	0.12	36	< 0.010
	20-Aug-2022	63	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.1	1.1	0.0037	1.7	< 0.020	0.14	40	0.015
	29-Aug-2022	62	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.89	0.89	< 0.0030	3.2	< 0.020	0.13	40	< 0.010
	05-Sep-2022	60	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.1	1.1	0.0034	1.1	< 0.020	0.14	42	< 0.010
	12-Sep-2022	66	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.86	0.86	0.0036	1.1	< 0.020	0.15	43	< 0.010
	18-Sep-2022	64	21	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.016	0.81	0.81	0.0043	1.3	< 0.020	0.13	42	< 0.010
	27-Sep-2022	66	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.95	0.95	0.0045	1.4	< 0.020	0.13	43	< 0.010
	03-Oct-2022	65	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.88	0.88	< 0.0030	1.1	< 0.020	0.13	42	< 0.010
	10-Oct-2022	62	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.016	0.72	0.72	0.0045	2.3	< 0.020	0.13	39	< 0.010
	17-Oct-2022	71	18	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.85	0.85	0.0043	3.7	< 0.020	0.13	41	< 0.010
	24-Oct-2022	72	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.58	0.58	< 0.0030	1.5	< 0.020	0.13	40	< 0.010
	30-Oct-2022	67	16	0.30	< 0.010	0.30	1.3	< 0.033	< 0.015	0.47	0.77	0.0048	2.7	< 0.020	0.13	37	< 0.010
WB3-Pond-08	14-Jul-2022	58	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.78	0.78	< 0.0030	2.1	< 0.020	0.13	34	< 0.010
	23-Jul-2022	53	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.72	0.72	< 0.0030	1.1	< 0.020	0.16	35	< 0.010
	27-Jul-2022	52	16	0.011	< 0.010	0.011	0.047	< 0.033	< 0.015	0.83	0.84	< 0.0030	1.7	< 0.020	0.13	32	< 0.010
	03-Aug-2022	54	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.79	0.79	< 0.0030	0.82	< 0.020	0.13	34	< 0.010
	10-Aug-2022	48	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.54	0.54	< 0.0030	2.6	< 0.020	0.12	34	< 0.010
	20-Aug-2022	58	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.91	0.91	0.0035	4.3	0.034	0.14	40	< 0.010
	29-Aug-2022	57	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.77	0.77	0.0031	1.5	< 0.020	0.13	37	< 0.010
	05-Sep-2022	58	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.88	0.88	0.0030	1.3	< 0.020	0.14	40	< 0.010
	12-Sep-2022	64	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	0.73	0.73	0.0031	2.7	< 0.020	0.14	38	< 0.010
	18-Sep-2022	60	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.016	0.84	0.84	0.0043	1.2	< 0.020	0.13	38	< 0.010
	27-Sep-2022	59	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.71	0.71	0.0039	2.5	< 0.020	0.12	38	< 0.010
	03-Oct-2022	62	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.89	0.89	< 0.0030	2.7	0.051	0.12	40	< 0.010
	10-Oct-2022	60	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	1.1	1.1	0.0045	2.2	< 0.020	0.12	35	< 0.010
	17-Oct-2022	67	17	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.87	0.87	0.0036	2.0	< 0.020	0.13	39	< 0.010
	24-Oct-2022	67	14	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.61	0.61	0.0040	1.9	< 0.020	0.13	37	< 0.010
	30-Oct-2022	64	17	0.29	< 0.010	0.29	1.3	< 0.033	< 0.015	0.38	0.68	0.0042	6.5	< 0.020	0.11	35	< 0.010
WB3-SW-09	02-Sep-2022	110	25	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.073	1.6	1.6	0.015	3.0	0.022	0.57	66	< 0.010
	10-Sep-2022	130	29	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.18	1.3	1.3	0.055	4.2	0.029	0.83	93	< 0.010
WB3-SW-10	09-Sep-2022	130	28	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.035	1.6	1.6	0.0056	1.5	< 0.020	0.28	45	< 0.010
	16-Sep-2022	120	29	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.051	0.78	0.78	0.0077	3.3	< 0.020	0.21	55	< 0.010
	25-Sep-2022	130	17	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.068	0.91	0.91	< 0.0030	2.2	< 0.020	0.28	52	< 0.010
	02-Oct-2022	130	27	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.043	3.9	3.9	0.0053	5.3	0.034	0.25	62	< 0.010
WB3-SW-11	09-Sep-2022	140	30	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.064	3.1	3.1	0.0047	2.2	0.025	0.22	66	< 0.010
	16-Sep-2022	140	32	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.091	3.9	3.9	0.0036	8.0	< 0.020	0.19	58	< 0.010

PROJECT No.: 417085-47599

Dissolved Metals and Trace Elements (cont.)

Monitoring Station	Date (dd-mmm-yyyy)	Dissolved Bismuth (ug/L)	Dissolved Boron (ug/L)	Dissolved Cadmium (ug/L)	Dissolved Calcium (ug/L)	Dissolved Chromium (ug/L)	Dissolved Cobalt (ug/L)	Dissolved Copper (ug/L)	Dissolved Iron (ug/L)	Dissolved Lead (ug/L)	Dissolved Lithium (ug/L)	Dissolved Magnesium (ug/L)	Dissolved Manganese (ug/L)	Dissolved Molybdenum (ug/L)	Dissolved Nickel (ug/L)	Dissolved Potassium (ug/L)	Dissolved Selenium (ug/L)	Dissolved Silicon (ug/L)	Dissolved Silver (ug/L)	Dissolved Sodium (ug/L)	Dissolved Strontium (ug/L)	Dissolved Sulphur (ug/L)	Dissolved Thallium (ug/L)	Dissolved Tin (ug/L)	Dissolved Titanium (ug/L)	Dissolved Uranium (ug/L)	Dissolved Vanadium (ug/L)	Dissolved Zinc (ug/L)	Dissolved Zirconium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---		---	---	**300**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---		---	---	**300**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																													
WB3-Pond-04	21-May-2022	---	36	---	51000	---	---	---	< 60	---	---	19000	4.1	---	---	2000	---	---	---	12000	---	---	---	---	---	---	---	---	---
WB3-Pond-05	28-May-2022	---	33	< 0.020	48000	< 1.0	< 0.30	1.1	< 60	< 0.20	< 20	19000	10	< 0.20	< 0.50	2200	< 0.20	1400	< 0.10	15000	93	7100	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
	14-Jul-2022	< 0.0050	63	< 0.0050	44000	< 0.10	0.044	0.14	86	0.0067	11	21000	11	< 0.050	0.34	1300	< 0.040	6000	< 0.0050	15000	120	4500	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	3.0	< 0.10
	23-Jul-2022	0.0059	96	< 0.0050	44000	< 0.10	0.040	6.1	42	0.29	11	21000	7.6	0.084	1.1	1100	< 0.040	6800	< 0.0050	17000	110	4800	< 0.0020	< 0.20	< 0.50	0.0030	< 0.20	7.6	< 0.10
	27-Jul-2022	< 0.0050	70	0.010	42000	< 0.10	0.036	0.13	37	0.015	11	20000	3.6	< 0.050	0.35	1000	< 0.040	6200	< 0.0050	15000	110	4400	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	0.18	< 0.10
	03-Aug-2022	< 0.0050	72	< 0.0050	41000	< 0.10	0.034	0.085	37	< 0.0050	10	20000	11	< 0.050	0.29	1000	< 0.040	5900	< 0.0050	16000	110	4400	< 0.0020	< 0.20	< 0.50	0.0028	< 0.20	2.5	< 0.10
	10-Aug-2022	< 0.0050	93	< 0.0050	47000	< 0.10	0.043	0.057	50	< 0.0050	12	23000	23	< 0.050	0.45	1400	< 0.040	6300	< 0.0050	22000	120	5500	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	0.70	< 0.10
	20-Aug-2022	< 0.0050	76	< 0.0050	44000	< 0.10	0.034	0.074	33	< 0.0050	11	21000	10	< 0.050	0.29	1200	< 0.040	6300	< 0.0050	16000	120	3800	< 0.0020	< 0.20	< 0.50	0.0035	< 0.20	1.1	< 0.10
	25-Aug-2022	< 0.0050	87	< 0.0050	46000	< 0.10	0.051	0.24	68	0.014	12	24000	24	< 0.050	0.35	2300	0.040	6600	< 0.0050	21000	130	5100	< 0.0020	< 0.20	< 0.50	0.0074	< 0.20	9.3	< 0.10
(Duplicate)	25-Aug-2022	< 0.0050	85	< 0.0050	44000	0.10	0.054	0.33	67	0.018	11	21000	21	< 0.050	0.50	2200	< 0.040	4700	< 0.0050	20000	120	4400	< 0.0020	< 0.20	< 0.50	0.0051	< 0.20	33	< 0.10
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	< 0.0050	98	< 0.0050	46000	< 0.10	0.045	0.29	72	0.0084	12	22000	20	0.052	0.56	1800	< 0.040	5200	< 0.0050	21000	120	5000	< 0.0020	< 0.20	< 0.50	0.0039	< 0.20	2.1	< 0.10
	05-Sep-2022	< 0.0050	100	< 0.0050	48000	< 0.10	0.053	0.050	57	< 0.0050	11	23000	26	< 0.050	0.52	2100	< 0.040	5900	< 0.0050	26000	130	5800	< 0.0020	< 0.20	< 0.50	0.0065	< 0.20	3.3	< 0.10
	12-Sep-2022	< 0.0050	140	< 0.0050	52000	< 0.10	0.045	0.14	52	< 0.0050	15	25000	20	< 0.050	0.53	2300	< 0.040	5900	< 0.0050	28000	140	7000	< 0.0020	< 0.20	< 0.50	0.0056	< 0.20	6.1	< 0.10
	18-Sep-2022	< 0.0050	74	< 0.0050	51000	< 0.10	0.033	0.077	33	0.0059	11	22000	4.8	< 0.050	0.48	1800	< 0.040	5000	< 0.0050	17000	130	3500	< 0.0020	< 0.20	< 0.50	0.0045	< 0.20	3.6	< 0.10
	27-Sep-2022	< 0.0050	72	< 0.0050	52000	< 0.10	0.034	0.068	41	< 0.0050	13	24000	17	< 0.050	0.39	2100	< 0.040	5600	< 0.0050	20000	140	5700	< 0.0020	< 0.20	< 0.50	0.0073	< 0.20	8.8	< 0.10
	03-Oct-2022	< 0.0050	75	< 0.0050	55000	0.18	0.040	0.074	47	< 0.0050	14	25000	11	< 0.050	0.35	2300	0.078	5700	< 0.0050	20000	140	4700	< 0.0020	< 0.20	< 0.50	0.0070	< 0.20	9.0	< 0.10
	10-Oct-2022	< 0.0050	81	< 0.0050	55000	< 0.10	0.038	0.13	33	< 0.0050	13	26000	16	< 0.050	0.36	2400	< 0.040	5900	< 0.0050	22000	140	5500	< 0.0020	< 0.20	< 0.50	0.0087	< 0.20	2.2	< 0.10
	17-Oct-2022	< 0.0050	65	< 0.0050	55000	< 0.10	0.035	< 0.050	28	< 0.0050	13	26000	9.3	< 0.050	0.34	2300	< 0.040	5800	< 0.0050	20000	150	4500	< 0.0020	< 0.20	< 0.50	0.0089	< 0.20	2.7	< 0.10
(Duplicate)	17-Oct-2022	< 0.0050	66	< 0.0050	55000	< 0.10	0.034	0.065	30	0.012	13	26000	9.5	< 0.050	0.36	2300	< 0.040	5800	< 0.0050	20000	150	4600	< 0.0020	< 0.20	< 0.50	0.0092	< 0.20	1.1	< 0.10
	24-Oct-2022	< 0.0050	63	< 0.0050	57000	0.31	0.041	0.17	57	0.038	12	25000	24	< 0.050	0.38	2400	< 0.040	6500	< 0.0050	20000	140	4800	< 0.0020	< 0.20	< 0.50	0.011	< 0.20	1.3	< 0.10
	30-Oct-2022	< 0.0050	86	< 0.0050	57000	< 0.10	0.050	0.065	53	0.020	14	25000	17	0.051	0.44	2500	< 0.040	6500	< 0.0050	24000	140	8200	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	2.2	< 0.10
	08-Mar-2023	< 0.0050	79	0.026	88000	< 0.10	0.061	0.20	190	0.0071	20	31000	200	< 0.050	7.7	3500	< 0.040	11000	< 0.0050	39000	150	17000	< 0.0020	< 0.20	< 0.50	0.0085	< 0.20	3.4	0.20
	15-Mar-2023	< 0.0050	56	0.0054	90000	0.11	0.057	0.21	**370** [#3,4]	0.0072	17	34000	200	< 0.050	0.30	3100	0.086	10000	< 0.0050	29000	120	18000	< 0.0020	< 0.20	< 0.50	0.0061	< 0.20	1.3	< 0.10
WB3-Pond-06	14-Jul-2022	< 0.0050	49	< 0.0050	42000	< 0.10	0.037	0.14	58	0.0052	10	19000	5.2	< 0.050	0.27	1200	< 0.040	5500	< 0.0050	12000	110	3400	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	1.6	< 0.10
	23-Jul-2022	< 0.0050	73	< 0.0050	43000	< 0.10	0.037	0.13	39	0.0057	11	21000	3.8	< 0.050	0.32	1000	< 0.040	6300	< 0.0050	14000	110	4100	< 0.0020	< 0.20	< 0.50	0.0026	< 0.20	2.9	< 0.10
	27-Jul-2022	< 0.0050	59	< 0.0050	41000	< 0.10	0.034	0.091	48	0.0079	10	20000	3.4	0.094	0.24	1000	< 0.040	6100	< 0.0050	13000	110	3100	< 0.0020	< 0.20	< 0.50	0.0046	< 0.20	3.3	< 0.10
	03-Aug-2022	< 0.0050	58	< 0.0050	41000	< 0.10	0.034	0.057	55	< 0.0050	10	20000	6.0	< 0.050	0.23	1000	< 0.040	5600	< 0.0050	13000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0021	< 0.20	0.51	< 0.10
	10-Aug-2022	< 0.0050	62	< 0.0050	43000	< 0.10	0.035	0.080	39	< 0.0050	11	22000	2.3	< 0.050	0.28	1000	< 0.040	5400	< 0.0050	14000	110	3000	< 0.0020	< 0.20	< 0.50	0.0036	< 0.20	2.1	< 0.10
	20-Aug-2022	< 0.0050	71	< 0.0050	44000	0.12	0.039	0.19	42	0.011	11	21000	5.2	< 0.050	0.33	1100	< 0.040	6200	< 0.0050	14000	120	3400	< 0.0020	< 0.20	< 0.50	0.0038	< 0.20	45	< 0.10
	29-Aug-2022	< 0.0050	61	< 0.0050	45000	< 0.10	0.043	0.35	150	0.020	9.3	21000	23	< 0.050	0.70	1400	< 0.040	4700	< 0.0050	13000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0051	< 0.20	8.0	< 0.10
	05-Sep-2022	< 0.0050	59	< 0.0050	45000	< 0.10	0.036	0.11	92	< 0.0050	9.4	22000	12	< 0.050	0.27	1600	< 0.040	5100	< 0.0050	14000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0050	< 0.20	4.0	< 0.10
	12-Sep-2022	< 0.0050	78	< 0.0050	50000	< 0.10	0.034	0.064	55	< 0.0050	13	23000	7.0	< 0.050	0.26	1800	< 0.040	5400	< 0.0050	15000	140	< 3000	< 0.0020	< 0.20	< 0.50	0.0037	< 0.20	2.9	< 0.10
	18-Sep-2022	< 0.0050	69	< 0.0050	49000	< 0.10	0.036	0.078	37	0.014	11	23000	2.7	< 0.050	0.30	1800	< 0.040	4900	< 0.0050	16000	130	3200	< 0.0020	< 0.20	< 0.50	0.0071	< 0.20	5.4	< 0.10
	27-Sep-2022	< 0.0050	58	< 0.0050	55000	< 0.10	0.033	< 0.050	72	< 0.0050	13	25000	9.5	< 0.050	0.28	2100	< 0.040	5900	< 0.0050	15000	140	3100	< 0.0020	< 0.20	< 0.50	0.0040	< 0.20	6.9	< 0.10
	03-Oct-2022	< 0.0050	65	< 0.0050	54000	0.10	0.034	< 0.050	64	< 0.0050	12	24000	12	< 0.050	0.30	2000	0.048	5600	< 0.0050	15000	140	< 3000	< 0.0020	< 0.20	< 0.50	0.0052	< 0.20	9.2	< 0.10
	10-Oct-2022	< 0.0050	57	< 0.0050	54000	< 0.10	0.031	0.050	49	< 0.0050	11	25000	7.9	< 0.050	0.24	2100	< 0.040	5600	< 0.0050	16000	130	3100	< 0.0020	< 0.20	< 0.50	0.0061	< 0.20	13	< 0.10
	17-Oct-2022	< 0.0050	58	< 0.0050	56000	< 0.10	0.032	0.78	49	0.040	13	25000	11	0.069	0.31	2200	< 0.040	5800	< 0.0050	17000	150	3300	< 0.0020	< 0.20	< 0.50	0.0073	< 0.20	7.5	< 0.10
	24-Oct-2022	< 0.0050	69	< 0.0050	58000	0.11	0.037	0.11	53	0.0084	13	25000	16	< 0.050	0.40	2500	< 0.040	6700	< 0.0050	22000	140	5600	< 0.0020	< 0.20	< 0.50	0.0094	< 0.20	1.1	< 0.10
	30-Oct-2022	< 0.0050	68	< 0.0050	57000	< 0.10	0.041	< 0.050	42	0.0054	14	26000	8.1	< 0.050	0.31	2300	< 0.040	6600	< 0.0050	19000	150	7300	< 0.0020	< 0.20	< 0.50	0.011	< 0.20	3.1	< 0.10
WB3-Pond-07	14-Jul-2022	< 0.0050	48	< 0.0050	41000	< 0.10	0.036	0.12	56	0.0078	10	19000	5.4	< 0.050	0.23	1200	< 0.040	5300	< 0.0050	11000	110	3300	< 0.0020	< 0.20	< 0.50	0.0036	< 0.20	1.2	< 0.10
	23-Jul-2022	< 0.0050	66	< 0.0050	44000	< 0.10	0.034	0.19	48	< 0.0050	10	21000	5.2	< 0.050	0.23	960	< 0.040	6100	< 0.0050	13000	110	3500	< 0.0020	< 0.20	< 0.50	0.0021	< 0.20	0.47	< 0.10
	27-Jul-2022	< 0.0050	56	0.0071	40000	0.12	0.034	0.28	54	0.034	11	20000	3.7	0.053	0.34	920	< 0.040	5700	< 0.0050	12000	110	3100	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	24	< 0.10
	03-Aug-2022	< 0.0050	56	< 0.0050	42000	< 0.10	0.033	0.073	72	< 0.0050	9.8	19000	5.8	< 0.050	0.20	870	< 0.040	5700	< 0.0050	12000	110	< 3000	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	1.2	< 0.10
	10-Aug-2022	< 0.0050	61	< 0.0050	42000	< 0.10	0.035	0.077	40	< 0.0050	11	22000	2.6	11	0.23	980	< 0.040	5500	< 0.0050	14000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0033	< 0.20	0.49	< 0.10
	20-Aug-2022	< 0.0050	69	< 0.0050	43000	< 0.10	0.033	0.081	42	0.0064	11	21000	5.6	< 0.050	0.22	1100	< 0.040	6200	< 0.0050	14000	120	3100	< 0.0020	< 0.20	< 0.50	0.0031	< 0.20	0.36	< 0.10
	29-Aug-2022	< 0.0050	52	< 0.0050	46000	< 0.10	0.041	0.052	200	< 0.0050	8.7	20000	36	< 0.050	0.25	1600	< 0.040	5100	< 0.0050	11000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0033	< 0.20	1.4	< 0.10
	05-Sep-2022	< 0.0050	57	< 0.0050	45000	< 0.10	0.037	0.10	79	0.0059	8.9	21000	17	< 0.050	0.26	1500	< 0.040	5000	< 0.0050	14000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	16	< 0.10
	12-Sep-2022	< 0.0050	76	< 0.0050	48000	< 0.10	0.031	0.082	50	< 0.0050	12	22000	7.0	< 0.050	0.27	1700	< 0.040	5000	< 0.0050	14000	130	< 3000	< 0.0020	< 0.20	< 0.50	0.0039	< 0.20	1.6	< 0.10
	18-Sep-2022	< 0.0050	58	< 0.0050	49000	< 0.10	0.032	0.069	97	0.0079	9.9	22000	18	< 0.050	0.23	1700	< 0.040	5100	< 0.0050	12000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0034	< 0.20	4.7	< 0.10
	27-Sep-2022	< 0.0050	63	< 0.0050	51000	< 0.10	0.030	0.058	39	< 0.0050	13	24000	5.0	< 0.050	0.46	1900	< 0.040	5400	< 0.0050	16000	130	3500	< 0.0020	< 0.20	< 0.50	0.0038	< 0.20	2.6	< 0.10
	03-Oct-2022	< 0.0050	56	< 0.0050	53000	< 0.10	0.035	< 0.050	68	< 0.0050	11	23000	14	< 0.050	0.23	1800	0.046	5600	< 0.0050	14000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0047	< 0.20	91	< 0.10
	10-Oct-2022	< 0.0050	49	< 0.0050	51000	< 0.10	0.031	0.074	55	0.0069	10	22000	12	< 0.050	0.23	1700	< 0.040	5400	< 0.0050	13000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0061	< 0.20	1.8	< 0.10
	17-Oct-2022	< 0.0050	59	< 0.0050	55000	< 0.10	0.035	< 0.050	42	< 0.0050	12	25000	9.5	< 0.050	0.27	2100	< 0.040	5600	< 0.0050	17000	140	3400	< 0.0020	< 0.20	< 0.50	0.0079	< 0.20	2.6	< 0.10
	24-Oct-2022	< 0.0050	57	< 0.0050	57000	< 0.10	0.038	< 0.050	73	0.0056	12	25000	17	< 0.050	0.30	2300	< 0.040	6500	< 0.0050	19000	140	4400	< 0.0020	< 0.20	< 0.50	0.0085	< 0.20	1.2	< 0.10
	30-Oct-2022	< 0.0050	66	< 0.0050	53000	< 0.10	0.049	< 0.050	52	< 0.0050	13	24000	12	< 0.050	0.30	2000	< 0.040	6100	< 0.0050	17000	130	4200	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	3.2	< 0.10
WB3-Pond-08	14-Jul-2022	< 0.0050	42	0.0067	41000	< 0.10	0.043	0.17	60	0.013	8.9	18000	9.4	< 0.050	0.27	1000	< 0.040	5100	< 0.0050	10000	99	< 3000	< 0.0020	< 0.20	< 0.50	0.0086	< 0.20	1.9	< 0.10
	23-Jul-2022	< 0.0050	65	< 0.0050	43000	< 0.10	0.041	0.073	44	< 0.0050	10	20000	5.2	< 0.050	0.26	960	< 0.040	6100	< 0.0050	13000	110	3400	< 0.0020	< 0.20	< 0.50	0.0020	< 0.20	1.5	< 0.10
	27-Jul-2022	< 0.0050	48	< 0.0050	38000	< 0.10	0.030	0.067	75	0.0057	8.4	18000	15	< 0.050	0.17	710	< 0.040	5000	< 0.0050	9200	96	< 3000	< 0.0020	< 0.20	< 0.50	0.0035	< 0.20	0.65	< 0.10
	03-Aug-2022	< 0.0050	50	< 0.0050	40000	< 0.10	0.030	0.057	77	< 0.0050	9.0	19000	7.2	< 0.050	0.19	790	< 0.040	5200	< 0.0050	10000	100	< 3000	< 0.0020	< 0.20	< 0.50	0.0022	< 0.20	0.24	< 0.10
	10-Aug-2022	< 0.0050	47	< 0.0050	41000	0.10	0.034	0.11	87	0.0075	8.8	19000	15	< 0.050	0.35	880	< 0.040	4900	< 0.0050	9700	97	< 3000	< 0.0020	< 0.20	< 0.50	0.0032	< 0.20	3.5	< 0.10
	20-Aug-2022	0.0052	59	< 0.0050	43000	< 0.10	0.035	0.086	75	0.0068	9.6	20000	18	0.072	0.21	970	< 0.040	6200	< 0.0050	12000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0024	< 0.20	18	< 0.10
	29-Aug-2022	< 0.0050	49	< 0.0050	42000	< 0.10	0.034	0.22	140	< 0.0050	7.9	18000	28	< 0.050	0.35	1300	< 0.040	4500	< 0.0050	10000	99	< 3000	< 0.0020	< 0.20	< 0.50	0.0027	< 0.20	44	< 0.10
	05-Sep-2022	< 0.0050	52	< 0.0050	45000	0.11	0.039	0.055	110	< 0.0050	8.2	20000	28	< 0.050	0.24	1300	< 0.040	5000	< 0.0050	11000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0046	< 0.20	8.1	< 0.10
	12-Sep-2022	< 0.0050	65	0.011	46000	< 0.10	0.041	0.33	70	0.015	10	20000	14	< 0.050	0.43	1400	< 0.040	4800	< 0.0050	12000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	4.0	< 0.10
	18-Sep-2022	< 0.0050	49	< 0.0050	48000	< 0.10	0.031	< 0.050	92	< 0.0050	8.3	20000	31	< 0.050	0.18	1400	< 0.040	4800	< 0.0050	11000	100	< 3000	< 0.0020	< 0.20	< 0.50	0.0028	< 0.20	1.8	< 0.10
	27-Sep-2022	< 0.0050	46	< 0.0050	50000	< 0.10	0.031	< 0.050	75	< 0.0050	9.8	21000	17	< 0.050	0.31	1400	< 0.040	5300	< 0.0050	11000	110	< 3000	< 0.0020	< 0.20	< 0.50	0.0035	< 0.20	4.8	< 0.10
	03-Oct-2022	< 0.0050	53	< 0.0050	51000	0.12	0.034	0.078	68	0.010	10	21000	15	< 0.050	0.28	1600	< 0.040	5300	< 0.0050	12000	120	< 3000	< 0.0020	< 0.20	< 0.50	0.0060	< 0.20	14	< 0.10
	10-Oct-2022	< 0.0050	38	< 0.0050	49000	< 0.10	0.030	0.15	67	< 0.0050	8.7	21000	17	0.12	0.21	1400	< 0.040	5100	< 0.0050	11000	100	< 3000	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	2.3	< 0.10
	17-Oct-2022	< 0.0050	53	< 0.0050	53000	< 0.10	0.029	0.051	44	< 0.0050	11	24000	11	< 0.050	0.29	1900	< 0.040	5400	< 0.0050	15000	130	< 3000	< 0.0020	< 0.20	< 0.50	0.0060	< 0.20	2.1	< 0.10
	24-Oct-2022	< 0.0050	53	< 0.0050	55000	< 0.10	0.037	0.060	52	0.0090	11	23000	16	< 0.050	0.27	2000	< 0.040	6000	< 0.0050	16000	130	3200	< 0.0020	< 0.20	< 0.50	0.0093	< 0.20	2.1	< 0.10
	30-Oct-2022	< 0.0050	58	< 0.0050	52000	< 0.10	0.046	0.057	40	0.014	11	22000	11	< 0.050	0.40	1800	< 0.040	5900	< 0.0050	15000	120	3500	< 0.0020	< 0.20	< 0.50	0.012	< 0.20	2.2	< 0.10
WB3-SW-09	02-Sep-2022	< 0.0050	110	< 0.0050	85000	0.11	0.18	< 0.050	**320** [#3,4]	< 0.0050	12	32000	410	< 0.050	0.81	3800	0.059	8100	< 0.0050	48000	180	42000	< 0.0020	< 0.20	< 0.50	0.025	< 0.20	2.7	0.12
	10-Sep-2022	< 0.0050	170	< 0.0050	130000	< 0.10	0.19	< 0.050	240	< 0.0050	14	50000	870	< 0.050	1.3	6400	0.83	11000	< 0.0050	88000	260	88000	< 0.0020	< 0.20	< 0.50	0.030	< 0.20	4.1	0.19
WB3-SW-10	09-Sep-2022	< 0.0050	330	< 0.0050	92000	< 0.10	0.15	< 0.050	100	< 0.0050	23	37000	160	< 0.050	1.7	5200	0.11	12000	< 0.0050	91000	150	31000	< 0.0020	< 0.20	< 0.50	0.023	< 0.20	0.92	0.20
	16-Sep-2022	< 0.0050	540	< 0.0050	72000	< 0.10	0.12	< 0.050	110	< 0.0050	34	35000	120	0.10	3.1	6500	0.075	9900	< 0.0050	140000	160	46000	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	6.6	0.27
	25-Sep-2022	< 0.0050	290	< 0.0050	88000	0.11	0.13	< 0.050	100	< 0.0050	25	40000	150	< 0.050	1.6	5600	0.12	11000	< 0.0050	85000	150	34000	< 0.0020	< 0.20	< 0.50	0.014	< 0.20	0.18	0.21
	02-Oct-2022	0.0058	300	< 0.0050	89000	0.79	0.15	0.069	110	0.0098	25	39000	190	< 0.050	1.8	6500	0.077	11000	< 0.0050	92000	150	34000	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	8.2	0.18
WB3-SW-11	09-Sep-2022	< 0.0050	800	< 0.0050	66000	0.10	0.22	0.055	200	< 0.0050	39	38000	130	0.61	3.9	9100	0.058	9600	< 0.0050	170000	190	52000	< 0.0020	< 0.20	< 0.50	0.014	< 0.20	0.95	0.37
	16-Sep-2022	< 0.0050	820	< 0.0050	73000	< 0.10	0.14	0.40	150	0.0064	43	36000	100	0.93	4.5	7500	0.049	11000	< 0.0050	170000	180	54000	< 0.0020	< 0.20	< 0.50	0.038	< 0.20	1.8	0.40

Total Metals and Trace Elements

Monitoring Station	Date (dd-mmm-yyyy)	Total Aluminum (ug/L)	Total Antimony (ug/L)	Total Arsenic (ug/L)	Total Barium (ug/L)	Total Beryllium (ug/L)	Total Bismuth (ug/L)	Total Calcium (ug/L)	Total Cadmium (ug/L)	Total Boron (ug/L)	Total Chromium (ug/L)	Total Cobalt (ug/L)	Total Copper (ug/L)	Total Iron (ug/L)	Total Lead (ug/L)	Total Lithium (ug/L)	Total Magnesium (ug/L)	Total Manganese (ug/L)	Total Mercury (ug/L)	Total Methyl Mercury (ng/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	**1.6**	**29000**	---	---	**12**	---	---	---	---	---	**0.013**	**2**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	**3.4**	**29000**	---	---	**25**	---	---	---	---	---	**0.013**	**2**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**5**	---	---	---	---	**0.12**	**1500**	**8.9**	**0.91**	**7**	---	**2.2**	---	---	---	**0.005**	**1**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**5**	---	---	---	---	**0.23**	**1500**	**8.9**	**1.2**	**7**	---	**5.8**	---	---	---	**0.005**	**1**
Waterbody 3 Investigation																				
WB3-Pond-04	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-05	28-May-2022	3.5	< 0.60	0.21	32	< 1.0	---	48000	< 0.020	37	< 1.0	< 0.30	< 1.0	95	< 0.20	< 20	18000	22	< 0.0019	---
	14-Jul-2022	8.8	< 0.020	0.15	41	< 0.010	< 0.010	49000	0.0080	77	0.10	0.080	0.24	150	0.060	11	23000	26	< 0.00010	0.101
	23-Jul-2022	< 3.0	< 0.020	0.16	36	< 0.010	< 0.010	45000	< 0.0050	82	< 0.10	0.049	< 0.10	78	< 0.020	11	21000	22	0.0018	0.12
	27-Jul-2022	1.7	< 0.020	0.13	36	< 0.010	< 0.0050	41000	< 0.0050	72	< 0.10	0.040	0.056	57	0.0090	11	20000	13	0.00077	< 0.050
	03-Aug-2022	10	< 0.020	0.15	38	< 0.010	< 0.010	42000	< 0.0050	81	< 0.10	0.050	< 0.10	100	0.021	11	22000	20	0.0016	0.15
	10-Aug-2022	< 3.0	< 0.020	0.16	42	< 0.010	< 0.010	50000	< 0.0050	100	< 0.10	0.050	< 0.10	82	< 0.020	13	23000	34	0.0045	< 0.050
	20-Aug-2022	6.4	< 0.020	0.14	43	< 0.010	< 0.0050	45000	< 0.0050	80	< 0.10	0.050	0.064	66	0.0089	12	22000	21	0.00037	0.113
	25-Aug-2022	5.1	0.049	0.15	44	< 0.010	< 0.0050	46000	< 0.0050	94	< 0.10	0.053	0.43	87	0.027	13	24000	23	0.00050	0.162
(Duplicate)	25-Aug-2022	16	0.071	0.17	43	< 0.010	< 0.010	50000	< 0.0050	98	< 0.10	0.087	0.86	150	0.052	13	24000	31	0.00077	0.218
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	6.0	< 0.020	0.15	44	< 0.010	< 0.010	48000	< 0.0050	110	0.30	0.061	0.70	130	< 0.020	12	23000	30	0.0017	0.210
	05-Sep-2022	19	< 0.020	0.17	48	< 0.010	< 0.010	52000	< 0.0050	120	< 0.10	0.077	0.14	140	0.052	13	24000	32	0.00099	0.224
	12-Sep-2022	5.3	< 0.020	0.14	45	< 0.010	< 0.010	53000	< 0.0050	110	1.1	0.066	1.8	80	< 0.020	14	24000	24	0.00031	0.096
	18-Sep-2022	2.5	< 0.020	0.12	44	< 0.010	< 0.0050	49000	< 0.0050	82	< 0.10	0.037	0.055	56	0.0068	13	25000	11	0.00035	< 0.050
	27-Sep-2022	1.9	< 0.020	0.17	45	< 0.010	< 0.0050	53000	< 0.0050	79	< 0.10	0.040	**190** [#1,2,3,4]	69	0.0082	13	24000	25	0.00052	< 0.050
	03-Oct-2022	2.2	< 0.020	0.13	49	< 0.010	< 0.0050	55000	< 0.0050	85	< 0.10	0.042	< 0.050	97	0.0058	14	27000	19	0.00033	< 0.050
	10-Oct-2022	4.4	< 0.020	0.13	45	< 0.010	< 0.010	54000	< 0.0050	73	< 0.10	0.042	< 0.10	56	< 0.020	14	25000	20	0.00024	0.083
	17-Oct-2022	2.6	< 0.020	0.14	41	< 0.010	< 0.0050	56000	< 0.0050	66	< 0.10	0.042	0.052	54	0.0056	13	25000	17	0.00039	< 0.050
(Duplicate)	17-Oct-2022	3.7	< 0.020	0.12	42	< 0.010	< 0.0050	56000	< 0.0050	68	< 0.10	0.043	< 0.050	54	0.0086	13	25000	16	0.00043	< 0.050
	24-Oct-2022	6.5	0.022	0.13	42	< 0.010	< 0.010	56000	< 0.0050	84	0.20	0.046	0.11	70	0.087	13	25000	23	0.00052	< 0.050
	30-Oct-2022	4.2	< 0.020	0.12	41	< 0.010	< 0.0050	57000	< 0.0050	74	< 0.10	0.058	0.20	85	0.017	14	25000	21	0.00044	< 0.050
	08-Mar-2023	3.9	< 0.020	0.12	51	< 0.010	0.0054	83000	0.013	70	< 0.10	0.072	0.28	470	0.014	19	28000	180	0.0017	0.84
	15-Mar-2023	2.1	< 0.020	0.11	49	< 0.010	< 0.0050	81000	< 0.0050	57	< 0.10	0.079	< 0.050	630	< 0.0050	18	32000	210	0.0019	0.86
WB3-Pond-06	14-Jul-2022	6.4	< 0.020	0.12	38	< 0.010	< 0.010	45000	< 0.0050	56	< 0.10	0.056	0.15	140	0.055	9.9	20000	18	0.00028	0.090
	23-Jul-2022	5.4	0.025	0.16	37	< 0.010	< 0.010	44000	< 0.0050	65	0.13	0.045	< 0.10	120	< 0.020	11	21000	19	0.00077	0.12
	27-Jul-2022	1.8	< 0.020	0.13	37	< 0.010	0.0050	41000	< 0.0050	60	< 0.10	0.039	0.18	86	0.014	10	20000	14	0.0011	< 0.050
	03-Aug-2022	9.1	< 0.020	0.13	38	< 0.010	< 0.010	43000	< 0.0050	65	< 0.10	0.045	< 0.10	140	< 0.020	11	22000	15	0.0016	0.12
	10-Aug-2022	4.5	< 0.020	0.13	39	< 0.010	< 0.010	46000	< 0.0050	65	< 0.10	0.054	< 0.10	75	< 0.020	11	22000	11	0.0013	< 0.050
	20-Aug-2022	23	0.027	0.13	42	< 0.010	< 0.0050	49000	0.0086	74	0.12	0.053	0.35	90	0.036	12	23000	13	0.00047	0.097
	29-Aug-2022	6.0	< 0.020	0.14	43	< 0.010	< 0.010	47000	< 0.0050	65	0.84	0.056	0.13	230	< 0.020	9.7	22000	29	0.0014	0.307
	05-Sep-2022	10	< 0.020	0.14	44	< 0.010	< 0.010	48000	< 0.0050	69	0.10	0.045	0.24	140	0.087	11	22000	16	0.00037	0.099
	12-Sep-2022	4.3	< 0.020	0.12	45	< 0.010	< 0.010	53000	< 0.0050	69	< 0.10	0.040	0.16	82	< 0.020	12	23000	10	0.00033	0.078
	18-Sep-2022	3.0	< 0.020	0.12	45	< 0.010	< 0.0050	50000	< 0.0050	75	< 0.10	0.035	< 0.050	65	< 0.0050	12	25000	8.2	0.00044	< 0.050
	27-Sep-2022	2.0	< 0.020	0.14	45	< 0.010	< 0.0050	53000	< 0.0050	61	< 0.10	0.037	< 0.050	100	0.0062	13	24000	13	0.00035	< 0.050
	03-Oct-2022	1.9	< 0.020	0.13	45	< 0.010	< 0.0050	54000	< 0.0050	66	< 0.10	0.035	< 0.050	110	0.0051	12	25000	17	0.00024	< 0.050
	10-Oct-2022	4.0	< 0.020	0.12	45	< 0.010	< 0.010	57000	< 0.0050	59	< 0.10	0.036	< 0.10	87	< 0.020	13	25000	13	0.00027	0.082
	17-Oct-2022	5.3	< 0.020	0.12	42	< 0.010	< 0.0050	57000	< 0.0050	58	< 0.10	0.039	0.12	86	0.020	13	25000	15	0.00035	< 0.050
	24-Oct-2022	2.3	< 0.020	0.13	41	< 0.010	< 0.0050	58000	< 0.0050	71	< 0.10	0.043	< 0.050	87	0.0098	13	26000	23	0.00046	0.072
	30-Oct-2022	3.5	< 0.020	0.12	39	< 0.010	< 0.0050	55000	< 0.0050	57	< 0.10	0.050	< 0.050	68	< 0.0050	13	25000	12	0.00041	< 0.050
WB3-Pond-07	14-Jul-2022	4.2	< 0.020	0.097	38	< 0.010	< 0.010	44000	< 0.0050	52	0.17	0.046	0.11	110	< 0.020	9.7	20000	17	0.00059	0.090
	23-Jul-2022	3.9	< 0.020	0.14	35	< 0.010	< 0.010	43000	< 0.0050	62	< 0.10	0.040	0.16	92	< 0.020	10	21000	16	0.0014	0.092
	27-Jul-2022	6.5	< 0.020	0.14	35	< 0.010	< 0.0050	41000	0.0082	56	0.10	0.040	0.67	92	0.036	11	19000	12	**0.0063** [#3,4]	0.077
	03-Aug-2022	11	< 0.020	0.15	37	< 0.010	< 0.010	43000	0.0050	62	< 0.10	0.048	0.39	140	0.034	10	21000	14	0.00061	0.13
	10-Aug-2022	3.3	< 0.020	0.12	36	< 0.010	< 0.010	43000	< 0.0050	61	< 0.10	0.039	< 0.10	69	< 0.020	11	21000	9.0	0.00053	0.096
	20-Aug-2022	2.4	< 0.020	0.12	41	< 0.010	< 0.0050	43000	< 0.0050	69	< 0.10	0.045	0.053	74	0.0068	11	22000	12	0.00054	0.096
	29-Aug-2022	5.8	< 0.020	0.14	42	< 0.010	< 0.010	48000	< 0.0050	58	< 0.10	0.048	< 0.10	220	< 0.020	9.2	21000	36	0.00077	0.180
	05-Sep-2022	7.2	< 0.020	0.14	43	< 0.010	< 0.010	48000	< 0.0050	66	< 0.10	0.045	< 0.10	140	0.024	11	22000	23	0.00058	0.109
	12-Sep-2022	4.3	< 0.020	0.11	43	< 0.010	< 0.010	52000	< 0.0050	63	0.10	0.038	0.12	81	< 0.020	11	23000	9.9	0.00033	0.053
	18-Sep-2022	1.9	< 0.020	0.12	44	< 0.010	< 0.0050	50000	< 0.0050	59	< 0.10	0.035	< 0.050	130	< 0.0050	11	23000	23	0.00036	< 0.050
	27-Sep-2022	9.2	< 0.020	0.13	45	< 0.010	< 0.010	54000	< 0.0050	67	< 0.10	0.040	< 0.10	100	0.022	12	24000	15	0.0012	< 0.050
	03-Oct-2022	1.9	< 0.020	0.12	43	< 0.010	< 0.0050	53000	< 0.0050	58	< 0.10	0.038	< 0.050	110	< 0.0050	11	24000	17	0.00029	< 0.050
	10-Oct-2022	4.7	< 0.020	0.11	38	< 0.010	< 0.010	50000	< 0.0050	46	< 0.10	0.036	< 0.10	83	< 0.020	11	22000	16	0.00025	0.088
	17-Oct-2022	3.2	< 0.020	0.11	40	< 0.010	< 0.0050	56000	< 0.0050	57	0.14	0.048	0.093	69	0.015	12	24000	14	0.00037	< 0.050
	24-Oct-2022	3.4	< 0.020	0.13	41	< 0.010	< 0.0050	58000	< 0.0050	62	< 0.10	0.043	< 0.050	110	0.0069	12	25000	21	0.00045	0.093
	30-Oct-2022	7.1	0.051	0.13	41	< 0.010	< 0.010	60000	< 0.0050	70	< 0.10	0.052	< 0.10	83	< 0.020	13	25000	14	0.00041	< 0.050
WB3-Pond-08	14-Jul-2022	5.2	0.021	0.11	35	< 0.010	< 0.010	42000	< 0.0050	48	< 0.10	0.048	0.12	110	< 0.020	8.4	19000	19	0.00092	0.101
	23-Jul-2022	3.2	0.025	0.15	35	< 0.010	< 0.010	42000	< 0.0050	62	< 0.10	0.042	0.10	90	< 0.020	10	21000	17	**0.0063** [#3,4]	0.099
	27-Jul-2022	2.8	< 0.020	0.12	33	< 0.010	< 0.0050	39000	< 0.0050	48	< 0.10	0.035	< 0.050	110	0.011	8.2	17000	22	**0.0061** [#3,4]	0.084
	03-Aug-2022	4.8	< 0.020	0.13	37	< 0.010	< 0.010	42000	< 0.0050	60	< 0.10	0.034	< 0.10	130	< 0.020	10	21000	13	**0.0082** [#3,4]	0.10
	10-Aug-2022	< 3.0	< 0.020	0.12	34	< 0.010	< 0.010	43000	< 0.0050	48	< 0.10	0.038	< 0.10	110	< 0.020	9.1	19000	18	0.00068	0.12
	20-Aug-2022	5.5	< 0.020	0.12	40	< 0.010	< 0.0050	43000	< 0.0050	60	< 0.10	0.039	< 0.050	120	0.0067	9.7	20000	23	0.00054	0.120
	29-Aug-2022	5.1	< 0.020	0.13	37	< 0.010	< 0.0050	43000	< 0.0050	49	0.33	0.047	0.39	190	0.012	7.8	18000	32	0.00073	0.152
	05-Sep-2022	5.3	< 0.020	0.13	40	< 0.010	< 0.010	47000	< 0.0050	59	< 0.10	0.041	< 0.10	130	< 0.020	9.4	20000	30	0.00038	0.119
	12-Sep-2022	8.1	< 0.020	0.11	39	< 0.010	< 0.010	48000	< 0.0050	53	< 0.10	0.043	0.15	110	0.031	9.6	20000	16	0.00037	< 0.050
	18-Sep-2022	2.6	< 0.020	0.11	40	< 0.010	< 0.0050	48000	< 0.0050	54	< 0.10	0.034	< 0.050	120	< 0.0050	9.5	21000	33	0.00041	0.14
	27-Sep-2022	5.9	< 0.020	0.12	37	< 0.010	< 0.010	49000	< 0.0050	49	0.19	0.036	< 0.10	110	< 0.020	8.9	19000	17	0.00035	< 0.050
	03-Oct-2022	2.8	< 0.020	0.12	40	< 0.010	< 0.0050	49000	< 0.0050	51	< 0.10	0.034	0.057	97	0.0060	10	22000	17	0.00081	< 0.050
	10-Oct-2022	110	< 0.020	0.20	53	< 0.010	< 0.010	53000	0.015	45	0.38	0.20	0.35	1200	0.30	9.7	21000	120	0.00055	0.096
	17-Oct-2022	8.0	< 0.020	0.13	38	< 0.010	< 0.0050	54000	< 0.0050	50	0.12	0.043	0.096	70	0.021	11	23000	15	0.00039	< 0.050
	24-Oct-2022	5.3	< 0.020	0.12	38	< 0.010	< 0.0050	55000	< 0.0050	57	< 0.10	0.044	< 0.050	110	0.017	11	23000	21	0.00045	0.059
	30-Oct-2022	6.9	< 0.020	0.12	37	< 0.010	< 0.010	55000	< 0.0050	60	< 0.10	0.053	0.12	86	< 0.020	11	22000	16	0.00047	< 0.050
WB3-SW-09	02-Sep-2022	26	0.026	0.64	69	< 0.010	< 0.010	87000	< 0.0050	110	0.14	0.23	0.26	1300	0.063	13	32000	390	0.0037	0.387
	10-Sep-2022	25	0.043	0.94	97	< 0.010	< 0.010	130000	< 0.0050	150	0.17	0.26	0.44	820	0.029	16	50000	810	0.0015	0.15
WB3-SW-10	09-Sep-2022	15	0.021	0.30	95	< 0.010	< 0.010	80000	< 0.0050	330	0.10	0.29	0.46	220	0.053	25	37000	170	0.0018	0.10
	16-Sep-2022	18	< 0.020	0.17	59	< 0.010	< 0.010	80000	< 0.0050	580	1.8	0.15	0.15	310	0.032	33	36000	140	0.0011	< 0.050
	25-Sep-2022	41	< 0.020	0.32	85	< 0.010	< 0.010	95000	< 0.0050	290	0.19	0.30	0.21	550	0.082	25	42000	190	0.00047	0.14
	02-Oct-2022	180	< 0.020	0.47	120	0.018	< 0.010	110000	0.0055	300	0.53	0.74	0.43	2200	0.32	28	43000	330	0.00085	0.18
WB3-SW-11	09-Sep-2022	140	< 0.020	0.37	97	0.017	< 0.010	79000	0.0051	850	0.42	0.65	0.93	7600	0.30	43	38000	250	0.0030	0.98
	16-Sep-2022	420	0.27	1.7	240	0.042	0.012	120000	0.015	830	1.3	**1.4** [#3,4]	1.3	48000	0.92	41	37000	1100	0.0029	< 0.050

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)															BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons																					
Monitoring Station	Date	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzo(b)fluoranthene/benzopyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	**370**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	**700**	---	---	---	---	---	---	---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**73**	**41**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**73**	**78**	---	**2**	---	**0.25**	---	---	---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																																																		
WB3-Pond-04	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-05	28-May-2022	< 0.20	< 0.50	2200	< 0.20	1500	< 0.10	14000	92	6300	< 0.20	< 1.0	< 1.0	< 0.10	1.5	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	14-Jul-2022	< 0.050	4.3	1500	< 0.040	6300	< 0.010	17000	130	5000	< 0.0020	< 0.20	< 2.0	0.0071	< 0.20	4.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	23-Jul-2022	< 0.050	0.36	1200	0.074	6500	< 0.010	17000	110	4100	< 0.0020	< 0.20	< 2.0	0.0058	< 0.20	1.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Jul-2022	< 0.050	0.34	1000	< 0.040	6100	< 0.0050	15000	110	4600	< 0.0020	< 0.20	< 0.50	0.0097	< 0.20	2.8	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	120	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Aug-2022	< 0.050	0.39	1000	< 0.040	6900	< 0.010	16000	120	4300	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	2.8	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Aug-2022	< 0.050	0.47	1400	< 0.040	8200	< 0.010	24000	120	6500	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	1.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	20-Aug-2022	< 0.050	0.38	1300	< 0.040	6800	< 0.0050	17000	130	4400	< 0.0020	< 0.20	< 0.50	0.0056	< 0.20	11	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	120	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	25-Aug-2022	< 0.050	0.41	1800	< 0.040	6600	< 0.0050	21000	130	5200	< 0.0020	< 0.20	< 0.50	0.0073	< 0.20	11	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	25-Aug-2022	< 0.050	0.49	2800	< 0.040	6400	< 0.010	22000	130	5400	< 0.0020	< 0.20	< 2.0	0.010	< 0.20	17	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	< 0.050	0.66	2000	< 0.040	5700	< 0.010	24000	120	5500	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	1.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	05-Sep-2022	< 0.050	0.59	2200	< 0.040	6700	< 0.010	27000	140	7100	< 0.0020	< 0.20	< 2.0	0.0087	< 0.20	10	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Sep-2022	< 0.050	8.9	2200	< 0.040	5400	< 0.010	24000	130	7200	< 0.0020	< 0.20	< 2.0	0.0065	< 0.20	**39** [#3,4]	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 3.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	18-Sep-2022	< 0.050	0.40	1900	< 0.040	4900	< 0.0050	18000	130	3800	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	4.6	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Sep-2022	< 0.050	0.39	2100	< 0.040	5700	< 0.0050	21000	140	5400	< 0.0020	< 0.20	< 0.50	0.0082	< 0.20	2.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	0.010	0.0088	< 0.050	< 0.050	0.011	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Oct-2022	< 0.050	0.36	2300	< 0.040	5900	< 0.0050	21000	150	4800	< 0.0020	< 0.20	< 0.50	0.0057	< 0.20	4.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	140	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Oct-2022	< 0.050	0.43	2400	0.044	5900	< 0.010	22000	140	5600	0.0030	< 0.20	< 2.0	0.0071	< 0.20	1.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	17-Oct-2022	< 0.050	0.36	2200	< 0.040	6700	< 0.0050	20000	140	4900	< 0.0020	< 0.20	< 0.50	0.0099	< 0.20	2.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	17-Oct-2022	< 0.050	0.31	2200	< 0.040	7100	< 0.0050	20000	140	5000	< 0.0020	< 0.20	< 0.50	0.0092	< 0.20	2.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Oct-2022	< 0.050	0.49	2400	< 0.040	6400	< 0.010	22000	140	6500	< 0.0020	< 0.20	< 2.0	0.012	< 0.20	3.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	120	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	30-Oct-2022	< 0.050	0.49	2500	< 0.040	6700	< 0.0050	24000	140	7600	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	2.7	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	08-Mar-2023	0.064	0.80	3400	0.064	9700	< 0.0050	36000	130	55000	< 0.0020	< 0.20	< 0.50	0.0076	< 0.20	1.6	0.10	< 0.40	0.41	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	150	2.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.050	0.41	2900	< 0.040	10000	< 0.0050	28000	140	14000	< 0.0020	< 0.20	< 0.50	0.0069	< 0.20	0.98	0.12	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-Pond-06	14-Jul-2022	< 0.050	0.28	1300	< 0.040	5700	< 0.010	12000	120	3700	< 0.0020	< 0.20	< 2.0	0.0056	< 0.20	4.1	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	23-Jul-2022	< 0.050	0.29	1100	0.060	6100	< 0.010	14000	110	3400	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	2.4	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Jul-2022	< 0.050	0.36	1000	< 0.040	6000	< 0.0050	13000	120	3500	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	4.4	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	110	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Aug-2022	< 0.050	0.28	1000	< 0.040	6900	< 0.010	14000	120	3500	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	2.5	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	180	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Aug-2022	< 0.050	0.46	1000	< 0.040	6900	< 0.010	15000	120	3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	5.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	20-Aug-2022	< 0.050	0.58	1200	< 0.040	6500	< 0.0050	15000	130	3500	< 0.0020	< 0.20	< 0.50	0.010	< 0.20	**200** [#3,4]	0.22	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	130	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	29-Aug-2022	0.12	0.77	1400	< 0.040	5300	< 0.010	13000	120	< 3000	< 0.0020	< 0.20	< 2.0	0.0055	< 0.20	4.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	05-Sep-2022	< 0.050	0.48	1700	< 0.040	5600	< 0.010	14000	130	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	**75** [#3,4]	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Sep-2022	< 0.050	0.30	1800	< 0.040	5300	< 0.010	14000	130	3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	5.6	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	18-Sep-2022	< 0.050	0.26	1900	< 0.040	4900	< 0.0050	17000	130	3100	< 0.0020	< 0.20	< 0.50	0.0044	< 0.20	2.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	27-Sep-2022	< 0.050	0.24	2100	< 0.040	5600	< 0.0050	15000	140	< 3000	< 0.0020	< 0.20	< 0.50	0.0038	< 0.20	2.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	03-Oct-2022	< 0.050	0.30	2000	< 0.040	5600	< 0.0050	15000	140	3000	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	3.7	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	10-Oct-2022	< 0.050	0.37	2100	0.041	6000	< 0.010	17000	140	3400	< 0.0020	< 0.20	2.2	0.0054	< 0.20	2.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	17-Oct-2022	< 0.050	0.34	2100	< 0.040	6700	< 0.0050	17000	140	4000	< 0.0020	< 0.20	< 0.50	0.0070	< 0.20	11	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Oct-2022	< 0.050	0.38	2500	< 0.040	6700	< 0.0050	22000	140	5700	< 0.0020	< 0.20	< 0.50	0.011	< 0.20	0.94	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	30-Oct-2022	< 0.050	0.33	2200	< 0.040	6300	< 0.0050	17000	140	4500	< 0.0020	< 0.20	< 0.50	0.012	< 0.20	1.7	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-Pond-07	14-Jul-2022	< 0.050	0.33	1200	< 0.040	5500	< 0.010	12000	120	3800	< 0.0020	< 0.20	< 2.0	0.0051	< 0.20	14	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	23-Jul-2022	< 0.050	0.30	990	0.066	5800	< 0.010	13000	110	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	2.9	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	< 0.10

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																																					
Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzobjkfluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,i]pyrene	Dibenzo[a,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.04	3	---	---	1	---	0.4	0.025	3.4	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.04	3	---	---	1	---	0.4	0.025	3.4	---
Waterbody 3 Investigation																																							
WB3-Pond-04	21-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WB3-Pond-05	28-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	---	---	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	25-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	26-Aug-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	08-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-Pond-06	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.062	< 0.020	< 0.050	< 0.10	0.056	< 0.0085	0.025	< 0.020	0.065	0.11	< 0.050	< 0.0085	< 0.020	< 0.020	0.11	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-Pond-07	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-Pond-08	14-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	23-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Jul-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	20-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	29-Aug-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	05-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	18-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	27-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	03-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	17-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	30-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-09	02-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	10-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-10	09-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.016	< 0.020	0.025	< 0.020	< 0.050	0.16	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	0.025	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-11	09-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

WB3

Water Quality Results

PROJECT No.: 417085-47599

Field Parameters

Monitoring Station	Date (dd-mmm-yyyy)	Specific Conductivity (uS/cm)	Dissolved Oxygen (%) (%)	pH (pH units)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Conductivity (uS/cm)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---
Waterbody 3 Investigation							
	25-Sep-2022	1370	28.8	7.46	8.6	**3.34** [#1,2,3,4]	942
	02-Oct-2022	1227	30.4	7.58	13.1	**3.18** [#1,2,3,4]	948
WB3-SW-12	09-Sep-2022	1383	1.1	7.23	12.3	**0.12** [#1,2,3,4]	1049
	16-Sep-2022	1237	20.9	7.19	13.8	**2.2** [#1,2,3,4]	949
	25-Sep-2022	1596	1.5	7.25	9	**0.17** [#1,2,3,4]	1108
	02-Oct-2022	1431	6.6	7.15	11.8	**0.71** [#1,2,3,4]	1069
(Duplicate)	02-Oct-2022	---	---	---	---	---	---
WB3-SW-13	09-Sep-2022	830	2.1	7.19	11.5	**0.23** [#1,2,3,4]	616
	16-Sep-2022	1054	22.8	7.46	12.2	**2.44** [#1,2,3,4]	798
WB3-SW-14	10-Sep-2022	622	5.9	6.98	10.5	**0.6** [#1,2,3,4]	448.7
	16-Sep-2022	713	15.3	7.19	11.3	**1.67** [#1,2,3,4]	527
WB3-SW-15	10-Sep-2022	894	32.3	7.28	13.2	**3.37** [#1,2,3,4]	694
	16-Sep-2022	769	26.3	7.4	15.1	**2.64** [#1,2,3,4]	623
WB3-SW-16	25-Sep-2022	1047	2.2	7.26	7.4	**0.26** [#1,2,3,4]	695
	02-Oct-2022	949	4.4	7.28	9.5	**0.5** [#1,2,3,4]	668
WB3-SW-17	25-Sep-2022	1929	5.3	6.79	11.1	**0.58** [#1,2,3,4]	1417
	02-Oct-2022	1726	16.2	6.91	12.5	**1.71** [#1,2,3,4]	1314
WB3-SW-18	01-Oct-2022	750	51.3	7.09	12.7	**5.42** [#3,4]	575
	12-Oct-2022	784	19	7.06	5	**2.42** [#1,2,3,4]	483.9
WB3-SW-19	01-Oct-2022	1504	31.4	7.54	14.3	**3.19** [#1,2,3,4]	1197
	12-Oct-2022	1252	5.9	7.2	2.7	**0.79** [#1,2,3,4]	718
WB3-SW-20	01-Oct-2022	1077	38.9	7.45	14.8	**3.93** [#1,2,3,4]	868
	12-Oct-2022	1144	4.4	7.01	4.1	**0.58** [#1,2,3,4]	686
WB3-SW-21	29-Oct-2022	487.2	31.1	7.29	2.5	**4.23** [#1,2,3,4]	278.1
	04-Nov-2022	462.1	22.4	7.3	0.6	**3.22** [#1,2,3,4]	246.3
WB3-SW-22	29-Oct-2022	515	39.4	7.4	3.3	**5.26** [#3,4]	300.9
	04-Nov-2022	494.4	26.1	7.41	1.6	**3.64** [#1,2,3,4]	273.2
WB3-SW-23	29-Oct-2022	457.8	33.6	7.23	4	**4.4** [#1,2,3,4]	274
	04-Nov-2022	435.5	34.3	7.55	4	**4.49** [#1,2,3,4]	261.2
WB3-GW-10	25-Sep-2022	932	1.5	7.19	10.2	**0.17** [#1,2,3,4]	669
	02-Oct-2022	883	4.3	7.22	11.2	**0.47** [#1,2,3,4]	649
WB3-GW-11	25-Sep-2022	1360	11.8	7.25	10.5	**1.32** [#1,2,3,4]	982
	02-Oct-2022	1204	14.8	7.32	11.7	**1.6** [#1,2,3,4]	899
WB3-GW-12	25-Sep-2022	1619	6.3	7.14	8.7	**0.73** [#1,2,3,4]	1115
	02-Oct-2022	1461	11	7.21	10.8	**1.21** [#1,2,3,4]	1066
WB3-GW-16	25-Sep-2022	1003	7.1	7.21	6.9	**0.86** [#1,2,3,4]	656
	02-Oct-2022	930	8.2	7.22	8	**0.97** [#1,2,3,4]	627
WB3-GW-17	25-Sep-2022	1877	13.1	6.83	10	**1.47** [#1,2,3,4]	1338
(Duplicate)	25-Sep-2022	---	---	---	---	---	---
	02-Oct-2022	1697	12.1	6.86	11	**1.33** [#1,2,3,4]	1244
WB3-GW-18	01-Oct-2022	663	8.8	7	8.6	**1.02** [#1,2,3,4]	455.4
	12-Oct-2022	673	7.4	7	5.7	**0.92** [#1,2,3,4]	425.4
WB3-GW-19	01-Oct-2022	975	9	6.82	10.9	**1** [#1,2,3,4]	712
	12-Oct-2022	958	3.2	6.74	7.4	**0.38** [#1,2,3,4]	636
WB3-GW-20	01-Oct-2022	1121	2	7.02	11	**0.22** [#1,2,3,4]	821
	12-Oct-2022	1198	1.3	7.08	7	**0.15** [#1,2,3,4]	786
DS-WB-3	08-Mar-2023	1826	74.9	7.15	1.6	10.1	1010
WB3-loc-1	17-Mar-2023	813.6	18.7	6.71	0.4	**2.7** [#1,2,3,4]	430.8
WB3-loc-2	17-Mar-2023	925	16.1	6.81	1.1	**2.07** [#1,2,3,4]	503
WB3-loc-3	17-Mar-2023	833.5	26.9	6.84	0.4	**3.38** [#1,2,3,4]	441.2
P36-Ditch-3	19-Mar-2023	---	---	---	---	---	---
	24-Mar-2023	---	---	---	---	---	---
P36-Ditch-4	19-Mar-2023	---	---	---	---	---	---
	24-Mar-2023	---	---	---	---	---	---

Conventional Parameters

Monitoring Station	Date (dd-mmm-yyyy)	Specific Conductivity (Lab) (uS/cm)	pH (Laboratory) (pH Units)	Turbidity (ntu)	Total Hardness as CaCO3 (mg/L)	Total Hardness as CaCO3 - Calculated (mg/L)	Dissolved Hardness as CaCO3 (mg/L)	Total Alkalinity as CaCO3 (mg/L)	PP Alkalinity as CaCO3 (mg/L)	Biochemical Oxygen Demand (BOD) (mg/L)	Chloride:D (mg/L)	Sulphate:D (mg/L)	Dissolved Sulphide (mg/L)	Total Sulphide (mg/L)	Sulphide (as H2S) (mg/L)	Total Dissolved Solids (mg/L)	Total Dissolved Solids - Calculated (mg/L)	Total Suspended Solids (TSS) (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Hydroxide (mg/L)	Fluoride:D (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	Narrative	---	---	---	---	---	---	640	---	---	---	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	218	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	(6.5 - 9)	Narrative	---	---	---	20	---	---	120	309	0.0019	0.0019	---	---	---	Narrative	---	---	---	---
Waterbody 3 Investigation																						
	25-Sep-2022	1300	7.82	240	---	510	340	520	< 1.0	15	18	170	**0.34** [#3,4]	**1.3** [#3,4]	1.4	860	780	470	640	< 1.0	< 1.0	1.8
	02-Oct-2022	1300	7.63	10	---	1100	330	510	< 1.0	52	18	190	**0.012** [#3,4]	**2.8** [#3,4]	3.0	880	800	2300	630	< 1.0	< 1.0	1.8
WB3-SW-12	09-Sep-2022	1400	7.26	770	---	500	470	580	< 1.0	---	17	**230** [#3]	**0.013** [#3,4]	**0.023** [#3,4]	0.025	960	920	430	710	< 1.0	< 1.0	0.87
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	1500	7.36	3000	---	490	460	560	< 1.0	12	17	**230** [#3]	**0.0062** [#3,4]	**0.025** [#3,4]	0.026	970	910	1600	680	< 1.0	< 1.0	1.0
	02-Oct-2022	1400	7.80	200	---	670	460	530	< 1.0	20	16	**240** [#3]	**0.0072** [#3,4]	**0.36** [#3,4]	0.38	1100	920	2300	650	< 1.0	< 1.0	1.1
(Duplicate)	02-Oct-2022	1400	7.71	4300	---	520	460	540	< 1.0	15	16	**240** [#3]	**0.0057** [#3,4]	**0.061** [#3,4]	0.065	1100	920	670	660	< 1.0	< 1.0	1.1
WB3-SW-13	09-Sep-2022	880	7.37	36	---	380	380	470	< 1.0	---	10	30	**0.058** [#3,4]	**0.12** [#3,4]	0.12	550	500	140	570	< 1.0	< 1.0	0.18
	16-Sep-2022	1300	7.63	10	---	430	400	540	< 1.0	---	15	170	**0.12** [#3,4]	**0.38** [#3,4]	0.40	840	770	370	650	< 1.0	< 1.0	0.67
WB3-SW-14	10-Sep-2022	660	7.39	39	---	310	320	370	< 1.0	---	5.0	< 1.0	**0.022** [#3,4]	**0.031** [#3,4]	0.032	400	360	81	450	< 1.0	< 1.0	0.25
	16-Sep-2022	880	7.45	24	---	420	380	450	< 1.0	---	10	30	**0.20** [#3,4]	**0.59** [#3,4]	0.63	540	490	110	550	< 1.0	< 1.0	0.18
WB3-SW-15	10-Sep-2022	960	7.34	44	---	330	330	430	< 1.0	---	10	110	**4.5** [#3,4]	**1.9** [#3,4]	2.1	650	580	170	530	< 1.0	< 1.0	0.56
	16-Sep-2022	910	7.55	4.1	---	340	320	420	< 1.0	---	8.3	91	**2.1** [#3,4]	**0.98** [#3,4]	1.0	590	540	8.7	510	< 1.0	< 1.0	0.41
WB3-SW-16	25-Sep-2022	1000	7.66	2500	---	1300	410	440	< 1.0	81	11	91	< 0.0018	**1.8** [#3,4]	1.9	680	580	8500	540	< 1.0	< 1.0	0.24
	02-Oct-2022	1000	7.80	230	---	550	430	480	< 1.0	13	10	110	**0.14** [#3,4]	**0.45** [#3,4]	0.47	720	630	1800	590	< 1.0	< 1.0	0.24
WB3-SW-17	25-Sep-2022	1800	7.22	380	---	730	620	520	< 1.0	< 2.0	15	**430** [#3,4]	**0.0057** [#3,4]	**0.24** [#3,4]	0.25	1300	1200	280	640	< 1.0	< 1.0	0.23
	02-Oct-2022	1800	7.62	220	---	710	640	560	< 1.0	9.5	15	**450** [#3,4]	**0.0053** [#3,4]	**1.8** [#3,4]	1.9	1400	1200	360	680	< 1.0	< 1.0	0.23
WB3-SW-18	01-Oct-2022	770	7.74	3.9	---	370	320	390	< 1.0	---	4.4	53	**1.3** [#3,4]	**4.1** [#3,4]	4.3	510	450	130	470	< 1.0	< 1.0	0.28
	12-Oct-2022	810	7.50	49	---	350	320	380	< 1.0	7.4	10	61	**1.7** [#3,4]	**1.7** [#3,4]	1.9	520	470	190	470	< 1.0	< 1.0	0.21
WB3-SW-19	01-Oct-2022	1500	8.05	60	---	540	500	470	< 1.0	---	15	**410** [#3,4]	**5.6** [#3,4]	**1.1** [#3,4]	1.1	1200	1000	95	570	< 1.0	< 1.0	0.20
	12-Oct-2022	1200	7.65	350	---	500	440	600	< 1.0	< 20	19	66	**15** [#3,4]	**19** [#3,4]	20	820	700	240	730	< 1.0	< 1.0	0.18
WB3-SW-20	01-Oct-2022	1100	7.45	80	---	570	480	530	< 1.0	---	13	93	**15** [#3,4]	**22** [#3,4]	23	800	660	490	650	< 1.0	< 1.0	0.19
	12-Oct-2022	1100	7.36	210	---	580	530	570	< 1.0	< 20	15	84	**18** [#3,4]	**16** [#3,4]	17	790	690	260	700	< 1.0	< 1.0	0.14
WB3-SW-21	29-Oct-2022	590	7.96	12	---	340	290	300	< 1.0	---	5.0	19	**0.020** [#3,4]	**0.063** [#3,4]	0.067	360	310	230	370	< 1.0	< 1.0	0.23
	04-Nov-2022	590	7.61	290	---	450	300	300	< 1.0	---	4.4	19	**0.030** [#3,4]	**< 0.090** [#3,4]	< 0.0020	330	330	1600	370	< 1.0	< 1.0	0.23
WB3-SW-22	29-Oct-2022	620	8.16	24	---	400	320	320	< 1.0	---	3.2	29	< 0.0018	**0.0023** [#3,4]	0.0024	380	340	210	390	< 1.0	< 1.0	0.22
	04-Nov-2022	620	7.74	120	---	380	330	320	< 1.0	---	3.1	32	**0.082** [#3,4]	**0.45** [#3,4]	0.47	410	350	560	390	< 1.0	< 1.0	0.22
WB3-SW-23	29-Oct-2022	570	8.12	120	---	300	280	300	< 1.0	---	3.2	13	**0.058** [#3,4]	**0.11** [#3,4]	0.12	340	300	660	370	< 1.0	< 1.0	0.18
	04-Nov-2022	550	7.74	4.0	---	310	280	290	< 1.0	---	2.8	16	**0.18** [#3,4]	**0.14** [#3,4]	0.15	300	300	39	350	< 1.0	< 1.0	0.17
WB3-GW-10	25-Sep-2022	1000	7.58	72	---	380	360	460	< 1.0	10	11	80	**6.5** [#3,4]	**7.2** [#3,4]	7.6	670	570	210	570	< 1.0	< 1.0	0.49
	02-Oct-2022	1000	7.90	24	---	380	350	490	< 1.0	6.9	11	88	**7.2** [#3,4]	**11** [#3,4]	11	680	590	190	600	< 1.0	< 1.0	0.55
WB3-GW-11	25-Sep-2022	1300	7.70	36	---	350	330	500	< 1.0	5.7	18	150	**1.3** [#3,4]	**1.5** [#3,4]	1.6	870	750	26	600	< 1.0	< 1.0	1.8
	02-Oct-2022	1300	8.00	14	---	340	330	490	< 1.0	< 2.0	18	170	**1.2** [#3,4]	**2.0** [#3,4]	2.1	900	770	26	600	< 1.0	< 1.0	1.8
WB3-GW-12	25-Sep-2022	1500	7.46	300	---	480	470	540	< 1.0	6.3	17	**250** [#3]	**0.040** [#3,4]	**0.046** [#3,4]	0.049	1000	920	150	660	< 1.0	< 1.0	1.0
	02-Oct-2022	1500	7.91	800	---	480	480	590	< 1.0	5.5	16	**250** [#3]	**0.031** [#3,4]	**0.051** [#3,4]	0.054	1100	960	63	720	< 1.0	< 1.0	1.3
WB3-GW-16	25-Sep-2022	960	7.65	120	---	410	400	450	< 1.0	8.3	11	77	**0.16** [#3,4]	**0.18** [#3,4]	0.19	620	550	270	550	< 1.0	< 1.0	0.25
	02-Oct-2022	920	7.97	340	---	420	400	440	< 1.0	3.7	8.1	75	**0.25** [#3,4]	**0.29** [#3,4]	0.31	630	540	130	530	< 1.0	< 1.0	0.26
WB3-GW-17	25-Sep-2022	1700	7.35	220	---	670	630	510	< 1.0	< 2.0	14	**440** [#3,4]	**0.24** [#3,4]	**0.049** [#3,4]	0.052	1200	1200	200	630	< 1.0	< 1.0	0.22
(Duplicate)	25-Sep-2022	1700	7.32	360	---	760	640	480	< 1.0	< 2.0	14	**460** [#3,4]	**0.061** [#3,4]	**0.071** [#3,4]	0.075	1300	1100	520	580	< 1.0	< 1.0	0.22
	02-Oct-2022	1700	7.65	75	---	690	620	520	< 1.0	9.3	15	**470** [#3,4]	**0.11** [#3,4]	**0.11** [#3,4]	0.11	1300	1200	200	630	< 1.0	< 1.0	0.24
WB3-GW-18	01-Oct-2022	670	7.69	3.9	---	320	320	370	< 1.0	---	2.7	21	**0.36** [#3,4]	**0.36** [#3,4]	0.38	450	380	170	450	< 1.0	< 1.0	0.25
	12-Oct-2022	650	7.54	41	---	320	300	340	< 1.0	4.9	2.4	21	**0.37** [#3,4]	**0.51** [#3,4]	0.54	380	350	140	410	< 1.0	< 1.0	0.18
WB3-GW-19	01-Oct-2022	960	7.53	7.6	---	450	440	530	< 1.0	---	5.3	33	**9.6** [#3,4]	**12** [#3,4]	13	620	560	130	650	< 1.0	< 1.0	0.24
	12-Oct-2022	930	7.25	20	---	420	420	500	< 1.0	12	4.4	35	**7.1** [#3,4]	**9.0** [#3,4]	9.5	600	530	99	610	< 1.0	< 1.0	0.19
WB3-GW-20	01-Oct-2022	1100	7.58	110	---	520	490	510	< 1.0	---	7.6	69	**19** [#3,4]	**23** [#3,4]	24	760	610	170	630	< 1.0	< 1.0	0.17
	12-Oct-2022	1200	7.51	290	---	590	520	610	< 1.0	25	18	64	**19** [#3,4]	**17** [#3,4]	18	800	690	95	740	< 1.0	< 1.0	0.14
DS-WB-3	08-Mar-2023	1900	7.48	440	---	640	680	290	< 1.0	< 2.0	18	**740** [#3,4]	**< 0.0036** [#3,4]	**0.0050** [#3,4]	0.0054	1500	1400	79	360	< 1.0	< 1.0	0.80
WB3-loc-1	17-Mar-2023	610	7.40	11	---	320	290	340	< 1.0	4.2	3.1	9.3	**0.12** [#3,4]	**0.67** [#3,4]	0.71	360	330	3.0	420	< 1.0	< 1.0	0.21
WB3-loc-2	17-Mar-2023	820	7.47	31	---	340	350	430	< 1.0	< 20	8.9	35	**0.16** [#3,4]	**7.3** [#3,4]	7.8	520	460	< 0.99	530	< 1.0	< 1.0	0.33
WB3-loc-3	17-Mar-2023	490	7.49	5.9	---	220	230	270	< 1.0	< 2.0	2.4	6.0	**0.70** [#3,4]	**0.71** [#3,4]	0.75	300	260	< 1.0	330	< 1.0	< 1.0	0.19
P36-Ditch-3	19-Mar-2023	1900	7.31	460	---	740	710	330	< 1.0	< 2.0	19	**830** [#3,4]	**0.0027** [#3,4]	**0.0022** [#3,4]	0.0023	1500	1500	82	400	< 1.0	< 1.0	1.1
	24-Mar-2023	1900	7.18	440	---	660	630	320	< 1.0	---	19	**840** [#3,4]	< 0.0018	**0.0027** [#3,4]	0.0028	1500	1500	84	380	< 1.0	< 1.0	0.96
P36-Ditch-4	19-Mar-2023	1900	7.21	450	---	760	690	320	< 1.0	< 2.0	18	**810** [#3,4]	**0.0022** [#3,4]	**0.0022** [#3,4]	0.0023	1400	1500	74	390	< 1.0	< 1.0	0.85
	24-Mar-2023	1800	7.14	450	---	680	620	300	< 1.0	---	18	**820** [#3,4]	**< 0.0090** [#3,4]	< 0.0018	< 0.010	1400	1400	69	370	< 1.0	< 1.0	0.79

Carbon, Nitrogen Parameters, Phosphorus, Dissolved Metals and Trace Elements

Monitoring Station	Date (dd-mmm-yyyy)	Carbon: Dissolved Inorganic Carbon (DIC) (mg/L)	Carbon: Dissolved Organic Carbon (DOC) (mg/L)	Nitrogen: Nitrate as N (mg/L)	Nitrogen: Nitrite as N (mg/L)	Nitrogen: Nitrate plus Nitrite as N (mg/L)	Nitrogen: Nitrate (NO3) (mg/L)	Nitrogen: Nitrite (NO2) (mg/L)	Nitrogen: Ammonia as N (mg/L)	Nitrogen: Total Kjeldahl Nitrogen (TKN) (mg/L)	Nitrogen: Nitrogen (mg/L)	Phosphorus: Orthophosphate (P) (mg/L)	Dissolved Aluminum (ug/L)	Dissolved Antimony (ug/L)	Dissolved Arsenic (ug/L)	Dissolved Barium (ug/L)	Dissolved Beryllium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	124	0.06	---	---	---	---	---	---	---	100	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	3	0.02	---	---	---	0.303	---	---	---	50	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	3	0.02	---	---	---	0.473	---	---	---	50	---	---	---	---
Waterbody 3 Investigation																	
	25-Sep-2022	140	23	0.054	< 0.010	0.054	0.24	< 0.033	**0.31** [#3]	6.6	6.7	0.0033	2.4	0.022	0.27	49	< 0.010
	02-Oct-2022	140	28	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.56** [#3,4]	73	73	< 0.0030	2.8	< 0.020	0.21	63	< 0.010
WB3-SW-12	09-Sep-2022	160	29	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.2** [#3,4]	2.0	2.0	0.0041	2.1	< 0.020	1.2	140	< 0.010
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	150	25	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**1.3** [#3,4]	5.8	5.8	< 0.015	2.8	< 0.020	1.3	120	< 0.010
	02-Oct-2022	150	28	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.3** [#3,4]	4.1	4.1	< 0.0030	2.5	< 0.020	1.3	140	< 0.010
(Duplicate)	02-Oct-2022	140	22	0.036	< 0.010	0.036	0.16	< 0.033	**1.2** [#3,4]	4.4	4.4	< 0.0030	3.1	< 0.020	1.3	140	< 0.010
WB3-SW-13	09-Sep-2022	130	22	1.5	< 0.010	1.5	6.5	< 0.033	0.021	0.88	2.3	0.028	1.6	< 0.020	0.24	57	< 0.010
	16-Sep-2022	150	22	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.042	1.7	1.7	0.0095	2.5	< 0.020	0.27	71	< 0.010
WB3-SW-14	10-Sep-2022	100	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.66	0.66	0.0041	4.0	< 0.020	0.14	45	< 0.010
	16-Sep-2022	120	22	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.031	2.5	2.5	0.016	2.7	< 0.020	0.25	60	< 0.010
WB3-SW-15	10-Sep-2022	120	22	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.22	1.3	1.3	0.0044	1.4	0.066	0.19	58	< 0.010
	16-Sep-2022	110	30	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.13	1.4	1.4	0.0038	3.0	< 0.020	0.25	46	< 0.010
WB3-SW-16	25-Sep-2022	130	21	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.32** [#3]	64	64	0.016	6.9	< 0.020	0.27	67	< 0.010
	02-Oct-2022	130	21	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	12	12	0.0060	2.5	< 0.020	0.18	77	< 0.010
WB3-SW-17	25-Sep-2022	150	22	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.57** [#3,4]	1.5	1.5	< 0.0030	7.0	< 0.020	0.65	100	< 0.010
	02-Oct-2022	150	29	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.46** [#3]	4.9	4.9	< 0.0030	2.3	< 0.020	0.53	100	< 0.010
WB3-SW-18	01-Oct-2022	110	19	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.044	4.0	4.0	0.0054	2.6	< 0.020	0.16	52	< 0.010
	12-Oct-2022	92	18	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.13	3.9	3.9	< 0.0030	4.2	< 0.020	0.21	66	< 0.010
WB3-SW-19	01-Oct-2022	120	32	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.17	4.1	4.1	0.018	3.3	0.029	1.0	53	< 0.010
	12-Oct-2022	160	40	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.63** [#3,4]	3.9	3.9	0.90	8.9	0.047	1.5	62	< 0.010
WB3-SW-20	01-Oct-2022	150	40	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.84** [#3,4]	18	18	1.1	3.2	0.025	0.81	80	< 0.010
	12-Oct-2022	150	37	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.89** [#3,4]	6.7	6.7	0.64	4.4	0.057	0.97	69	< 0.010
WB3-SW-21	29-Oct-2022	79	13	< 0.10	< 0.010	< 0.10	< 0.44	< 0.033	0.026	2.5	2.5	0.0033	1.9	< 0.020	0.080	41	< 0.010
	04-Nov-2022	81	14	**4.1** [#3,4]	< 0.010	4.1	18	< 0.033	0.075	20	24	0.0042	2.5	< 0.020	0.094	46	< 0.010
WB3-SW-22	29-Oct-2022	80	11	0.30	< 0.010	0.30	1.3	< 0.033	< 0.015	4.2	4.5	0.0039	3.7	0.030	0.11	47	< 0.010
	04-Nov-2022	85	16	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	2.9	2.9	0.0033	2.8	< 0.020	0.11	46	< 0.010
WB3-SW-23	29-Oct-2022	80	10	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	1.2	1.2	0.0036	2.5	< 0.020	0.10	39	< 0.010
	04-Nov-2022	78	11	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	1.3	1.3	0.0034	36	0.045	0.15	38	< 0.010
WB3-GW-10	25-Sep-2022	120	18	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	**0.96** [#3,4]	9.3	9.3	0.11	**92** [#3,4]	< 0.020	0.39	59	< 0.010
	02-Oct-2022	130	18	0.019	< 0.010	0.019	0.083	< 0.033	**1.0** [#3,4]	4.2	4.2	0.088	2.4	< 0.020	0.21	59	< 0.010
WB3-GW-11	25-Sep-2022	140	28	0.13	< 0.010	0.13	0.57	< 0.033	0.18	2.1	2.2	< 0.0030	4.7	0.024	0.23	62	< 0.010
	02-Oct-2022	130	22	0.039	< 0.010	0.039	0.17	< 0.033	0.23	1.3	1.4	0.0045	8.7	< 0.020	0.19	68	< 0.010
WB3-GW-12	25-Sep-2022	170	27	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.5** [#3,4]	4.8	4.8	< 0.0030	2.6	< 0.020	1.4	130	< 0.010
	02-Oct-2022	160	34	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.2** [#3,4]	2.3	2.3	< 0.0030	3.4	< 0.020	1.7	140	< 0.010
WB3-GW-16	25-Sep-2022	120	17	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.037	6.5	6.5	0.0065	12	< 0.020	0.23	72	< 0.010
	02-Oct-2022	120	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.027	3.6	3.6	0.0043	2.0	< 0.020	0.15	76	< 0.010
WB3-GW-17	25-Sep-2022	150	23	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.23	2.6	2.6	< 0.0030	4.8	< 0.020	0.58	89	< 0.010
(Duplicate)	25-Sep-2022	140	20	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.24	9.0	9.0	< 0.0030	3.1	< 0.020	0.65	83	< 0.010
	02-Oct-2022	140	27	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.35** [#3]	4.7	4.7	< 0.0030	2.5	< 0.020	0.63	87	< 0.010
WB3-GW-18	01-Oct-2022	94	13	< 0.10	< 0.010	< 0.10	< 0.44	< 0.033	< 0.015	3.8	3.8	0.013	1.4	< 0.020	0.089	89	< 0.010
	12-Oct-2022	70	9.0	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	0.083	1.9	1.9	0.0080	2.3	0.033	0.087	92	< 0.010
WB3-GW-19	01-Oct-2022	140	19	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**3.0** [#3,4]	7.1	7.1	0.46	1.3	< 0.020	0.33	78	< 0.010
	12-Oct-2022	130	18	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**2.6** [#3,4]	6.8	6.8	0.42	2.3	< 0.020	0.31	82	< 0.010
WB3-GW-20	01-Oct-2022	150	36	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.7** [#3,4]	7.2	7.2	0.69	2.0	0.041	0.85	75	< 0.010
	12-Oct-2022	160	52	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**1.3** [#3,4]	6.2	6.2	0.66	4.5	0.099	1.1	74	< 0.010
DS-WB-3	08-Mar-2023	79	17	0.015	< 0.010	0.015	0.066	< 0.033	**0.66** [#3,4]	1.1	1.1	< 0.0030	4.2	< 0.10	1.2	89	< 0.050
WB3-loc-1	17-Mar-2023	91	12	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.14	< 2.0	< 2.0	0.0067	2.1	< 0.020	0.075	38	< 0.010
WB3-loc-2	17-Mar-2023	110	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.82** [#3,4]	< 2.0	< 2.0	0.024	2.6	0.025	0.13	52	< 0.010
WB3-loc-3	17-Mar-2023	74	8.9	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.12	0.54	0.54	0.0043	1.6	< 0.020	0.059	31	< 0.010
P36-Ditch-3	19-Mar-2023	98	18	0.011	< 0.010	0.011	0.049	< 0.033	**0.99** [#3,4]	1.5	1.5	< 0.0030	7.0	0.24	1.6	110	< 0.050
	24-Mar-2023	82	15	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.84** [#3,4]	1.4	1.4	< 0.0030	< 2.5	< 0.10	1.3	99	< 0.050
P36-Ditch-4	19-Mar-2023	87	16	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.79** [#3,4]	< 2.0	< 2.0	< 0.0030	9.5	0.23	1.2	100	0.064
	24-Mar-2023	89	14	< 0.10	**< 0.050** [#3,4]	< 0.10	< 0.44	< 0.16	**0.75** [#3,4]	1.2	1.2	< 0.0030	< 2.5	< 0.10	0.87	88	< 0.050

WB3

Water Quality Results

PROJECT No.: 417085-47599

Dissolved Metals and Trace Elements (cont.)

Monitoring Station	Date	Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---		---	---	**300**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---		---	---	**300**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																													
	25-Sep-2022	< 0.0050	620	< 0.0050	74000	0.16	0.16	0.26	140	< 0.0050	41	37000	120	0.86	3.7	9000	0.050	10000	< 0.0050	160000	180	49000	< 0.0020	< 0.20	< 0.50	0.042	0.26	1.2	0.32
	02-Oct-2022	< 0.0050	820	< 0.0050	73000	0.31	0.18	< 0.050	160	0.0076	44	35000	200	1.5	3.6	7700	0.18	10000	< 0.0050	160000	210	62000	< 0.0020	< 0.20	< 0.50	0.076	< 0.20	3.0	0.42
WB3-SW-12	09-Sep-2022	< 0.0050	750	< 0.0050	110000	0.18	0.13	< 0.050	**15000** [#3,4]	< 0.0050	34	47000	660	0.40	2.9	7900	0.082	13000	< 0.0050	140000	290	75000	< 0.0020	< 0.20	< 0.50	0.15	0.28	0.87	0.89
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	< 0.0050	690	< 0.0050	110000	0.23	0.13	< 0.050	**16000** [#3,4]	< 0.0050	35	46000	660	0.55	3.1	8100	0.077	13000	< 0.0050	140000	320	75000	< 0.0020	< 0.20	< 0.50	0.18	0.37	0.27	0.98
	02-Oct-2022	< 0.0050	810	< 0.0050	110000	0.34	0.17	< 0.050	**19000** [#3,4]	< 0.0050	37	46000	760	0.76	3.3	8900	0.16	13000	< 0.0050	160000	340	83000	< 0.0020	< 0.20	< 0.50	0.20	0.46	790	1.2
(Duplicate)	02-Oct-2022	< 0.0050	710	< 0.0050	110000	0.33	0.16	< 0.050	**18000** [#3,4]	< 0.0050	32	46000	750	0.75	3.3	8800	0.17	13000	< 0.0050	150000	340	82000	< 0.0020	< 0.20	< 0.50	0.20	0.46	2.3	1.1
WB3-SW-13	09-Sep-2022	< 0.0050	67	< 0.0050	94000	< 0.10	0.13	< 0.050	**370** [#3,4]	< 0.0050	15	36000	140	< 0.050	0.27	4100	0.044	11000	< 0.0050	42000	150	6700	< 0.0020	< 0.20	< 0.50	0.0026	< 0.20	13	0.14
	16-Sep-2022	< 0.0050	560	< 0.0050	90000	0.13	0.21	0.064	150	< 0.0050	30	43000	190	< 0.050	2.7	9600	0.075	11000	< 0.0050	120000	170	55000	< 0.0020	< 0.20	< 0.50	0.0096	< 0.20	3.6	0.39
WB3-SW-14	10-Sep-2022	< 0.0050	34	< 0.0050	73000	< 0.10	0.080	0.11	**410** [#3,4]	0.023	17	32000	27	< 0.050	0.22	3700	< 0.040	11000	< 0.0050	19000	180	< 3000	0.0043	< 0.20	< 0.50	< 0.0020	< 0.20	0.77	0.11
	16-Sep-2022	< 0.0050	65	< 0.0050	92000	< 0.10	0.16	< 0.050	**660** [#3,4]	< 0.0050	16	37000	180	< 0.050	0.27	5100	0.040	10000	< 0.0050	39000	150	11000	< 0.0020	< 0.20	< 0.50	0.010	< 0.20	2.4	0.12
WB3-SW-15	10-Sep-2022	< 0.0050	34	< 0.0050	81000	< 0.10	0.11	0.19	33	0.010	17	30000	70	< 0.050	2.2	4700	6.2	11000	< 0.0050	86000	150	40000	< 0.0020	< 0.20	< 0.50	0.0026	< 0.20	1.8	< 0.10
	16-Sep-2022	< 0.0050	50	< 0.0050	76000	0.13	0.14	< 0.050	52	< 0.0050	18	32000	81	< 0.050	1.9	5200	0.18	11000	< 0.0050	76000	170	32000	< 0.0020	< 0.20	< 0.50	0.0072	< 0.20	3.7	0.10
WB3-SW-16	25-Sep-2022	< 0.0050	71	< 0.0050	96000	0.17	0.12	0.071	**310** [#3,4]	0.011	20	41000	290	< 0.050	0.50	12000	0.053	11000	< 0.0050	64000	190	29000	< 0.0020	< 0.20	0.60	0.013	0.34	2.0	0.32
	02-Oct-2022	< 0.0050	71	< 0.0050	100000	0.15	0.078	< 0.050	**1500** [#3,4]	< 0.0050	15	40000	560	< 0.050	0.36	4300	0.14	12000	< 0.0050	66000	190	33000	< 0.0020	< 0.20	< 0.50	0.0049	< 0.20	0.64	0.40
WB3-SW-17	25-Sep-2022	< 0.0050	320	< 0.0050	160000	0.20	0.53	0.056	**20000** [#3,4]	0.0058	11	54000	920	0.37	2.4	13000	0.074	11000	< 0.0050	160000	290	150000	< 0.0020	< 0.20	0.62	0.69	0.25	7.7	0.53
	02-Oct-2022	< 0.0050	360	< 0.0050	170000	0.23	0.71	0.073	**23000** [#3,4]	< 0.0050	13	54000	970	0.62	2.7	12000	0.15	11000	< 0.0050	170000	310	160000	< 0.0020	< 0.20	< 0.50	1.5	0.21	6.1	0.58
WB3-SW-18	01-Oct-2022	< 0.0050	14	< 0.0050	78000	0.14	0.12	0.066	74	0.0082	18	31000	75	< 0.050	2.1	5400	0.23	10000	< 0.0050	46000	230	17000	< 0.0020	< 0.20	< 0.50	0.0063	< 0.20	4.1	0.12
	12-Oct-2022	< 0.0050	38	< 0.0050	75000	0.29	0.11	0.068	190	0.0076	16	32000	73	< 0.050	2.1	6000	0.077	10000	< 0.0050	51000	300	19000	< 0.0020	< 0.20	< 0.50	0.0047	< 0.20	6.1	0.11
WB3-SW-19	01-Oct-2022	< 0.0050	78	< 0.0050	120000	0.15	0.21	< 0.050	76	0.0088	23	51000	340	< 0.050	1.7	9000	1.1	11000	< 0.0050	150000	300	120000	< 0.0020	< 0.20	< 0.50	0.0058	< 0.20	1.3	0.19
	12-Oct-2022	0.0093	51	< 0.0050	100000	0.17	0.35	0.054	26	0.0057	26	47000	690	< 0.050	1.2	12000	2.7	17000	< 0.0050	93000	220	39000	0.0034	< 0.20	< 0.50	0.0079	0.27	2.9	0.17
WB3-SW-20	01-Oct-2022	< 0.0050	< 10	< 0.0050	120000	0.30	0.29	0.27	21	0.0074	14	46000	610	< 0.050	0.93	12000	0.99	16000	< 0.0050	55000	230	40000	< 0.0020	< 0.20	< 0.50	0.0063	< 0.20	5.9	0.10
	12-Oct-2022	< 0.0050	< 10	< 0.0050	130000	0.14	0.36	0.056	27	0.0050	16	53000	940	< 0.050	0.89	12000	0.28	17000	< 0.0050	57000	240	27000	< 0.0020	< 0.20	< 0.50	0.0075	< 0.20	1.4	0.12
WB3-SW-21	29-Oct-2022	< 0.0050	14	< 0.0050	67000	< 0.10	0.036	< 0.050	43	< 0.0050	13	30000	8.3	< 0.050	0.18	3700	< 0.040	8600	< 0.0050	7100	160	6000	< 0.0020	< 0.20	< 0.50	0.0025	< 0.20	4.5	< 0.10
	04-Nov-2022	< 0.0050	13	< 0.0050	70000	< 0.10	0.052	0.55	**460** [#3,4]	0.020	11	29000	72	< 0.050	0.22	3200	< 0.040	8600	< 0.0050	6800	160	4900	< 0.0020	< 0.20	< 0.50	0.0025	< 0.20	2.5	< 0.10
WB3-SW-22	29-Oct-2022	< 0.0050	16	< 0.0050	71000	< 0.10	0.035	0.41	11	0.011	14	35000	0.98	< 0.050	0.17	3300	< 0.040	8600	< 0.0050	5800	190	9000	< 0.0020	< 0.20	< 0.50	0.0071	< 0.20	11	< 0.10
	04-Nov-2022	< 0.0050	13	< 0.0050	73000	0.10	0.041	0.063	38	< 0.0050	13	37000	14	< 0.050	0.45	4500	< 0.040	8500	< 0.0050	5800	200	10000	< 0.0020	< 0.20	< 0.50	0.0073	< 0.20	4.1	< 0.10
WB3-SW-23	29-Oct-2022	< 0.0050	< 10	< 0.0050	66000	< 0.10	0.028	0.074	110	< 0.0050	9.7	28000	18	< 0.050	0.82	1800	< 0.040	6600	< 0.0050	6000	120	3800	< 0.0020	< 0.20	< 0.50	0.0027	< 0.20	91	< 0.10
	04-Nov-2022	0.014	< 10	< 0.0050	68000	0.17	0.060	0.24	**340** [#3,4]	0.043	8.3	28000	14	0.16	0.30	1900	< 0.040	6600	< 0.0050	5800	120	4000	< 0.0020	< 0.20	1.4	0.0069	< 0.20	2.0	< 0.10
WB3-GW-10	25-Sep-2022	< 0.0050	200	0.0063	85000	0.35	0.26	0.40	**770** [#3,4]	0.13	22	35000	210	0.072	1.6	5300	1.1	11000	< 0.0050	68000	150	22000	0.0029	0.35	3.5	0.15	0.50	7.3	0.21
	02-Oct-2022	< 0.0050	150	< 0.0050	84000	< 0.10	0.093	0.097	64	< 0.0050	21	34000	180	< 0.050	1.2	4900	0.073	11000	< 0.0050	67000	150	22000	< 0.0020	< 0.20	< 0.50	0.0072	< 0.20	0.31	0.13
WB3-GW-11	25-Sep-2022	< 0.0050	660	< 0.0050	78000	0.22	0.14	0.054	170	< 0.0050	41	33000	260	0.60	3.6	7800	0.049	10000	< 0.0050	150000	180	49000	< 0.0020	0.28	< 0.50	0.028	0.23	1.0	0.31
	02-Oct-2022	< 0.0050	730	< 0.0050	78000	0.18	0.17	0.13	**610** [#3,4]	0.023	42	34000	300	0.64	3.6	7400	0.063	10000	< 0.0050	160000	190	55000	< 0.0020	< 0.20	< 0.50	0.027	< 0.20	1.3	0.28
WB3-GW-12	25-Sep-2022	< 0.0050	650	< 0.0050	110000	0.26	0.12	< 0.050	**18000** [#3,4]	< 0.0050	36	47000	680	0.45	3.2	8600	0.096	13000	< 0.0050	150000	300	76000	< 0.0020	< 0.20	0.76	0.15	0.47	4.2	0.92
	02-Oct-2022	< 0.0050	800	< 0.0050	110000	0.25	0.13	< 0.050	**21000** [#3,4]	< 0.0050	37	47000	800	0.61	3.3	8600	0.092	13000	< 0.0050	160000	330	83000	< 0.0020	< 0.20	< 0.50	0.16	0.43	1.0	1.1
WB3-GW-16	25-Sep-2022	< 0.0050	57	< 0.0050	97000	0.18	0.083	0.088	**1700** [#3,4]	0.014	19	38000	290	< 0.050	0.42	5900	0.055	11000	< 0.0050	53000	190	24000	< 0.0020	< 0.20	0.69	0.0088	0.30	6.3	0.20
	02-Oct-2022	< 0.0050	55	< 0.0050	98000	0.12	0.064	< 0.050	**2300** [#3,4]	< 0.0050	18	38000	440	< 0.050	0.33	3800	0.069	12000	< 0.0050	54000	190	26000	< 0.0020	< 0.20	< 0.50	0.0046	< 0.20	2.4	0.30
WB3-GW-17	25-Sep-2022	< 0.0050	260	< 0.0050	170000	0.22	0.40	< 0.050	**12000** [#3,4]	0.0065	11	54000	1100	0.35	2.3	11000	0.22	10000	< 0.0050	150000	280	150000	< 0.0020	< 0.20	0.62	0.51	0.27	9.4	0.43
(Duplicate)	25-Sep-2022	< 0.0050	260	< 0.0050	170000	0.16	0.44	0.071	**11000** [#3,4]	< 0.0050	11	53000	1100	0.49	2.3	11000	0.075	10000	< 0.0050	150000	280	150000	< 0.0020	< 0.20	0.66	0.81	0.29	5.4	0.42
	02-Oct-2022	< 0.0050	300	< 0.0050	160000	0.18	0.43	< 0.050	**17000** [#3,4]	< 0.0050	13	53000	1400	0.33	2.5	11000	0.14	10000	< 0.0050	160000	280	160000	< 0.0020	< 0.20	< 0.50	0.48	0.21	1.5	0.46
WB3-GW-18	01-Oct-2022	< 0.0050	70	< 0.0050	78000	< 0.10	0.058	< 0.050	280	0.0051	21	30000	95	< 0.050	0.90	3500	0.074	11000	< 0.0050	25000	460	8000	< 0.0020	< 0.20	< 0.50	0.0047	< 0.20	1.1	< 0.10
	12-Oct-2022	< 0.0050	71	< 0.0050	74000	< 0.10	0.044	< 0.050	**480** [#3,4]	< 0.0050	22	29000	100	< 0.050	0.65	2800	< 0.040	10000	< 0.0050	18000	460	5000	< 0.0020	< 0.20	< 0.50	0.0023	< 0.20	3.5	< 0.10
WB3-GW-19	01-Oct-2022	< 0.0050	88	< 0.0050	120000	0.10	0.15	< 0.050	46	< 0.0050	23	36000	500	< 0.050	0.31	6700	1.8	15000	< 0.0050	35000	270	20000	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	2.2	< 0.10
	12-Oct-2022	< 0.0050	77	< 0.0050	110000	< 0.10	0.13	< 0.050	65	< 0.0050	24	32000	490	< 0.050	0.27	6200	0.99	15000	< 0.0050	35000	290	7800	< 0.0020	< 0.20	< 0.50	< 0.0020	< 0.20	620	< 0.10
WB3-GW-20	01-Oct-2022	0.016	< 10	< 0.0050	120000	0.18	0.28	< 0.050	38	0.010	13	45000	790	< 0.050	0.75	8800	3.3	16000	< 0.0050	47000	240	68000	< 0.0020	< 0.20	< 0.50	0.0076	< 0.20	0.65	< 0.10
	12-Oct-2022	< 0.0050	< 10	< 0.0050	130000	0.14	0.32	0.055	51	0.014	16	49000	810	< 0.050	0.75	11000	3.0	17000	< 0.0050	54000	240	38000	< 0.0020	< 0.20	< 0.50	0.0054	< 0.20	65	0.11
DS-WB-3	08-Mar-2023	< 0.025	1000	< 0.025	170000	< 0.50	26	0.26	**35000** [#3,4]	0.037	48	59000	2700	4.1	28	7700	< 0.20	7100	< 0.025	170000	1200	270000	< 0.010	< 1.0	< 2.5	0.72	< 1.0	15	0.89
WB3-loc-1	17-Mar-2023	< 0.0050	20	< 0.0050	71000	< 0.10	0.049	0.46	**510** [#3,4]	< 0.0050	10	27000	230	< 0.050	0.15	1600	0.043	8400	< 0.0050	9100	97	5300	< 0.0020	< 0.20	< 0.50	0.0041	< 0.20	1.3	< 0.10
WB3-loc-2	17-Mar-2023	< 0.0050	44	< 0.0050	87000	0.65	0.058	0.63	210	0.0090	15	33000	170	0.056	0.92	3400	0.12	11000	< 0.0050	34000	150	9500	< 0.0020	< 0.20	< 0.50	0.0060	< 0.20	2.0	< 0.10
WB3-loc-3	17-Mar-2023	< 0.0050	18	< 0.0050	58000	< 0.10	0.027	0.79	**350** [#3,4]	< 0.0050	8.4	22000	110	< 0.050	0.12	1500	< 0.040	6700	< 0.0050	8000	78	4300	0.0027	< 0.20	< 0.50	< 0.0020	< 0.20	0.64	< 0.10
P36-Ditch-3	19-Mar-2023	< 0.025	1200	0.052	180000	< 0.50	22	1.9	**27000** [#3,4]	0.064	74	65000	2500	4.5	22	10000	< 0.20	8200	< 0.025	190000	1500	260000	0.019	< 1.0	< 2.5	0.80	< 1.0	7.4	1.3
	24-Mar-2023	< 0.025	990	< 0.025	160000	< 0.50	20	< 0.25	**22000** [#3,4]	< 0.025	66	56000	2300	3.2	20	9300	< 0.20	7000	< 0.025	170000	1400	220000	< 0.010	< 1.0	< 2.5	0.61	< 1.0	4.7	0.76
P36-Ditch-4	19-Mar-2023	< 0.025	1000	0.051	170000	< 0.50	23	1.1	**27000** [#3,4]	0.056	55	63000	2600	4.4	24	8300	< 0.20	7300	< 0.025	180000	1200	250000	0.017	< 1.0	< 2.5	0.74	< 1.0	8.3	1.2
	24-Mar-2023	< 0.025	880	< 0.025	160000	< 0.50	21	< 0.25	**23000** [#3,4]	< 0.025	47	55000	2400	3.5	22	7600	< 0.20	6400	< 0.025	160000	1100	210000	< 0.010	< 1.0	< 2.5	0.59	< 1.0	6.5	0.71

Total Metals and Trace Elements

Monitoring Station	Date	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ng/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	**1.6**	**29000**	---	---	**12**	---	---	---	---	---	**0.013**	**2**
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	**3.4**	**29000**	---	---	**25**	---	---	---	---	---	**0.013**	**2**
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**5**	---	---	---	---	**0.12**	**1500**	**8.9**	**0.91**	**7**	---	**2.2**	---	---	---	**0.005**	**1**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**5**	---	---	---	---	**0.23**	**1500**	**8.9**	**1.2**	**7**	---	**5.8**	---	---	---	**0.005**	**1**
Waterbody 3 Investigation																				
	25-Sep-2022	530	0.030	1.1	200	0.045	0.014	140000	0.017	670	1.4	**1.5** [#3,4]	2.3	27000	1.1	42	41000	1200	**0.0050** [#3,4]	0.41
	02-Oct-2022	1800	< 0.10	**7.4** [#3,4]	1300	0.16	0.051	340000	0.077	1000	5.5	**11** [#3,4]	6.0	270000	**4.9** [#3]	49	51000	9100	0.0011	< 0.050
WB3-SW-12	09-Sep-2022	70	0.025	**9.0** [#3,4]	340	0.015	< 0.010	120000	< 0.0050	770	0.66	0.26	0.71	75000	0.18	37	49000	780	0.00073	< 0.050
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	59	0.031	**5.2** [#3,4]	260	< 0.010	< 0.010	120000	< 0.0050	660	0.45	0.25	0.21	49000	0.11	32	48000	780	0.00046	0.083
	02-Oct-2022	500	< 0.10	**34** [#3,4]	940	0.057	< 0.050	180000	< 0.025	890	2.2	**1.3** [#3,4]	1.9	240000	1.0	40	52000	1500	0.00074	< 0.050
(Duplicate)	02-Oct-2022	190	< 0.040	**10** [#3,4]	350	0.021	< 0.020	130000	< 0.010	740	0.96	0.54	0.69	79000	0.36	40	49000	960	0.0013	< 0.050
WB3-SW-13	09-Sep-2022	29	0.038	0.50	93	0.011	< 0.010	91000	< 0.0050	71	0.19	0.25	0.35	7800	0.061	17	37000	160	0.0023	0.18
	16-Sep-2022	63	0.024	0.31	88	< 0.010	< 0.010	100000	0.0051	550	0.22	0.45	0.55	2300	0.15	29	43000	420	0.0015	< 0.050
WB3-SW-14	10-Sep-2022	17	< 0.020	0.17	56	< 0.010	< 0.010	68000	< 0.0050	36	0.11	0.10	4.7	3400	0.24	20	34000	36	0.0018	**1.2** [#3,4]
	16-Sep-2022	61	0.028	0.37	85	< 0.010	< 0.010	100000	0.021	70	0.24	0.33	0.59	6400	0.20	15	39000	250	0.0021	0.23
WB3-SW-15	10-Sep-2022	69	0.028	0.27	66	0.016	< 0.010	80000	< 0.0050	39	0.21	0.27	0.46	450	0.13	21	32000	84	0.00041	< 0.050
	16-Sep-2022	32	< 0.020	0.22	56	< 0.010	< 0.010	85000	< 0.0050	42	0.22	0.19	0.14	470	0.059	17	32000	86	0.0012	**1.1** [#3,4]
WB3-SW-16	25-Sep-2022	3700	< 0.20	**15** [#3,4]	2600	0.60	< 0.10	400000	**0.15** [#3]	600	**12** [#3,4]	**5.5** [#3,4]	**25** [#1,2,3,4]	510000	**9.4** [#3,4]	22	67000	6000	**0.0056** [#3,4]	0.68
	02-Oct-2022	1100	0.031	1.3	230	0.095	0.025	150000	0.047	85	2.9	**1.2** [#3,4]	6.0	29000	2.1	19	46000	1300	0.00051	< 0.050
WB3-SW-17	25-Sep-2022	290	< 0.040	**5.0** [#3,4]	270	0.049	< 0.020	190000	0.015	350	1.2	**1.4** [#3,4]	1.5	98000	0.62	12	59000	1300	0.0013	0.077
	02-Oct-2022	650	< 0.040	4.8	220	0.058	< 0.020	190000	0.030	320	1.7	**2.5** [#3,4]	2.2	83000	0.94	14	57000	1500	0.00056	< 0.050
WB3-SW-18	01-Oct-2022	88	< 0.020	0.26	110	0.011	< 0.010	94000	< 0.0050	23	0.40	0.28	0.30	710	0.17	18	32000	100	0.0026	**1.9** [#3,4]
	12-Oct-2022	97	< 0.020	0.33	91	< 0.010	< 0.010	85000	< 0.0050	44	0.36	0.27	1.5	860	0.30	16	34000	90	0.0011	0.84
WB3-SW-19	01-Oct-2022	22	0.031	1.0	72	< 0.010	< 0.010	130000	< 0.0050	95	0.26	0.37	0.17	240	0.046	25	54000	330	0.00027	0.55
	12-Oct-2022	120	0.069	1.9	91	0.021	< 0.010	110000	< 0.0050	64	0.80	0.65	0.40	870	0.25	24	53000	800	< 0.00010	0.16
WB3-SW-20	01-Oct-2022	110	0.049	1.1	210	0.013	< 0.010	150000	< 0.0050	14	0.80	0.83	0.48	920	0.22	15	48000	950	0.00034	0.58
	12-Oct-2022	230	0.063	1.3	91	0.034	< 0.010	140000	0.0081	11	0.73	0.81	0.74	1700	0.53	15	55000	1200	0.00034	0.063
WB3-SW-21	29-Oct-2022	100	< 0.020	0.32	71	0.017	< 0.010	81000	< 0.0050	19	0.34	0.26	0.34	8300	0.35	13	33000	29	**0.0094** [#3,4]	< 0.050
	04-Nov-2022	540	0.034	1.0	220	0.079	0.026	120000	0.022	30	1.8	**1.3** [#3,4]	2.0	49000	1.6	14	35000	550	**0.010** [#3,4]	**2.4** [#1,2,3,4]
WB3-SW-22	29-Oct-2022	270	< 0.020	0.41	83	0.034	0.014	100000	0.0086	30	0.88	0.40	0.71	2800	0.59	14	36000	38	0.0045	0.17
	04-Nov-2022	200	< 0.020	0.27	85	0.017	< 0.010	92000	0.0062	18	0.66	0.30	0.53	2800	0.47	15	35000	70	0.0042	**1.8** [#3,4]
WB3-SW-23	29-Oct-2022	66	< 0.020	0.22	55	< 0.010	< 0.010	75000	< 0.0050	< 10	1.2	0.17	0.52	4300	0.20	9.5	29000	82	0.0024	0.11
	04-Nov-2022	81	< 0.020	0.17	48	< 0.010	< 0.010	74000	< 0.0050	< 10	0.28	0.13	0.25	1800	0.19	9.9	31000	39	0.0018	< 0.050
WB3-GW-10	25-Sep-2022	380	0.024	0.65	76	0.029	< 0.010	93000	0.021	210	0.78	0.79	1.1	2900	0.59	21	37000	290	0.0013	0.16
	02-Oct-2022	180	0.022	0.41	74	0.015	< 0.010	91000	0.013	160	0.43	0.43	0.51	1400	0.29	23	37000	210	0.0013	< 0.050
WB3-GW-11	25-Sep-2022	46	0.039	0.29	75	< 0.010	< 0.010	80000	0.020	640	0.31	0.29	0.45	1700	0.13	41	35000	330	0.0024	0.68
	02-Oct-2022	31	0.021	0.21	75	< 0.010	< 0.010	79000	< 0.0050	710	0.17	0.25	0.16	1300	0.081	43	36000	310	0.0013	< 0.050
WB3-GW-12	25-Sep-2022	45	0.023	3.4	180	< 0.010	< 0.010	110000	0.0097	640	0.43	0.23	1.7	30000	0.15	34	47000	760	0.0030	0.092
	02-Oct-2022	12	0.038	1.9	160	< 0.010	< 0.010	110000	< 0.0050	690	0.45	0.15	0.11	22000	0.027	40	48000	760	0.0014	< 0.050
WB3-GW-16	25-Sep-2022	220	< 0.020	0.51	110	0.015	< 0.010	100000	0.027	62	0.51	0.26	1.1	8100	0.39	16	38000	380	0.0022	0.12
	02-Oct-2022	130	< 0.020	0.28	91	< 0.010	< 0.010	100000	0.014	51	0.43	0.15	0.49	4900	0.21	19	40000	430	0.0016	< 0.050
WB3-GW-17	25-Sep-2022	700	0.022	0.93	110	0.038	0.010	170000	0.018	250	1.2	**0.92** [#3]	1.2	17000	0.74	11	56000	1200	0.00013	< 0.050
(Duplicate)	25-Sep-2022	2600	0.040	1.9	170	0.12	0.026	200000	0.061	260	3.8	**2.4** [#3,4]	3.3	24000	2.1	13	61000	1400	0.00013	0.31
	02-Oct-2022	610	0.025	1.1	120	0.042	< 0.010	180000	0.024	290	1.1	**1.0** [#3]	1.1	20000	0.68	14	58000	1400	0.00027	**1.7** [#3,4]
WB3-GW-18	01-Oct-2022	110	< 0.020	0.19	98	< 0.010	< 0.010	80000	0.014	78	0.32	0.17	0.46	790	0.23	23	29000	110	0.00093	0.95
	12-Oct-2022	43	< 0.020	0.12	100	< 0.010	< 0.010	79000	< 0.0050	76	0.18	0.10	0.24	810	0.12	21	30000	100	0.00099	< 0.050
WB3-GW-19	01-Oct-2022	82	0.029	0.45	79	< 0.010	< 0.010	120000	0.010	92	0.27	0.29	0.29	510	0.18	26	37000	510	0.00061	0.42
	12-Oct-2022	43	0.021	0.34	86	< 0.010	< 0.010	120000	< 0.0050	79	0.28	0.18	0.22	200	0.088	21	33000	500	0.00088	< 0.050
WB3-GW-20	01-Oct-2022	100	0.067	1.1	82	< 0.010	< 0.010	130000	0.033	11	0.34	0.43	0.57	490	0.40	14	46000	850	0.00025	< 0.050
	12-Oct-2022	37	0.086	1.2	83	< 0.010	< 0.010	140000	0.0097	< 10	0.18	0.42	0.23	170	0.13	15	55000	880	< 0.00010	< 0.050
DS-WB-3	08-Mar-2023	47	< 0.10	1.6	95	< 0.050	< 0.025	160000	< 0.025	870	< 0.50	**23** [#3,4]	< 0.25	38000	0.039	47	55000	2500	0.0011	< 0.050
WB3-loc-1	17-Mar-2023	7.8	0.023	0.14	39	< 0.010	< 0.010	76000	< 0.0050	27	0.17	0.067	0.50	590	0.023	11	32000	220	0.0026	**1.0** [#3,4]
WB3-loc-2	17-Mar-2023	2.4	< 0.020	0.15	53	< 0.010	0.0062	87000	< 0.0050	45	< 0.10	0.063	< 0.050	270	< 0.0050	16	31000	160	0.0017	0.87
WB3-loc-3	17-Mar-2023	2.0	< 0.020	0.080	31	< 0.010	< 0.0050	56000	0.0083	19	< 0.10	0.036	0.065	380	0.017	9.0	19000	97	0.0026	0.90
P36-Ditch-3	19-Mar-2023	91	< 0.10	2.9	120	0.12	< 0.050	190000	< 0.025	1000	< 0.50	**21** [#3,4]	0.65	37000	0.10	70	67000	2500	0.0011	< 0.050
	24-Mar-2023	130	< 0.10	2.3	110	< 0.050	< 0.050	170000	0.028	1000	< 0.50	**20** [#3,4]	< 0.50	32000	0.13	65	57000	2300	---	---
P36-Ditch-4	19-Mar-2023	24	0.073	2.0	100	0.013	< 0.0050	200000	< 0.0050	990	0.22	**23** [#3,4]	0.54	37000	0.028	55	64000	2600	0.0012	< 0.050
	24-Mar-2023	25	0.10	1.7	110	< 0.050	< 0.025	180000	< 0.025	1000	< 0.50	**23** [#3,4]	< 0.25	35000	0.072	47	59000	2500	---	---

PROJECT No.: 417085-47599

Total Metals and Trace Elements (cont.)

Monitoring Station	Date (dd-mmm-yyyy)	Total Molybdenum (ug/L)	Total Nickel (ug/L)	Total Potassium (ug/L)	Total Selenium (ug/L)	Total Silicon (ug/L)	Total Silver (ug/L)	Total Sodium (ug/L)	Total Strontium (ug/L)	Total Sulphur (ug/L)	Total Thallium (ug/L)	Total Tin (ug/L)	Total Titanium (ug/L)	Total Uranium (ug/L)	Total Vanadium (ug/L)	Total Zinc (ug/L)	Total Zirconium (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	370	---	---	---	---	---	---	---	---	---	---	33	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	700	---	---	---	---	---	---	---	---	---	---	33	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		73	41	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		73	78	---	2	---	0.25	---	---	---	0.8	---	---	15	---	30	---
Waterbody 3 Investigation																	
	25-Sep-2022	1.2	5.4	9400	0.12	14000	0.010	160000	250	59000	0.016	< 0.20	18	0.13	2.1	11	0.68
	02-Oct-2022	2.1	11	9300	0.32	40000	< 0.050	170000	620	69000	0.057	< 1.0	69	0.51	9.6	**46** [#3,4]	2.8
WB3-SW-12	09-Sep-2022	0.51	3.6	7900	0.13	17000	< 0.010	150000	330	86000	0.0026	< 0.20	2.9	0.20	1.0	**92** [#3,4]	1.5
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	0.62	3.6	8300	0.10	15000	< 0.010	150000	340	82000	0.0027	< 0.20	2.5	0.19	0.83	8.2	1.3
	02-Oct-2022	1.4	6.4	9000	0.29	30000	< 0.050	160000	510	85000	0.020	< 1.0	21	0.45	4.3	12	3.9
(Duplicate)	02-Oct-2022	1.1	4.3	9400	0.14	18000	< 0.020	150000	380	81000	0.0067	< 0.40	7.3	0.28	1.7	9.4	1.6
WB3-SW-13	09-Sep-2022	< 0.050	0.49	4200	0.050	11000	< 0.010	42000	150	8400	< 0.0020	< 0.20	< 2.0	0.010	0.28	**67** [#3,4]	0.15
	16-Sep-2022	0.079	3.1	8800	0.061	13000	< 0.010	120000	170	54000	0.0023	< 0.20	2.3	0.024	0.37	10	0.31
WB3-SW-14	10-Sep-2022	< 0.050	0.27	3800	< 0.040	11000	< 0.010	19000	180	< 3000	< 0.0020	< 0.20	< 2.0	< 0.0050	< 0.20	7.6	0.10
	16-Sep-2022	0.086	0.68	4600	0.042	12000	< 0.010	41000	160	11000	0.0025	< 0.20	2.3	0.021	0.38	**72** [#3,4]	0.15
WB3-SW-15	10-Sep-2022	0.066	2.6	4900	0.045	11000	< 0.010	85000	160	36000	0.0021	< 0.20	2.4	0.018	0.34	2.7	0.18
	16-Sep-2022	< 0.050	2.2	4900	< 0.040	12000	< 0.010	80000	170	33000	< 0.0020	< 0.20	< 2.0	0.015	< 0.20	17	0.13
WB3-SW-16	25-Sep-2022	1.1	17	10000	0.83	53000	< 0.10	65000	780	39000	0.16	< 2.0	110	0.66	37	**930** [#3,4]	6.9
	02-Oct-2022	0.28	3.1	5000	0.14	17000	0.017	66000	250	37000	0.042	< 0.20	35	0.14	4.8	**190** [#3,4]	0.91
WB3-SW-17	25-Sep-2022	0.54	4.2	13000	0.14	16000	< 0.020	170000	340	170000	0.015	< 0.40	12	0.70	1.9	11	1.1
	02-Oct-2022	1.0	5.3	12000	0.15	15000	< 0.020	160000	340	160000	0.028	< 0.40	25	1.2	2.9	**260** [#3,4]	1.3
WB3-SW-18	01-Oct-2022	0.16	2.3	4700	< 0.040	11000	< 0.010	45000	260	15000	0.0036	< 0.20	3.2	0.018	0.40	**140** [#3,4]	0.20
	12-Oct-2022	0.099	2.3	5900	< 0.040	10000	< 0.010	53000	350	18000	0.0040	< 0.20	3.9	0.023	0.54	9.4	0.27
WB3-SW-19	01-Oct-2022	0.056	2.1	8900	0.055	11000	< 0.010	160000	320	140000	< 0.0020	< 0.20	< 2.0	0.0084	0.21	**85** [#3,4]	0.13
	12-Oct-2022	0.11	1.9	13000	0.061	17000	< 0.010	100000	260	29000	0.0039	< 0.20	4.3	0.032	0.79	11	0.25
WB3-SW-20	01-Oct-2022	0.22	1.7	13000	0.087	16000	< 0.010	53000	270	27000	0.0037	< 0.20	5.0	0.037	0.63	**59** [#3,4]	0.29
	12-Oct-2022	0.12	2.0	12000	0.066	17000	< 0.010	59000	290	27000	0.0076	< 0.20	8.1	0.047	1.1	13	0.35
WB3-SW-21	29-Oct-2022	0.063	0.62	3200	< 0.040	10000	< 0.010	7600	190	6600	< 0.0020	< 0.20	3.3	0.034	0.94	4.9	0.26
	04-Nov-2022	0.41	2.8	4000	0.10	15000	0.013	6800	260	9300	0.022	< 0.20	23	0.14	4.2	17	0.68
WB3-SW-22	29-Oct-2022	0.21	1.2	3500	< 0.040	10000	< 0.010	7700	230	10000	0.0065	< 0.20	8.9	0.059	1.2	**580** [#3,4]	0.42
	04-Nov-2022	0.15	0.82	3000	< 0.040	9400	< 0.010	6000	230	9200	0.0068	< 0.20	7.2	0.040	0.91	**200** [#3,4]	0.32
WB3-SW-23	29-Oct-2022	0.052	0.89	1900	< 0.040	7300	< 0.010	6200	130	4500	< 0.0020	< 0.20	2.2	0.018	0.40	**140** [#3,4]	0.14
	04-Nov-2022	0.068	0.53	2000	< 0.040	7400	< 0.010	6200	130	5100	0.0021	< 0.20	2.4	0.015	0.36	13	0.16
WB3-GW-10	25-Sep-2022	0.27	2.7	5400	0.077	11000	< 0.010	70000	160	24000	0.010	0.45	12	0.34	1.5	**31** [#3,4]	0.27
	02-Oct-2022	0.14	1.9	5200	0.044	12000	< 0.010	67000	160	22000	0.0042	0.24	4.3	0.15	0.70	10	0.17
WB3-GW-11	25-Sep-2022	0.62	4.0	7800	0.091	10000	< 0.010	160000	180	53000	0.0030	0.63	< 2.0	0.036	0.25	20	0.14
	02-Oct-2022	0.58	3.5	7600	0.054	11000	< 0.010	160000	190	58000	< 0.0020	< 0.20	< 2.0	0.036	0.21	5.0	0.24
WB3-GW-12	25-Sep-2022	0.55	3.7	8700	0.12	14000	< 0.010	150000	320	83000	0.0025	0.48	2.5	0.19	0.62	12	0.40
	02-Oct-2022	0.58	3.3	8400	0.077	14000	< 0.010	150000	340	81000	< 0.0020	< 0.20	< 2.0	0.16	0.38	4.3	0.82
WB3-GW-16	25-Sep-2022	0.17	1.2	5400	0.11	12000	< 0.010	51000	200	25000	0.0076	0.21	5.5	0.045	0.94	19	0.20
	02-Oct-2022	0.071	0.62	3800	0.064	12000	< 0.010	50000	200	24000	0.0038	< 0.20	3.4	0.026	0.53	13	0.21
WB3-GW-17	25-Sep-2022	0.47	4.0	11000	0.098	12000	< 0.010	150000	290	160000	0.020	0.21	21	0.76	1.7	14	0.81
(Duplicate)	25-Sep-2022	1.5	8.0	12000	0.18	15000	0.016	150000	330	160000	0.065	0.36	65	2.4	5.5	**40** [#3,4]	1.2
	02-Oct-2022	0.73	4.2	12000	0.11	12000	< 0.010	160000	310	160000	0.019	< 0.20	20	1.2	1.7	11	0.81
WB3-GW-18	01-Oct-2022	0.11	1.1	3300	0.047	11000	< 0.010	21000	480	7000	0.0033	< 0.20	3.2	0.017	0.40	29	0.12
	12-Oct-2022	< 0.050	1.0	3000	< 0.040	10000	< 0.010	21000	500	6300	< 0.0020	< 0.20	< 2.0	0.0070	0.25	11	< 0.10
WB3-GW-19	01-Oct-2022	0.13	0.69	6800	0.057	16000	< 0.010	35000	280	6800	0.0044	0.27	2.9	0.013	0.43	22	0.11
	12-Oct-2022	< 0.050	0.87	6300	< 0.040	15000	< 0.010	37000	300	4800	< 0.0020	0.23	< 2.0	0.0073	0.36	17	< 0.10
WB3-GW-20	01-Oct-2022	0.17	1.3	8500	0.12	16000	< 0.010	45000	250	20000	0.0036	0.48	2.6	0.044	0.48	22	0.11
	12-Oct-2022	0.070	1.1	12000	0.088	20000	< 0.010	58000	270	27000	< 0.0020	< 0.20	< 2.0	0.021	0.22	6.8	0.10
DS-WB-3	08-Mar-2023	3.8	24	7800	< 0.20	6400	< 0.025	170000	1100	210000	0.012	< 1.0	< 2.5	0.71	< 1.0	14	1.2
WB3-loc-1	17-Mar-2023	< 0.050	0.27	1700	0.078	8900	< 0.010	12000	120	< 3000	< 0.0020	< 0.20	< 2.0	0.0064	< 0.20	3.6	< 0.10
WB3-loc-2	17-Mar-2023	< 0.050	0.59	3400	0.63	12000	< 0.0050	34000	150	110000	< 0.0020	< 0.20	< 0.50	0.0057	< 0.20	0.87	< 0.10
WB3-loc-3	17-Mar-2023	< 0.050	0.13	1400	0.058	6400	< 0.0050	7400	79	7800	0.0031	< 0.20	< 0.50	0.011	< 0.20	0.74	< 0.10
P36-Ditch-3	19-Mar-2023	3.8	22	9700	0.38	8700	< 0.050	200000	1400	250000	0.010	< 1.0	< 10	0.71	< 1.0	12	0.94
	24-Mar-2023	3.4	20	9000	< 0.20	8100	< 0.050	170000	1400	260000	< 0.010	< 1.0	< 10	0.68	< 1.0	9.1	1.2
P36-Ditch-4	19-Mar-2023	4.1	23	8300	0.079	7900	< 0.0050	190000	1100	250000	0.0097	< 0.20	0.64	0.81	0.79	10	1.2
	24-Mar-2023	4.1	24	8000	< 0.20	7500	< 0.025	170000	1200	260000	0.034	< 1.0	< 2.5	0.67	1.2	11	1.9

BTEX / Select Hydrocarbons

Monitoring Station	Date (dd-mmm-yyyy)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	m & p-Xylene (ug/L)	o-Xylene (ug/L)	Xylenes-Total (ug/L)	PHC F4 (C34-C50+) (ug/L)	PHC F1 (C6-C10) (ug/L)	PHC F1 (C6-C10) - BTEX (ug/L)	PHC F2 (C10-C16) (ug/L)	PHC F3 (C16-C34) (ug/L)	Naphthenic acids (mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	150	150	110	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	150	150	110	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		40	0.5	90	---	---	30	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		40	0.5	90	---	---	30	---	---	---	---	---	---
Waterbody 3 Investigation													
	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**160** [#1,2]	770	7.8
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**230** [#1,2]	1800	9.8
WB3-SW-12	09-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**200** [#1,2]	1000	9.0
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**170** [#1,2]	970	8.8
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**340** [#1,2]	3000	11
(Duplicate)	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**210** [#1,2]	1500	12
WB3-SW-13	09-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	150	< 2.0
	16-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**110** [#1,2]	520	7.4
WB3-SW-14	10-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	16-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-SW-15	10-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	170	< 2.0
	16-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	150	< 2.0
WB3-SW-16	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	2.5
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	120	2.2
WB3-SW-17	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	320	3.3
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	300	2.3
WB3-SW-18	01-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	170	< 2.0
	12-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-SW-19	01-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	220	< 2.5
	12-Oct-2022	< 0.40	**2.3** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5
WB3-SW-20	01-Oct-2022	< 0.40	**1.0** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	250	< 2.0
	12-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-SW-21	29-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	04-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	190	< 2.0
WB3-SW-22	29-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	110	< 2.0
	04-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	160	< 2.0
WB3-SW-23	29-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
	04-Nov-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-GW-10	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	390	2.7
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	280	2.3
WB3-GW-11	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**210** [#1,2]	1100	< 2.0
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**250** [#1,2]	2000	8.7
WB3-GW-12	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**210** [#1,2]	1000	7.9
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**230** [#1,2]	1700	11
WB3-GW-16	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	350	2.7
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	100	< 2.0
WB3-GW-17	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	390	2.3
(Duplicate)	25-Sep-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	530	2.4
	02-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	440	< 2.0
WB3-GW-18	01-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	240	< 2.5
	12-Oct-2022	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-GW-19	01-Oct-2022	< 0.40	**14** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	270	< 2.0
	12-Oct-2022	< 0.40	**14** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0
WB3-GW-20	01-Oct-2022	< 0.40	**0.57** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	140	< 2.0
	12-Oct-2022	< 0.40	**0.66** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.5
DS-WB-3	08-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	**500** [#1,2]	7000	7.2
WB3-loc-1	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
WB3-loc-2	17-Mar-2023	< 0.40	**0.53** [#3,4]	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
WB3-loc-3	17-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0
P36-Ditch-3	19-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**250** [#1,2]	1200	8.6
	24-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**310** [#1,2]	1300	8.9
P36-Ditch-4	19-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**330** [#1,2]	1400	8.3
	24-Mar-2023	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	**280** [#1,2]	1200	8.3

Polycyclic Aromatic Hydrocarbons

Monitoring Station	Date (dd-mmm-yyyy)	2-Methylnaphthalene (ug/L)	1-Methylnaphthalene (ug/L)	Acenaphthylene (ug/L)	Acenaphthene (ug/L)	Acridine (ug/L)	Anthracene (ug/L)	Benzo[a]anthracene (ug/L)	Benzo[a]pyrene (ug/L)	Benzo[a]pyrene equivalency (ug/L)	Benzo[b&j]fluoranthene (ug/L)	Benzo[c]phenanthrene (ug/L)	Benzo[e]pyrene (ug/L)	Benzo[g,h,i]perylene (ug/L)	Benzo[k]fluoranthene (ug/L)	Biphenyl (ug/L)	C1benzobjkfluoranthene/benzoapyrene (ug/L)	C1-Substituted Acenaphthene (ug/L)	C1-Substituted Benzo[a]anthracene/Chrysene (ug/L)	C1-Substituted Biphenyl (ug/L)	C1-Substituted Dibenzothiophene (ug/L)	C1-Substituted Fluoranthene/Pyrene (ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	5.8	4.4	0.012	0.018	0.015	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																						
	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	0.011	< 0.10	0.013	< 0.020	< 0.020	0.023
WB3-SW-12	09-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-13	09-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	16-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-14	10-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	16-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-15	10-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	16-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-16	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-17	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-18	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-19	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	0.048	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-20	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-21	29-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	0.0095	< 0.020	< 0.020	< 0.020
	04-Nov-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-22	29-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	04-Nov-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-SW-23	29-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	04-Nov-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-10	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-11	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-12	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-16	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-17	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
(Duplicate)	25-Sep-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	02-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-18	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-19	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-GW-20	01-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	12-Oct-2022	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
DS-WB-3	08-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-loc-1	17-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-loc-2	17-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
WB3-loc-3	17-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
P36-Ditch-3	19-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
P36-Ditch-4	19-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020
	24-Mar-2023	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020

PROJECT No.: 417085-47599

Polycyclic Aromatic Hydrocarbons (cont.)

Monitoring Station	Date	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzobjkfluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Waterbody 3 Investigation																				
	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.010	< 0.020	0.048	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	0.073	0.033	0.086	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	0.018	0.037	< 0.020	< 0.020	0.024	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	0.093	< 0.050	< 0.10	0.15	< 0.0085	< 0.020
WB3-SW-12	09-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
(Duplicate)	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.027	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-13	09-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	16-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-14	10-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	16-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-15	10-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	16-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-16	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.017	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	0.0096	< 0.020	0.038	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-17	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.012	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-18	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-19	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	0.11	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-20	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	0.30	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-21	29-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.035	< 0.020	0.020	0.021	< 0.050	< 0.10	< 0.050	0.012	< 0.020	0.045	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	04-Nov-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.017	< 0.020	0.022	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-22	29-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	0.015	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	04-Nov-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-SW-23	29-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	04-Nov-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-10	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	0.0092	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-11	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	0.029	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	0.029	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-12	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-16	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-17	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
(Duplicate)	25-Sep-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	0.023	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	02-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-18	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-19	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-GW-20	01-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	0.022	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	12-Oct-2022	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
DS-WB-3	08-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-loc-1	17-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-loc-2	17-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
WB3-loc-3	17-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
P36-Ditch-3	19-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	24-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	0.011	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
P36-Ditch-4	19-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020
	24-Mar-2023	< 0.050	< 0.10	< 0.050	< 0.0075	0.010	< 0.020	< 0.020	0.021	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020

Monitoring Station	Date	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzo[a,h]pyrene	Dibenzo[a,i]pyrene	Dibenzo[a,l]pyrene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) #1		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) #2		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) #3		---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) #4		---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Waterbody 3 Investigation																				
	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	0.045	< 0.10	0.087	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	0.014	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-12	09-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-13	09-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-14	10-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-15	10-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	16-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-16	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-17	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-18	01-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	0.012	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-19	01-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-20	01-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	0.0091	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-21	29-Oct-2022	0.022	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	04-Nov-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-22	29-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	04-Nov-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-SW-23	29-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	04-Nov-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-10	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-11	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-12	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-16	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-17	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
(Duplicate)	25-Sep-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	02-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-18	01-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-19	01-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-GW-20	01-Oct-2022	< 0.020	< 0.10	0.077	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	0.12
	12-Oct-2022	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
DS-WB-3	08-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-loc-1	17-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-loc-2	17-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
WB3-loc-3	17-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
P36-Ditch-3	19-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
P36-Ditch-4	19-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
	24-Mar-2023	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	---	---	---	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050

Firebag River

Water Quality Results

PROJECT No.: 417085-47599		Field Parameters						Conventional Parameters																
Monitoring Station	Date	Specific Conductivity	Dissolved Oxygen (%)	pH	Temperature	Dissolved Oxygen	Conductivity	Specific Conductivity (Lab)	pH (Laboratory)	Turbidity	Total Hardness as CaCO3	Total Hardness as CaCO3 - Calculated	Dissolved Hardness as CaCO3	Total Alkalinity as CaCO3	PP Alkalinity as CaCO3	Colour	Biochemical Oxygen Demand (BOD)	Chloride:D	Sulphate:D	Dissolved Sulphide	Total Sulphide	Sulphide (as H2S)	Total Dissolved Solids	Total Dissolved Solids - Calculated
	(dd-mmm-yyyy)	(uS/cm)	(%)	(pH units)	(deg C)	(mg/L)	(uS/cm)	(uS/cm)	(pH Units)	(ntu)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(color unit)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	---	640	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	Narrative	5	---	---	---	Narrative	---	---	---	---	---	---	---	640	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	20% increase	---	120	218	0.0019	0.0019	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	(6.5 - 9)	Narrative	6.5	---	---	(6.5 - 9)	Narrative	---	---	---	20	---	20% increase	---	120	309	0.0019	0.0019	---	---	---
Firebag River																								
FR-1	18-Apr-2013	---	---	6.9	0	11.5	---	220	7.85	---	110	110	110	100	< 0.50	24	< 2.0	< 1.0	2.9	---	< 0.0020 [#3,4]	< 0.0020	130	110
	18-Oct-2013	---	---	---	4.4	11.5	---	150	7.74	---	77	77	77	72	< 0.50	51	< 2.0	1.1	< 1.0	---	< 0.0020 [#3,4]	< 0.0020	120	75
	16-Mar-2014	---	---	7.06	0.02	3.45 [#1,2,3,4]	---	230	7.54	---	---	110	110	100	< 0.50	21	< 2.0	< 1.0	1.1	---	< 0.0020 [#3,4]	< 0.0020	150	110
(Duplicate)	16-Mar-2014	---	---	---	---	---	---	220	7.57	---	---	110	120	100	< 0.50	22	2.4	< 1.0	2.6	---	< 0.0020 [#3,4]	< 0.0020	140	110
	06-May-2014	---	---	7.25	2.47	13.77	---	88	7.72	---	42	45	42	41	< 0.50	62	2.4	1.3	< 1.0	---	< 0.0020 [#3,4]	< 0.0020	68	44
	03-Sep-2014	---	---	8.1	12.1	11.3	---	210	8.16	---	110	110	110	110	< 0.50	38	< 2.0	1.1	< 1.0	---	< 0.0019	< 0.0020	130	110
	21-Oct-2014	---	---	---	0.6	14.7	---	180	8.03	---	95	98	95	88	< 0.50	43	< 2.0	1.4	< 1.0	---	< 0.0019	< 0.0020	160	92
	15-Mar-2015	---	---	7.14	0.1	4.04 [#1,2,3,4]	---	220	7.78	---	110	110	110	100	< 0.50	18	< 2.0	1.4	2.6	---	< 0.0019	< 0.0020	130	110
	26-May-2015	---	---	8	16.4	11.03	---	180	8.07	---	94	110	94	87	< 0.50	37	2.5	< 1.0	< 1.0	---	< 0.0019	< 0.0020	100	89
	17-Nov-2015	---	---	---	-0.32	14.42	---	210	8.08	---	100	110	100	100	< 0.50	38	< 2.0	1.1	< 1.0	---	< 0.0019	< 0.0020	140	100
	18-Mar-2016	---	---	6.62	-0.08	4.01 [#1,2,3,4]	---	220	7.43	---	110	100	110	110	< 0.50	17	< 2.0	1.4	1.9	---	0.0055 [#3,4]	0.0060	140	110
	28-Aug-2017	---	---	9.08 [#3,4]	19.2	14.86	---	200	9.02 [#3,4]	---	---	110	110	100	8.6	31	2.1	< 1.0	< 1.0	---	< 0.0019	< 0.0020	120	110
	26-Oct-2017	---	---	7.9	0.74	12.72	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	6.55	0.04	5.37 [#3,4]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	---	---	7.6	10.34	10.95	---	120	7.95	---	65	67	65	56	< 1.0	92	2.2	< 1.0	< 1.0	---	< 0.0019	< 0.0020	100	60
	05-Sep-2018	---	---	8.07	6.5	13.71	---	210	8.18	---	110	110	110	100	< 1.0	52	< 2.0	< 1.0	< 1.0	---	0.0023 [#3,4]	0.0020	110	100
	15-Oct-2018	---	---	7	0.33	---	---	200	8.16	---	---	100	96	96	< 1.0	37	< 2.0	< 1.0	< 1.0	---	< 0.0019	< 0.0020	130	95
	17-Mar-2019	---	---	---	---	---	---	240	7.58	---	---	120	120	120	< 1.0	19	3.3	< 1.0	2.7	---	< 0.0019	< 0.0020	170	120
	02-May-2019	---	---	---	---	---	---	160	7.47	---	---	79	79	77	< 1.0	41	< 2.0	< 1.0	< 1.0	---	< 0.0019	< 0.0020	100	79
	08-Jul-2019	---	---	---	---	---	---	160	7.62	---	---	84	85	81	< 1.0	62	< 2.0	< 1.0	< 1.0	---	0.0062 [#3,4]	0.0070	110	82
	21-Oct-2019	---	---	---	---	---	---	170	8.04	---	---	86	94	89	< 1.0	54	< 2.0	< 1.0	< 1.0	---	0.0058 [#3,4]	0.0060	110	90
FR-1-A	20-Mar-2021	227.1	33.4	7.02	-0.1	5.13 [#3,4]	118.3	230	7.23	---	---	---	110	110	< 1.0	45	< 2.0	1.5	< 1.0	---	0.0024 [#3,4]	0.0025	150	---
	16-May-2021	113.5	101.3	7.37	10.3	11.34	81.5	110	7.40	---	---	---	54	54	< 1.0	82	< 2.0	1.6	< 1.0	---	0.0019 [#3,4]	0.0020	120	---
(Duplicate)	16-May-2021	---	---	---	---	---	---	110	7.42	---	---	---	54	53	< 1.0	83	< 2.0	< 1.0	< 1.0	---	< 0.0018	< 0.0020	68	---
	22-Aug-2021	219.9	111.7	8.57	14.4	11.37	175.9	220	7.55	---	---	---	110	110	< 1.0	39	< 2.0	1.3	< 1.0	---	< 0.0018	< 0.0020	180	---
	27-Oct-2021	192.5	114.5	8.15	2.7	15.4	110.6	190	7.38	---	---	---	96	97	< 1.0	36	< 2.0	< 1.0	< 1.0	---	< 0.0018	< 0.0020	110	---
	16-May-2022	104.7	105.1	7.45	9.8	11.9	74.3	110	7.21	7.4	---	49	49	51	< 1.0	74	---	1.0	< 5.0	< 0.0018	< 0.0018	< 0.0020	68	51
	03-Dec-2022	294.6	55.6	7.47	0.2	8.15	152.7	240	7.61	4.5	---	120	110	130	< 1.0	---	< 2.0	< 1.0	1.9	< 0.0018	< 0.0018	< 0.0020	130	120
	03-Jan-2023	294.9	41.6	7.33	-0.2	6.09 [#3,4]	152.2	250	7.53	4.3	---	150	120	130	< 1.0	---	< 2.0	< 1.0	2.6	< 0.0018	< 0.0018	< 0.0020	180	130
	04-Feb-2023	227.1	68.9	7.42	-0.2	10.06	117.5	240	7.40	6.6	---	130	140	130	< 1.0	---	< 2.0	1.2	2.6	< 0.0018	< 0.0018	< 0.0020	160	140
	01-Mar-2023	222.1	59.8	7.41	-0.2	8.54	115.1	240	7.12	3.3	---	110	---	130	< 1.0	---	< 2.0	< 1.0	2.5	< 0.0090 [#3,4]	< 0.0018	< 0.010	150	130
(Duplicate)	01-Mar-2023	---	---	---	---	---	---	240	7.15	3.5	---	110	---	130	< 1.0	---	< 2.0	< 1.0	2.5	< 0.0018	< 0.0018	< 0.0020	160	130
FR-B	22-May-2022	219.1	103	7.79	10.3	11.61	156.5	360	8.13	---	200	---	---	180	< 1.0	---	---	< 1.0	24	---	< 0.0090 [#3,4]	< 0.010	230	210
FR-B-DS	22-May-2022	122.2	97.6	7.7	10.8	10.81	89.1	130	7.40	---	67	---	---	61	< 1.0	---	---	< 1.0	< 3.0	---	< 0.0018	< 0.0020	72	63
FR-B-US	22-May-2022	114.9	100.5	7.42	10.8	11.13	83.7	110	7.30	---	60	---	---	58	< 1.0	---	---	< 1.0	< 3.0	---	0.0028 [#3,4]	0.0030	72	59
FR-C	23-May-2022	242.2	104.6	7.58	8.7	12.17	166.7	500	7.98	---	290	---	---	240	< 1.0	---	---	< 1.0	40	---	0.039 [#3,4]	0.042	280	290
FR-C-DS	23-May-2022	120	114.5	7.71	10.1	12.87	85.9	120	7.35	---	64	---	---	60	< 1.0	---	---	< 1.0	< 3.0	---	< 0.0018	< 0.0020	76	61
FR-C-US	23-May-2022	115.3	110.6	7.41	10	12.47	82.3	120	7.32	---	61	---	---	57	< 1.0	---	---	< 1.0	< 3.0	---	< 0.0018	< 0.0020	64	59
B-FR-1	10-Dec-2022	267.5	35.6	6.61	-0.1	5.21 [#3,4]	139.3	230	7.30	4.6	---	110	110	120	< 1.0	---	< 2.0	< 1.0	< 1.0	< 0.0018	< 0.0018	< 0.0020	140	120
	07-Jan-2023	503.8	34.7	7.09	-0.2	5.26 [#3,4]	260.9	220	7.46	5.7	---	120	100	120	< 1.0	---	< 2.0	< 1.0	< 1.0	< 0.0018	< 0.0018	< 0.0020	140	110
	05-Feb-2023	199.3	55.5	7.25	-0.2	8.29	103.4	240	7.56	8.1	---	110	120	130	< 1.0	---	< 2.0	< 1.0	2.1	0.0032 [#3,4]	< 0.0018	< 0.0020	130	130
	04-Mar-2023	162.8	28.5	7.2	-0.2	4.19 [#1,2,3,4]	84.3	220	7.20	6.1	---	100	130	120	< 1.0	---	< 2.0	< 1.0	1.5	< 0.0018	< 0.0018	< 0.0020	120	120
C-FR-1	14-Dec-2022	272.8	59.5	6.92	-0.1	8.71	142.1	270	7.48	3.5	---	130	120	130	< 1.0	---	< 2.0	2.0	3.6	< 0.0018	< 0.0018	< 0.0020	140	130
	17-Jan-2023	261	76.5	7.79	0.1	11.2	136	260	7.50	4.1	---	150	120	130	< 1.0	---	< 2.0	1.6	4.0	< 0.0018	< 0.0018	< 0.0020	140	130
	11-Feb-2023	265.6	57.1	7.16	-0.2	8.4	137.6	260	7.73	4.2	---	120	120	140	< 1.0	---	< 2.0	1.6	4.1	< 0.0018	< 0.0018	< 0.0020	140	140
(Duplicate)	11-Feb-2023	---	---	---	---	---	---	260	7.66	4.0	---	120	120	140	< 1.0	---	< 2.0	1.5	3.9	0.0022 [#3,4]	< 0.0018	< 0.0020	140	140
	16-Mar-2023	259.2	93.7	7.13	0.3	13.78	134.2	250	7.29	4.0	---	120	120	130	< 1.0	---	< 2.0	2.1	3.8	< 0.0018	< 0.0018	< 0.0020	150	130
MC-1	03-Dec-2022	551.9	21.7	7.16	3.6	2.86 [#1,2,3,4]	326	430	7.90	68	---	220	210	240	< 1.0	---	< 2.0	1.1	< 1.0	< 0.0018	0.018 [#3,4]	0.019	250	230
	03-Jan-2023	457.6	37.3	6.96	0.1	5.6 [#3,4]	239.6	380	7.66	160	---	240	190	210	< 1.0	---	< 2.0	< 1.0	< 1.0	< 0.0018	< 0.0018	< 0.0020	270	200
	04-Feb-2023	402.1	42.1	6.95	3.8	5.49 [#3,4]	239.1	380	7.66	34	---	210	220	220	< 1.0	---	< 2.0	< 1.0	< 1.0	0.013 [#3,4]	0.017 [#3,4]	0.018	220	220
	01-Mar-2023	350.1	54.5	7.22	3.9	6.99	208.9	380	7.43	31	---	180	---	210	< 1.0	---	5.5	< 1.0	< 1.0	< 0.0090 [#3,4]	0.0070 [#3,4]	< 0.010	240	210

Firebag River

Water Quality Results

PROJECT No.: 417085-47599		Conventional Parameters (cont.)					Carbon			Nitrogen Parameters								Phosphorus	Dissolved Metals and Trace Elements								
Monitoring Station	Date	Total Suspended Solids (TSS)	Bicarbonate	Carbonate	Hydroxide	Fluoride:D	Dissolved Inorganic Carbon (DIC)	Dissolved Organic Carbon (DOC)	Total Organic Carbon (TOC)	Nitrate as N	Nitrite as N	Nitrate plus Nitrite as N	Nitrate (NO3)	Nitrite (NO2)	Ammonia as N	Total Kjeldahl Nitrogen (TKN)	Nitrogen	Orthophosphate (P)	Dissolved Aluminum	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Beryllium	Dissolved Bismuth	Dissolved Boron	Dissolved Cadmium	Dissolved Calcium
	(dd-mmm-yyyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		**Narrative**	---	---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		**Narrative**	---	---	---	---	---	---	---	**124**	**0.06**	---	---	---	---	---	---	---	**100**	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		**Narrative**	---	---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.303**	---	---	---	**50**	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		**Narrative**	---	---	---	---	---	---	---	**3**	**0.02**	---	---	---	**0.473**	---	---	---	**50**	---	---	---	---	---	---	---	---
Firebag River																											
FR-1	18-Apr-2013	< 1.5	120	< 0.50	< 0.50	---	---	5.8	6.2	0.21	< 0.0060	0.21	0.92	< 0.020	< 0.050	0.28	---	---	4.9	< 0.020	0.20	24	< 0.010	< 0.0050	< 50	< 0.0050	30000
	18-Oct-2013	2.0	88	< 0.50	< 0.50	---	---	13	14	0.023	0.0088	0.031	0.10	0.029	< 0.050	0.59	---	---	7.4	< 0.020	0.25	15	< 0.010	< 0.0050	< 50	< 0.0050	22000
	16-Mar-2014	1.3	130	< 0.50	< 0.50	---	---	5.6	5.6	0.30	< 0.010	0.30	1.3	< 0.033	0.080	0.30	---	---	3.2	< 0.020	0.22	23	< 0.010	< 0.0050	< 50	< 0.0050	28000
(Duplicate)	16-Mar-2014	< 1.0	130	< 0.50	< 0.50	---	---	5.1	5.5	0.30	< 0.010	0.30	1.3	< 0.033	0.077	0.27	---	---	3.1	< 0.020	0.23	23	< 0.010	< 0.0050	< 50	< 0.0050	28000
	06-May-2014	32	50	< 0.50	< 0.50	---	---	15	16	0.011	< 0.010	0.011	0.049	< 0.033	< 0.050	0.51	---	---	40	0.021	0.29	14	< 0.010	< 0.0050	< 50	< 0.0050	12000
	03-Sep-2014	1.3	130	< 0.50	< 0.50	---	---	8.4	8.4	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.31	---	---	2.6	< 0.020	0.41	21	< 0.010	< 0.0050	< 20	< 0.0050	29000
	21-Oct-2014	1.3	110	< 0.50	< 0.50	---	---	11	9.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.34	---	---	2.9	< 0.020	0.26	19	< 0.010	< 0.0050	< 20	< 0.0050	26000
	15-Mar-2015	< 1.0	130	< 0.50	< 0.50	---	---	4.1	4.3	0.25	< 0.010	0.25	1.1	< 0.033	0.11	0.31	---	---	1.9	< 0.020	0.18	26	< 0.010	< 0.0050	12	< 0.0050	28000
	26-May-2015	2.4	110	< 0.50	< 0.50	---	---	8.0	8.3	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.050	0.59	---	---	1.6	< 0.020	0.32	19	< 0.010	< 0.0050	16	< 0.0050	25000
	17-Nov-2015	2.1	120	< 0.50	< 0.50	---	---	8.8	8.7	0.16	< 0.010	0.16	0.72	< 0.033	< 0.050	0.51	---	---	6.5	< 0.020	0.25	26	< 0.010	< 0.0050	16	< 0.0050	27000
	18-Mar-2016	< 1.0	130	< 0.50	< 0.50	---	---	4.5	4.5	0.22	< 0.010	0.22	0.99	< 0.033	0.16	0.32	---	---	2.0	< 0.020	0.18	28	< 0.010	< 0.0050	13	< 0.0050	29000
	28-Aug-2017	< 1.0	100	10	< 0.50	---	---	8.0	9.0	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.032	0.40	---	---	1.9	< 0.020	0.41	19	< 0.010	< 0.0050	13	< 0.0050	30000
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	18	69	< 1.0	< 1.0	---	---	15	15	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.48	---	---	9.4	< 0.020	0.31	15	< 0.010	< 0.0050	15	< 0.0050	18000
	05-Sep-2018	< 1.0	130	< 1.0	< 1.0	---	---	9.0	9.3	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.43	---	---	5.2	< 0.020	0.33	20	< 0.010	< 0.0050	13	< 0.0050	28000
	15-Oct-2018	5.9	120	< 1.0	< 1.0	---	---	9.9	7.4	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.42	---	---	3.3	< 0.020	0.24	20	< 0.010	< 0.0050	12	< 0.0050	25000
	17-Mar-2019	1.2	150	< 1.0	< 1.0	---	---	5.0	5.8	0.24	< 0.010	0.24	1.0	< 0.033	0.052	0.33	---	---	3.2	< 0.020	0.22	28	< 0.010	< 0.0050	16	< 0.0050	31000
	02-May-2019	3.6	93	< 1.0	< 1.0	---	---	10	9.1	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	0.015	0.41	---	---	6.2	< 0.020	0.27	17	< 0.010	< 0.0050	19	< 0.0050	21000
	08-Jul-2019	5.2	99	< 1.0	< 1.0	---	---	12	13	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.55	---	---	1.8	< 0.020	0.33	19	< 0.010	< 0.0050	16	< 0.0050	22000
	21-Oct-2019	5.3	110	< 1.0	< 1.0	---	---	13	13	< 0.010	< 0.010	< 0.014	< 0.044	< 0.033	< 0.015	0.48	---	---	4.8	< 0.020	0.25	18	< 0.010	< 0.0050	13	< 0.0050	22000
FR-1-A	20-Mar-2021	3.6	140	< 1.0	< 1.0	---	---	6.8	7.7	0.26	< 0.010	0.26	1.1	< 0.033	0.051	0.34	---	---	6.7	0.029	0.23	20	< 0.010	< 0.0050	17	< 0.0050	28000
	16-May-2021	9.9	65	< 1.0	< 1.0	---	---	13	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.51	0.51	---	10	< 0.020	0.24	13	< 0.010	< 0.0050	14	< 0.0050	15000
(Duplicate)	16-May-2021	11	65	< 1.0	< 1.0	---	---	13	14	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	0.49	0.49	---	16	< 0.020	0.25	13	< 0.010	< 0.0050	14	< 0.0050	14000
	22-Aug-2021	< 1.0	140	< 1.0	< 1.0	---	---	9.2	9.7	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.017	0.53	0.53	---	1.9	< 0.020	0.35	17	< 0.010	< 0.0050	16	< 0.0050	30000
	27-Oct-2021	3.0	120	< 1.0	< 1.0	---	---	8.0	8.1	0.022	< 0.010	0.022	0.097	< 0.033	< 0.015	0.39	0.41	---	4.6	< 0.020	0.24	20	< 0.010	< 0.0050	13	< 0.0050	26000
	16-May-2022	18	62	< 1.0	< 1.0	0.081	13	11	14	< 0.050	< 0.010	< 0.050	< 0.22	< 0.033	< 0.015	0.79	0.79	0.015	9.0	< 0.020	0.19	13	< 0.010	< 0.0050	23	< 0.0050	14000
	03-Dec-2022	1.1	160	< 1.0	< 1.0	0.12	29	8.2	---	0.12	< 0.010	0.12	0.54	< 0.033	0.16	0.49	0.61	0.031	2.4	< 0.020	0.20	27	< 0.010	< 0.0050	19	< 0.0050	31000
	03-Jan-2023	< 1.0	160	< 1.0	< 1.0	0.11	37	5.7	---	0.24	< 0.010	0.24	1.1	< 0.033	0.15	0.45	0.69	0.037	2.4	< 0.020	0.18	38	< 0.010	< 0.0050	16	< 0.0050	34000
	04-Feb-2023	< 1.0	150	< 1.0	< 1.0	0.11	34	6.6	---	0.24	< 0.010	0.24	1.0	< 0.033	0.14	0.38	0.61	0.037	5.1	< 0.020	0.30	35	< 0.010	< 0.0050	26	< 0.0050	41000
	01-Mar-2023	1.2	150	< 1.0	< 1.0	0.10	33	4.3	---	0.29	< 0.010	0.29	1.3	< 0.033	0.11	0.37	0.66	0.036	2.8	< 0.020	0.25	29	< 0.010	< 0.0050	18	< 0.0050	34000
(Duplicate)	01-Mar-2023	1.3	150	< 1.0	< 1.0	0.098	31	4.6	---	0.28	< 0.010	0.28	1.2	< 0.033	0.10	0.39	0.67	0.039	2.6	< 0.020	0.26	29	< 0.010	< 0.0050	16	< 0.0050	34000
FR-B	22-May-2022	---	220	< 1.0	< 1.0	0.18	---	---	---	0.016	< 0.010	0.016	0.069	< 0.033	0.11	---	---	---	21	< 0.60	0.28	48	< 1.0	---	49	< 0.020	49000
FR-B-DS	22-May-2022	---	75	< 1.0	< 1.0	0.069	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	---	---	---	8.6	< 0.60	< 0.20	16	< 1.0	---	< 20	< 0.020	17000
FR-B-US	22-May-2022	---	71	< 1.0	< 1.0	0.064	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	---	---	---	8.8	< 0.60	< 0.20	16	< 1.0	---	< 20	< 0.020	16000
FR-C	23-May-2022	---	290	< 1.0	< 1.0	0.17	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	---	---	---	< 3.0	< 0.60	< 0.20	51	< 1.0	---	59	< 0.020	72000
FR-C-DS	23-May-2022	---	73	< 1.0	< 1.0	0.066	---	---	---	0.011	< 0.010	0.011	0.050	< 0.033	< 0.015	---	---	---	10	< 0.60	< 0.20	15	< 1.0	---	< 20	< 0.020	17000
FR-C-US	23-May-2022	---	70	< 1.0	< 1.0	0.064	---	---	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	< 0.015	---	---	---	8.7	< 0.60	< 0.20	15	< 1.0	---	< 20	< 0.020	16000
B-FR-1	10-Dec-2022	2.5	150	< 1.0	< 1.0	0.10	32	6.1	---	0.13	< 0.010	0.13	0.57	< 0.033	0.18	0.61	0.74	0.040	4.0	< 0.020	0.28	29	< 0.010	< 0.0050	15	< 0.0050	30000
	07-Jan-2023	1.7	140	< 1.0	< 1.0	0.10	29	6.1	---	0.15	< 0.010	0.15	0.67	< 0.033	0.15	0.46	0.62	0.039	3.3	< 0.020	0.24	25	< 0.010	< 0.0050	12	< 0.0050	29000
	05-Feb-2023	1.1	160	< 1.0	< 1.0	0.11	36	6.5	---	0.23	< 0.010	0.23	1.0	< 0.033	0.18	0.55	0.78	0.049	3.8	0.025	0.31	36	< 0.010	< 0.0050	19	< 0.0050	35000
	04-Mar-2023	1.1	140	< 1.0	< 1.0	0.11	31	5.7	---	0.22	< 0.010	0.22	0.97	< 0.033	0.15	0.48	0.70	0.052	3.3	< 0.020	0.29	29	< 0.010	< 0.0050	17	< 0.0050	37000
C-FR-1	14-Dec-2022	1.4	150	< 1.0	< 1.0	0.12	35	5.2	---	0.074	< 0.010	0.074	0.33	< 0.033	0.10	0.37	0.45	0.018	3.6	< 0.020	0.17	29	< 0.010	< 0.0050	21	< 0.0050	34000
	17-Jan-2023	< 1.0	160	< 1.0	< 1.0	0.14	32	5.4	---	0.16	< 0.010	0.16	0.71	< 0.033	0.085	0.33	0.49	0.024	2.7	< 0.020	0.13	27	< 0.010	< 0.0050	14	< 0.0050	34000
	11-Feb-2023	1.1	170	< 1.0	< 1.0	0.12	38	5.1	---	0.20	< 0.010	0.20	0.87	< 0.033	0.076	0.35	0.55	0.021	3.0	0.028	0.15	27	< 0.010	< 0.0050	18	0.0072	34000
(Duplicate)	11-Feb-2023	2.1	170	< 1.0	< 1.0	0.12	38	5.1	---	0.19	< 0.010	0.19	0.86	< 0.033	0.075	0.35	0.54	0.020	3.0	< 0.020	0.15	27	< 0.010	< 0.0050	17	< 0.0050	36000
	16-Mar-2023	< 1.0	160	< 1.0	< 1.0	0.12	33	3.9	---	0.20	< 0.010	0.20	0.89	< 0.033	0.060	0.33	0.53	0.020	2.4	< 0.020	0.14	23	< 0.010	< 0.0050	26	< 0.0050	33000
MC-1	03-Dec-2022	7.8	290	< 1.0	< 1.0	0.18	63	13	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.36** [#3]	0.83	0.83	0.0074	1.7	< 0.020	0.39	74	< 0.010	< 0.0050	61	< 0.0050	64000
	03-Jan-2023	17	250	< 1.0	< 1.0	0.12	55	12	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	**0.57** [#3,4]	1.2	1.2	0.0035	1.7	< 0.020	0.39	58	< 0.010	< 0.0050	23	< 0.0050	58000
	04-Feb-2023	< 1.0	260	< 1.0	< 1.0	0.13	57	11	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.21	0.56	0.56	< 0.0030	2.9	< 0.020	0.67	110	0.012	< 0.0050	62	< 0.0050	68000
	01-Mar-2023	2.1	260	< 1.0	< 1.0	0.12	55	9.1	---	< 0.010	< 0.010	< 0.010	< 0.044	< 0.033	0.21	0.55	0.55	0.0078	2.2	< 0.020	0.53	110	< 0.010	< 0.0050	56	< 0.0050	63000

Water Quality Results

PROJECT No.: 417085-47599		Dissolved Metals and Trace Elements (cont.)																								
Monitoring Station	Date	Dissolved Chromium	Dissolved Cobalt	Dissolved Copper	Dissolved Iron	Dissolved Lead	Dissolved Lithium	Dissolved Magnesium	Dissolved Manganese	Dissolved Mercury	Dissolved Molybdenum	Dissolved Nickel	Dissolved Potassium	Dissolved Selenium	Dissolved Silicon	Dissolved Silver	Dissolved Sodium	Dissolved Strontium	Dissolved Sulphur	Dissolved Thallium	Dissolved Tin	Dissolved Titanium	Dissolved Uranium	Dissolved Vanadium	Dissolved Zinc	Dissolved Zirconium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		8.9	---	---	300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		8.9	---	---	300	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Firebag River																										
FR-1	18-Apr-2013	< 0.10	0.039	0.12	**420** [#3,4]	0.026	3.9	8800	19	< 0.0020	0.18	0.12	1100	< 0.040	7600	< 0.0050	3500	55	< 3000	< 0.0020	< 0.20	< 0.50	0.043	< 0.20	1.0	< 0.10
	18-Oct-2013	< 0.10	0.042	0.10	**340** [#3,4]	0.0080	2.6	6600	11	< 0.0020	0.15	0.21	530	< 0.040	4900	< 0.0050	2900	39	< 3000	< 0.0020	< 0.20	< 0.50	0.015	0.23	0.42	< 0.10
	16-Mar-2014	< 0.10	0.027	0.057	**400** [#3,4]	< 0.0050	3.5	8300	32	0.0060	0.18	0.13	950	< 0.040	7700	< 0.0050	3400	52	< 3000	< 0.0020	< 0.20	< 0.50	0.044	< 0.20	0.30	< 0.10
(Duplicate)	16-Mar-2014	< 0.10	0.027	0.12	**380** [#3,4]	< 0.0050	3.6	8500	33	0.0095	0.17	0.13	970	< 0.040	7800	< 0.0050	3500	54	< 3000	< 0.0020	< 0.20	< 0.50	0.044	< 0.20	0.32	< 0.10
	06-May-2014	< 0.10	0.068	0.25	**950** [#3,4]	0.081	1.9	3800	20	< 0.0020	0.17	0.55	1200	< 0.040	3100	< 0.0050	1700	27	< 3000	< 0.0020	< 0.20	0.89	0.018	0.32	0.11	0.11
	03-Sep-2014	0.20	0.054	0.082	260	0.047	3.4	9200	21	< 0.0020	0.24	0.17	820	< 0.040	4900	< 0.0050	3100	56	< 3000	< 0.0020	< 0.20	< 0.50	0.048	0.21	1.4	< 0.10
	21-Oct-2014	< 0.10	0.037	0.093	**340** [#3,4]	0.0080	3.4	7600	9.6	< 0.0020	0.21	0.17	660	< 0.040	5200	< 0.0050	3300	48	< 3000	< 0.0020	0.30	< 0.50	0.031	< 0.20	0.44	< 0.10
	15-Mar-2015	< 0.10	0.021	0.12	230	0.0051	3.9	8800	15	< 0.0020	0.24	0.10	1000	< 0.040	7800	< 0.0050	3600	56	< 3000	< 0.0020	< 0.20	< 0.50	0.054	< 0.20	0.43	< 0.10
	26-May-2015	< 0.10	0.033	0.084	64	< 0.0050	3.9	7400	0.70	0.0082	0.29	0.20	930	< 0.040	3100	< 0.0050	3200	48	< 3000	< 0.0020	< 0.20	< 0.50	0.042	< 0.20	< 0.10	< 0.10
	17-Nov-2015	0.11	0.029	0.079	260	0.016	3.9	8800	1.6	< 0.020	0.21	0.30	850	< 0.040	6100	< 0.0050	4100	55	< 3000	< 0.0020	< 0.20	< 0.50	0.048	< 0.20	1.5	< 0.10
	18-Mar-2016	< 0.10	0.024	0.051	260	< 0.0050	4.6	8800	15	< 0.0020	0.22	0.088	1100	< 0.040	7100	< 0.0050	3600	58	< 3000	< 0.0020	< 0.20	< 0.50	0.050	< 0.20	0.50	< 0.10
	28-Aug-2017	< 0.10	0.047	0.073	150	< 0.0050	4.1	8700	3.2	< 0.0020	0.21	0.13	770	< 0.040	2000	< 0.0050	3400	59	< 3000	< 0.0020	< 0.20	< 0.50	0.044	< 0.20	0.16	< 0.10
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	< 0.10	0.044	0.082	290	0.0091	2.8	5200	4.2	0.0027	0.16	0.25	590	< 0.040	3200	< 0.0050	2700	35	< 3000	< 0.0020	< 0.20	< 0.50	0.018	0.27	0.34	0.13
	05-Sep-2018	< 0.10	0.040	< 0.050	290	0.0062	4.1	8100	6.2	< 0.0020	0.16	0.15	600	< 0.040	4700	< 0.0050	3200	54	< 3000	< 0.0020	< 0.20	< 0.50	0.034	< 0.20	0.43	< 0.10
	15-Oct-2018	< 0.10	0.039	< 0.050	270	0.0090	3.8	7900	11	0.0054	0.16	0.13	540	< 0.040	5200	< 0.0050	3400	49	< 3000	< 0.0020	< 0.20	< 0.50	0.039	< 0.20	0.10	< 0.10
	17-Mar-2019	< 0.10	0.021	< 0.050	**370** [#3,4]	< 0.0050	5.3	9400	13	< 0.0020	0.21	0.095	1100	< 0.040	8500	< 0.0050	4100	62	< 3000	< 0.0020	< 0.20	< 0.50	0.052	< 0.20	0.15	< 0.10
	02-May-2019	< 0.10	0.039	< 0.050	**550** [#3,4]	0.0081	3.4	6600	15	0.0020	0.16	0.14	1100	< 0.040	4100	< 0.0050	3400	43	< 3000	< 0.0020	< 0.20	< 0.50	0.034	< 0.20	< 0.10	< 0.10
	08-Jul-2019	0.75	0.038	0.090	290	0.0067	< 0.50	7000	8.1	< 0.0020	0.18	0.23	270	< 0.040	2800	< 0.0050	3600	50	< 3000	< 0.0020	< 0.20	< 0.50	0.029	< 0.20	< 0.10	< 0.10
	21-Oct-2019	< 0.10	0.042	0.056	**460** [#3,4]	0.0067	3.4	7000	7.5	< 0.0020	0.11	0.21	500	< 0.040	4100	< 0.0050	3200	46	< 3000	< 0.0020	< 0.20	< 0.50	0.028	< 0.20	1.9	0.13
FR-1-A	20-Mar-2021	< 0.10	0.049	0.28	**560** [#3,4]	0.026	3.6	8600	51	0.00078	0.16	0.33	900	< 0.040	7400	< 0.0050	3400	53	< 3000	< 0.0020	< 0.20	< 0.50	0.039	< 0.20	5.3	0.13
	16-May-2021	< 0.10	0.048	0.12	**360** [#3,4]	0.013	2.1	4300	12	0.0012	0.13	0.28	600	< 0.040	2700	< 0.0050	1800	29	< 3000	< 0.0020	< 0.20	< 0.50	0.017	< 0.20	1.4	0.13
(Duplicate)	16-May-2021	< 0.10	0.066	0.14	**390** [#3,4]	0.036	2.1	4300	17	0.0014	0.13	0.29	620	< 0.040	2700	< 0.0050	1800	29	< 3000	< 0.0020	< 0.20	0.73	0.022	< 0.20	0.87	0.12
	22-Aug-2021	< 0.10	0.053	0.17	230	0.0087	3.5	7800	31	0.0005	0.17	0.065	540	< 0.040	2400	< 0.0050	2800	58	< 3000	< 0.0020	< 0.20	< 0.50	0.044	< 0.20	< 0.10	0.10
	27-Oct-2021	< 0.10	0.043	0.19	**400** [#3,4]	0.014	4.3	7800	17	0.00043	0.16	0.23	700	< 0.040	4900	< 0.0050	3100	49	< 3000	< 0.0020	< 0.20	< 0.50	0.035	< 0.20	6.0	< 0.10
	16-May-2022	< 0.10	0.033	1.0	260	0.055	2.4	3500	8.0	---	1.2	0.25	540	< 0.040	2400	< 0.0050	1800	24	< 3000	< 0.0020	< 0.20	< 0.50	0.013	< 0.20	1.0	0.12
	03-Dec-2022	< 0.10	0.027	0.26	290	0.0056	4.0	7700	25	---	0.14	0.11	710	0.068	6100	< 0.0050	3100	48	< 3000	< 0.0020	< 0.20	< 0.50	0.033	< 0.20	0.66	< 0.10
	03-Jan-2023	< 0.10	0.030	0.29	**310** [#3,4]	0.012	4.7	8600	36	---	0.15	0.16	850	< 0.040	6500	< 0.0050	3300	53	6400	< 0.0020	< 0.20	< 0.50	0.043	< 0.20	1.8	< 0.10
	04-Feb-2023	< 0.10	0.036	0.51	**380** [#3,4]	0.018	5.3	10000	26	---	0.25	0.21	1200	0.060	8800	< 0.0050	4500	69	< 3000	< 0.0020	< 0.20	< 0.50	0.056	< 0.20	4.3	0.10
	01-Mar-2023	< 0.10	0.023	0.26	290	0.011	4.5	9000	17	---	0.21	0.078	1000	0.044	8100	< 0.0050	3900	60	7000	< 0.0020	< 0.20	< 0.50	0.046	< 0.20	0.34	< 0.10
(Duplicate)	01-Mar-2023	< 0.10	0.024	0.15	280	0.0065	4.4	9000	17	---	0.21	0.071	1000	< 0.040	7900	< 0.0050	3900	59	6200	< 0.0020	< 0.20	< 0.50	0.045	< 0.20	0.33	< 0.10
FR-B	22-May-2022	< 1.0	0.32	< 1.0	**450** [#3,4]	< 0.20	< 20	20000	79	< 0.0019	< 0.20	0.93	2400	< 0.20	5700	< 0.10	4900	230	7200	< 0.20	< 1.0	6.5	0.18	< 1.0	< 3.0	---
FR-B-DS	22-May-2022	< 1.0	< 0.30	1.2	280	< 0.20	< 20	5600	16	< 0.0019	0.25	< 0.50	610	< 0.20	2500	< 0.10	2500	38	970	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
FR-B-US	22-May-2022	< 1.0	< 0.30	1.9	270	< 0.20	< 20	5000	14	< 0.0019	< 0.20	< 0.50	510	< 0.20	2400	< 0.10	2300	30	710	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
FR-C	23-May-2022	< 1.0	< 0.30	< 1.0	260	< 0.20	< 20	28000	25	< 0.0019	0.25	< 0.50	3200	< 0.20	5000	< 0.10	4100	220	13000	< 0.20	< 1.0	< 1.0	0.11	< 1.0	< 3.0	---
FR-C-DS	23-May-2022	< 1.0	< 0.30	< 1.0	290	< 0.20	< 20	5200	15	< 0.0019	0.21	< 0.50	550	< 0.20	2400	< 0.10	2300	33	860	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
FR-C-US	23-May-2022	< 1.0	< 0.30	< 1.0	270	< 0.20	< 20	5000	13	< 0.0019	0.29	< 0.50	520	< 0.20	2300	< 0.10	2300	30	680	< 0.20	< 1.0	< 1.0	< 0.10	< 1.0	< 3.0	---
B-FR-1	10-Dec-2022	< 0.10	0.036	0.29	**400** [#3,4]	0.0065	4.1	8000	53	---	0.16	0.11	860	0.051	6500	< 0.0050	3800	49	< 3000	< 0.0020	< 0.20	< 0.50	0.042	< 0.20	0.60	< 0.10
	07-Jan-2023	< 0.10	0.028	0.15	**330** [#3,4]	< 0.0050	3.9	7500	45	---	0.17	0.079	880	< 0.040	6900	< 0.0050	3300	49	< 3000	< 0.0020	< 0.20	< 0.50	0.040	< 0.20	1.4	< 0.10
	05-Feb-2023	< 0.10	0.032	0.52	**350** [#3,4]	0.017	4.3	8900	36	---	0.26	0.17	1100	0.055	8500	< 0.0050	4300	60	< 3000	< 0.0020	< 0.20	< 0.50	0.053	< 0.20	3.1	< 0.10
	04-Mar-2023	< 0.10	0.025	0.15	**370** [#3,4]	< 0.0050	4.8	8700	30	---	0.24	0.097	1300	< 0.040	9100	< 0.0050	4100	61	4100	< 0.0020	< 0.20	< 0.50	0.052	< 0.20	0.97	< 0.10
C-FR-1	14-Dec-2022	< 0.10	0.030	0.19	250	0.046	4.9	9200	35	---	0.14	0.11	870	0.042	6800	< 0.0050	3500	64	< 3000	< 0.0020	< 0.20	< 0.50	0.051	< 0.20	1.3	0.11
	17-Jan-2023	< 0.10	0.027	0.14	230	< 0.0050	4.6	9200	26	---	0.16	0.13	930	< 0.040	6700	< 0.0050	3700	66	< 3000	< 0.0020	< 0.20	< 0.50	0.056	< 0.20	1.8	< 0.10
	11-Feb-2023	< 0.10	0.035	0.16	210	0.012	4.4	8100	20	---	0.17	0.11	910	< 0.040	6800	< 0.0050	3400	66	< 3000	< 0.0020	< 0.20	< 0.50	0.052	< 0.20	8.6	< 0.10
(Duplicate)	11-Feb-2023	< 0.10	0.034	0.14	220	0.0067	4.6	8100	20	---	0.18	0.11	920	< 0.040	7200	< 0.0050	3500	66	< 3000	< 0.0020	< 0.20	< 0.50	0.050	< 0.20	59	< 0.10
	16-Mar-2023	< 0.10	0.021	0.62	180	< 0.0050	4.1	9000	18	---	0.18	0.094	860	< 0.040	6700	< 0.0050	3400	59	< 3000	< 0.0020	< 0.20	< 0.50	0.058	< 0.20	0.58	< 0.10
MC-1	03-Dec-2022	< 0.10	0.11	< 0.050	**3800** [#3,4]	< 0.0050	13	11000	230	---	0.11	0.17	1400	0.077	7000	< 0.0050	3300	140	< 3000	< 0.0020	< 0.20	< 0.50	0.0047	0.21	2.3	0.31
	03-Jan-2023	< 0.10	0.099	0.36	**2800** [#3,4]	0.016	7.2	10000	300	---	0.14	0.11	1100	< 0.040	5100	< 0.0050	2200	100	3100	< 0.0020	< 0.20	< 0.50	0.0042	< 0.20	2.0	0.14
	04-Feb-2023	0.11	0.067	0.16	**6200** [#3,4]	< 0.0050	15	12000	250	---	0.22	0.38	1500	0.091	7700	< 0.0050	3900	140	< 3000	< 0.0020	< 0.20	< 0.50	0.014	0.47	2.4	0.38
	01-Mar-2023	< 0.10	0.057	1.6	**5500** [#3,4]	0.052	15	11000	200	---	0.20	0.14	1400	0.043	7600	< 0.0050	3800	130	4100	< 0.0020	< 0.20	< 0.50	0.0077	0.34	2.0	0.27

Firebag River

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements																										
Monitoring Station	Date	Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Bismuth	Total Calcium	Total Cadmium	Total Boron	Total Chromium	Total Cobalt	Total Copper	Total Iron	Total Lead	Total Lithium	Total Magnesium	Total Manganese	Total Mercury	Total Methyl Mercury	Total Molybdenum	Total Nickel	Total Potassium	Total Selenium	Total Silicon	Total Silver	Total Sodium	Total Strontium
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ng/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	**1.6**	**29000**	---	---	**12**	---	---	---	---	---	**0.013**	**2**	---	**370**	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	**3.4**	**29000**	---	---	**25**	---	---	---	---	---	**0.013**	**2**	---	**700**	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	**5**	---	---	---	---	**0.12**	**1500**	**8.9**	**0.91**	**7**	---	**2.2**	---	---	---	**0.005**	**1**	**73**	**37**	---	**2**	---	**0.25**	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	**5**	---	---	---	---	**0.23**	**1500**	**8.9**	**1.2**	**7**	---	**5.8**	---	---	---	**0.005**	**1**	**73**	**78**	---	**2**	---	**0.25**	---	---
Firebag River																												
FR-1	18-Apr-2013	10	< 0.020	0.31	25	< 0.010	0.020	30000	< 0.0050	< 50	< 0.10	0.052	0.24	860	0.040	3.9	9100	46	**0.0097** [#3,4]	---	0.20	0.12	1100	< 0.040	7000	< 0.0050	3800	58
	18-Oct-2013	12	< 0.020	0.28	16	< 0.010	< 0.0050	21000	< 0.0050	< 50	< 0.10	0.046	0.15	560	0.020	2.9	6100	17	< 0.0020	---	0.094	0.27	480	< 0.040	4600	< 0.0050	2500	39
	16-Mar-2014	16	< 0.020	0.27	25	< 0.010	< 0.0050	30000	< 0.0050	< 50	< 0.10	0.038	0.24	730	0.035	3.9	8800	43	< 0.0020	---	0.19	0.21	990	< 0.040	8300	< 0.0050	3600	55
(Duplicate)	16-Mar-2014	7.5	< 0.020	0.27	24	< 0.010	< 0.0050	28000	< 0.0050	< 50	< 0.10	0.035	0.19	720	0.018	3.9	8800	44	**0.0059** [#3,4]	---	0.19	0.12	960	< 0.040	7900	< 0.0050	3400	54
	06-May-2014	220	< 0.020	0.36	17	0.010	< 0.0050	12000	0.0070	< 50	0.23	0.19	0.32	1300	0.17	1.8	3700	70	< 0.0020	---	0.15	0.49	1200	< 0.040	3200	< 0.0050	1800	25
	03-Sep-2014	5.7	< 0.020	0.44	22	< 0.010	< 0.0050	30000	< 0.0050	< 20	< 0.10	0.059	0.092	410	0.011	3.5	9100	42	< 0.0020	---	0.24	0.16	800	< 0.040	4900	< 0.0050	3100	57
	21-Oct-2014	10	< 0.020	0.28	20	< 0.010	< 0.0050	26000	< 0.0050	< 20	< 0.10	0.039	0.12	540	0.042	3.4	7800	24	< 0.0020	---	0.17	0.19	650	< 0.040	5800	< 0.0050	3400	47
	15-Mar-2015	15	< 0.020	0.27	27	< 0.010	< 0.0050	29000	< 0.0050	13	0.11	0.033	0.22	610	0.019	3.9	8900	27	< 0.0020	---	0.27	0.22	1100	< 0.040	8400	< 0.0050	3700	53
	26-May-2015	35	< 0.020	0.4	23	< 0.010	< 0.0050	31000	0.007	14	0.15	0.17	0.2	950	0.038	3.5	7200	95	**< 0.020** [#1,2,3,4]	---	0.27	0.3	950	< 0.040	3100	< 0.0050	3300	54
	17-Nov-2015	21	< 0.020	0.25	25	< 0.010	< 0.0050	28000	0.018	14	0.11	0.046	0.20	450	0.025	4.7	9100	11	**< 0.0060** [#3,4]	---	0.21	0.19	840	< 0.040	6200	< 0.0050	4200	54
	18-Mar-2016	5.3	< 0.020	0.24	26	< 0.010	< 0.0050	28000	< 0.0050	12	< 0.10	0.032	< 0.050	550	0.0070	4.2	8500	33	< 0.0020	---	0.22	0.094	1000	< 0.040	7600	< 0.0050	3500	57
	28-Aug-2017	2.7	< 0.020	0.44	20	< 0.010	< 0.0050	29000	< 0.0050	13	< 0.10	0.054	< 0.050	250	< 0.0050	4.0	8700	16	< 0.0020	---	0.19	0.12	740	< 0.040	2000	< 0.0050	3300	57
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	60	< 0.020	0.37	21	< 0.010	< 0.010	18000	< 0.0050	18	0.13	0.10	0.17	710	0.061	2.9	5300	60	< 0.0020	---	0.18	0.35	640	< 0.040	3600	< 0.010	2700	38
	05-Sep-2018	13	< 0.020	0.35	21	< 0.010	< 0.010	30000	< 0.0050	14	< 0.10	0.047	< 0.10	470	< 0.020	3.8	8600	19	< 0.0020	---	0.16	0.16	610	< 0.040	5100	< 0.010	3300	56
	15-Oct-2018	27	< 0.020	0.29	23	0.010	< 0.010	27000	< 0.0050	12	0.11	0.058	< 0.10	660	0.027	4.0	8100	47	< 0.0020	---	0.18	0.20	540	< 0.040	5600	< 0.010	3500	50
	17-Mar-2019	6.1	< 0.020	0.24	27	< 0.010	< 0.0050	31000	< 0.0050	17	< 0.10	0.040	< 0.050	570	0.0069	5.1	9500	27	< 0.0020	---	0.20	0.10	1000	< 0.040	8000	< 0.0050	4600	60
	02-May-2019	8.3	< 0.020	0.31	18	< 0.010	< 0.010	21000	< 0.0050	11	< 0.10	0.060	< 0.10	580	< 0.020	3.1	6500	16	< 0.0020	---	0.18	0.23	1100	< 0.040	3600	< 0.010	3200	41
	08-Jul-2019	4.7	< 0.020	0.35	21	< 0.010	< 0.0050	22000	< 0.0050	20	< 0.10	0.070	0.071	460	0.012	< 0.50	6900	45	< 0.0020	---	0.14	0.23	270	< 0.040	2800	< 0.0050	3500	51
	21-Oct-2019	18	< 0.020	0.25	18	< 0.010	< 0.010	23000	< 0.0050	10	< 0.10	0.058	< 0.10	690	0.024	3.5	7100	22	< 0.0020	---	0.13	0.23	470	< 0.040	4000	< 0.010	3100	42
FR-1-A	20-Mar-2021	32	0.022	0.32	22	< 0.010	< 0.0050	29000	< 0.0050	11	0.10	0.083	0.21	1100	0.035	3.5	8500	78	0.00084	0.110	0.17	0.26	860	< 0.040	7400	0.022	3300	54
	16-May-2021	57	< 0.020	0.30	15	< 0.010	< 0.010	14000	< 0.0050	13	< 0.10	0.090	0.19	610	0.059	2.0	4400	36	0.0017	0.159	0.12	0.39	620	< 0.040	2600	< 0.010	1800	28
(Duplicate)	16-May-2021	79	0.025	0.35	17	< 0.010	< 0.010	16000	0.0062	16	0.19	0.13	0.27	750	0.089	2.2	4900	48	0.0015	0.162	0.14	0.46	700	< 0.040	3000	< 0.010	2000	32
	22-Aug-2021	3.9	< 0.020	0.44	18	< 0.010	< 0.0050	32000	< 0.0050	26	< 0.10	0.080	0.27	410	0.0078	4.1	8600	55	0.00059	0.062	0.19	0.12	580	< 0.040	2400	< 0.0050	3200	57
	27-Oct-2021	17	< 0.020	0.27	20	< 0.010	< 0.0050	23000	< 0.0050	11	0.14	0.053	0.13	650	0.019	3.9	7100	26	0.00047	0.035	0.16	0.21	660	< 0.040	4300	< 0.0050	2800	45
	16-May-2022	47	< 0.020	0.24	15	0.019	0.014	14000	< 0.0050	24	0.22	0.098	0.39	610	0.085	3.1	3500	40	0.0020	0.101	0.26	0.86	550	0.069	2500	< 0.010	2900	24
	03-Dec-2022	14	< 0.020	0.27	33	< 0.010	< 0.010	35000	< 0.0050	17	0.17	0.046	0.38	660	0.024	4.5	8500	38	0.00043	< 0.050	0.19	0.20	840	0.054	6200	< 0.010	3700	55
	03-Jan-2023	15	0.021	0.32	36	< 0.010	< 0.0050	43000	< 0.0050	18	< 0.10	0.056	0.078	860	0.020	5.5	11000	51	0.00070	< 0.050	0.21	0.15	1000	0.047	8400	< 0.0050	4200	68
	04-Feb-2023	9.5	< 0.020	0.32	30	< 0.010	< 0.0050	37000	< 0.0050	26	0.13	0.045	0.070	810	0.016	4.6	8700	28	0.00027	< 0.050	0.22	0.16	1000	0.066	7900	< 0.0050	3800	58
	01-Mar-2023	10	< 0.020	0.27	14	< 0.010	0.16	31000	0.011	13	0.11	0.044	0.63	590	0.12	4.1	7500	22	0.00084	< 0.050	0.11	0.48	880	< 0.040	7000	< 0.0050	3400	31
(Duplicate)	01-Mar-2023	8.3	< 0.020	0.27	31	< 0.010	< 0.0050	31000	< 0.0050	14	< 0.10	0.034	< 0.050	620	0.0094	4.3	7800	21	0.00051	< 0.050	0.19	0.13	900	< 0.040	7300	< 0.0050	3500	64
FR-B	22-May-2022	1900	< 0.60	1.5	76	< 1.0	---	50000	0.050	51	3.2	**2.1** [#3,4]	4.0	5100	**2.5** [#3]	< 20	20000	150	0.0044	---	0.27	5.5	2800	0.20	12000	< 0.10	4600	230
FR-B-DS	22-May-2022	160	< 0.60	0.38	19	< 1.0	---	17000	< 0.020	< 20	< 1.0	< 0.30	< 1.0	830	< 0.20	< 20	5300	51	< 0.0019	---	< 0.20	0.51	590	< 0.20	2900	< 0.10	2300	37
FR-B-US	22-May-2022	50	< 0.60	0.30	16	< 1.0	---	15000	< 0.020	< 20	< 1.0	< 0.30	1.2	560	< 0.20	< 20	4600	47	< 0.0019	---	< 0.20	< 0.50	490	< 0.20	2400	< 0.10	2100	28
FR-C	23-May-2022	29	< 0.60	0.27	50	< 1.0	---	66000	< 0.020	59	< 1.0	< 0.30	< 1.0	390	< 0.20	< 20	25000	25	< 0.0019	---	< 0.20	0.52	3100	< 0.20	4700	< 0.10	3700	210
FR-C-DS	23-May-2022	60	< 0.60	0.31	17	< 1.0	---	16000	< 0.020	< 20	< 1.0	< 0.30	< 1.0	590	< 0.20	< 20	4900	48	< 0.0019	---	< 0.20	< 0.50	550	< 0.20	2500	< 0.10	2100	32
FR-C-US	23-May-2022	52	0.64	0.30	17	< 1.0	---	16000	< 0.020	< 20	< 1.0	< 0.30	< 1.0	630	< 0.20	< 20	5200	50	< 0.0019	---	< 0.20	< 0.50	510	< 0.20	2600	< 0.10	2300	31
B-FR-1	10-Dec-2022	13	0.024	0.44	31	< 0.010	< 0.010	32000	< 0.0050	19	0.23	0.064	0.28	850	0.021	4.2	8400	68	0.0028	0.050	0.20	0.21	880	0.076	7000	< 0.010	3900	51
	07-Jan-2023	11	< 0.020	0.36	29	< 0.010	< 0.0050	35000	< 0.0050	16	< 0.10	0.047	0.072	890	0.055	4.4	8400	56	0.00048	< 0.050	0.20	0.10	900	< 0.040	7800	< 0.0050	3800	52
	05-Feb-2023	8.0	< 0.020	0.36	29	< 0.010	< 0.0050	32000	< 0.0050	19	< 0.10	0.040	0.13	810	0.015	4.0	7700	40	0.00035	0.064	0.24	0.081	1000	0.057	7700	< 0.0050	3700	53
	04-Mar-2023	7.7	< 0.020	0.30	26	< 0.010	< 0.0050	28000	< 0.0050	13	< 0.10	0.034	< 0.050	680	0.0060	3.9	7200	32	0.00054	< 0.050	0.19	0.12	930	< 0.040	7300	< 0.0050	3500	50
C-FR-1	14-Dec-2022	25	0.035	0.24	33	< 0.010	< 0.010	37000	< 0.0050	19	0.19	0.051	0.20	580	0.031	4.3	9200	40	0.00033	< 0.050	0.17	0.37	930	0.062	7000	< 0.010	3700	71
	17-Jan-2023	20	0.025	0.30	39	< 0.010	< 0.0050	43000	< 0.0050	20	< 0.10	0.051	0.084	760	0.025	5.6	11000	38	0.00028	< 0.050	0.24	0.10	1200	< 0.040	8700	< 0.0050	4600	90
	11-Feb-2023	16	0.025	0.20	28	< 0.010	< 0.0050	34000	< 0.0050	17	< 0.10	0.041	0.16	570	0.025	4.4	8100	25	0.00036	< 0.050	0.16	0.13	900	< 0.040	6800	< 0.0050	3400	66
(Duplicate)	11-Feb-2023	15	< 0.020	0.21	28	< 0.010	< 0.0050	34000	< 0.0050	18	< 0.10	0.041	0.16	570	0.025	4.5	8100	25	0.00041	< 0.050	0.17	0.13	920	< 0.040	6800	< 0.0050	3300	67
	16-Mar-2023	15	< 0.020	0.20	26	< 0.010	< 0.0050	32000	< 0.0050	18	< 0.10	0.035	0.060	510	0.019	4.6	9100	22	0.0011	< 0.050	0.18	0.12	940	0.042	6600	< 0.0050	3600	63
MC-1	03-Dec-2022	3.8	< 0.020	0.81	99	0.012	< 0.0050	69000	< 0.0050	85	0.14	0.13	0.072	9600	0.011	14	12000	240	0.00084	< 0.050	0.15	0.25	1500	< 0.040	7500	< 0.0050	3600	160
	03-Jan-2023	3.0	< 0.020	1.6	97	< 0.010	< 0.0050	75000	< 0.0050	27	< 0.10	0.14	0.058	13000	0.0061	8.7	13000	400	0.00044	< 0.050	0.19	0.11	1400	0.056	6800	< 0.0050	2900	140
	04-Feb-2023	3.7	< 0.020	0.64	100	< 0.010	< 0.0050	68000	< 0.0050	54	< 0.10	0.067	0.087	6300	0.018	14	11000	230	0.00016	< 0.050	0.19	0.15	1400	0.065	7600	< 0.0050	3600	130
	01-Mar-2023	3.4	< 0.020	0.48	91	< 0.010	< 0.0050	57000	< 0.0050	53	< 0.10	0.059	< 0.050	5100	< 0.0050	15	9900	200	0.00053	0.070	0.13	0.12	1200	< 0.040	7100	< 0.0050	3500	120

Firebag River

Water Quality Results

PROJECT No.: 417085-47599		Total Metals and Trace Elements (cont.)								BTEX						Select Hydrocarbons						Polycyclic Aromatic Hydrocarbons							
Monitoring Station	Date	Total Sulphur	Total Thallium	Total Tin	Total Titanium	Total Uranium	Total Vanadium	Total Zinc	Total Zirconium	Benzene	Toluene	Ethylbenzene	m & p-Xylene	o-Xylene	Xylenes-Total	PHC F4 (C34-C50+)	PHC F1 (C6-C10)	PHC F1 (C6-C10) - BTEX	PHC F2 (C10-C16)	PHC F3 (C16-C34)	Naphthenic acids	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthylene	Acenaphthene	Acridine	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	**33**	---	---	---	---	---	---	---	---	---	---	**150**	**150**	**110**	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	**0.8**	---	---	**15**	---	**30**	---	**40**	**0.5**	**90**	---	---	**30**	---	---	---	---	---	---	---	---	---	**5.8**	**4.4**	**0.012**	**0.018**	**0.015**
Firebag River																												
FR-1	18-Apr-2013	< 3000	< 0.0020	< 0.20	0.70	0.050	0.20	1.6	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	18-Oct-2013	< 3000	< 0.0020	< 0.20	< 0.50	0.015	< 0.20	1.0	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	16-Mar-2014	3700	< 0.0020	< 0.20	< 0.50	0.048	0.26	2.7	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
(Duplicate)	16-Mar-2014	< 3000	< 0.0020	< 0.20	< 0.50	0.044	< 0.20	0.61	0.11	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	06-May-2014	< 3000	0.0020	< 0.20	5.7	0.035	0.56	1.5	0.43	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	03-Sep-2014	< 3000	< 0.0020	< 0.20	0.56	0.052	0.22	0.38	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	21-Oct-2014	< 3000	< 0.0020	< 0.20	< 0.50	0.031	< 0.20	0.47	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	15-Mar-2015	< 3000	< 0.0020	< 0.20	0.55	0.059	< 0.20	3.7	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	26-May-2015	< 3000	< 0.0020	< 0.20	0.61	0.058	< 0.20	1.4	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	17-Nov-2015	< 3000	< 0.0020	< 0.20	0.63	0.049	0.27	2.2	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	18-Mar-2016	< 3000	< 0.0020	< 0.20	< 0.50	0.047	< 0.20	0.64	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	28-Aug-2017	< 3000	< 0.0020	< 0.20	< 0.50	0.040	< 0.20	0.43	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	< 3000	< 0.0020	< 0.20	< 2.0	0.034	0.33	1.0	0.14	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	05-Sep-2018	< 3000	< 0.0020	< 0.20	< 2.0	0.037	0.21	< 1.0	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	15-Oct-2018	< 3000	< 0.0020	< 0.20	< 2.0	0.038	0.28	< 1.0	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	17-Mar-2019	< 3000	< 0.0020	< 0.20	< 0.50	0.053	< 0.20	0.42	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	02-May-2019	< 3000	< 0.0020	< 0.20	< 2.0	0.038	0.24	1.5	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 1.0	---	---	---	---	---	---	---	---
	08-Jul-2019	< 3000	< 0.0020	< 0.20	< 0.50	0.027	< 0.20	< 0.10	0.10	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
	21-Oct-2019	< 3000	< 0.0020	< 0.20	< 2.0	0.029	< 0.20	3.0	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
FR-1-A	20-Mar-2021	< 3000	< 0.0020	< 0.20	3.1	0.044	0.28	4.2	0.19	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
	16-May-2021	< 3000	0.0025	< 0.20	< 2.0	0.020	0.31	5.9	0.15	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2021	< 3000	0.0026	< 0.20	2.3	0.030	0.36	6.7	0.14	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
	22-Aug-2021	< 3000	< 0.0020	< 0.20	< 0.50	0.053	0.28	< 0.10	0.20	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
	27-Oct-2021	< 3000	< 0.0020	< 0.20	0.93	0.034	0.31	4.9	< 0.10	---	---	---	---	---	---	---	---	---	---	---	< 2.0	---	---	---	---	---	---	---	---
	16-May-2022	< 3000	< 0.0020	0.45	< 2.0	0.024	0.55	13	1.8	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	03-Dec-2022	< 3000	< 0.0020	< 0.20	< 2.0	0.038	0.21	1.4	0.15	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	03-Jan-2023	< 3000	< 0.0020	< 0.20	0.74	0.062	0.20	1.1	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	04-Feb-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.054	< 0.20	1.3	0.13	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	01-Mar-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.050	< 0.20	3.7	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.042	< 0.20	1.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
FR-B	22-May-2022	6900	< 0.20	< 1.0	50	0.42	6.5	**62** [#3,4]	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
FR-B-DS	22-May-2022	900	< 0.20	< 1.0	6.0	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
FR-B-US	22-May-2022	670	< 0.20	< 1.0	1.8	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
FR-C	23-May-2022	11000	< 0.20	< 1.0	1.2	0.13	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
FR-C-DS	23-May-2022	790	< 0.20	< 1.0	2.1	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
FR-C-US	23-May-2022	680	< 0.20	< 1.0	1.8	< 0.10	< 1.0	< 3.0	---	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	---	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
B-FR-1	10-Dec-2022	< 3000	< 0.0020	< 0.20	< 2.0	0.052	0.20	< 1.0	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	07-Jan-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.045	< 0.20	0.69	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	05-Feb-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.047	< 0.20	1.6	0.12	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	04-Mar-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.041	< 0.20	1.2	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
C-FR-1	14-Dec-2022	< 3000	< 0.0020	< 0.20	< 2.0	0.054	0.21	4.6	0.72	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	17-Jan-2023	< 3000	< 0.0020	< 0.20	0.93	0.077	0.26	2.3	< 0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	11-Feb-2023	< 3000	< 0.0020	< 0.20	0.60	0.049	< 0.20	4.4	0.11	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
(Duplicate)	11-Feb-2023	< 3000	< 0.0020	< 0.20	0.52	0.050	< 0.20	7.2	0.10	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	150	< 2.0	---	---	---	---	---	---	---	---
	16-Mar-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.067	< 0.20	2.1	0.13	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.040	< 0.010	< 0.0085	< 0.0075
MC-1	03-Dec-2022	< 3000	< 0.0020	< 0.20	< 0.50	0.0076	0.55	2.3	0.44	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	03-Jan-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.0062	0.25	0.28	0.20	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	04-Feb-2023	< 3000	< 0.0020	< 0.20	< 0.50	0.011	0.47	0.76	0.39	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	< 200	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---
	01-Mar-2023	3500	< 0.0020	< 0.20	< 0.50	0.0079	0.38	0.62	0.25	< 0.40	< 0.40	< 0.40	< 0.80	< 0.40	< 0.89	---	< 100	< 100	< 100	< 100	< 2.0	---	---	---	---	---	---	---	---

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																												
Monitoring Station	Date	Benzo[a]pyrene equivalency	Benzo[b&j]fluoranthene	Benzo[c]phenanthrene	Benzo[e]pyrene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Biphenyl	C1benzo[k]fluoranthene/benzoapyrene	C1-Substituted Acenaphthene	C1-Substituted Benzo[a]anthracene/Chrysene	C1-Substituted Biphenyl	C1-Substituted Dibenzothiophene	C1-Substituted Fluoranthene/Pyrene	C1-Substituted Fluorene	C1-Substituted Naphthalene	C1-Substituted Phenanthrene/Anthracene	C2benzo[k]fluoranthene/benzoapyrene	C2-Substituted Benzo[a]anthracene/Chrysene	C2-Substituted Biphenyl	C2-Substituted Dibenzothiophene	C2-Substituted Fluoranthene/Pyrene	C2-Substituted Fluorene	C2-Substituted Naphthalene	C2-Substituted Phenanthrene/Anthracene	C3-Substituted Benzo[a]anthracene/Chrysene	C3-Substituted Dibenzothiophene	C3-Substituted Fluoranthene/Pyrene	C3-Substituted Fluorene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Firebag River																														
FR-1	18-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-May-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Jul-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Oct-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-1-A	20-Mar-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Aug-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-B	22-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-B-DS	22-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-B-US	22-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-C	23-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-C-DS	23-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-C-US	23-May-2022	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
B-FR-1	10-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
C-FR-1	14-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2023	< 0.010	< 0.0085	< 0.050	< 0.050	< 0.0085	< 0.0085	< 0.020	< 0.0075	< 0.10	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0075	< 0.0085	< 0.020	< 0.020	< 0.020	< 0.050	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.050
MC-1	03-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PROJECT No.: 417085-47599		Polycyclic Aromatic Hydrocarbons (cont.)																			
Monitoring Station	Date	C3-Substituted Naphthalene	C3-Substituted Phenanthrene/Anthracene	C4-Substituted Benzo[a]anthracene/Chrysene	C4-Substituted Dibenzothiophene	C4-Substituted Fluoranthene/Pyrene	C4-Substituted Naphthalene	C4-Substituted Phenanthrene/Anthracene	Chrysene	Dibenz[a,h]anthracene	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Quinoline	Retene
	(dd-mmm-yyyy)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
AEP Surface Water 2018 -PAL Acute Toxicity (Firebag River) [#1]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Acute Toxicity (Waterbody 3) [#2]		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Firebag River) [#3]		---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
AEP Surface Water 2018 -PAL Chronic Toxicity (Waterbody 3) [#4]		---	---	---	---	---	---	---	---	---	---	**0.04**	**3**	---	---	**1**	---	**0.4**	**0.025**	**3.4**	---
Firebag River																					
FR-1	18-Apr-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-Mar-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	06-May-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Sep-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Mar-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-May-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Nov-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	18-Mar-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28-Aug-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	26-Oct-2017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Mar-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	14-May-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Sep-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	15-Oct-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Mar-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	02-May-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	08-Jul-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	21-Oct-2019	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-1-A	20-Mar-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	16-May-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	22-Aug-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	27-Oct-2021	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-May-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FR-B	22-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
FR-B-DS	22-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
FR-B-US	22-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
FR-C	23-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
FR-C-DS	23-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
FR-C-US	23-May-2022	---	---	---	---	---	---	---	< 0.0085	< 0.0075	---	< 0.010	< 0.050	---	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	---
B-FR-1	10-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	07-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
C-FR-1	14-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	17-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	11-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	11-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	16-Mar-2023	< 0.10	< 0.050	< 0.0085	< 0.020	< 0.020	< 0.10	< 0.050	< 0.0085	< 0.0075	< 0.020	< 0.010	< 0.050	< 0.0085	< 0.0085	< 0.10	< 0.050	< 0.050	< 0.020	< 0.20	< 0.050
MC-1	03-Dec-2022	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03-Jan-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	04-Feb-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	01-Mar-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---