AECOM Imagine it. Delivered.

Foreshore 2019 Annual Monitoring Report (January - December 2019) Below Area 2- Eastern Impounding Basin, Parkland Burnaby Refinery, Burnaby, BC

Parkland Refining (BC) Ltd.

Project number: 60601814

April 22, 2020

Quality information

Prepared by	Checked by	Verified by	Approved by
Derek Brillinger, B.Sc., G.I.T., Environmental Scientist	Leslie Southern, M.Sc., P.Ag., Environmental Scientist	Robert Horwath, CA PG, Senior Geologist, Senior Project Manager	Lesley Reid, M.Eng., P.Eng. Environmental Engineer (Contaminated Sites Approved Professional –CSAP)

Revision History

Revision	Revision date	Details	Authorized	Name	Position
Draft for Client Review	February 28, 2020				
Revised Draft for Client Review	April 15, 2020				
Final	April 22, 2020				

Distribution List

# Hard Copies	PDF Required	Association / Company Name
2	1	Parkland Refining (B.C.) Ltd.
0	1	Ministry of the Environment and Climate Change Strategy
0	1	Vancouver Fraser Port Authority

Prepared for:

Parkland Refining (BC) Ltd.

Prepared by: Derek Brillinger

AECOM Canada Ltd.
3292 Production Way
Suite 330
Burnaby BC V5A 4R4
Canada

T: 604.444.6400
F: 604.294.8597
aecom.com

© 2020 AECOM Canada Ltd. All Rights Reserved.

This document has been prepared by AECOM Canada Ltd. ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1. EXECUTIVE SUMMARY 9
2. INTRODUCTION 12
3. BACKGROUND AND SITE DESCRIPTION 14
3.1 Previous Investigations 14
3.1.1 Basis for Decommissioning Foreshore Wells 15
3.2 FPTS Construction 15
3.3 Site Setting 16
3.3.1 Geology 16
3.3.2 Tidal Effects 17
3.3.3 Hydrogeology 17
3.3.4 Regional Climate Conditions 17
4. REGULATORY CONTEXT 17
4.1 Risk-Based Management Targets (RBMTs) 18
5. OBJECTIVES 18
6. SCOPE OF WORK 18
6.1 Modifications to Scope of Work 19
6.2 Sampling Schedule 19
6.2.1 NAPL Monitoring 19
7. FIELD PROGRAM METHODOLOGIES 19
7.1 Monitoring Well Sampling Methodology 19
7.2 Historical Monitoring Well Decommissioning Methodologies 20
7.2.1 Well Decommissioning Method A 20
7.2.2 Well Decommissioning Method B 20
8. RESULTS 21
8.1 Field Monitoring Results 21
8.2 Porewater Analytical Semi-Annual Results 21
8.2.1 Petroleum Hydrocarbons and Polycyclic Aromatic Hydrocarbons 21
8.2.1.1 Up Gradient Wells 21
8.2.1.2 Performance Wells (OCP and ACP) 21
8.2.1.3 Sentry Wells 22
8.2.1.4 Compliance Wells 22
8.2.2 Metals Analysis 22
9. QUALITY ASSURANCE/QUALITY CONTROL 22
9.1 Precision 22
9.2 Accuracy 22
9.3 Completeness 22
10. REPAIR OF THE WESTERN FPTS 23
11. HISTORICAL MONITORING WELL DECOMMISSIONING 23
12. INSPECTION OF THE FORESHORE PASSIVE TREATMENT SYSTEM 23
13. DISCUSSION 26
13.1 Distribution of Exceedances 26
13.2 Concentration Trends Over Time 26
13.2.1 Petroleum Hydrocarbons and Polycyclic Aromatic Hydrocarbons 26
13.2.2 Dissolved Metals 31
13.3 Status of the FPTS 32
14. SUMMARY 32

15. RECOMMENDATIONS 34
16. STATEMENT OF QUALIFICATIONS AND LIMITATIONS 35
17. REFERENCES 37

Figures (within text)

Figure A: Wells included in Graph 4, a north-south transect through the Eastern FPTS 27
Figure B: Wells included in Graph 5, an east-west transect through Performance (OC) Wells..... 28
Figure C: Wells included in Graph 6, an east-west transect through Performance (AC) Wells..... 29
Figure D: Wells included in Graph 7, an east-west transect through Sentry Wells..... 30
Figure E: Wells included in Graph 8, an east-west transect through Compliance Wells..... 31

Figures (at back of report)

Figure 1 Site Map and Foreshore Sampling Locations
Figure 2 Water Analytical Results for Petroleum Hydrocarbons - 2019
Figure 3 Water Analytical Results for Polycyclic Aromatic Hydrocarbons - 2019
Figure 4 Water Analytical Results for Dissolved Metals - 2019
Figure 5 Cross Section A –A' Eastern FPTS Water Analytical Results for Petroleum Hydrocarbons and Dissolved Copper, June and December 2019

Tables (at back of report)

Table 1 Porewater Monitoring Data in 2019, Foreshore Parkland Burnaby Refinery
Table 2 Concentrations of Petroleum Hydrocarbon Parameters in Porewater Samples in 2019 – Foreshore Post FPTS Construction, Foreshore Parkland Burnaby Refinery
Table 3 Concentrations of Polycyclic Aromatic Hydrocarbon Parameters in Porewater Samples in 2019 – Foreshore Post FPTS Construction, Foreshore Parkland Burnaby Refinery
Table 4 Concentrations of Dissolved Metals in Porewater Samples in 2019 – Foreshore Post FPTS Construction, Foreshore Parkland Burnaby Refinery
Table 5 Field and Porewater Quality Parameters in 2019 – Post FPTS Construction, Foreshore Parkland Burnaby Refinery
Table 6 Foreshore Passive Treatment System Inspections in 2019 – Post FPTS Construction, Foreshore Parkland Burnaby Refinery

Tables (within text)

Table A: Summary of Conditions Established by ENV in April 2018 and Modifications to the 2019 Foreshore Monitoring and Sampling Program 12
Table B: Foreshore Passive Treatment System Monitoring Wells 16
Table C: Notable Observations from FPTS Inspections..... 24

Graphs

Graph 1 Average LEPHw Concentrations in Samples Collected from (A) Up Gradient Monitoring Wells, (B) Performance (Organoclay) Monitoring Wells, (C)

	Performance (Activated Carbon) Monitoring Wells, (D) Sentry Monitoring Wells, and (E) Compliance Monitoring Wells
Graph 2	Average VPHw Concentrations in Upgradient, Performance (Organoclay), Performance (Activated Carbon), Sentry, and Compliance Wells
Graph 3	Average Benzene Concentrations in Upgradient, Performance (Organoclay), Performance (Activated Carbon), Sentry, and Compliance Wells
Graph 4	Concentrations of Benzene, VPHw and LEPHw in Porewater Wells (PW17-16, PW17-17, PW17-18, PW17-19 and PW17-20)
Graph 5	Concentrations of Benzene, VPHw and LEPHw in Performance (Organoclay) Wells (PW17-05, PW17-17, PW17-22 and PW17-27)
Graph 6	Concentrations of Benzene, VPHw and LEPHw in Performance (Activated Carbon) Wells (PW17-6, PW17-18, PW17-23 and PW17-28)
Graph 7	Concentrations of Benzene, VPHw and LEPHw in Select Sentry Wells (PW17-02, PW17-10, PW17-14, and PW17-32)
Graph 8	Concentrations of Benzene, VPHw and LEPHw in Compliance Wells (PW17-03, PW17-08, PW17-11, PW17-12, PW17-15, PW17-20, PW17-25, PW17-30, and PW17-33)

Appendices

Appendix A	Original and Corrected Historical Water Analytical Tables, 2011-2018
Appendix B	Regulatory Context
Appendix C	Water Laboratory Reports
Appendix D	Quality Assurance and Quality Control Protocols
Appendix E	2019 Well Decommissioning Program Details
Appendix F	Photographic Log of FPTS Inspections

REPORT ACRONYMS

ACP	Activated Carbon Performance
ALS	ALS Laboratories
BC	British Columbia
BCELM	BC Environmental Laboratory Manual
bgs	below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CBP	Contingency Biodegradation Points
CEPA	Canadian Environmental Protection Act
COC	Contaminants of Concern
CPR	Canadian Pacific Railway
CSR	Contaminated Sites Regulation
CSR AW	CSR Aquatic Life Standard
DFO	Fisheries and Oceans Canada
DO	Dissolved Oxygen
DQO	Data quality objective
DSI	Detailed Site Investigation
DTP	Depth to Product
DTW	Depth to Water
TD	Total Depth of the Well
EAZ	Ecologically Active Zone
EC	Environment Canada
EIB	Eastern Impoundment Basin
EMA	Environmental Management Act
ENV	Ministry of Environment and Climate Change Strategy
ESA	Eastern Seep Area
FPTS	Foreshore Passive Treatment System
HASP	Health and Safety Plan
HHERA	Human Health and Ecological Risk Assessment
HWR	Hazardous Waste Regulation
IRA	Interim Remedial Action
LCS	Laboratory control sample
$LEPH_w$/$HEPH_w$	Light/Heavy Extractable Petroleum Hydrocarbons in Water
m	metre
m/s	metres per second
mg/L	milligrams per litre
mL/min	millilitres per minute
mm	millimeter
MS	Matrix Spike
mV	millivolts
NAPL	Non-aqueous phase liquid
MMP	Monitoring and Maintenance Plan
OBB	Oleophilic biobarrier
OCP	Organoclay Performance
ORP	Oxidation Reduction Potential
PAHs	Polycyclic Aromatic Hydrocarbons
Parkland	Parkland Refining (B.C.) Ltd.
PER	Project and Environmental Review
PHCs	Petroleum Hydrocarbons
PCOC	Potential Contaminants of Concern
POV	Port of Vancouver
PSI	Preliminary Site Investigation
PVC	polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
RBMT	Risk-Based Management Targets
RCM	Reactive Core Mat
RDL	Reported Detection Limit

ROW	Right of way
RPD	Relative Percent Difference
SLR	SLR Consulting Canada Ltd.
TDS	Total Dissolved Solids
µg/L	micrograms per litre
URS	URS Canada Inc.
USL	Updated Screening Level
VFPA	Vancouver Fraser Port Authority
VPH_w	Volatile Petroleum Hydrocarbons in Water
WQG	Water Quality Guidelines
WSA	Western Seep Area

1. EXECUTIVE SUMMARY

On behalf of Parkland Refining (B.C.) Ltd. (Parkland) Burnaby Refinery, AECOM Canada Ltd. (AECOM) has prepared this Foreshore 2019 Annual Monitoring Report to summarize the results of porewater quality monitoring conducted in June and December 2019 along the Foreshore (hereafter referred to as "the Site") area of Burrard Inlet located down slope from the Eastern Impounding Basin (EIB), Area 2 of the Parkland Burnaby Refinery. This report fulfills reporting requirements in accordance with the Foreshore Passive Treatment System (FPTS) Monitoring and Maintenance Plan (MMP) and meets condition 43 in Permit 16-180 issued by the Vancouver Fraser Port Authority. The report also fulfills conditions established by the British Columbia Ministry of Environment and Climate Change Strategy (ENV) in their letter provided on April 25, 2018.

The objectives of the program were to 1) monitor for the presence of non-aqueous phase liquid (NAPL) and associated contaminants of concern (COCs) in Site monitoring wells; 2) assess the performance of the FPTS's remedial treatment cells and oleophilic biobarrier (OBB); and 3) maintain the integrity of the Eastern and Western portions of the FPTS by inspecting the protective rip rap and cobbles, repairing or replacement of monitoring wells, and by managing vegetation as required as noted in the FPTS MMP.

NAPL and Sheens

NAPL and sheen observations have been collected at the Site since 2011. During the monitoring completed in June and December 2019, none of the 33 gauged monitoring wells associated with the FPTS contained an observable sheen, or a measurable thickness of NAPL[1] (Table 1).

Standards and Contaminants of Concern

Porewater[2] data collected in June and December 2019 was compared to Risk-Based Management Targets (RBMTs) for COCs associated with the dissolved phase porewater in the vicinity of the former NAPL seeps. The RBMTs were accepted by ENV (formerly referred to as the Ministry of Environment [MoE]) in their letter dated August 28, 2014 (MoE, 2014). SLR Consulting Canada Ltd. (SLR) derived RBMTs for the following COCs: benzene, ethylbenzene, toluene, xylenes (BTEX), benzo(a)pyrene, naphthalene, volatile petroleum hydrocarbons in water (VPH_w), light extractable petroleum hydrocarbons in water ($LEPH_w$), copper, and zinc.

Water Quality Results

Dissolved phase COC concentrations have been collected since September 2011 in the former NAPL seep area. The data shown in this report represents monitoring and sampling events from June and December 2019 and are presented in Tables 2 through 5 and Figures 2 through 5. Data collected since the FPTS was installed are also presented in Graphs 1 to 8. Porewater and surface water analytical data collected at the Site prior to 2019 are included as Appendix A.

Porewater samples were collected from each of the 33 Foreshore porewater wells during two semi-annual (June and December) sampling events completed in 2019, as per the FPTS Monitoring and Maintenance Plan (AECOM, 2017c).

During the 2019 FPTS sampling events, the following COCs were compared to their applicable RBMTs:

[1] As per ENV Protocol 16, NAPL is considered to be present if more than 2 mm is measured in a monitoring well. *BC ENV, 2017. Protocol 16. Determining the Presence and Mobility of Nonaqueous Phase Liquids and Odorous Substances (Version 2.0)*. Victoria, BC. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/protocols/protocol_16.pdf

[2] The term porewater for post FPTS construction is generally used in this report to include water collected from all four types of Site monitoring wells: Up Gradient, Performance, Sentry, and Compliance Wells.

- BTEX, VPHw, benzo(a)pyrene, and naphthalene concentrations were below their applicable RBMTs for all samples collected from 33 porewater wells.
- LEPHw concentrations were below its RBMT in samples collected from 32 of the 33 porewater wells. One Up Gradient Well (PW17-16) contained a concentration of LEPHw above its RBMT in the December 2019 sampling event. PW17-16 is located up slope of the Eastern FPTS and, therefore, does not indicate a lack of performance in the treatment system. LEPHw was not detected above the laboratory reported detection limit in the four monitoring wells (PW17-17, PW17-18, PW17-19, and PW17-20) located down slope of PW17-16, indicating the treatment system is effective in addressing dissolved phase LEPH in porewater, and operating as designed.
- Dissolved zinc and copper concentrations were below their RBMTs for all samples collected from 33 porewater wells.

The FPTS was visually inspected during quarterly inspection events between January and December 2019. Inspections indicate there are no significant deficiencies in the FPTS since it was constructed in 2017. The thickness of rip rap was observed to be 1.4 meters in depth and the layer of cobbles above the OBB surface was observed to be 0.4 meters in depth in most places. Inspections have indicated, however, that there has been some thinning of the cobble mat securing the subsurface components of the FPTS at the contact point between the rip rap and cobble interface on the northern extents of the Eastern and Western FPTS. This has resulted in portions of the geogrid, filter fabric, and OBB to become exposed in some areas. At the Eastern FPTS, the cobble mat is overlain by sand deposits washed from other areas of the Foreshore. Vegetation was not observed to be growing up slope of the treatment cells, OBB, or downslope on the cobble mat. Significant damage to monitoring wells was not observed.

Well Decommissioning

Although not part of the FPTS monitoring, 35 historical monitoring wells used for monitoring Project 1 (former Seep Area), Project 2 (Foreshore outside of the former Seep Area) and down slope of RIB Cell C were decommissioned in July 2019. The basis for this work is presented in Section 3.

Conclusions and Recommendations

Since construction of the FPTS, monitoring data indicate that the FPTS is operating as designed for mitigating the migration of COCs to ecological receptors and waters of Burrard Inlet based on:

- The absence of sheens or measurable NAPL within the Up Gradient, Performance, Sentry and Compliance Wells of the FPTS;
- Dissolved phase COCs in 32 of 33 monitoring are below their applicable RBMTs. A concentration of LEPHw above its RBMT was observed in only one Up Gradient Well (PW17-16);
- The elevated dissolved copper concentrations detected in porewater in select 2018 sampling events were not observed in 2019. Previous elevated dissolved copper concentrations are considered anomalous and do not appear to be related to the FPTS or Refinery operations; and,
- The monitoring and sampling program completed in 2019 confirms RBMTs are met.

Based on the data collected post-construction of the FPTS, AECOM recommends changing the sampling frequency in the FPTS MMP from semi-annual to annual sampling in 2020. The semi-annual events have been occurring in June, during the part of the year with typically lower total precipitation, and in December, the part of the year with typically higher total precipitation. Elevated concentrations of LEPHw observed in Up Gradient Well PW17-16 correlates with sampling events completed in December. Elevated concentrations of benzene do not appear to correlate to events completed with typically higher total precipitation. Detectable concentrations of VPHw in other wells appear to be higher in December in comparison to June. Therefore, in order to monitor the highest concentrations, it is recommended the annual event be conducted in October, November, or December of 2020. The FPTS MMP will be updated in 2020.

Based on inspections of the FPTS, AECOM recommends that additional cobbles are placed over exposures of the geogrid/filter fabric down slope of Sentry Wells on both the Eastern and Western FPTS. This recommendation is not considered to be urgent nor anticipated to compromise the integrity of the FPTS to continue to perform as designed and are projected to be completed in 2021.

2. INTRODUCTION

On behalf of Parkland Refining (B.C.) Ltd. (Parkland) Burnaby Refinery, AECOM Canada Ltd. (AECOM) has prepared this Foreshore 2019 Annual Monitoring Report to summarize the results of porewater quality monitoring conducted in June and December 2019 along the Foreshore (hereafter referred to as "the Site") area of Burrard Inlet located down slope from the Eastern Impounding Basin (EIB), Area 2 of the Parkland Burnaby Refinery (Figure 1).

This report fulfills reporting requirements in accordance with the Foreshore Passive Treatment System (FPTS) Monitoring and Maintenance Plan (MMP) (AECOM, 2017c), and to meet condition 43 in Permit 16-180 issued by the Vancouver Fraser Port Authority (VFPA, 2017). Condition 43 in Permit 16-180 states "*The applicant shall provide VFPA all future environmental monitoring data and reports that are related to the Project until such time that environmental monitoring at the Project site is completed. Monitoring data and reports shall include, at minimum, monitoring as detailed in "Section 8: Performance Verification Plan" of the Applicant's Foreshore Remedial Action Plan dated October 27, 2016, within 30 days of each monitoring period. The Application shall also make monitoring reports available to Aboriginal groups and the BC MoE".* On January 22, 2018, Spencer Chaisson of VFPA responded to Leslie Southern of AECOM and confirmed that Condition 43 of Permit 16-180 has been modified to only require reporting on an annual basis, within 90 business days of the last sampling event of the year.

The FPTS was installed at the Site between July 10 through October 30, 2017 and was designed and constructed to be the final remedial action to address any free-phase and dissolved phase hydrocarbon and sheens along the Foreshore of Burrard Inlet. The multicomponent FPTS is comprised larger eastern section and a smaller western section. The FPTS consists of permeable subsurface treatment cells for the mitigation of free-phase non-aqueous phase liquid (NAPL) and dissolved phase hydrocarbons in porewater and contains an oleophilic biobarrier (OBB) for the prevention of sheens. In total, 33 porewater monitoring wells were installed and sampled in 2017 through 2019 and twelve surface water sample locations were sampled in 2017 and 2018 at the Site to assess the performance of the FPTS (AECOM, 2017b; AECOM, 2019a).

In 2018, the British Columbia Ministry of Environment and Climate Change Strategy (ENV) established new conditions for the FPTS Monitoring and Maintenance Plan in their letter dated April 25, 2018 (ENV, 2018a). These conditions were met in the 2018 Annual Foreshore Monitoring Report (AECOM, 2019a). In accordance with the recommendations included within the 2018 Annual Foreshore Monitoring Report, modifications were made to the FPTS Monitoring and Sampling Program for 2019.These changes were documented in an amendment to the FPTS Monitoring and Maintenance Plan (AECOM, 2019b).

Table A below summarizes the six conditions established by ENV in April 2018 upon their review of the FPTS MMP (ENV, 2018a) and the modifications made to the 2019 Foreshore Monitoring and Sampling Program (AECOM, 2019b).

Table A: Summary of Conditions Established by ENV in April 2018 and Modifications to the 2019 Foreshore Monitoring and Sampling Program

Conditions established by ENV in April 2018	Modifications made to the 2019 Foreshore Monitoring and Sampling Program
1. Monitoring for the presence of NAPL must be done in all monitoring wells.	No change
2. Porewater samples from the French drains (otherwise known as contingency biodegradation points [CBP]) within the barriers must be collected and analyzed for contaminants of concern to	Eight select French drain (aka CBPs) locations were sampled in June, September and December 2018; none of the samples collected contained concentrations COCs above the applicable RBMTs and in many instances were below their respective

Conditions established by ENV in April 2018	Modifications made to the 2019 Foreshore Monitoring and Sampling Program
verify that they are not acting as preferential pathways for contaminant migration.	reported detection limits. The collection of porewater samples from the French drains (aka CBPs) was discontinued in 2019. ENV was notified of this modification to the sampling program on May 9, 2019 (Parkland, 2019b); ENV provided approval on November 25, 2019 (ENV, 2019b).
3. Any changes to the sampling frequency or termination of parts or the whole of the sampling program requires the approval of ENV.	As per the sampling schedule included in the FPTS MMP (AECOM, 2017c), the frequency of porewater sample collection at the Site was reduced from quarterly to semi-annual in 2019. ENV was notified of this modification to the sampling program on November 28, 2018 (Parkland, 2018b); ENV provided approval on December 7, 2018 (ENV, 2018d). 52 surface water samples were collected from 12 sampling locations in 2018, none of the samples collected contained concentrations COCs above the applicable RBMTs and in many instances were below their respective reported detection limits. The collection of surface water samples at the Site was discontinued in 2019. ENV was notified of this modification to the sampling program on January 30, 2019 (Parkland, 2019a); ENV provided approval on February 25, 2019 (ENV, 2019a).
4. Exceedances of contaminants of concern observed in porewater wells above the Risk-Based Management Targets (RBMT) require written notification to ENV within 30 (thirty) days from the date of observation. Exceedances of Upper Cap Concentrations (Protocol 11) require immediate verbal and written notification to ENV.	ENV requires notification of exceedances above RBMTs in all Compliance Wells and the following Up Gradient and Sentry Wells (PW17-1, PW17-2, PW17-9, PW17-10, PW17-13, PW17-14, PW17-31 and PW17-32). Notification must be provided to ENV in writing within 30 days (ENV, 2018b). The wells specified by ENV for notification in the event of an exceedance are highlighted in Figure 1.
5. The ENV requires the following to be included in the Foreshore Annual Monitoring Reports: · Maintain up-to-date records of monitoring, inspections and maintenance of any works. The records shall be summarized annually in a report and results provided to the ministry for review. The report shall include the following: · A summary of remedial activities undertaken during the reporting period; · Assessment of overall remediation progress, including evaluation in comparison to the remediation plan and schedule; · Interpretation of current and cumulative results from the monitoring program, including groundwater, surface water, soil, etc., as appropriate; and · Supporting documentation (e.g. analytical reports, tables and figures, records of inspection, maintenance of treatment works, etc.).	No change
6. Reports shall be submitted annually from the date of the completion of the remediation works (October 31st).	ENV agreed to coordinate annual reporting to coincide with the VFPA reporting requirements (ENV, 2018b). Annual monitoring reports will be submitted within 90 business days of the last sampling event of the year.

Regarding conditions 4 and 6 above, on May 25, 2018, Lavinia Zanini of ENV responded to Chris Boys of Parkland and specified notification of exceedances above RBMTS in Compliance Wells and the following Up Gradient and Sentry Wells (PW17-1, PW17-2, PW17-9, PW17-10, PW17-13, PW17-14, PW17-31 and PW17-32) must be provided to ENV in writing within 30 days (ENV, 2018b). On the same date, ENV provided approval with coordinating annual reporting to coincide with the VFPA permit requirements (ENV, 2018b).

Monitoring of the FPTS was completed in June and December 2019. The post-construction FPTS monitoring program is detailed in the amended Foreshore Monitoring and Maintenance Plan (MMP), (AECOM, 2019b).The objectives of the post-construction FPTS monitoring program are to 1) monitor for the presence of NAPL and associated contaminants of concern (COCs) in Site monitoring wells and surface water; 2) assess the performance of the FPTS's remedial treatment cells and OBB; and 3) maintain the integrity of the FPTS by checking and, where needed, replacing the protective rip rap and cobbles, repairing or replacement of monitoring wells, and by managing vegetation as required.

This scope of work was developed jointly by Mr. Chris Boys, P.Geo of Parkland, Ms. Cindy Ott, P.Ag., Geo, P.Chem., and Mr. Michael Gill, P.Eng., CSAP of SLR Consulting Canada Ltd. (SLR), Mr. Robert Horwath, CA PG, and Ms. Leslie Southern, M.Sc., P.Ag., of AECOM.

The scope of work was completed by Mr. Justin Becker, E.I.T., Mr. Aaron Rysdale, Mr. Carny Wong, A.Ag, Ms. Sofia Ramos Ajas, G.I.T, and Mr. Derek Brillinger, G.I.T. The report was prepared by Mr. Derek Brillinger and Ms. Leslie Southern. Senior reviews of this report were conducted by Mr. Robert Horwath and Ms. Lesley Reid, M.Eng., P.Eng., CSAP.

3. BACKGROUND AND SITE DESCRIPTION

3.1 Previous Investigations

Chevron Canada Limited (Chevron) first observed NAPL seeps on the north, downward slope of the Parkland (formerly Chevron) Burnaby Refinery (Refinery) towards Burrard Inlet during an inspection on April 21, 2010. The seeps were immediately reported by Chevron to the Provincial Emergency Program (now Emergency Management BC) and addressed using soaker pads and booms. The source of the NAPL is unknown but believed to be associated with historical Refinery operations and the north process sewer (decommissioned in June 2011).

A Preliminary Site Investigation (PSI) and a Detailed Site Investigation (DSI) were performed at the Site in June 2010 and April 2011, respectively (URS, 2011a). The PSI and DSI determined that the NAPL seeps emanated from the sediment near the contact between the overlaying beach sand and underlying colluvium, near the high tide line at the base of the Canadian Pacific Railway (CPR) Right-of-Way (ROW) slope.

Following the DSI, two Interim Remedial Action (IRA) Barriers comprised of a sand-organoclay mixture and a CETCO Reactive Core Mat (RCM) were constructed and installed in the Western Seep Area (WSA) and Eastern Seep Area (ESA) in February and March 2011 (URS, 2011b). The Eastern IRA Barrier was refurbished in March and April 2012 by extending the sand-organoclay down slope into the former RCM anchor trench.

Porewater, porewater ecologically active zone (EAZ) samples (containing water from wells that are located from ground surface to 1 metre [m] below ground surface [bgs]), surface water from Burrard Inlet, and ambient air samples, have been collected from the Foreshore on a regular basis in accordance with the Foreshore Monitoring Plan (URS, 2012).

In 2013, it was determined between Chevron Canada Limited (then-owner of the Parkland Burnaby Refinery), AECOM, SLR Consulting Canada Ltd. (SLR), and ENV that the two areas of concern on the Foreshore down slope of the EIB in Area 2 of the Refinery, would be dealt with through two projects: Project 1 covers the Foreshore Non-aqueous phase liquids (NAPL) former Seep Area, and Project 2 covers the Foreshore outside of the former Seep Area.

Since the development of the original 2012 Foreshore Monitoring Plan, amendments were requested to the sampling frequency and of the monitoring program (URS, 2014a) to ENV. The amendments included the following: 1) reduction of bi-monthly NAPL monitoring to monthly for the remainder of 2014 and quarterly in 2015; 2) reduction of porewater sampling in the Project 1 Area to 62 monitoring wells; 3) elimination of porewater sampling in the Project 2 Area (except for monitoring well P18-4.5S); 4) discontinuation of surface water sample collection from the Reference Area; and 5) elimination of ambient air monitoring on the Foreshore. These amendments were approved by ENV in February 2015 (MoE, 2015) and carried forward into the 2017 monitoring program prior to construction of the FPTS. In December 2016, the ENV agreed that the concentrations of zinc in porewater from the lone Project 2 Area monitoring well P18-4.5S were attributed to a buried metal object (MoE, 2016), thus the monitoring well was removed from the 2017 monitoring program.

3.1.1 Basis for Decommissioning Foreshore Wells

The Foreshore wells are in a high-energy environment that results in frequent damage or destruction of the wells by wave action, logs and infilling with sediment. This significantly reduces their utility. The 35 wells identified for decommissioning in 2019 included the previous monitoring wells in Project 1 that became redundant due to the installation of new, better protected wells in 2017 as part of the construction of the FPTS. The monitoring wells in Project 2 and down slope of Remote Impounding Basin (RIB) Cell C have shown no Refinery-related impacts (URS 2014a, AECOM 2015, AECOM 2016a and AECOM 2016b). For the reasons above, the associated monitoring wells were decommissioned in 2019 (Section 11). In June 2018, ENV and VFPA reviewed the Well Decommissioning Plan indicating they supported the decommissioning of the unused wells and requested the complete removal of monitoring wells where practical (ENV, 2018c; VFPA, 2018). An addendum to the Well Decommissioning Plan detailing methods for decommissioning of the monitoring wells was submitted to ENV and VFPA in July 2018 (Parkland, 2018b); in June 2019 VFPA issued Permit 19-109 to complete the work (VFPA, 2019).

3.2 FPTS Construction

Construction of the FPTS was performed from July 10 through October 30, 2017. The FPTS construction followed the ENV supported Foreshore Remedial Action Plan (AECOM, 2016c) and in accordance with the Construction Environmental Management Plan (AECOM, 2017a).

In summary, the FPTS consists of a larger Eastern section (60 m) and a smaller Western section (20 m) and consists of the following components:

- A subsurface treatment cell with Aquagate+Organoclay;
- An adjacent, down slope subsurface treatment cell with Aquagate+Powdered Activated Carbon;
- Baffles in the treatment cells;
- Contingency delivery piping into the treatment cells;
- Monitoring wells;
- A polyethylene liner to direct groundwater into the treatment cells;
- An Oleophilic Bio-Barrier; and
- Cobbles and a boulder embankment to protect the wells and other components.

In total, 33 monitoring wells, divided into four distinct types (Up Gradient Wells, Performance Wells, Sentry Wells and Compliance Wells), were installed at the Site in 2017 to assess the performance of the FPTS (AECOM, 2017b). Up Gradient wells are located up gradient of the treatment system, Performance Wells are located within the two treatment cells. Performance Wells are further subdivided into Organoclay Performance (OCP) Wells and Activated Carbon Performance (ACP) Wells; Sentry Wells are located down and cross slope of the treatment cells; and Compliance Wells are located down slope of the FPTS. The wells are presented in Table B and on Figure 1.

Table B: Foreshore Passive Treatment System Monitoring Wells

Well Type	Well Name
Up Gradient Wells (8)	PW17-01, PW17-04, PW17-09, PW17-13, PW17-16, PW17-21, PW17-26, and PW17-31
Performance Wells (8) OCP (4) ACP (4)	 PW17-05, PW17-17, PW17-22, and PW17-27 PW17-06, PW17-18, PW17-23, and PW17-28
Sentry Wells (8)	PW17-02, PW17-07, PW17-10, PW17-14, PW17-19, PW17-24, PW17-29, and PW17-32
Compliance Wells (9)	PW17-03, PW17-08, PW17-11, PW17-12, PW17-15, PW17-20, PW17-25, PW17-30, and PW17-33

3.3 Site Setting

3.3.1 Geology

The Site is located on the southern shore of Burrard Inlet, north of Area 2 of the Burnaby Refinery (Figure 1). The former NAPL seeps were located at the base of a north facing benched slope. The upper portion of the slope (Upper Bench) is located within the Refinery fence and is the northern berm of the EIB. The topography north of the fence line drops sharply but flattens out at a Lower Bench in the vicinity of the Refinery property line. The topography continues to drop past the Lower Bench to a pair of CPR railway tracks. There is a steep downward embankment north of the railway tracks onto the Foreshore. The intertidal zone then slopes more gently down into the inlet. The area is further described below.

According to the Geological Survey of Canada Map 1484A, Surficial Geology of New Westminster, BC, the Site is located in an area of raised marine, deltaic and fluvial deposits (Capilano Sediments) comprised of poorly sorted sand and gravel formed during the Pleistocene. The sand and gravel is underlain by glacial drift deposits (Vashon Drift and Capilano Sediments) comprised of lodgement and minor flow till, lenses and interbeds of sub-stratified drift (sedimentary materials deposited directly from the ice or melt water of a glacier) overlying the Tertiary bedrock. Along the Upper Bench, fill material overlies the glacial materials.

Along the Lower Bench, a layer of fine-grained sand with some gravel and silt colluvium (loose bodies of sediment that have been deposited or built up at the bottom of a slope) overlies a grey to brown sandy silt till layer encountered at depths between 2 and 5 metres below ground surface (m bgs) (URS, 2011a).

An approximately 4 m high, steeply sloping embankment (described above) leading up to the railroad, covered with rip rap facing along the lower portions, comprises the southern boundary of the Foreshore investigation area. The rip rap material is commonly boulders 0.25 to 0.75 m in diameter with scattered pieces up to 2 m in length. Beneath the rip rap, the sediments appeared to be a mixture of the fill, colluvium and till. The DSI determined the surficial geology of the Foreshore to be composed of fine to coarse beach sand, underlain by weathered colluvium, colluvium and till (URS, 2011a).

3.3.2 Tidal Effects

The local tide fluctuates from approximately 0.5 to 4.5 m above the local datum. During low tides of 0.5 m, approximately 25 m of Foreshore is exposed while during high tides, the entire Foreshore is submerged. A tidal study completed as part of the DSI (URS, 2011a) determined that the porewater elevations parallel the tidal patterns and that mixing was occurring between saline surface water and porewater. A second tidal study was completed in June 2013 (URS, 2014b). The results of the June 2013 study agreed with the previous DSI tidal study and noted that porewater generally flows north into Burrard Inlet and is tidally influenced.

3.3.3 Hydrogeology

Porewater on the Foreshore is derived from groundwater flow from up gradient areas, rain infiltration, marine surface water infiltration, and the intermixing of marine surface water through tidal fluctuations. On 1 April 2013, ENV released Technical Guidance 15 and on 1 November 2017, the ENV released Version 2 of Technical Guidance 15[3]. Both guidance documents define subsurface water in the vicinity of the Foreshore as follows:

- Groundwater: subsurface water laterally above the highwater mark (upland zone and dilution zone).
- Porewater (Ecologically Active Zone) and Porewater: subsurface water laterally below the high water mark (aquatic receiving environment).

Previous reports referred to groundwater and porewater differently. The Foreshore 2013 Second Semi-Annual report (URS, 2015) was the first report to be consistent with ENV Technical Guidance 15 and this current report follows these current definitions. The term porewater for post FPTS construction is generally used in this report to include water collected from all four types of Site monitoring wells: Up Gradient Wells, Performance Wells, Sentry Wells and Compliance Wells. As per ENV Procedure 8, Definitions and Acronyms for Contaminated Sites, porewater is defined as “the interstitial water within sediment”.

Given that no hydrological barrier separates the upper porewater EAZ from the lower porewater, these two units are considered one hydrostratigraphic unit and results in this report are not discussed separately.

3.3.4 Regional Climate Conditions

The total precipitation for the area was taken from the Vancouver Harbour Climate Station (Climate ID 1108446), located at 49° 17'43.270” N, 123° 07' 18.730” W, at 2.5 metres above sea level and approximately 10 kilometres to the west of the Site. Approximate total precipitation in 2019 was reported to be the following: January 167.8 millimetres (mm); February 84.2 mm; March 43.3 mm; April 121.7 mm; May 44.6 mm; June 22.2 mm; July 44.7 mm; August 23.2 mm; September 169.9 mm; October 125.5 mm; November 123.4 mm; and December 159.6 mm (Environment Canada, 2020). The total precipitation recorded in June and December 2019 was lower than the total precipitation recorded during the same two months in 2018.

4. REGULATORY CONTEXT

The *Environmental Management Act* (EMA) was brought into force on July 8, 2004. The applicable regulation under the EMA is the Contaminated Sites Regulation (CSR) updated to January 24, 2019

[3] BC ENV, 2017a. *Technical Guidance 15: Concentration Limits for the Protection of Aquatic Receiving Environments (Version 2), Figure 1*. Victoria, BC. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/technical-guidance/tg15.pdf

Federal environmental legislation applicable to Burrard Inlet adjacent to the Site includes the *Canada Fisheries Act*.

4.1 Risk-Based Management Targets (RBMTs)

A Human Health and Ecological Risk Assessment (HHERA) was prepared for the Foreshore in February 2014 (SLR, 2014a). This HHERA was used to determine Risk-Based Management Targets (RBMTs) for COCs associated with dissolved phase components in porewater associated with the NAPL seeps (SLR, 2014b). The RBMTs were accepted by the ENV in their letter dated August 28, 2014 (MoE, 2014).

The RBMTs were developed to be protective of aquatic plants and invertebrates at the community level and fish at the population level. The HHERA did not find any significant risk to human health; therefore, RBMTs were not developed for human receptors. SLR reviewed all potential contaminants of concern (PCOCs) for the Site and derived RBMTs for the following COCs which were identified to be present at the Site: PHC (benzene, toluene, ethylbenzene, xylenes [BTEX], volatile petroleum hydrocarbons in water [VPH_w], and light extractable petroleum hydrocarbons in water [$LEPH_w$]); PAHs (benzo(a)pyrene and naphthalene) and dissolved metals (copper and zinc). The HHERA only identified two metals as porewater COCs; therefore, for this report, the focus of the metals analysis is on copper and zinc.

For monitoring and sampling events completed in 2019, porewater samples were compared against their applicable RBMTs per the amended Foreshore Monitoring and Maintenance Plan (AECOM, 2019b).

The focus of post construction monitoring is on the water quality reported from Compliance Wells. Further information on the regulatory context of the Site is presented in Appendix B.

5. OBJECTIVES

Objectives for the Foreshore monitoring program in 2019 were in accordance with the amended Foreshore MMP (AECOM, 2019b) and to meet condition 43 in Permit 16-180 issued by the Vancouver Fraser Port Authority (refer to Section 7 in VFPA, 2017). The monitoring program also fulfills conditions established by ENV in their letter dated April 25, 2018 (ENV, 2018a) (refer to Section 2 of this report). In addition to the two semi-annual sampling events completed in June and December 2019, four quarterly inspections of the FPTS were completed in March, June, September, and December 2019 to check the integrity of the FPTS.

Over the period of January and December 2019, the post-construction objectives were:

- Monitor for the presence of NAPL and associated COCs in Site monitoring wells;
- Assess the performance of the FPTS's remedial treatment cells and OBB ; and,
- Maintain the integrity of the FPTS by checking and, where needed, replacing the protective rip rap and cobbles, repairing or replacement of monitoring wells, and by managing vegetation as required.

6. SCOPE OF WORK

The scope of work for the monitoring program in 2019, in accordance with the amended Foreshore MMP (AECOM, 2019b), was as follows:

- Update the Site Health and Safety Plan (HASP) based on existing HASPs and specific work area conditions;
- Ensure all required authorizations are obtained and followed;

- Inspect and gauge Site monitoring wells semi-annually on the Foreshore;
- Screen porewater samples semi-annually for colour, clarity, pH, temperature, electrical conductivity, salinity, total dissolved solids (TDS), oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity;
- Collect porewater samples during two semi-annual sampling events (June and December) for chemical analysis for COCs: BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene, naphthalene, dissolved copper and dissolved zinc;
- Compare analytical results to RBMTs; and
- Prepare this report.

6.1 Modifications to Scope of Work

The 2019 scope of work for the monitoring plan was modified as follows:

- VFPA was contacted to acquire a permit to complete a repair of the OBB associated with the Western FPTS. VFPA issued Permit 19-049 to complete the work.
- A small portion of the OBB associated with the Western FPTS was repaired in March 2019.
- Thirty-five (35) historical monitoring wells used for monitoring Project 1, Project 2 and down slope of RIB Cell C were decommissioned in July 2019 (refer to Sections 3.1.1, 7.2 and 11).

6.2 Sampling Schedule

Semi-annual sampling events were completed in June and December 2019. During these events, 33 monitoring wells in the former NAPL seep areas associated with the FPTS were sampled.

6.2.1 NAPL Monitoring

During semi-annual sampling events completed in June and December 2019 each of the 33 monitoring wells were monitored for NAPL.

7. FIELD PROGRAM METHODOLOGIES

7.1 Monitoring Well Sampling Methodology

A total of 72 porewater samples were collected in 2019.

Porewater monitoring included recording the time of day, depth to water (DTW), depth to product (DTP, if any) and total depth of the well (TD). The DTW and DTP were measured using an interface probe. The interface probe was decontaminated between monitoring wells to prevent cross contamination.

As in previous years, porewater samples were collected during low and mid tides when the Foreshore is above water. Although desirable to collect the porewater samples during a falling tide, in some cases, due to the short tidal window, a few samples were also collected during a slack tide. During the winter event, the low to mid intertidal zones could only be accessed at night, therefore floodlights were used. Care was taken to direct the lights on the work areas only.

Porewater samples were collected from each monitoring well using dedicated high-density polyethylene and silicone tubing attached to a peristaltic pump, to ensure minimal entrainment of silt in the sample as well as minimal losses of volatile constituents. Prior to sample collection, field parameters including pH,

temperature, electrical conductivity, salinity, TDS, ORP, DO, and turbidity were monitored and documented, followed by purging each well with the peristaltic pump for approximately 5 to 10 seconds and/or until clear. During purging and sample collection, care was taken to remove water from near the top of the water column to minimize any disturbance and subsequent entrainment of solids near the base of the well.

All non-disposable porewater monitoring and sampling equipment (i.e., interface probes and YSI multimeters) were decontaminated between sample locations as follows:

- Washed external and internal surfaces of the sampling equipment with amended water[4]; scrubbed as necessary to remove dirt, grime, grease, and oil;
- Rinsed with de-ionized water; and
- Double rinsed with de-ionized water.

7.2 Historical Monitoring Well Decommissioning Methodologies

Two primary methods were used to decommission the historical monitoring wells located in Project 1 (associated with the former Eastern and Western IRA Barriers), Project 2 (Foreshore outside of the former Seep Area) and down slope from RIB Cell C. Decommissioning included the removal of the monitoring well standpipe and associated infrastructure as outlined in Sections 7.2.1 and 7.2.2 below. As the FPTS is situated near a known archaeological site (DhRr-0230) and per condition 14 of VFPA Permit No: 19-109, a qualified archeologist and cultural monitor from Inlailawatash (a company of the Tsleil-Waututh Nation) were onsite during well decommissioning activities (Inlailawatash, 2019).

7.2.1 Well Decommissioning Method A

Wells installed between 0.4 and 1.0 m bgs were decommissioned by pulling the polyvinyl chloride (PVC) well standpipe from the ground by hand. To prevent bentonite from swelling and rising to the surface, bentonite was not added for locations which are shallower than 1.0 m bgs. The remainder of the well annulus was backfilled with clean, imported silica sand to surface.

7.2.2 Well Decommissioning Method B

Wells installed between 1.1 and 5.0 m bgs were decommissioned using a manual jack. The manual jack was placed on a wooden platform and attached to the PVC well standpipe. Approximately 1.0 metre of PVC well standpipe above the ground surface was required to use the jack. If this length of standpipe above ground surface was not present on a well, an additional 1.0 metre segment of PVC standpipe was threaded on or attached to the well casing using a coupler and an adhesive. A modified approach to the manual jack was used in many instances where two metal rods were placed below a metal clamp attached to the well standpipe. The metal rods were then lifted to pry the PVC well standpipe upwards. Prior to removal of the PVC well standpipe, a rod was inserted into the well annulus to remove the well cap on the bottom of the well. Time released ¼-inch diameter bentonite pellets were then placed inside the well cavity to hydraulically isolate the screened interval and prevent surface water infiltration. Residual water present within the decommissioned wells provided adequate hydration. The bentonite closure plug was extended from the bottom of the well to 1.0 m bgs. The remainder of the well annulus was backfilled with clean, imported silica sand to surface.

[4] Amended water is a 0.5% solution of an environmentally friendly cleaner labelled Liquinox and de-ionized water.

8. RESULTS

The data shown in this report represents monitoring and sampling events from June and December 2019 and are presented in Tables 2 through 5 and Figures 2 through 5. Data collected since the FPTS was installed are also presented in Graphs 1 to 8. Porewater and surface water analytical data collected at the Site prior to 2019 are included as Appendix A.

8.1 Field Monitoring Results

During the monitoring completed in June and December 2019, none of the gauged wells associated with the FPTS contained a measurable thickness of NAPL[5]. Hydrocarbon films (NAPL with a thickness less than one millimetre) have not been observed in monitoring wells associated with the Site since 2013.

Porewater monitoring data and observations are presented in Table 1; field parameters are presented in Table 5.

8.2 Porewater Analytical Semi-Annual Results

Porewater samples were collected from each of the 33 Foreshore porewater wells during two semi-annual (June and December) sampling events completed in 2019.

Porewater samples were analyzed for BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene, naphthalene, dissolved copper, and dissolved zinc. The reported analytical results are summarized on Tables 2, 3, 4, and 5 and presented on Figures 2, 3, 4, and 5. Copies of the 2019 analytical laboratory reports are provided in Appendix C.

Porewater results were screened against the RBMTs. Data for all the sampling events are discussed in the following subsections.

8.2.1 Petroleum Hydrocarbons and Polycyclic Aromatic Hydrocarbons

8.2.1.1 Up Gradient Wells

Concentrations of BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene and naphthalene in porewater samples collected from seven of the eight wells located up slope of the Eastern and Western FPTS were below their respective RBMTs. One sample collected from PW17-16 in December 2019 contained a concentration of $LEPH_w$ reported at 350 µg/L, which is greater than its applicable RBMT (300 µg/L). This well contained concentrations of $LEPH_w$ exceeding its RBMT (ranging between 410 and 490 µg/L) in 2018.

8.2.1.2 Performance Wells (OCP and ACP)

Concentrations of BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene and naphthalene in all porewater samples collected from the eight OCP and ACP Wells located within the Eastern and Western FPTS treatment cells were below their respective RBMTs.

[5] As per ENV Protocol 16, NAPL is considered to be present if more than 2 mm is measured in a monitoring well. BC ENV, 2017. Protocol 16. Determining the Presence and Mobility of Nonaqueous Phase Liquids and Odorous Substances (Version 2.0). Victoria, BC. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site-remediation/docs/protocols/protocol_16.pdf

8.2.1.3 Sentry Wells

Concentrations of BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene and naphthalene in all porewater samples collected from the eight Sentry Wells located cross and down slope of the Eastern and Western FPTS treatment cells were below their respective RBMTs.

8.2.1.4 Compliance Wells

Concentrations of BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene and naphthalene in all porewater samples collected from the nine Compliance Wells located in between, cross and down slope of the Eastern and Western FPTS were below their applicable RBMTs.

8.2.2 Metals Analysis

All porewater samples collected in 2019 from the 33 monitoring wells contained concentrations of dissolved zinc and copper below the their RBMTs.

9. QUALITY ASSURANCE/QUALITY CONTROL

In order to assure the integrity and reliability of the data collected, rigorous quality assurance quality control/ (QA/QC) protocols were observed. QA/QC protocols used by AECOM in undertaking the staged investigation and remediation of the Site are presented in Appendix D.

One laboratory report was flagged with discrepancies pertaining to data quality and is summarized below:

- Laboratory report L2286145 listed two samples where surrogate recovery marginally exceeded ALS data quality objective (DQO). The reported non-detect results for associated samples were deemed to be unaffected.

For laboratory report L2286145 in which “surrogate recovery marginally exceeded ALS DQO”, the reported non-detect results for associated samples were unaffected; therefore, the results are considered reliable.

9.1 Precision

For the two semi-annual events, a total of six samples were duplicated. Relative percent differences (RPDs) can only be calculated if the duplicate and parent samples have concentrations greater than five times the Reportable Detection Limit (RDL) for the conducted analyses. Concentrations of parent and duplicate samples were either below the RDL or less than five times the RDL, therefore RPDs could not be calculated.

9.2 Accuracy

Analytical accuracy was confirmed in a review of percent recoveries reported in the laboratory reports. Percent recoveries are obtained when the project laboratory analyzes samples with known concentrations and compares their analytical results to the known concentrations. The laboratory provided percent recoveries for the majority of the analyses. The reported LCS sample recoveries and MS sample recoveries for parameters with RBMTs were within laboratory QC limits. It is AECOM’s opinion that the analytical results are valid with respect to accuracy.

9.3 Completeness

No samples were invalidated by ALS. Completeness for all samples collected for this project was 100%.

10. REPAIR OF THE WESTERN FPTS

On March 25, 2019 AECOM repaired a small portion (approximately 0.24 m by 0.24 m in size) of exposed OBB, located along the northern extent of the Western FPTS. The repair was completed by hand excavating an area approximately ~1 m^2 in size and removing the sand, gravel and cobbles immediately surrounding the exposed OBB. The OBB, filter fabric and geogrid at this location was inspected and re-inserted at a depth of 0.4 m below ground surface. Sand and cobbles from the surrounding area were placed on top of the OBB, filter fabric and geogrid. The work was completed in accordance with Permit 19-049 issued by VFPA.

11. HISTORICAL MONITORING WELL DECOMMISSIONING

On March 25, 2019, AECOM completed a survey of historical monitoring wells associated with Project 1, Project 2 and down slope of RIB Cell C; 31 historical monitoring wells were recommended for decommissioning. During active decommissioning between July 29 and July 31, 2019, an additional four historical monitoring wells were located and decommissioned. Of the 35 located historical monitoring wells, 13 were decommissioned using Option A and 22 wells were decommissioned using Option B. Thirty-nine (39) historical monitoring wells associated with the former Eastern and Western IRA Barriers were not located and are presumed to have been destroyed during the demolition of the barriers in 2017. Refer to Appendix E, Figure E1, and Table E1 for further details.

Of the 22 historical monitoring wells decommissioned using Option B, bentonite was poured into 21 wells screened between 1.1 and 5.0m bgs to form a bentonite plug within the screen interval. The bentonite plug was typically between the bottom of the well to 1 m bgs; the remainder of the well annulus was backfilled with clean, imported silica sand to surface. In one instance, during removal of the well casing from P4.2-3D the well annulus collapsed before bentonite could be added, the location was backfilled with the following backfill materials:

- 0 - 1 m bgs: clean, imported silica
- 1 – 2 m bgs: bentonite chips
- 2 – 5 m bgs: native sediments.

12. INSPECTION OF THE FORESHORE PASSIVE TREATMENT SYSTEM

The FPTS was visually inspected during four quarterly inspection events completed on the following dates:

- March 25, 2019
- June 4, 2019
- September 11, 2019
- December 10, 2019.

A detailed table of the inspection results has been included as Table 6 and a photographic log has been included as Appendix F.

The inspections indicated that there has been some thinning of the cobble mat at the contact point between the rip rap and cobble interface. This has resulted in portions of the geogrid, filter fabric, and OBB to become exposed in some areas along the northern extent of both the Eastern and Western FPTS. The majority of geogrid / filter fabric exposures ranged from approximately 0.2 m to 2.8 m long and 0.1 to 0.5 m wide. One approximately 4.2 m long exposure was observed along the northwest contact point between the rip rap and cobble interface of the Western FPTS. Sparse cobble mat coverage was observed along southwest edge of the Western FPTS. One approximately 10.2 to 14.9 m long exposure was observed along the contact point between the rip rap and cobble interface near PW17-19 in the Eastern FPTS.

As part of the 2019 FPTS inspections, test pits were advanced within the cobble mat of the Eastern and Western FPTS. Test pits were advanced to approximately 0.4 m below grade or the maximum depth possible where ground conditions were favourable for hand digging. Test pits advanced in the Eastern FPTS revealed sand overlying cobbles to a depth of between 0.30 to 0.43 m below grade. Test pits advanced in the Western FPTS revealed sand overlying cobbles to a depth of between 0.43 to 0.44 m below grade. The OBB was not encountered in any of the test pits, indicating that there is sufficient material covering the OBB. In the Eastern FPTS, however, only 0.17 to 0.35 m of the designed cobble mat was observed. Overall, the inspections indicated that there were no significant deficiencies associated with either the Eastern or Western FPTS. Notable observations are summarized for each inspection in Table C.

Table C: Notable Observations from FPTS Inspections

Date of Inspection	Observations of OBB	Observations of Geogrid and Filter Fabric	Observations of Cobble Layer Thickness / Liner Depth
March 25, 2019	Small portion of OBB exposed at Western FPTS. This was repaired by hand excavating ~1 m^2 around the exposed portion of the OBB and re-installing it to a depth of 0.4 m below grade and covered with sand and cobbles. The work was conducted at low tide to minimize impacts to aquatic life.	Geogrid and filter fabric exposed in four areas along the contact point between the rip rap and cobble interface of the Eastern FPTS.	Thickness of cobble mat determined by height of protective casing exposed above grade at PW17-7, PW17-8, PW17-19, PW17-24, PW17-25, and PW17-29. Thickness of cobble mat above OBB surface was determined to range between 0.4 m and 0.5 m.
June 4, 2019	No exposures noted.	Geogrid and filter fabric exposed in nine areas (six on the Eastern FPTS and three on the Western FPTS) along the contact point between the rip rap and cobble interface.	Two hand dug test pits (TP) completed down slope of the Eastern FPTS to determine thickness of the cobble layer TP1: Sand 0-0.13 m; cobbles 0.13-0.30 m. TP2: Sand 0-0.13 m; cobbles 0.13-0.38 m.
September 11, 2019	No exposures noted.	Geogrid and filter fabric exposed in ten areas. Six areas on the Eastern FPTS and three areas on the Western FPTS along the contact point between the rip rap and cobble interface. One area of geogrid was exposed east of the rip rap of the Western FPTS.	Three hand dug test pits completed: two (TP1 and TP2) down slope of Eastern FPTS and one (TP3) down slope of the Western FPTS. TP1: Sand 0-0.12 m; cobbles 0.12-0.38 m. TP2: Sand 0-0.07 m; cobbles 0.07-0.42 m. TP3: Cobbles 0-0.43 m
December 10, 2019	No exposures noted.	Geogrid and filter fabric exposed in ten areas. Six areas on the Eastern FPTS and three areas of Western FPTS along the contact point between the rip rap and cobble interface. One area of geogrid was exposed east of the rip rap of the Western FPTS.	Three hand dug test pits completed: two (TP1 and TP2) down slope of Eastern FPTS and one (TP3) down slope of the Western FPTS. TP1: Sand 0-0.20 m; cobbles 0.20-0.43 m. TP2: Sand 0-0.14 m; cobbles 0.14-0.41 m. TP3: Cobbles 0-0.44 m

The rip rap and cobble mat of the FPTS are anticipated to shift over time as a result of tidal action. The exposed geogrid is being maintained; however, it has become exposed in the areas noted above. No significant concerns were noted during these inspections and the FPTS is performing as designed.

Additional work is scheduled to be completed in 2020 to replace cobbles on both the Eastern and Western FPTS. A detailed summary of FPTS inspections completed in 2019 is provided in Table 6.

13. DISCUSSION

13.1 Distribution of Exceedances

For FPTS sampling events completed in 2019, an exceedance refers to concentrations of BTEX, VPH_w, $LEPH_w$, benzo(a)pyrene, naphthalene, dissolved copper or dissolved zinc that were above their applicable RBMTs.

During 2019 FPTS sampling events, the concentrations of BTEX, VPH_w, benzo(a)pyrene, naphthalene, dissolved copper and dissolved zinc were below their RBMTs for all samples collected from 33 porewater wells. Concentrations of $LEPH_w$ were below its RBMT in all samples collected from 32 porewater wells.

During the December 2019 sampling event, one sample, collected from Up Gradient Well PW17-16 contained a concentration of $LEPH_w$ (350 µg/L) above its applicable RBMT of 300 µg/L. This porewater well is located up slope of the FPTS and, therefore, does not indicate a lack of performance in the treatment system. $LEPH_w$ concentrations were not detected above the laboratory reporting limit (250 µg/L) in the four monitoring wells (PW17-17, PW17-18, PW17-19, and PW17-20) located down slope of PW17-16, indicating the treatment system is effective in addressing dissolved phase hydrocarbons in porewater, and operating as designed.

13.2 Concentration Trends Over Time

13.2.1 Petroleum Hydrocarbons and Polycyclic Aromatic Hydrocarbons

The reported concentrations of LEPHw, VPHw, and benzene have been plotted over time on Graphs 1 to 8 demonstrate their trends over time. Data has been plotted from porewater wells within each of the monitoring areas of the current FPTS, including:

- (1) Up Gradient Wells,
- (2) OCP Wells,
- (3) ACP Wells,
- (4) Sentry Wells, and
- (5) Compliance Wells

Graphs 1A through 1E demonstrate that average concentrations of $LEPH_w$ were below its RMBT for all 11 samples collected from porewater wells from November 2017 through December 2019. Except for one Up Gradient well and one detection in a Sentry well, all LEPHw concentrations were below the RDL.

Graph 2 demonstrates that detectable concentrations of VPHw in porewater were only present in Up Gradient and OCP Wells. This indicates that the FPTS is effective at removing VPHw from porewater, as concentrations of VPHw above the RDL were not observed in wells down slope of the FPTS and concentrations of VPHw generally decrease with travel through the FPTS.

Graph 3 indicates that average concentrations of benzene in porewater generally decrease with travel through the FPTS, with the following well specific exceptions to the results from 2019 sampling events:

Elevated concentrations of benzene were detected in two Sentry Wells (PW17-19 and PW17-29). In December 2019, PW17-19 contained concentrations of benzene higher than the ACP well located up slope of it. In June and December 2019, PW17-29 contained concentrations of benzene higher than the

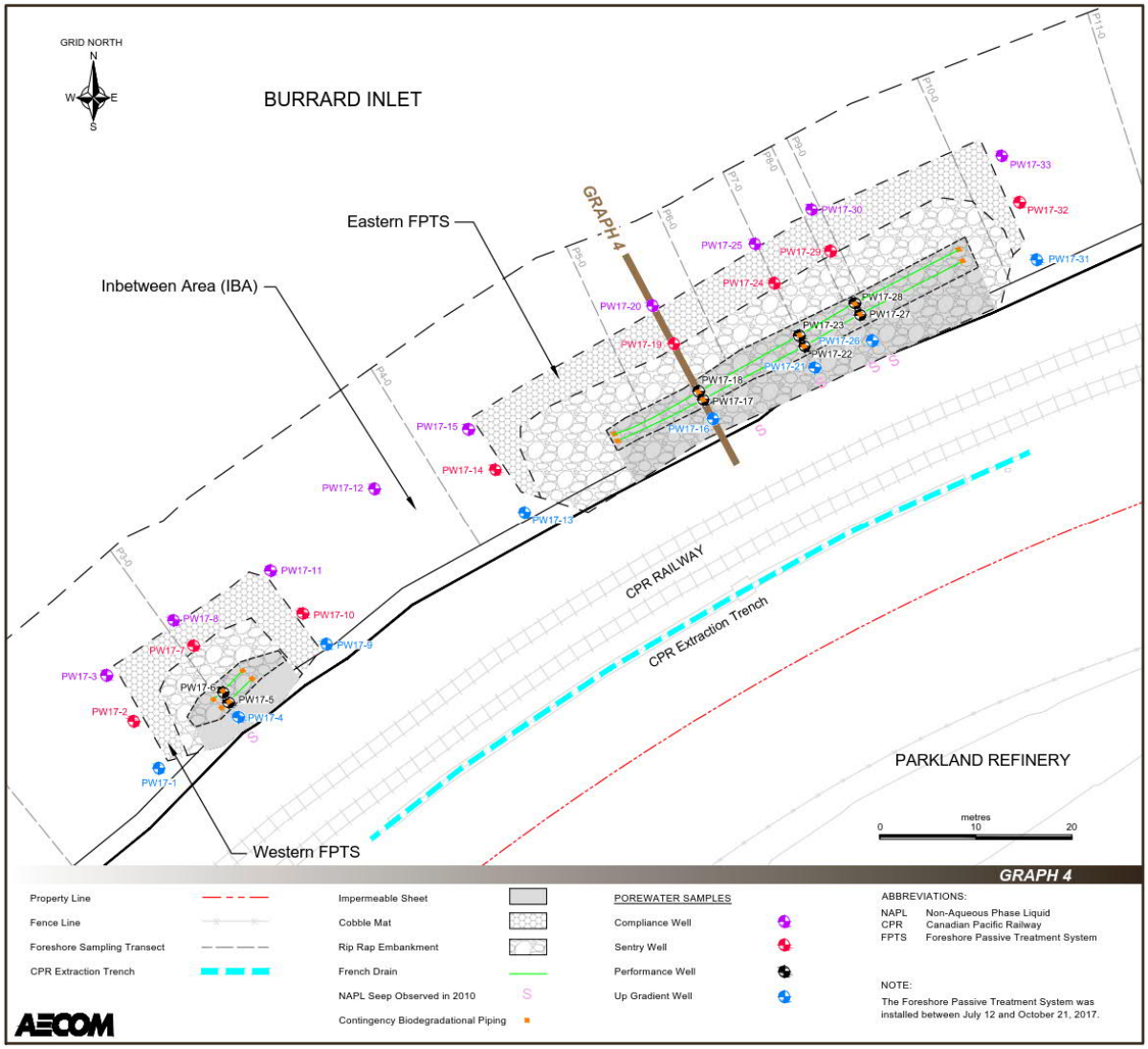
Up Gradient, OCP and ACP Wells located up slope of it. Reported concentrations of benzene in PW17-19 (7.23 µg/L in the December event) and PW17-29 (7.64 and 27.4 µg/L in June and December events, respectively) are still substantially below the RBMT for benzene (2,100 µg/L) and were not reported in the Compliance Wells.

- Higher average concentrations of benzene in OCP Well PW17-17 (24 and 10.6 µg/L in June and December events, respectively) compared to its respective Up Gradient Well, PW17-16 (8.85 and 4.63 µg/L in June and December events, respectively); and
- No concentrations of benzene above its RDLs were detected in ACP Wells.

The lack of concentrations of benzene above its RDL from porewater samples collected from ACP Wells and from the Compliance Wells indicate that the activated carbon is efficient at the adsorption of benzene from porewater and the overall trend indicates that the FPTS is performing as designed.

Graph 4 presents concentrations of benzene, $LEPH_w$, and VPHw in samples collected from porewater wells along a north-south transect through the Eastern FPTS, from Up Gradient Well PW17-16 to Compliance Well PW17-20, as shown in Figure A below.

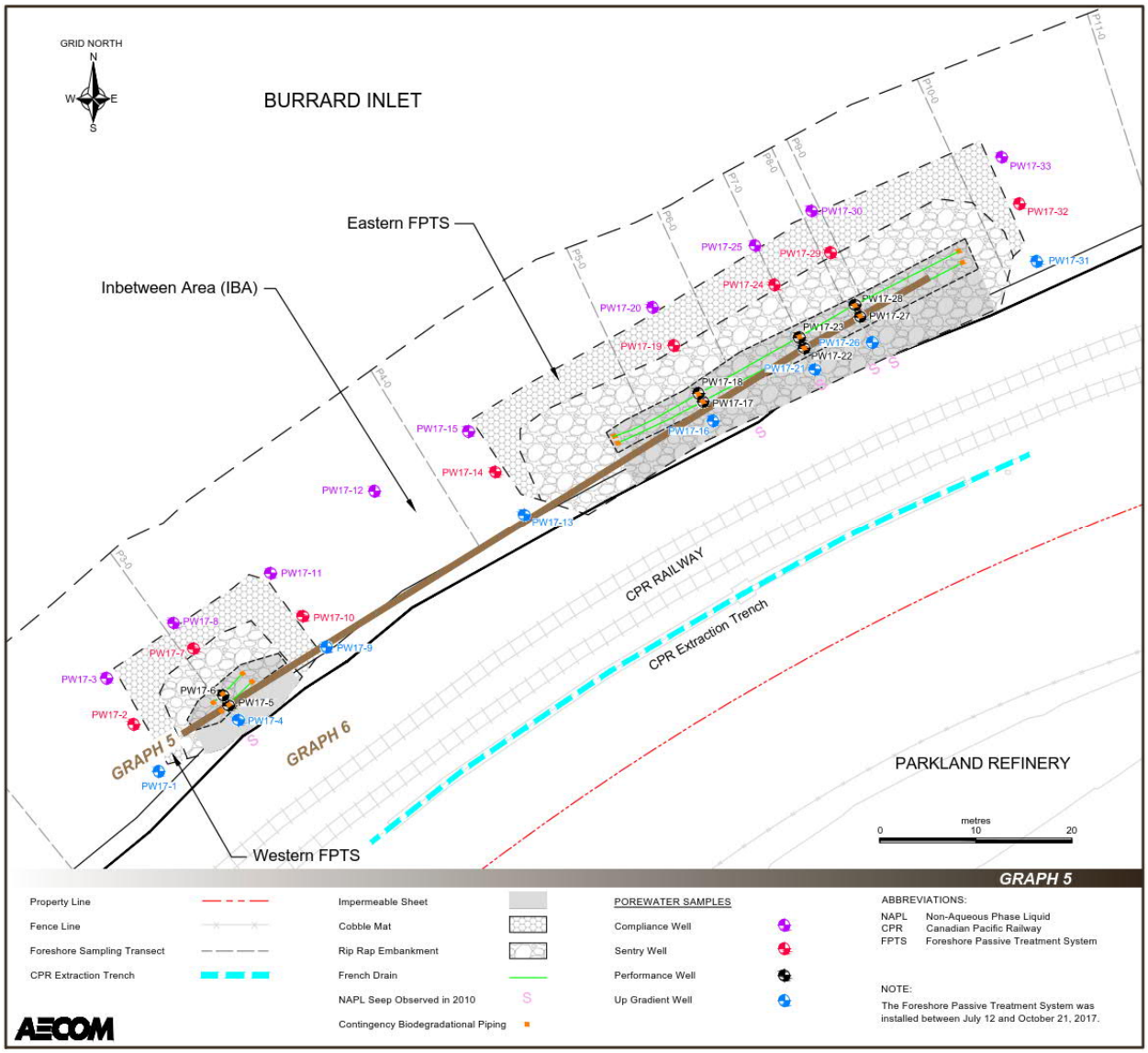
Figure A: Wells included in Graph 4, a north-south transect through the Eastern FPTS



Graph 4 indicates that there are no substantial temporal trends in the concentration of benzene, VPH_w or $LEPH_w$ in porewater over time since the FPTS was installed. The graph does indicate a general decrease in concentrations of benzene, VPHw and LEPHw from the Up Gradient Wells to the down slope Compliance Wells. The graph also illustrates that only $LEPH_w$ exceeds the RBMT in Up Gradient Well PW17-16. Elevated concentrations of $LEPH_w$ observed in PW17-16 correlates with sampling events completed in months with higher amounts of total precipitation. Samples collected from all other well types are below the respective RBMT for benzene, VPH_w, and $LEPH_w$. Porewater samples collected from the from all other wells for benzene, VPHw, and LEPHw were below their respective RBMTs suggesting that the activated carbon is efficient at addressing dissolved phase petroleum hydrocarbons in porewater.

Graph 5 presents concentrations of benzene, VPH_w, and $LEPH_w$ in samples collected from OCP Wells along an west-east transect (PW17-5, PW17-17, PW17-22 and PW17-27) through the Western and Eastern FPTS, as shown in Figure B below.

Figure B: Wells included in Graph 5, an east-west transect through Performance (OC) Wells

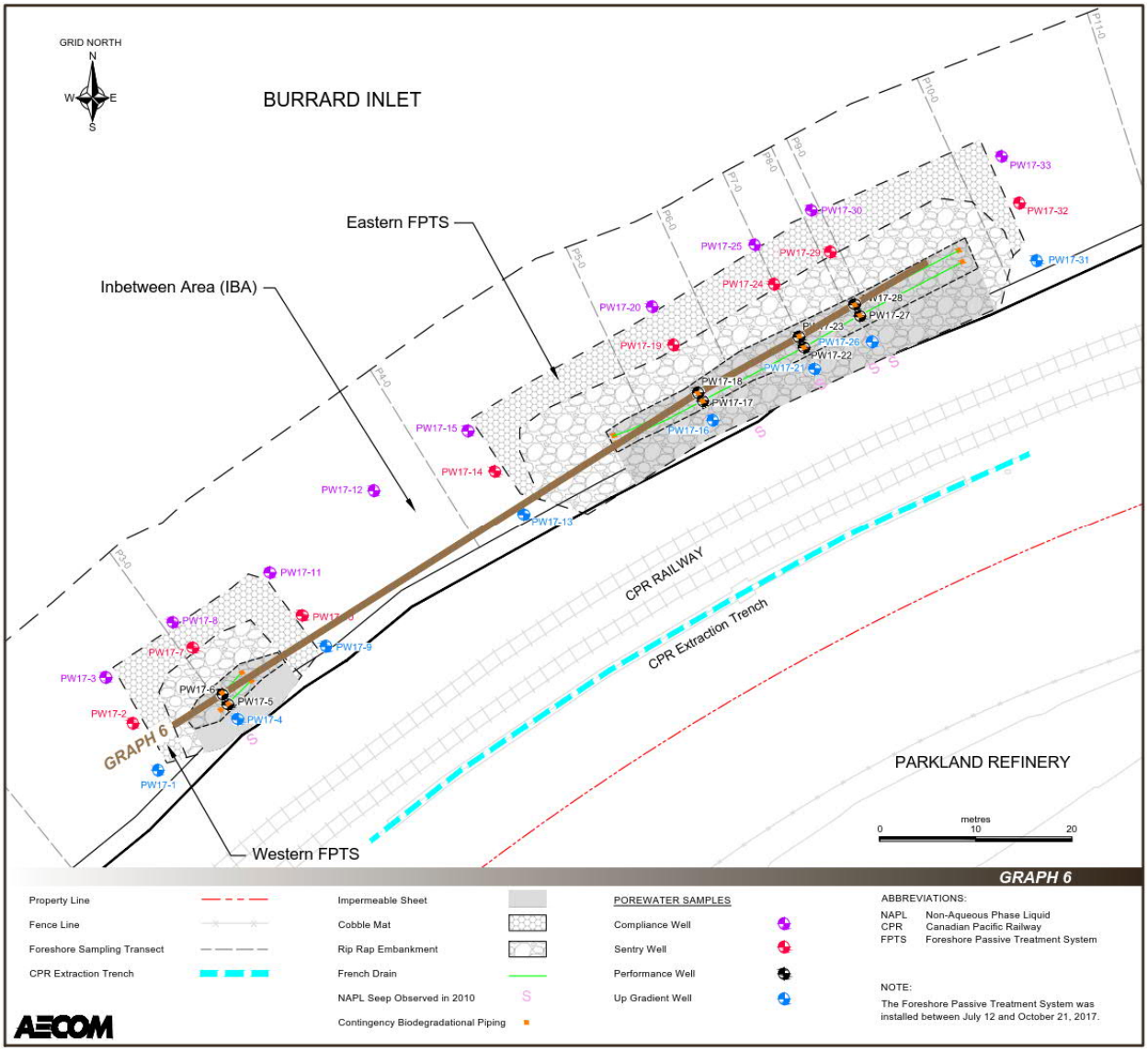


Graph 5 demonstrates that there were elevated concentrations of benzene and VPH_w in porewater samples collected from OCP wells between March and September 2018, with highest concentrations occurring in samples collected in June 2018 followed by decreased concentrations in 2019. The

concentrations of benzene, VPHw, and LEPHw were below their respective RDLs from the Western FPTS. Higher concentrations of benzene and VPHw were reported from OCP Wells in the Eastern FPTS but still below their respective RBMTs.

Graph 6 presents concentrations of benzene, VPH_w, and $LEPH_w$ in samples collected from ACP Wells along a west-east transect (PW17-6, PW17-18, PW17-23 and PW17-28), as shown in Figure C below.

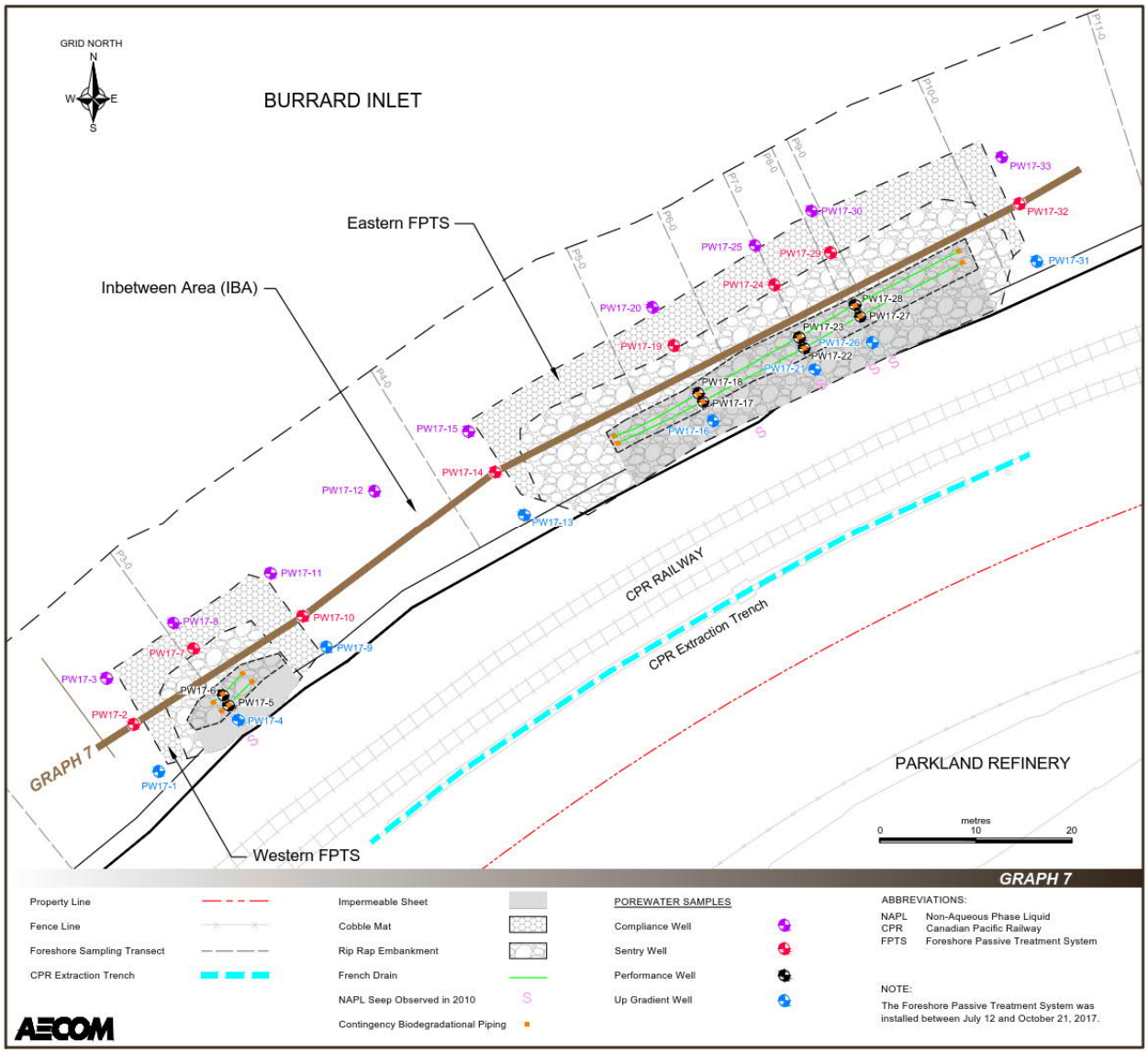
Figure C: Wells included in Graph 6, an east-west transect through Performance (AC) Wells



Graph 6 illustrates that there were no concentrations of benzene, VPH_w, and $LEPH_w$ above their respective RDLs in porewater samples collected from ACP Wells between November 2017 and December 2019. This suggests that that the activated carbon is efficient at the adsorption of PHCs across both the Western and Eastern FPTS.

Graph 7 presents concentrations of benzene, VPH_w and $LEPH_w$ in samples collected from Sentry Wells (PW17-2, PW17-10, PW17-14, and PW17-32) along a west-east transect, as shown in Figure D below.

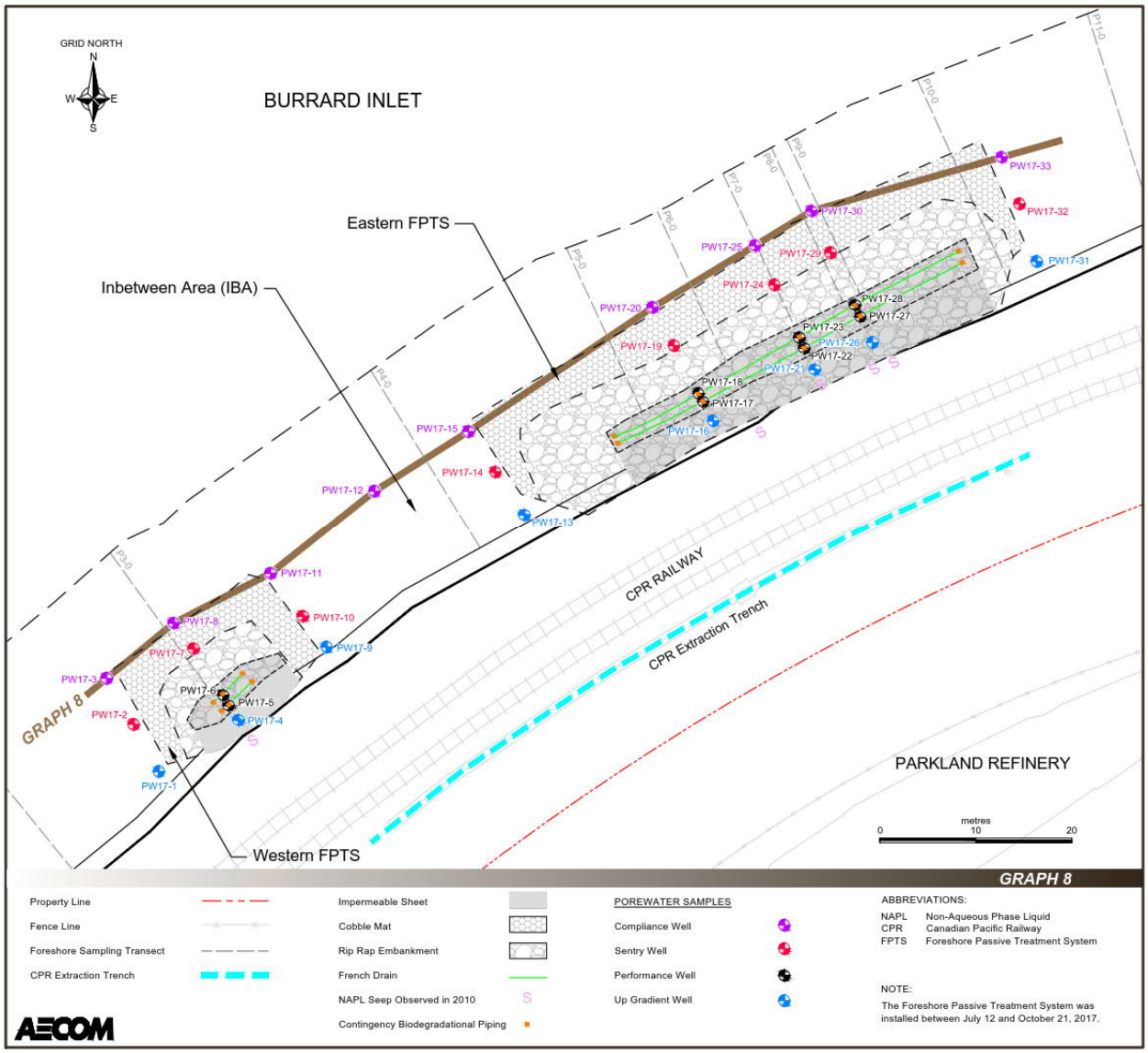
Figure D: Wells included in Graph 7, an east-west transect through Sentry Wells



The graph illustrates that there were no concentrations of benzene, VPH_w and $LEPH_w$ above their respective RDLs in porewater samples collected from any of the graphed Sentry Wells between November 2017 and December 2019, with the exception of $LEPH_w$ in a sample collected from PW17-10 located on the east end of the Western FPTS in December 2018. There is no trend associated with this reportable concentration $LEPH_w$ and further analysis of the sample indicated the $LEPH_w$ was likely from either field or laboratory cross-contamination and not representative of porewater conditions on the Foreshore (AECOM, 2019a).

Graph 8 presents concentrations of benzene, VPH_w and $LEPH_w$ in samples collected from Compliance Wells (PW17-3, PW17-8, PW17-11, PW17-12, PW17-15, PW17-20, PW17-25, PW17-30 and PW17-33) along a west-east transect, as shown in Figure DE below.

Figure E: Wells included in Graph 8, an east-west transect through Compliance Wells



The graph illustrates that there were no concentrations of VPH_w or $LEPH_w$ above their respective RDLs in porewater samples collected from any of the Compliance Wells between November 2017 and December 2019. No samples collected from Compliance Wells contained concentrations of benzene above its RDL, with the exception of three samples collected from PW17-30 in November 2017 (0.63 µg/L), December 2017 (0.55 µg/L), and April 2018 (32.5 µg/L). The concentrations of benzene in these samples collected from PW17-30 were still far below its RBMT (2,100 µg/L) and, therefore, does not indicate a deficiency in the Eastern FPTS.

13.2.2 Dissolved Metals

AECOM assessed the concentration of dissolved metals in porewater samples collected in 2019. Previously reported elevated dissolved copper concentrations detected in the January, February, or September 2018 sampling events were determined to likely be associated with contamination resulting

from field filtering samples, or contamination during sample preparation and dilution at the laboratory (AECOM, 2019a).

In 2019, none of the porewater samples collected contained concentrations of dissolved copper or dissolved zinc above their respective RBMTs (6.2 and 90 µg/L, respectively). In 2019, detectable concentrations of dissolved copper ranged from 0.21 to 3.23 µg/L and detectable concentrations of dissolved zinc ranged from 1.2 to 16 µg/L.

13.3 Status of the FPTS

Since construction of the FPTS, monitoring data indicate that the FPTS is operating as designed for mitigating the migration of COCs to ecological receptors and waters of Burrard Inlet based on:

- The absence of sheens or measurable NAPL within the Up Gradient, Performance, Sentry and Compliance Wells of the FPTS;
- Dissolved phase COCs in 32 of 33 monitoring are below their applicable RBMTs. Concentrations of $LEPH_w$ above its RBMT was only observed in one Up Gradient Well (PW17-16);
- The elevated dissolved copper concentrations detected in porewater in select 2018 sampling events were not observed in 2019. Previous elevated dissolved copper concentrations are considered anomalous and do not appear to be related to the FPTS or Refinery operations; and,
- The monitoring and sampling program completed in 2019 confirms RBMTs are met.

14. SUMMARY

This 2019 annual report summarizes monitoring activities conducted January through December 2019 along the Foreshore.

Table D below summarizes the objectives and results from the 2019 Foreshore monitoring activities conducted on the Site between January and December 2019.

Table D: Summary of the Objectives and Results from the 2019 Foreshore Monitoring Program

Objective	Result
Monitor for the presence of NAPL and associated COCs in Site monitoring wells	During monitoring events between January and December 2019, none of the Foreshore wells contained an observable sheen or measurable thickness of NAPL.
	The concentrations of $LEPH_w$ above the RBMT in a porewater sample collected from Up Gradient Well PW17-16 does not indicate a lack of performance in the FPTS, as the well is located up slope of the FPTS. $LEPH_w$ was not above its RDL in porewater wells located down slope of PW17-16, which provides evidence that the treatment system worked effectively in 2019.
	Concentrations of dissolved copper above the RBMT in PW17-05, PW17-11, PW17-15, PW17-16, PW17-24, PW17-26, PW17-27, and PW17-28 detected during the January, February, and September 2018 sampling events were not observed in 2019. This supports the conclusion that the exceedances were determined to likely be associated with contamination resulting from field filtering samples, or contamination during sample preparation and dilution at the laboratory.
	No other exceedances of the RBMTs were observed in 2019 monitoring activities.
Assess the performance of the FPTS's remedial treatment cells and OBB	The one exceedance of $LEPH_w$ in PW17-16 does not indicate a lack of performance in the FPTS, as the well is located up slope of the Eastern FPTS. Concentrations of $LEPH_w$ were not detected above its laboratory reporting limit (250 µg/L) in the four monitoring wells (PW17-17, PW17-18, PW17-19, and PW17-20) located down slope of PW17-16, indicating the treatment system is effective in addressing dissolved phase hydrocarbons in porewater, and is operating as designed.
	Overall, the results from the 2019 Foreshore monitoring program indicate that the remedial treatment cells and OBB are working as designed.
Maintain the integrity of the FPTS by checking and, where needed, replacing the protective rip rap and cobbles, repairing or replacement of monitoring wells, and by managing vegetation as required.	All visual inspections of the FPTS indicated that there were no significant deficiencies, including: rip rap thickness; thickness of cobbles above the OBB surface; vegetation growing above the treatment cells or OBB; and significant damage to monitoring wells (some minor chips to well casing and lids observed). 2019 inspections documented up to ten exposures of the geogrid/filter fabric at the contact point between the rip rap and cobble interface of the Eastern and Western FPTS. A small portion of the OBB was exposed at Western FPTS. This was repaired in March 2019 by hand excavating ~1 m^2 around the exposed portion of the OBB and re-installing it to a depth of 0.4 m below grade and covered with sand and cobbles. This OBB exposure was not observed in subsequent inspections in 2019 after the repair was completed.

Eleven sampling events have been completed since construction of the FPTS in 2017. Since 2017, only two wells have reported concentrations above their RBMTs: 1) Up Gradient Well PW17-16, the only well on the Foreshore in which the RBMT for LEPHw was exceeded (January, February, March, April and December 2018 and December 2019), with an average concentration of 320 µg/L and a maximum of 490

µg/L; and 2) Performance Well PW17-5 contained a concentration of dissolved copper reported above its RBMT in September 2018, with an average concentration of 4.62 µg/L and a maximum of 15.8 µg/L[1].

Since 2017, detectable concentrations of LEPHw, BTEX, VPHw, benzo(a)pyrene, and/or naphthalene have been found in eighteen (18) monitoring wells associated with the Site, but well below their RBMTs. Concentrations of dissolved copper and/or zinc have been detected in 31 monitoring wells since April, 2018[1], but below their RBMTs, with the exception previously noted in PW17-5**.** In 2019, concentrations of PHCs and PAHs were not detected above the RDLs in any of the Compliance Wells; only detectable concentrations of dissolved copper and/or zinc were reported in eight of these nine wells. The treatment system is effective in addressing dissolved phase hydrocarbons in porewater and is operating as designed.

15. RECOMMENDATIONS

Since construction of the FPTS in 2017, none of the Compliance Wells have contained concentrations of PHCs or PAHs above their RBMTs; only two wells (one Up Gradient and one Performance Well) have exceeded RBMTs. The data collected post-construction of the FPTS support a reduced monitoring program starting in 2020.

Based on the data collected post-construction of the FPTS, AECOM recommends changing the sampling frequency in the FPTS MMP from semi-annual to annual sampling in 2020. The semi-annual events have been occurring in June, during the part of the year with typically lower total precipitation, and in December, the part of the year with typically higher total precipitation. Elevated concentrations of LEPHw observed in Up Gradient Well PW17-16 correlates with sampling events completed in December. Elevated concentrations of benzene do not appear to correlate to events completed with typically higher total precipitation. Detectable concentrations of VPHw in other wells appear to be higher in December in comparison to June. Therefore, in order to monitor the highest concentrations, it is recommended the annual event be conducted in October, November, or December of 2020. The FPTS MMP will be updated in 2020.

Based on inspection of the FPTS, AECOM recommends that additional cobbles are placed over exposures of the geogrid/filter fabric down slope of Sentry Wells of both Eastern and Western FPTS. This recommendation is not considered to be urgent nor anticipated to compromise the integrity of the FPTS to continue to perform as designed and are projected to be completed in 2021.

[1] Additional exceedances of dissolved copper were observed between December 2017 and March 2018. However, the elevated dissolved copper concentrations in porewater and surface water samples collected between December 2017 and March 2018 did not appear to be related to the FPTS or Refinery operations, but were likely associated with contamination resulting from field filtering samples, or to contamination during sample preparation and dilution at the laboratory(AECOM, 2019a). The average concentration calculated for PW17-5 includes only samples collected after March 2018.

16. STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("AECOM") for the benefit of the Parkland Refining (B.C.) Ltd. (Client) in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

AECOM shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. AECOM accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

AECOM agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but AECOM makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by AECOM represent AECOM's professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since AECOM has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, AECOM, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by AECOM and Client; (2) as required by law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

AECOM accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior

written consent of AECOM to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

17. REFERENCES

AECOM 2015. Pond 3 Investigation, Area 2, Chevron Burnaby Refinery, Burnaby, B.C. AECOM, October 5, 2015.

AECOM 2016a. Dissolved Zinc Concentrations in Foreshore Monitoring Well P18-4.5S, Chevron Burnaby Refinery, Burnaby, B.C. AECOM, April 5, 2016.

AECOM 2016b. Foreshore 2014 Annual Monitoring Report (January – December 2014) Below Area 2 Eastern Impounding Basin, Chevron Burnaby Refinery, Burnaby, British Columbia, July 13, 2016.

AECOM, 2016c. Foreshore Remedial Action Plan below Area 2 Eastern Impounding Basin – Chevron Burnaby Refinery, Burnaby, BC. AECOM, October 27, 2016.

AECOM, 2017a. Foreshore Final Remedy Construction Environmental Management Plan, Parkland Burnaby Refinery, British Columbia. AECOM, June 28, 2017.

AECOM, 2017b. Foreshore Passive Treatment System Construction Report, Parkland Burnaby Refinery, Burnaby, BC. AECOM, December 21, 2017.

AECOM, 2017c. Foreshore Passive Treatment System Monitoring and Maintenance Plan, Down Slope from the Eastern Impounding Basin, Area 2, Parkland Burnaby Refinery, Burnaby, BC. Appendix K of the Foreshore Passive Treatment System Construction Report, Parkland Burnaby Refinery, Burnaby, BC. AECOM, December 21, 2017.

AECOM, 2019a. Foreshore 2018 Annual Monitoring Report (January – December 2018) Below Area 2 Eastern Impounding Basin, Parkland Refinery, Burnaby, British Columbia. AECOM, April 25, 2018.

AECOM, 2019b. Addendum to Foreshore Passive Treatment System Monitoring and Maintenance Plan Down Slope of Area 2, Parkland Burnaby Refinery, Burnaby, B.C. AECOM, December 12, 2019.

BC Ministry of Environment (MoE), 2013. Email from Lizzy Moss of the MoE to Celine Totman of SLR regarding approval of SLR's Foreshore derived USLs. September 4, 2013.

BC Ministry of Environment (MoE), 2014. Letter from Lizzy Mos of the MoE to Christopher Boys of Chevron regarding approval of SLRs Foreshore derived RBMTs. August 28, 2014.

BC Ministry of Environment (MoE), 2015. Letter from Lavinia Zanini of the MoE to Christopher Boys of Chevron Re: Ministry Comments Regarding Request to Reduce Monitoring. February 5, 2015.

BC Ministry of Environment (MoE), 2016. Email from Lavinia Zanini of the MoE to Christopher Boys of Chevron Re: Chevron Refinery projects with MoE and the discontinuation of P18-4.5S. December 22, 2016.

BC Ministry of Environment and Climate Change Strategy (ENV), 2018a. Letter from Lavinia Zanini of ENV to Chris Boys of Parkland Burnaby Refinery regarding the Foreshore Passive Treatment System Construction Report and Monitoring and Maintenance Plan. April 25, 2018.

BC Ministry of Environment and Climate Change Strategy (ENV), 2018b. Email from Lavinia Zanini of ENV to Chris Boys of Parkland Burnaby Refinery regarding the Foreshore Passive Treatment System Construction Report and Monitoring and Maintenance Plan. May 25, 2018.

BC Ministry of Environment and Climate Change Strategy (ENV), 2018c. Email Correspondence between Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV) and Christopher Boys of the Parkland Burnaby Refinery, regarding Parkland Refinery Foreshore Well Decommissioning, June 21, 2018.

BC Ministry of Environment and Climate Change Strategy (ENV), 2018d. Email Correspondence between Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV) and Christopher Boys of the Parkland Burnaby Refinery, December 7, 2018.

BC Ministry of Environment and Climate Change Strategy (ENV), 2019a. Email Correspondence between Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV) and Christopher Boys of the Parkland Burnaby Refinery, February 25, 2019.

BC Ministry of Environment and Climate Change Strategy (ENV), 2019b. Email Correspondence between Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV) and Christopher Boys of the Parkland Burnaby Refinery, November 25, 2019.

Environment Canada, 2020. Monthly Climate Summaries. Web page accessed January 22, 2020. http://climate.weather.gc.ca/prods_servs/cdn_climate_summary_e.html

Inlailawatash Limited Partnership (Inlailawatash), 2019. Parkland Refinery Foreshore Wells Decommissioning Archaeological Monitoring. Inlailawatash, September 12, 2019.

Parkland, 2018a. Email Correspondence between Christopher Boys of the Parkland Burnaby Refinery and Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV) and Spencer Chaisson of the Vancouver Fraser Port Authority (VFPA) regarding Parkland Refinery Foreshore Well Decommissioning, June 15, 2018.

Parkland, 2018b. Email Correspondence between Christopher Boys of the Parkland Burnaby Refinery and Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV), November 28, 2018.

Parkland, 2019a. Email Correspondence between Christopher Boys of the Parkland Burnaby Refinery and Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV), January 30, 2019.

Parkland, 2019b. Email Correspondence between Christopher Boys of the Parkland Burnaby Refinery and Lavinia Zanini of the BC Ministry of Environment and Climate Change Strategy (ENV), May 9, 2019.

SLR (SLR Consulting Canada), 2011. Interim Ecological Risk Assessment, Final Problem Formulation Report, Foreshore Adjacent to East Impounding Basin, Chevron Burnaby Refinery, Burnaby BC. Vancouver, BC. SLR Consulting Canada, November 2011.

SLR (SLR Consulting Canada), 2014a. Risk-Based Management Targets, Seep Area Foreshore Down Slope of the East Impounding Basin, Chevron Burnaby Refinery, Burnaby BC. Vancouver, BC. SLR Consulting Canada, February 28, 2014.

SLR (SLR Consulting Canada), 2014b. Human Health and Ecological Risk Assessment of Seep Area Foreshore Down Slope of the East Impounding Basin, Chevron Burnaby Refinery, Burnaby BC. Vancouver, BC. SLR Consulting Canada, February 27, 2014.

URS, 2011a. Foreshore Detailed Site Investigation Below Area 2 East Impounding Basin, Chevron Burnaby Refinery, Burnaby BC. URS Canada Inc., September 30, 2011.

URS, 2011b. Foreshore Interim Remedial Action, Chevron Burnaby Refinery, Burnaby BC. URS Canada Inc., October 19, 2011.

URS, 2012a. Foreshore Monitoring Plan, Chevron Burnaby Refinery, Burnaby, British Columbia. URS Canada Inc., June 29, 2012.

URS, 2013. Foreshore 2012 Second Semi Annual Report Below Area 2 Eastern Impounding Basin, Chevron Burnaby Refinery, British Columbia. URS Canada Inc., March 26, 2013.

URS, 2014a. Second Amendment to the Frequency of Monitoring and Sampling on the Foreshore, Area 2, Chevron Burnaby Refinery, Burnaby, BC. URS Canada Inc., November 10, 2014.

URS, 2014b. Foreshore 2013 First Semi Annual Report Below Area 2 Eastern Impounding Basin, Chevron Burnaby Refinery, British Columbia. URS Canada Inc., October 30, 2014.

URS, 2015. Foreshore 2013 Second Semi Annual Report Below Area 2 Eastern Impounding Basin, Chevron Burnaby Refinery, British Columbia. URS Canada Inc., August 27, 2015.

VFPA (Vancouver Fraser Port Authority), 2017. Vancouver Fraser Port Authority, Project and Environmental Review Report and Permit 16-180, Chevron Canada Limited, Chevron Refinery Foreshore Final Remedy, 5201 Penzance Drive, Burnaby. May 24, 2017.

VFPA (Vancouver Fraser Port Authority), 2018. Email correspondence between Spencer Chaisson of the Vancouver Fraser Port Authority and Chris Boys of the Parkland Burnaby Refinery. VFPA, June 18, 2018.

VFPA (Vancouver Fraser Port Authority), 2019. Vancouver Fraser Port Authority, Project and Environmental Review Foreshore Well Decommissioning – Burnaby, B.C. Permit 19-109. VFPA, June 7, 2019.

Tables

TABLE 1
POREWATER MONITORING DATA IN 2019
FORESHORE POST FTPS CONSTRUCTION
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

AECOM

Sample ID	Date Sampled	Sample Time	Low Tide	Total Depth of Well (m from TOC)	Top of Casing Elevation (TOC, mASL)[1]	Well Diameter (mm)	Screened Interval (m bgs)	Headspace Vapour Concentration (ppm unless otherwise noted)	Depth to Product (m from TOC)	Apparent Product Thickness (mm)	Depth to Water (DTW, m from TOC)	Porewater Elevation (mASL) [1]	Observations
PW17-01	5-Jun-19	11:26	14:04	1.333	29.12	50	0.85-1.15	20	---	ND	0.631	28.49	---
PW17-01	11-Dec-19	21:01	0:05	1.349	29.12	50	0.85-1.15	5	---	ND	0.8	28.32	---
PW17-02	5-Jun-19	11:39	14:04	1.215	27.72	50	0.85-1.15	ND	---	ND	0.541	27.18	---
PW17-02	11-Dec-19	20:35	0:05	1.206	27.72	50	0.85-1.15	15	---	ND	0.283	27.44	---
PW17-03	4-Jun-19	12:56	13:23	1.348	27.24	50	0.85-1.15	ND	---	ND	0.998	26.24	---
PW17-03	11-Dec-19	21:59	0:05	1.349	27.24	50	0.85-1.15	10	---	ND	0.462	26.78	---
PW17-04	5-Jun-19	12:01	14:04	3.381	31.19	50	0.45-0.75	15	---	ND	2.94	28.25	1st sample had large amounts of biofoul, sampled again. 2nd sample turbidity was 27.6
PW17-04	11-Dec-19	21:52	0:05	3.395	31.19	50	0.45-0.75	ND	---	ND	2.891	28.30	orange biofoul,
PW17-05	5-Jun-19	12:30	14:04	3.088	30.22	50	0.64-1.00	25	---	ND	2.234	27.99	---
PW17-05	11-Dec-19	22:04	0:05	3.088	30.22	50	0.64-1.00	ND	---	ND	2.092	28.13	---
PW17-06	5-Jun-19	12:48	14:04	3.112	29.79	50	0.84-1.20	ND	---	ND	1.820	27.97	---
PW17-06	11-Dec-19	22:20	0:05	3.108	29.79	50	0.84-1.20	ND	---	ND	1.801	27.99	---
PW17-07	5-Jun-19	11:24	14:04	1.11	27.29	50	0.70-1.00	ND	---	ND	0.291	27.00	---
PW17-07	11-Dec-19	21:36	0:05	1.111	27.29	50	0.70-1.00	10	---	ND	0.313	26.98	---
PW17-08	4-Jun-19	12:50	13:23	1.346	26.6	50	0.84-1.20	ND	---	ND	0.353	26.247	Trace orange solids present
PW17-08	11-Dec-19	22:34	0:05	1.344	26.6	50	0.84-1.20	ND	---	ND	0.315	26.285	---
PW17-09	5-Jun-19	11:05	14:04	1.368	28.55	50	0.85-1.15	5	---	ND	0.575	27.98	Orange colour, some orange solids
PW17-09	11-Dec-19	20:20	0:05	1.369	28.55	50	0.85-1.15	5	---	ND	0.506	28.04	Orange biofoul
PW17-10	5-Jun-19	11:07	14:04	1.379	27.25	50	0.85-1.15	5	---	ND	0.431	26.82	---
PW17-10	11-Dec-19	21:25	0:05	1.378	27.25	50	0.85-1.15	5	---	ND	0.362	26.89	---
PW17-11	4-Jun-19	12:41	13:23	1.45	26.72	50	0.74-1.10	ND	---	ND	0.728	25.99	Trace orange solids present
PW17-11	10-Dec-19	22:15	23:27	1.454	26.72	50	0.74-1.10	5	---	ND	0.691	26.03	---
PW17-12	4-Jun-19	12:32	13:23	1.46	27.03	50	0.85-1.15	5	---	ND	1.024	26.01	Orange solids present
PW17-12	10-Dec-19	22:04	23:27	1.460	27.03	50	0.85-1.15	5	---	ND	0.870	26.16	---
PW17-13	5-Jun-19	10:44	14:04	1.325	28.9	50	0.85-1.15	ND	---	ND	0.500	28.40	---
PW17-13	10-Dec-19	22:45	23:27	1.334	28.9	50	0.85-1.15	85	---	ND	0.497	28.40	---
PW17-14	5-Jun-19	10:50	14:04	1.390	27.83	50	0.85-1.15	10	---	ND	0.13	27.70	---
PW17-14	10-Dec-19	22:30	23:27	1.385	27.83	50	0.85-1.15	ND	---	ND	0.182	27.65	Orange colour/biofoul pieces present
PW17-15	4-Jun-19	12:28	13:23	1.395	27.03	50	0.84-1.20	5	---	ND	1.013	26.02	Trace silty sediments present
PW17-15	10-Dec-19	21:48	23:27	1.400	27.03	50	0.84-1.20	5	---	ND	0.780	26.25	---
PW17-16	5-Jun-19	13:07	14:04	3.271	31.44	50	0.45-0.75	ND	---	ND	2.733	28.71	Orange in colour
PW17-16	12-Dec-19	22:10	0:44	3.254	31.44	50	0.45-0.75	ND	---	ND	2.488	28.95	Orange biofoul
PW17-17	5-Jun-19	13:10	14:04	3.200	30.76	50	0.64-1.00	ND	---	ND	2.070	28.69	Orange in colour
PW17-17	12-Dec-19	21:55	0:44	3.202	30.76	50	0.64-1.00	ND	---	ND	1.889	28.87	Orange biofoul
PW17-18	5-Jun-19	13:25	14:04	3.394	30.6	50	0.84-1.20	ND	---	ND	1.935	28.67	---
PW17-18	12-Dec-19	21:40	0:44	3.404	30.6	50	0.84-1.20	5	---	ND	1.756	28.84	---
PW17-19	4-Jun-19	12:13	13:23	0.920	28.210	50	0.87-1.15	40	---	ND	0.428	27.78	Orange solids present
PW17-19	10-Dec-19	21:15	23:27	1.333	28.210	50	0.87-1.15	20	---	ND	0.439	27.77	Orange colour

TABLE 1
POREWATER MONITORING DATA IN 2019
FORESHORE POST FTPS CONSTRUCTION
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

AECOM

Sample ID	Date Sampled	Sample Time	Low Tide	Total Depth of Well (m from TOC)	Top of Casing Elevation (TOC, mASL)[1]	Well Diameter (mm)	Screened Interval (m bgs)	Headspace Vapour Concentration (ppm unless otherwise noted)	Depth to Product (m from TOC)	Apparent Product Thickness (mm)	Depth to Water (DTW, m from TOC)	Porewater Elevation (mASL) [1]	Observations
PW17-20	4-Jun-19	12:15	13:23	1.481	27.58	50	0.64-1.00	35	---	ND	0.440	27.14	---
PW17-20	10-Dec-19	21:29	23:27	1.484	27.58	50	0.64-1.00	20	---	ND	0.500	27.08	---
PW17-21	5-Jun-19	13:28	14:04	3.36	31.38	20	0.45-0.75	ND	---	ND	2.550	28.83	---
PW17-21	12-Dec-19	21:20	0:44	3.352	31.38	20	0.45-0.75	ND	---	ND	1.221	30.16	---
PW17-22	5-Jun-19	13:47	14:04	3.528	31.14	50	0.64-1.00	ND	---	ND	2.461	28.68	DUP-2
PW17-22	12-Dec-19	21:36	0:44	3.513	31.14	50	0.64-1.00	ND	---	ND	2.211	28.93	DUP-1
PW17-23	5-Jun-19	13:44	14:04	3.185	30.58	50	0.84-1.20	ND	---	ND	1.910	28.67	DUP-3
PW17-23	12-Dec-19	21:56	0:44	3.212	30.58	50	0.84-1.20	ND	---	ND	1.673	28.91	DUP-2
PW17-24	4-Jun-19	11:59	13:23	1.345	28.12	50	0.85-1.15	10	---	ND	0.512	27.61	Orange solids present
PW17-24	10-Dec-19	20:42	23:27	1.341	28.12	50	0.85-1.15	5	---	ND	0.465	27.66	orange colour
PW17-25	4-Jun-19	12:03	13:23	1.268	27.430	50	0.85-1.15	ND	---	ND	0.290	27.14	---
PW17-25	10-Dec-19	21:18	23:27	1.273	27.430	50	0.85-1.15	10	---	ND	0.254	27.18	---
PW17-26	6-Jun-19	11:21	14:48	3.800	31.81	50	0.45-0.75	ND	---	ND	3.125	28.69	---
PW17-26	12-Dec-19	22:27	0:44	3.789	31.81	50	0.45-0.75	65	---	ND	2.926	28.88	DUP-3, orange biofoul
PW17-27	6-Jun-19	11:50	14:48	3.810	31.4	50	0.64-1.00	ND	---	ND	2.763	28.64	---
PW17-27	12-Dec-19	20:50	0:44	3.817	31.4	50	0.64-1.00	10	---	ND	2.418	28.98	---
PW17-28	6-Jun-19	12:18	14:48	3.236	30.53	50	0.84-1.20	ND	---	ND	1.778	28.75	Particulate matter/sediments present
PW17-28	12-Dec-19	21:04	0:44	3.178	30.53	50	0.84-1.20	5	---	ND	1.577	28.95	---
PW17-29	4-Jun-19	11:46	13:23	1.402	28.24	50	0.85-1.15	10	---	ND	0.458	27.78	---
PW17-29	10-Dec-19	20:24	23:27	1.405	28.24	50	0.85-1.15	5	---	ND	0.542	27.70	---
PW17-30	4-Jun-19	11:46	13:23	1.371	27.39	50	0.84-1.20	5	---	ND	0.238	27.15	---
PW17-30	10-Dec-19	20:59	23:27	1.273	27.39	50	0.84-1.20	10	---	ND	0.178	27.21	---
PW17-31	4-Jun-19	11:06	13:23	1.261	29.31	50	0.85-1.15	ND	---	ND	0.522	28.79	---
PW17-31	10-Dec-19	19:50	23:27	1.264	29.31	50	0.85-1.15	5	---	ND	0.571	28.74	---
PW17-32	4-Jun-19	11:24	13:23	1.338	27.58	50	0.85-1.15	20	---	ND	0.332	27.25	Orange solids present
PW17-32	10-Dec-19	20:28	23:27	1.34	27.58	50	0.85-1.15	50	---	ND	0.395	27.19	---
PW17-33	4-Jun-19	11:32	13:23	0.872	27.53	50	0.85-1.15	ND	---	ND	0.246	27.28	Trace particulate matter present
PW17-33	10-Dec-19	20:49	23:27	1.267	27.53	50	0.85-1.15	5	---	ND	0.325	27.21	---

Notes:

1 - Elevations are in Parkland Datum = Geodetic Datum + 91.52 feet.

Abbreviations:

m - metres
m bgs - metres below ground surface
mASL - metres above sea level
mg/L - milligrams per liter
mm - millimetres
ppm - parts per million
--- - no observations

Acronyms:

DTW - depth to water
FPTS - Foreshore Passive Treatment System
ND - not detected
TOC - top of casing

TABLE 2
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<250	**390.**	**8.85**	**7.33**	<0.50	<0.75
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	**350.**	**510.**	**4.63**	**8.14**	<0.50	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<250	**190.**	**24.**	**0.84**	<0.50	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<250	**280.**	**10.6**	<0.50	<0.50	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Dec-19	L2395326	<250	<100	**7.23**	<0.50	<0.50	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<250	<100	**0.7**	<0.50	<0.50	<0.75
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-2 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											5-Jun-19		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-1 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											12-Dec-19		---	---	---	---	---	---

TABLE 2
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-3 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											5-Jun-19		---	---	---	---	---	---
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-2 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											12-Dec-19		---	---	---	---	---	---
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 1 (PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											6-Jun-19		---	---	---	---	---	---
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP 3 (PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											12-Dec-19		---	---	---	---	---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Jun-19	L2287095	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Jun-19	L2287095	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Jun-19	L2285149	<250	<100	**7.64**	<0.50	<0.50	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	<250	<100	**27.4**	<0.50	<0.50	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	4-Jun-19	L2285149	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	10-Dec-19	L2395326	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Dec-19	L2395640	<250	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	4-Jun-19	L2285149	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	4-Jun-19	L2285149	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-4	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-5	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	6-Jun-19	L2287095	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	10-Dec-19	L2395326	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	10-Dec-19	L2395326	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Dec-19	L2395640	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-4	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Dec-19	L2395640	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-5	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	12-Dec-19	L2396150	---	<100	<0.50	<0.50	<0.50	<0.75

TABLE 2
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Laboratory Report**						
TRAVEL BLANK-6	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	12-Dec-19	L2396150	---	<100	<0.50	<0.50	<0.50	<0.75

Notes:
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.
1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances
2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	Sample Concentration greater than Upper Cap

Abbreviations:
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
C - Compliance well
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
IBA - In between area
LEPHw - light extractable petroleum hydrocarbons in water
NA - not applicable
OC - organoclay
P - Performance well
PAC - powder activated carbon
RBMT - risk based management target
S - Sentry well
U - Up gradient well
VPHw - volatile petroleum hydrocarbons in water
W FPTS - Western Foreshore Passive Treatment System

TABLE 3
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**		
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.050
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	<0.0050	<0.050
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<0.0050	<0.050
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<0.0050	<0.050
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<0.0050	<0.050
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.050
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Dec-19	L2395640	<0.0050	<0.050
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<0.0050	<0.050
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Dec-19	L2395640	<0.0050	<0.050
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<0.0050	<0.050
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Dec-19	L2395640	<0.0050	<0.050
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	5-Jun-19	L2286145	<0.0050	<0.050
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	11-Dec-19	L2395640	<0.0050	<0.050
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Dec-19	L2395640	<0.0050	<0.050
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.050
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	<0.0050	<0.050
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<0.0050	<0.050
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	<0.0050	<0.050
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.050
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	<0.0050	<0.050
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	<0.0050	<0.050
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.70
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<0.0050	<0.60
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<0.0050	<0.060
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<0.0050	<0.10
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<0.0050	<0.050
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<0.0050	<0.050
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Jun-19	L2285149	<0.0050	<0.050
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Dec-19	L2395326	<0.0050	<0.050
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050

TABLE 3
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**		
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	<0.0050	<0.10
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<0.0050	<0.090
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<0.0050	<0.050
DUP-2 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	<0.0050	<0.050
QA/QC RPD											5-Jun-19		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<0.0050	<0.050
DUP-1 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<0.0050	<0.050
QA/QC RPD											12-Dec-19		---	---
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<0.0050	<0.050
DUP-3 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	<0.0050	<0.050
QA/QC RPD											5-Jun-19		---	---
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<0.0050	<0.050
DUP-2 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<0.0050	<0.050
QA/QC RPD											12-Dec-19		---	---
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	<0.0050	<0.050
DUP 1(PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	<0.0050	<0.050
QA/QC RPD											6-Jun-19		---	---
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<0.0050	<0.050
DUP 3 (PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	<0.0050	<0.050
QA/QC RPD											12-Dec-19		---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Jun-19	L2287095	<0.0050	<0.050
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	<0.0050	<0.050
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Jun-19	L2287095	<0.0050	<0.050
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	<0.0050	<0.050
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Jun-19	L2285149	<0.0050	<0.050
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	<0.0050	<0.050
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	<0.0050	<0.050
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	<0.0050	<0.050

TABLE 3
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**		
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	4-Jun-19	L2285149	<0.0050	<0.050
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	<0.0050	<0.050
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	10-Dec-19	L2395326	<0.0050	<0.050
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Dec-19	L2395640	<0.0050	<0.050

Notes:
< - Sample concentration less than the detection limit indicated.
1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances

2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.

3 - The Ministry of Environment and Climate Change Strategy (ENV) requires the co-reporting of PAHs when LEPH and HEPH calculations are required, consequently, LEPH and HEPH must be co-reported with the corresponding PAH results. Benzo(a)pyrene and naphthalene are considered site specific contaminants of concern (COCs), all PAHs were analyzed to calculate LEPH and/or HEPH and were either not detected or detected below Updated Screening Levels (USLs). For the purpose of this monitoring report, these PAHs have not been tabulated; however, as it is an ENV requirement, the data has been included in the ALS laboratory reports provided in Appendix C.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	Sample Concentration greater than Upper Cap

Abbreviations:
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
BCAWQG - BC CSR Aquatic life quality guidelines
C - Compliance well
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
LEPH - Light Extractable Petroleum Hydrocarbons
HEPH - Heavy Extractable Petroleum Hydrocarbons
IBA - In between area
NA - not applicable
NS - no standard established for indicated parameter.
OC - organoclay
P - Performance well
PAC - powder activated carbon
PAH - Polycyclic Aromatic Hydrocarbons
RBMT - risk based management target
S - Sentry well
U - Up gradient well
USL - Upper Cap Standard Limit
W FPTS - Western Foreshore Passive Treatment System

TABLE 4
CONCENTRATIONS OF DISSOLVED METALS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
Sample ID	**Matrix**	**Sample Location**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**	**Total/ Dissolved**		
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	D	**0.63**	**2.7**
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	D	**0.36**	**2.**
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	D	**0.64**	**1.2**
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	D	**0.38**	<1.0
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	**0.58**	<1.0
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	D	**0.4**	<1.0
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	D	<0.20	**1.3**
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Dec-19	L2395640	D	<0.20	<1.0
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	D	**1.6**	**3.7**
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Dec-19	L2395640	D	**3.23**	<1.0
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	D	<0.20	<1.0
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Dec-19	L2395640	D	<0.20	<1.0
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	5-Jun-19	L2286145	D	**0.48**	**3.3**
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	11-Dec-19	L2395640	D	**0.27**	**1.4**
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	D	**0.63**	<1.0
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Dec-19	L2395640	D	**0.39**	<1.0
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	D	<0.20	**1.2**
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395640	D	<0.20	**1.3**
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	D	**0.72**	**3.5**
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395640	D	**0.77**	**1.4**
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	4-Jun-19	L2285149	D	<4.0	<20
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Dec-19	L2395326	D	<0.20	<1.0
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	**0.64**	<1.0
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	**0.32**	<1.0
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286145	D	**1.25**	**1.7**
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	D	**1.2**	**1.6**
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286145	D	**0.6**	**3.6**
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	**0.83**	**3.5**
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	D	<4.0	<20
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	D	**0.21**	**1.2**
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	D	**0.33**	**3.7**
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	D	<1.0	<5.0
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	D	<1.0	<5.0
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	D	<0.20	**1.4**
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	D	<2.0	**15.**
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	D	<0.20	**4.8**
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Jun-19	L2285149	D	**2.9**	<10
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Dec-19	L2395326	D	**1.02**	**2.6**
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Jun-19	L2285149	D	<2.0	<10
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Dec-19	L2395326	D	**0.76**	**2.5**
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286145	D	<1.0	<5.0
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	D	<1.0	<5.0
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	D	<2.0	<10
DUP-2 (PW17-22)	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286145	D	<4.0	<20

TABLE 4
CONCENTRATIONS OF DISSOLVED METALS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
Sample ID	**Matrix**	**Sample Location**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**	**Total/ Dissolved**		
QA/QC RPD										5-Jun-19			---	---
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	D	**0.53**	**1.2**
DUP-1 (PW17-22)	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	D	**0.49**	<1.
QA/QC RPD										12-Dec-19			---	---
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	D	<2.0	**16.**
DUP-3 (PW17-23)	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286145	D	<4.0	<20
QA/QC RPD										5-Jun-19			---	---
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	D	**0.33**	**1.4**
DUP-2 (PW17-23)	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	D	**0.32**	**2.4**
QA/QC RPD										12-Dec-19			---	---
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	<4.0	<20
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	<0.2	<1.
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	**1.56**	**2.6**
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	**0.68**	<1.0
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	D	**0.41**	**3.4**
DUP 1(PW17-26)	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287095	D	<0.40	**3.5**
QA/QC RPD										6-Jun-19			---	---
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	D	**0.3**	**2.1**
DUP 3 (PW17-26)	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396150	D	**0.22**	**1.6**
QA/QC RPD										12-Dec-19			---	---
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Jun-19	L2287095	D	**0.4**	**1.9**
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396150	D	**0.31**	**1.2**
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Jun-19	L2287095	D	<4.0	<20
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396150	D	<0.2	**1.4**
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Jun-19	L2285149	D	<2.0	<10
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395326	D	<0.2	**2.**
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285149	D	<4.0	<20
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395326	D	**0.63**	<1.0
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	<4.0	<20
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	**0.75**	**2.6**
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	**1.3**	**6.1**
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	**2.22**	**6.8**
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285149	D	<1.0	<5.0
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395326	D	<0.2	**1.7**
R-BLANK-1	NA	NA	CRC ICPMS	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	D	<0.20	<1.0
R-BLANK-2	NA	NA	CRC ICPMS	NA	NA	NA	NA	NA	NA	5-Jun-19	L2286145	D	<0.20	<1.0
R-BLANK-1	NA	NA	CRC ICPMS	NA	NA	NA	NA	NA	NA	10-Dec-19	L2395326	D	<0.20	<1.0

TABLE 4
CONCENTRATIONS OF DISSOLVED METALS IN POREWATER SAMPLES IN 2019 (µg/L [ppb])
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY

AECOM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
Sample ID	**Matrix**	**Sample Location**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**	**Total/ Dissolved**		
R-BLANK-2	NA	NA	CRC ICPMS	NA	NA	NA	NA	NA	NA	11-Dec-19	L2395640	D	<0.20	<1.0

Notes:
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.
1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances

2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	Sample Concentration greater than Upper Cap

Abbreviations:
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
C - Compliance well
CRC ICPMS - Collision/Reaction Cells Inductively Coupled Plasma Mass Spectrometry
D - dissolved metals
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System

OC - organoclay
P - Performance well
PAC - powder activated carbon
RBMT - risk based management target
S - Sentry well
SW - surface water samples
T - total metals
U - Up gradient well
W FPTS - Western Foreshore Passive Treatment System

TABLE 5
FIELD AND POREWATER QUALITY PARAMETERS IN 2019
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

AECOM

Sample ID	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Report	pH	Temperature	Electrical Conductivity (µS/cm)	Salinity (ppt)	ORP	DO (mg/L)	Turbidity (NTU)	Total Dissolved Solids (g/L)
Applicable Standard											NS	NS	NS	NS	NS	NS	NS	NS
PW17-01	Porewater	PW17-01	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286143	**6.60**	**12.97**	**16221**	**12.65**	**145.6**	**7.24**	**4.13**	**13.68**
PW17-01	Porewater	PW17-01	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395633	**7.68**	**9.21**	**31620**	**19.61**	**85.3**	**7.95**	**1.47**	**20.56**
PW17-02	Porewater	PW17-02	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286143	**6.65**	**13.44**	**20088**	**15.78**	**127.1**	**4.09**	**3.53**	**16.77**
PW17-02	Porewater	PW17-02	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395633	**7.81**	**9.45**	**20500**	**17.96**	**103.7**	**5.20**	**4.19**	**18.98**
PW17-03	Porewater	PW17-03	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**7.48**	**13.11**	**24633**	**19.89**	**122.2**	**5.01**	**8.49**	**20.73**
PW17-03	Porewater	PW17-03	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395633	**8.84**	**9.75**	**24060**	**21.23**	**50.5**	**4.70**	**19.4**	**22.10**
PW17-04	Porewater EAZ	PW17-04	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286143	**6.42**	**11.89**	**25253**	**21.11**	**96.5**	**2.48**	**27.6**	**21.89**
PW17-04	Porewater EAZ	PW17-04	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Dec-19	L2395633	**8.92**	**9.32**	**14930**	**12.77**	**8.1**	**3.65**	**47.5**	**13.86**
PW17-05	Porewater EAZ	PW17-05	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286143	**7.15**	**12.17**	**16621**	**13.26**	**97.1**	**3.97**	**209**	**14.25**
PW17-05	Porewater EAZ	PW17-05	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Dec-19	L2395633	**8.96**	**9.51**	**15000**	**12.75**	**-27.5**	**4.40**	**21.9**	**13.81**
PW17-06	Porewater	PW17-06	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286143	**8.22**	**12.08**	**6408**	**4.76**	**57.0**	**7.38**	**5.83**	**5.531**
PW17-06	Porewater	PW17-06	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Dec-19	L2395633	**8.92**	**9.54**	**14840**	**12.61**	**-46.5**	**1.84**	**1.20**	**13.680**
PW17-07	Porewater EAZ	PW17-07	S	W FPTS	0.70-1.00	0.7	1	Beach sand	3-Dec-18	L2205029	**7.24**	**9.70**	**17273**	**14.82**	**188.8**	**1.28**	**11.6**	**15.90**
PW17-07	Porewater EAZ	PW17-07	S	W FPTS	0.70-1.00	0.7	1	Beach sand	5-Jun-19	L2286143	**7.01**	**13.10**	**20375**	**16.15**	**101.9**	**2.36**	**1.39**	**17.10**
PW17-07	Porewater EAZ	PW17-07	S	W FPTS	0.70-1.00	0.7	1	Beach sand	11-Dec-19	L2395633	**8.58**	**9.77**	**22500**	**19.17**	**129.7**	**0.87**	**2.59**	**20.62**
PW17-08	Porewater	PW17-08	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285150	**7.54**	**12.96**	**22180**	**17.79**	**137.8**	**3.13**	**26.8**	**18.67**
PW17-08	Porewater	PW17-08	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Dec-19	L2395633	**9.03**	**9.81**	**24210**	**21.32**	**52.2**	**2.07**	**9.48**	**22.14**
PW17-09	Porewater	PW17-09	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286143	**6.39**	**13.12**	**13646**	**10.45**	**83.9**	**1.56**	**357**	**11.47**
PW17-09	Porewater	PW17-09	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Dec-19	L2395633	**6.91**	**9.51**	**28980**	**17.84**	**74.8**	**1.82**	**45.3**	**18.84**
PW17-10	Porewater	PW17-10	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286143	**7.08**	**12.88**	**24637**	**20.02**	**101.2**	**3.45**	**2.93**	**20.85**
PW17-10	Porewater	PW17-10	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-19	L2395633	**8.44**	**9.98**	**26990**	**23.94**	**130.2**	**1.20**	**3.1**	**24.69**
PW17-11	Porewater	PW17-11	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	4-Jun-19	L2285150	**7.43**	**13.33**	**17761**	**13.84**	**134.0**	**7.00**	**37.1**	**14.86**
PW17-11	Porewater	PW17-11	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Dec-19	L2395325	**7.40**	**9.93**	**20020**	**17.28**	**94.7**	**2.02**	**17.7**	**18.30**
PW17-12	Porewater	PW17-12	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**7.46**	**12.94**	**25240**	**20.52**	**132.0**	**6.60**	**39**	**21.32**
PW17-12	Porewater	PW17-12	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.24**	**9.83**	**25100**	**22.18**	**85.5**	**6.23**	**35.2**	**22.99**
PW17-13	Porewater	PW17-13	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	5-Jun-19	L2286143	**6.96**	**14.46**	**3981**	**2.69**	**100.8**	**6.97**	**11.2**	**3.237**
PW17-13	Porewater	PW17-13	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395325	**7.04**	**8.86**	**15250**	**13.24**	**110.1**	**6.24**	**5.93**	**14.350**
PW17-14	Porewater	PW17-14	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	5-Jun-19	L2286143	**6.38**	**14.22**	**12426**	**9.18**	**126.7**	**3.36**	**26.9**	**10.17**
PW17-14	Porewater	PW17-14	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.32**	**9.26**	**14420**	**12.31**	**93.7**	**6.20**	**457**	**13.39**
PW17-15	Porewater	PW17-15	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285150	**7.22**	**13.42**	**23603**	**18.84**	**128.3**	**5.00**	**67.9**	**19.72**
PW17-15	Porewater	PW17-15	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395325	**6.80**	**9.67**	**21900**	**19.27**	**67.8**	**6.02**	**68.7**	**20.33**
PW17-16	Porewater EAZ	PW17-16	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286143	**6.45**	**11.37**	**11263**	**8.90**	**-20.9**	**0.55**	**72**	**9.90**
PW17-16	Porewater EAZ	PW17-16	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396151	**6.59**	**8.86**	**2518**	**1.92**	**-430.8**	**1.28**	**235**	**2.358**
PW17-17	Porewater EAZ	PW17-17	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	4-Jun-19	L2286143	**6.68**	**11.65**	**1957**	**1.37**	**-44.1**	**0.21**	**186**	**1.708**
PW17-17	Porewater EAZ	PW17-17	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396151	**6.55**	**9.12**	**1950**	**1.46**	**-432.4**	**1.22**	**266**	**1.821**
PW17-18	Porewater	PW17-18	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	4-Jun-19	L2286143	**7.03**	**11.49**	**2760**	**1.97**	**-18.5**	**1.66**	**9.49**	**2.420**
PW17-18	Porewater	PW17-18	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396151	**6.35**	**9.56**	**9324**	**7.63**	**-400.4**	**1.23**	**174**	**8.616**
PW17-19	Porewater	PW17-19	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Jun-19	L2285150	**6.38**	**13.73**	**6651**	**4.74**	**76.3**	**4.05**	**134**	**5.508**
PW17-19	Porewater	PW17-19	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Dec-19	L2395325	**6.65**	**9.36**	**8184**	**6.64**	**41.6**	**0.67**	**125**	**7.479**
PW17-20	Porewater EAZ	PW17-20	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Jun-19	L2285150	**6.53**	**14.29**	**9980**	**7.23**	**115.9**	**7.16**	**13.2**	**8.155**
PW17-20	Porewater EAZ	PW17-20	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Dec-19	L2395325	**6.42**	**9.56**	**11850**	**9.88**	**41.3**	**0.99**	**6.74**	**10.930**
PW17-21	Porewater EAZ	PW17-21	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207438	**6.94**	**7.00**	**1383**	**1.08**	**134.0**	**3.40**	**53.10**	**1.37**
PW17-21	Porewater EAZ	PW17-21	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Jun-19	L2286143	**6.96**	**13.04**	**922**	**0.60**	**-17.1**	**5.02**	**9.17**	**0.777**
PW17-21	Porewater EAZ	PW17-21	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396151	**6.63**	**9.54**	**2,027**	**1.51**	**-316.1**	**6.07**	**6.50**	**1.880**

TABLE 5
FIELD AND POREWATER QUALITY PARAMETERS IN 2019
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

AECOM

											pH	Temperature	Electrical Conductivity (µS/cm)	Salinity (ppt)	ORP	DO (mg/L)	Turbidity (NTU)	Total Dissolved Solids (g/L)
PW17-22	Porewater EAZ	PW17-22	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286143	**7.04**	**12.21**	**2944.**	**2.07**	**42.6**	**2.96**	**3.41**	**2.527**
DUP-2(PW17-22)	Porewater EAZ	PW17-22	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Jun-19	L2286143	**7.04**	**12.21**	**2944.**	**2.07**	**42.6**	**2.96**	**3.41**	**2.527**
QA/QC RPD									5-Jun-19		---	---	---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396151	**9.28**	**9.00**	**5419.**	**4.33**	**9.1**	**1.87**	**3.67**	**5.069**
DUP-1(PW17-22)	Porewater EAZ	PW17-22	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396151	**9.28**	**9.00**	**5419.**	**4.33**	**9.1**	**1.87**	**3.67**	**5.069**
QA/QC RPD									12-Dec-19		---	---	---	---	---	---	---	---
PW17-23	Porewater	PW17-23	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286143	**7.37**	**12.05**	**1683**	**1.15**	**66.2**	**3.68**	**11.1**	**1.453**
DUP-3 (PW17-23)	Porewater	PW17-23	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Jun-19	L2286143	**7.37**	**12.05**	**1683**	**1.15**	**66.2**	**3.68**	**11.1**	**1.453**
QA/QC RPD									5-Jun-19		---	---	---	---	---	---	---	---
PW17-23	Porewater	PW17-23	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396151	**6.99**	**9.13**	**7193**	**5.84**	**-395.8**	**3.89**	**1.25**	**6.705**
DUP-2 (PW17-23)	Porewater	PW17-23	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396151	**6.99**	**9.13**	**7193**	**5.84**	**-395.8**	**3.89**	**1.25**	**6.705**
QA/QC RPD									12-Dec-19		---	---	---	---	---	---	---	---
PW17-24	Porewater	PW17-24	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**7.16**	**13.77**	**11530**	**8.56**	**139.4**	**5.83**	**22.6**	**9.527**
PW17-24	Porewater	PW17-24	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.10**	**9.12**	**15870**	**13.72**	**80.8**	**7.05**	**571**	**14.810**
PW17-25	Porewater	PW17-25	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**7.64**	**14.49**	**16033**	**12.02**	**149.7**	**8.60**	**23.1**	**13.08**
PW17-25	Porewater	PW17-25	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.12**	**9.72**	**21980**	**19.24**	**179.8**	**5.20**	**33.9**	**20.19**
PW17-26	Porewater EAZ	PW17-26	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287091	**6.61**	**12.37**	**2,247**	**1.55**	**0.1**	**0.76**	**61**	**1.925**
DUP 1 (PW17-26)	Porewater EAZ	PW17-26	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Jun-19	L2287091	**6.61**	**12.37**	**2,247**	**1.55**	**0.1**	**0.76**	**61**	**1.925**
QA/QC RPD									6-Jun-19		---	---	---	---	---	---	---	---
PW17-26	Porewater EAZ	PW17-26	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396151	**6.70**	**9.06**	**1,322**	**0.97**	**-315.4**	**1.89**	**44.9**	**1.234**
DUP 3 (PW17-26)	Porewater EAZ	PW17-26	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-19	L2396151	**6.70**	**9.06**	**1,322**	**0.97**	**-315.4**	**1.89**	**44.9**	**1.234**
QA/QC RPD									12-Dec-19		---	---	---	---	---	---	---	---
PW17-27	Porewater EAZ	PW17-27	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Jun-19	L2287091	**6.97**	**11.72**	**7,010**	**5.29**	**42.0**	**2.32**	**14.6**	**6.108**
PW17-27	Porewater EAZ	PW17-27	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Dec-19	L2396151	**8.08**	**8.67**	**6,744**	**5.52**	**26.0**	**2.59**	**6.61**	**6.367**
PW17-28	Porewater	PW17-28	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Jun-19	L2287091	**7.66**	**11.85**	**1,003**	**0.67**	**48.7**	**6.50**	**8.71**	**0.865**
PW17-28	Porewater	PW17-28	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Dec-19	L2396151	**8.75**	**8.82**	**4,876**	**3.88**	**17.7**	**3.70**	**2.41**	**4.582**
PW17-29	Porewater	PW17-29	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Jun-19	L2285150	**7.20**	**13.80**	**11,883**	**8.84**	**180.1**	**7.85**	**8.6**	**9.825**
PW17-29	Porewater	PW17-29	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Dec-19	L2395325	**6.93**	**9.36**	**14,470**	**12.33**	**63.9**	**1.95**	**8.55**	**13.420**
PW17-30	Porewater	PW17-30	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Jun-19	L2285150	**7.51**	**15.31**	**9,700**	**6.84**	**179.5**	**6.80**	**4.17**	**7.741**
PW17-30	Porewater	PW17-30	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Dec-19	L2395325	**7.44**	**9.38**	**15,020**	**12.54**	**96.3**	**7.29**	**8.03**	**13.480**
PW17-31	Porewater	PW17-31	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**6.85**	**14.93**	**3,192**	**2.11**	**178.3**	**7.68**	**2.49**	**2.57**
PW17-31	Porewater	PW17-31	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.10**	**8.36**	**6,154**	**5.05**	**137.1**	**8.30**	**11.20**	**5.862**
PW17-32	Porewater	PW17-32	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**6.09**	**14.41**	**7,798**	**5.53**	**188.0**	**6.82**	**112**	**6.354**
PW17-32	Porewater	PW17-32	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**5.85**	**8.92**	**7,805**	**6.41**	**121.6**	**4.90**	**110**	**7.322**
PW17-33	Porewater	PW17-33	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Jun-19	L2285150	**7.03**	**14.56**	**6,845**	**4.79**	**176.0**	**4.50**	**6.36**	**5.56**
PW17-33	Porewater	PW17-33	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Dec-19	L2395325	**7.23**	**9.22**	**8,890**	**7.30**	**164.5**	**2.39**	**42.60**	**8.256**

BOLD Sample concentration is detected

Abbreviations
µS/cm - microsiemens per centimetre
g/L - grams per litre
m - metres
mg/L - milligrams per litre
mm - millimetres
NTU - nephelometric turbidity units
ppt - parts per thousand

Acronyms
AG - Aquagate
C - Compliance well
DO - dissolved oxygen
DTW - depth to water
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
IBA - In between area
NA - not applicable
NM - not measured
NS - no standard established for indicated parameter
OC - organoclay
ORP - oxidation reduction potential
P - Performance well
PAC - powder activated carbon
S - Sentry well
U - Up gradient well
W FPTS - Western Foreshore Passive Treatment System

TABLE 6
FORESHORE PASSIVE TREATMENT SYSTEM INSPECTIONS IN 2019
FORESHORE POST FPTS CONSTRUCTION
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Date	FPTS	Rip Rap layer maintained at 1.4m	Cobble layer above OBB surface layer maintained at 0.4m	Rip Rap or Cobble replacement Required [1]	Vegetation present above treatment cells or OBB surface layer	Vegetation Removal Required	Damaged Monitoring Wells	Comments
25-Mar-19	Eastern	Yes	Yes	No	Small weeds present	Hand pulled larger plants, no further action required.	No	Minor chips observed on well lid and/or casing rim of most wells. A small portion of OBB exposed at Western FPTS. This was repaired by hand excavating 1 m^2 around the exposed portion of the OBB and re-installing it to a depth of 0.4 m below grade and covered with sand and cobbles. The work was conducted at low tide to minimize impacts to aquatic life. Geogrid and filter fabric exposed in four areas along the contact point between the rip rap and cobble interface of the Eastern FPTS. Thickness of cobble mat determined by height of protective casing exposed above grade at PW17-7, PW17-8, PW17-19, PW17-24, PW17-25, and PW17-29. Thickness of cobble mat above OBB surface was determined to range between 0.4 m and 0.5 m. Sparse cobble mat coverage was observed along southwest edge of the Western FPTS Rocks interfered with tape while measuring rip rap thickness - believed to be >1.4 m.
	Western	Yes	Yes	No	One thorn bush present	Hand pulled larger plants, no further action required.	No	
4-Jun-19	Eastern	NM	Yes	No	NM	NA	No	Minor chips observed on well lid and/or casing rim of most wells. Geogrid and filter fabric exposed in nine areas (six on the Eastern FPTS and three on the Western FPTS) along the contact point between the rip rap and cobble interface. Two hand dug test pits (TP) completed down slope of the Eastern FPTS to determine thickness of the cobble layer TP1: Sand 0-0.13 m; cobbles 0.13-0.30 m. TP2: Sand 0-0.13 m; cobbles 0.13-0.38 m.
	Western	NM	Yes	No	NM	NA	No	
11-Sep-19	Eastern	Yes	Yes	No	Small weeds and tree saplings present among upgradient wells	Hand pulled larger plants, additional removal may be required.	No	Minor chips observed on well lid and/or casing rim of most wells. Geogrid and filter fabric exposed in ten areas. Six areas on the Eastern FPTS and three areas on the Western FPTS along the contact point between the rip rap and cobble interface. One area of geogrid was exposed east of the rip rap of the Western FPTS. Three hand dug test pits completed: two down slope of Eastern FPTS and one down slope of the Western FPTS. TP1: Sand 0-0.12 m; cobbles 0.12-0.38 m. TP2: Sand 0-0.07 m; cobbles 0.07-0.42 m. TP3: Cobbles 0-0.43 m
	Western	Yes	Yes	No	Small weeds present	None	No	
10-Dec-19	Eastern	Yes	Yes	No	No	No	No	Minor chips observed on well lid and/or casing rim of most wells. Geogrid and filter fabric exposed in ten areas. Six areas on the Eastern FPTS and three areas of Western FPTS along the contact point between the rip rap and cobble interface. One area of geogrid was exposed east of the rip rap of the Western FPTS. Three hand dug test pits completed: two down slope of Eastern FPTS and one down slope of the Western FPTS. TP1: Sand 0-0.20 m; cobbles 0.20-0.43 m. TP2: Sand 0-0.14 m; cobbles 0.14-0.41 m. TP3: Cobbles 0-0.44 m
	Western	Yes	Yes	No	No	Hand pulled larger plants, no further action required.	No	

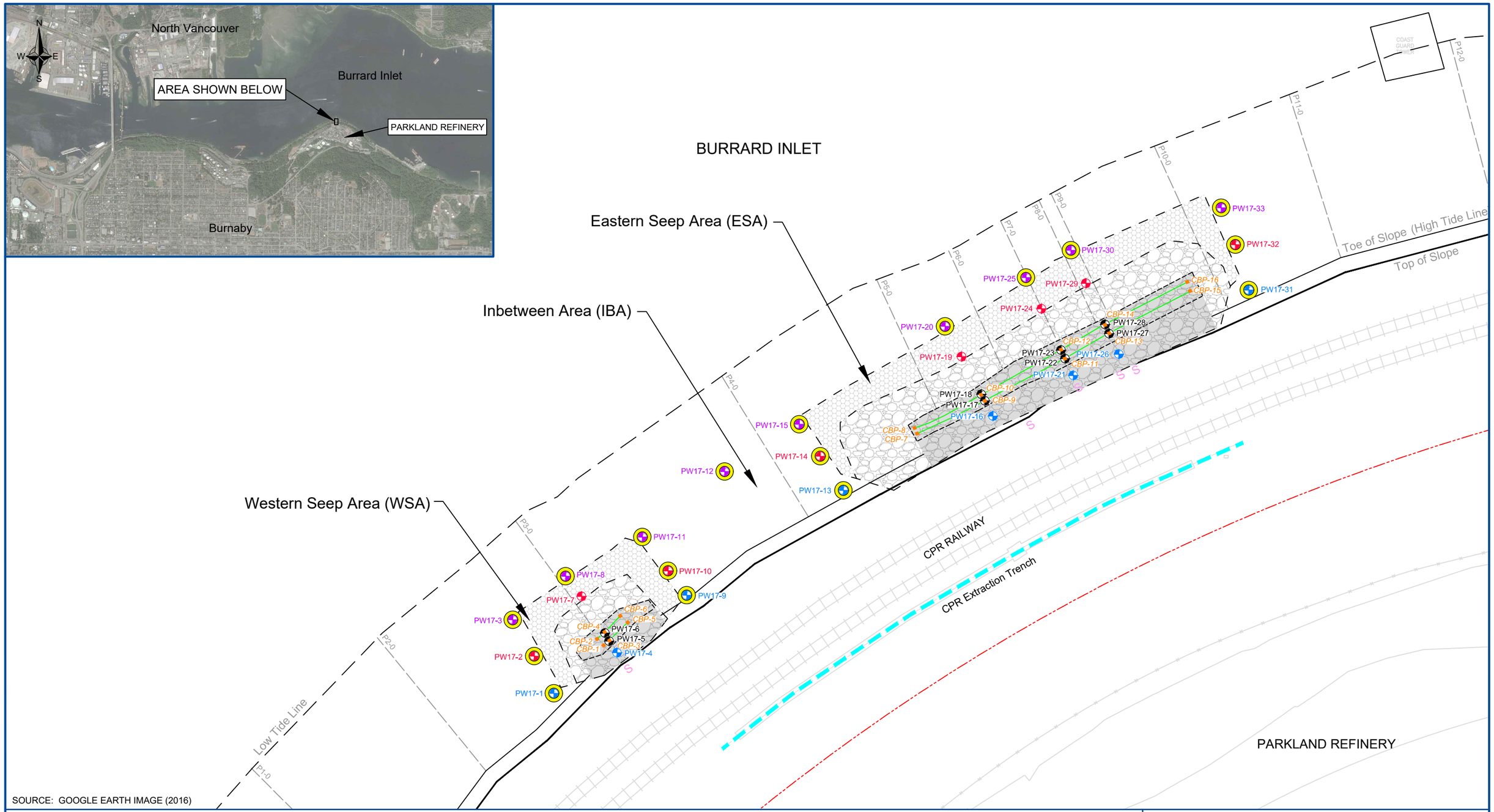
Notes and Abbreviations:

1. Several areas of geogrid and filter fabric near the Eastern and Western FPTS were identified as exposed during inspections completed in 2019. Parkland plans to cover these exposed areas with additional cobbles and/or rip rap in the summer of 2021.

FPTS - Foreshore Passive Treatment System

NM - Not monitored **NA** - Not applicable **FPTS** - Foreshore Passive Treatment System

Figures



SOURCE: GOOGLE EARTH IMAGE (2016)

LEGEND:

- Property Line
- Fence Line
- Foreshore Sampling Transect
- CPR Extraction Trench
- Impermeable Sheet
- Cobble Mat
- Rip Rap Embankment
- French Drain
- NAPL Seep Observed in 2010
- Contingency Biodegradational Piping

POREWATER SAMPLES

- Compliance Well
- Sentry Well
- Performance Well
- Up Gradient Well
- ENV Requires Notifications²

ABBREVIATIONS:

COC	Contaminants of Concern
CPR	Canadian Pacific Railway
ENV	BC Ministry of Environment & Climate Change Strategy
NAPL	Non-Aqueous Phase Liquid
RBMT	Risk-Based Management Targets

NOTES:

1. The Foreshore Passive Treatment System (FPTS) was installed between July 12 and October 21, 2017.
2. BC ENV requires written notification within 30 days of exceedances of COCs above RBMTs in select wells.
3. BC ENV requires immediate verbal and written notification of COCs above Upper Cap Concentrations (Protocol 11) in all wells.

GRID NORTH

N W E S

metres 0 10 20

AECOM

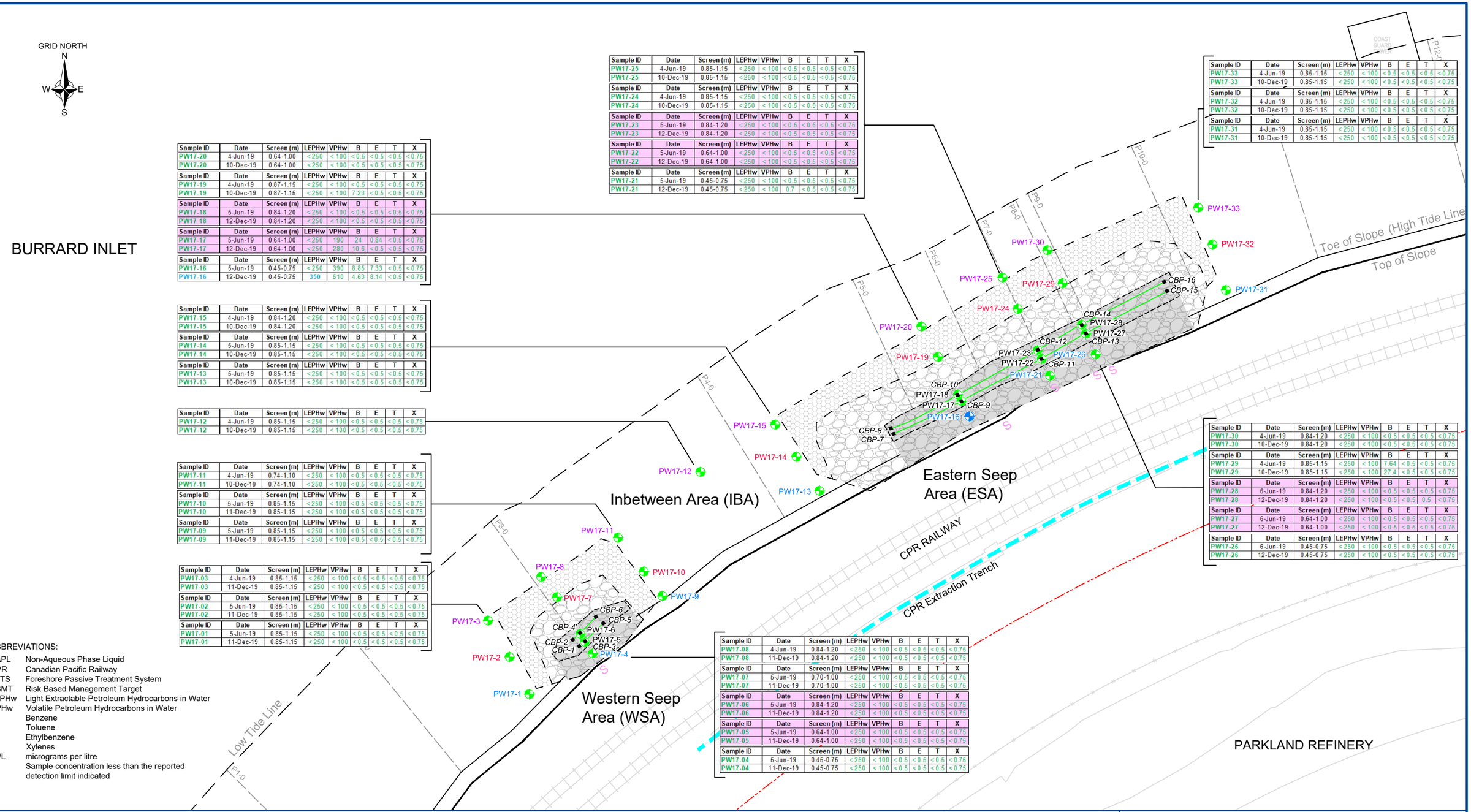
SITE MAP AND FORESHORE SAMPLING LOCATIONS

Foreshore 2019 Annual Monitoring Report,
Foreshore Below Area 2 - Parkland Refinery, Burnaby, B.C.

PARKLAND REFINING (B.C.) LTD.

DATE:	PROJECT NO.:	DRAWN BY:	REVISION NO.:	DRAWING NO.:
February 2020	60601814	NT	0	FIGURE 1

FILE NAME: \\cabny1fp001\prod\1686\Projects\URS-CHEVRON\60601814 2019 Foreshore Monitoring\900-CAD_GIS\910-CAD\05-MODELS\C\2019 Figures\F01 - Site Map and Foreshore Sampling Locations 2020-01-16 - 60601814.dwg



Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-25	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-25	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-24	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-24	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-23	5-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-23	12-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-22	5-Jun-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-22	12-Dec-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-21	5-Jun-19	0.45-0.75	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-21	12-Dec-19	0.45-0.75	<250	<100	0.7	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-33	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-33	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-32	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-32	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-31	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-31	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-20	4-Jun-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-20	10-Dec-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-19	4-Jun-19	0.87-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-19	10-Dec-19	0.87-1.15	<250	<100	7.23	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-18	5-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-18	12-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-17	5-Jun-19	0.64-1.00	<250	190	24	0.84	<0.5	<0.75
PW17-17	12-Dec-19	0.64-1.00	<250	280	10.6	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-16	5-Jun-19	0.45-0.75	<250	390	8.85	7.33	<0.5	<0.75
PW17-16	12-Dec-19	0.45-0.75	350	510	4.63	8.14	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-15	4-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-15	10-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-14	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-14	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-13	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-13	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-12	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-12	10-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-11	4-Jun-19	0.74-1.10	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-11	10-Dec-19	0.74-1.10	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-10	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-10	11-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-09	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-09	11-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-03	4-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-03	11-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-02	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-02	11-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-01	5-Jun-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-01	11-Dec-19	0.85-1.15	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-30	4-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-30	10-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-29	4-Jun-19	0.85-1.15	<250	<100	7.64	<0.5	<0.5	<0.75
PW17-29	10-Dec-19	0.85-1.15	<250	<100	27.4	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-28	6-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-28	12-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-27	6-Jun-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-27	12-Dec-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-26	6-Jun-19	0.45-0.75	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-26	12-Dec-19	0.45-0.75	<250	<100	<0.5	<0.5	<0.5	<0.75

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X
PW17-08	4-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-08	11-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-07	5-Jun-19	0.70-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-07	11-Dec-19	0.70-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-06	5-Jun-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-06	11-Dec-19	0.84-1.20	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-05	5-Jun-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-05	11-Dec-19	0.64-1.00	<250	<100	<0.5	<0.5	<0.5	<0.75
Sample ID	**Date**	**Screen (m)**	**LEPHw**	**VPHw**	**B**	**E**	**T**	**X**
PW17-04	5-Jun-19	0.45-0.75	<250	<100	<0.5	<0.5	<0.5	<0.75
PW17-04	11-Dec-19	0.45-0.75	<250	<100	<0.5	<0.5	<0.5	<0.75

ABBREVIATIONS:

NAPL	Non-Aqueous Phase Liquid
CPR	Canadian Pacific Railway
FPTS	Foreshore Passive Treatment System
RBMT	Risk Based Management Target
LEPHw	Light Extractable Petroleum Hydrocarbons in Water
VPHw	Volatile Petroleum Hydrocarbons in Water
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
ug/L	micrograms per litre
<	Sample concentration less than the reported detection limit indicated

LEGEND:

Property Line
Fence Line
Foreshore Sampling Transect
Monitoring Well
CPR Extraction Trench
Impermeable Sheet
Cobble Mat
Rip Rap Embankment
French Drain
NAPL Seep Observed in 2010
Contingency Biodegradational Piping

POREWATER SAMPLES

Compliance Well PW17-8
Sentry Well PW17-7
Performance Well PW17-6
Up Gradient Well PW17-4

Sample concentration less than applicable RBMTs
Sample concentration greater than applicable RBMTs

NOTE:
1. The well symbol has been colour coded to identify exceedances in the most recent sampling event.

All units in µg/L	LEPHw	VPHw	B	E	T	X
RBMT	300	1500	2100	320	770	330

Colour coding of symbols is based on the most recent lab result. SLR derived Risk Based Management Targets (RBMTs) that were accepted by the ENV on August 28, 2014. Details regarding the RBMTs, and associated correspondence are included in Appendix B of this report.

PINK BACKGROUND = FPTS TREATMENT CELL SAMPLE

metres
0 10 20

AECOM

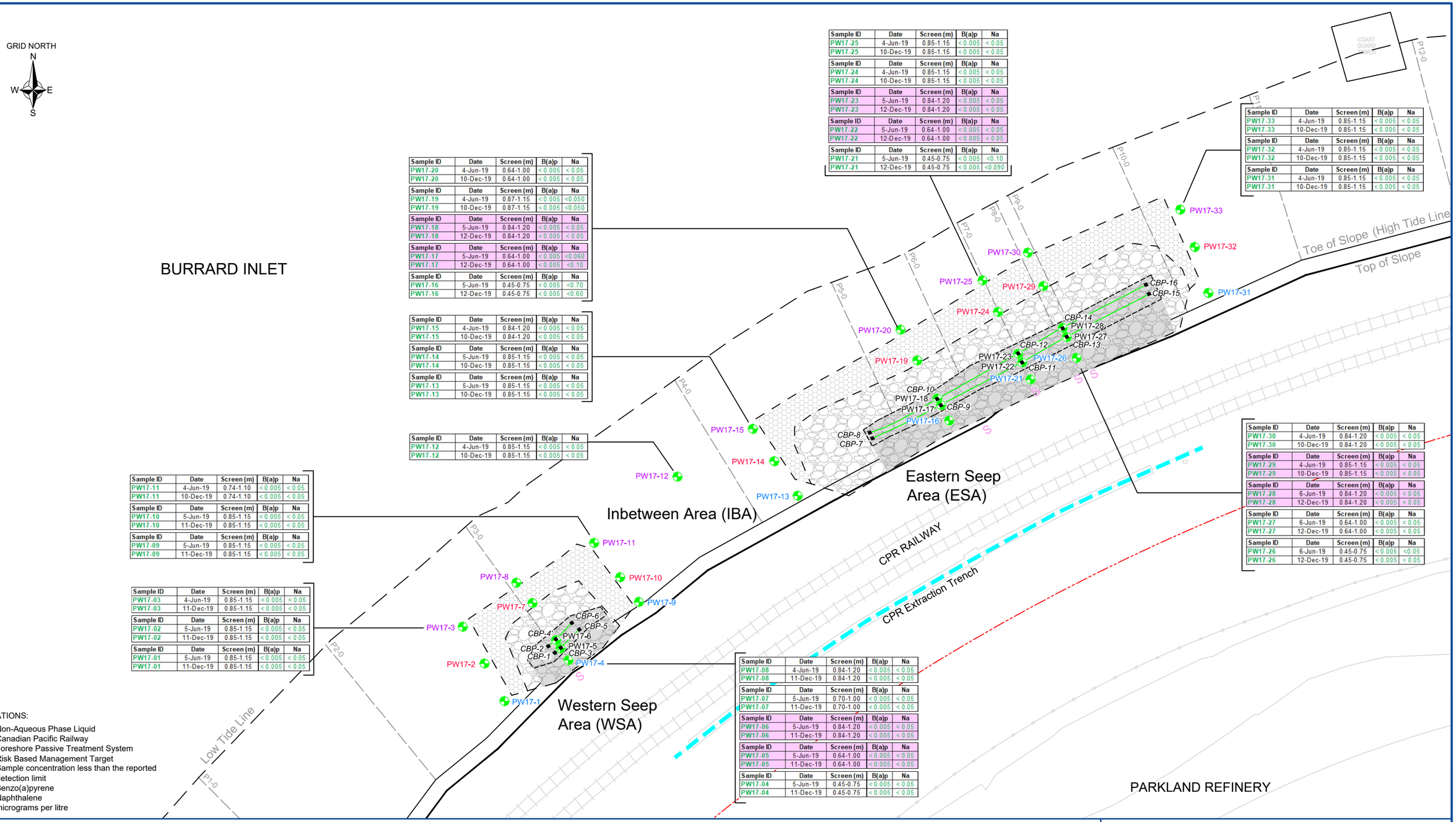
WATER ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS - 2019

Foreshore 2019 Annual Monitoring Report
Foreshore Below Area 2 - Parkland Refinery, Burnaby, BC

PARKLAND REFINING (B.C.) LTD.

DATE:	PROJECT NO.:	DRAWN BY:	REVISION NO.:	DRAWING NO.:
February 2020	60601814	NT	0	FIGURE 2

FILE NAME: \\cabny1fp001\prod\1686\Projects\URS-CHEVRON\60601814 2019 Foreshore Monitoring\900-CAD_GIS\910-CAD\05-MODELS\C\2019 Figures\FIG02 - Water Analytical Results for PHC (Sep-Dec 2019) 2020-01-16 - 60601814.dwg



Sample ID	Date	Screen (m)	B(a)p	Na
PW17-25	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-25	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-24	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-24	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-23	5-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-23	12-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-22	5-Jun-19	0.64-1.00	< 0.005	< 0.05
PW17-22	12-Dec-19	0.64-1.00	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-21	5-Jun-19	0.45-0.75	< 0.005	<0.10
PW17-21	12-Dec-19	0.45-0.75	< 0.005	<0.090

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-33	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-33	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-32	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-32	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-31	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-31	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-20	4-Jun-19	0.64-1.00	< 0.005	< 0.05
PW17-20	10-Dec-19	0.64-1.00	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-19	4-Jun-19	0.87-1.15	< 0.005	<0.050
PW17-19	10-Dec-19	0.87-1.15	< 0.005	<0.050

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-18	5-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-18	12-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-17	5-Jun-19	0.64-1.00	< 0.005	<0.060
PW17-17	12-Dec-19	0.64-1.00	< 0.005	<0.10

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-16	5-Jun-19	0.45-0.75	< 0.005	<0.70
PW17-16	12-Dec-19	0.45-0.75	< 0.005	<0.60

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-15	4-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-15	10-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-14	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-14	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-13	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-13	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-12	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-12	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-11	4-Jun-19	0.74-1.10	< 0.005	< 0.05
PW17-11	10-Dec-19	0.74-1.10	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-10	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-10	11-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-09	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-09	11-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-03	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-03	11-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-02	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-02	11-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-01	5-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-01	11-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-30	4-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-30	10-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-29	4-Jun-19	0.85-1.15	< 0.005	< 0.05
PW17-29	10-Dec-19	0.85-1.15	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-28	6-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-28	12-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-27	6-Jun-19	0.64-1.00	< 0.005	< 0.05
PW17-27	12-Dec-19	0.64-1.00	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-26	6-Jun-19	0.45-0.75	< 0.005	<0.05
PW17-26	12-Dec-19	0.45-0.75	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-08	4-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-08	11-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-07	5-Jun-19	0.70-1.00	< 0.005	< 0.05
PW17-07	11-Dec-19	0.70-1.00	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-06	5-Jun-19	0.84-1.20	< 0.005	< 0.05
PW17-06	11-Dec-19	0.84-1.20	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-05	5-Jun-19	0.64-1.00	< 0.005	< 0.05
PW17-05	11-Dec-19	0.64-1.00	< 0.005	< 0.05

Sample ID	Date	Screen (m)	B(a)p	Na
PW17-04	5-Jun-19	0.45-0.75	< 0.005	< 0.05
PW17-04	11-Dec-19	0.45-0.75	< 0.005	< 0.05

ABBREVIATIONS:

NAPL	Non-Aqueous Phase Liquid
CPR	Canadian Pacific Railway
FPTS	Foreshore Passive Treatment System
RBMT	Risk Based Management Target
<	Sample concentration less than the reported detection limit
B(a)p	Benzo(a)pyrene
Na	Naphthalene
ug/L	micrograms per litre

LEGEND:

Property Line
Fence Line
Foreshore Sampling Transect
Monitoring Well
CPR Extraction Trench
Impermeable Sheet
Cobble Mat
Rip Rap Embankment
French Drain
NAPL Seep Observed in 2010
Contingency Biodegradational Piping

POREWATER SAMPLES

Compliance Well	PW17-8
Sentry Well	PW17-7
Performance Well	PW17-6
Up Gradient Well	PW17-4

Sample concentration less than applicable RBMTs

Sample concentration greater than applicable RBMTs

NOTE:
1. The well symbol has been colour coded to identify exceedances in the most recent sampling event.

All units in µg/L	B(a)p	Na
RBMT	0.28	44

Colour coding of symbols is based on the most recent lab result. SLR derived Risk Based Management Targets (RBMTs) that were accepted by the ENV on August 28, 2014. Details regarding the RBMTs, and associated correspondence are included in Appendix B of this report.

PINK BACKGROUND = FPTS TREATMENT CELL SAMPLE

metres
0 10 20

AECOM

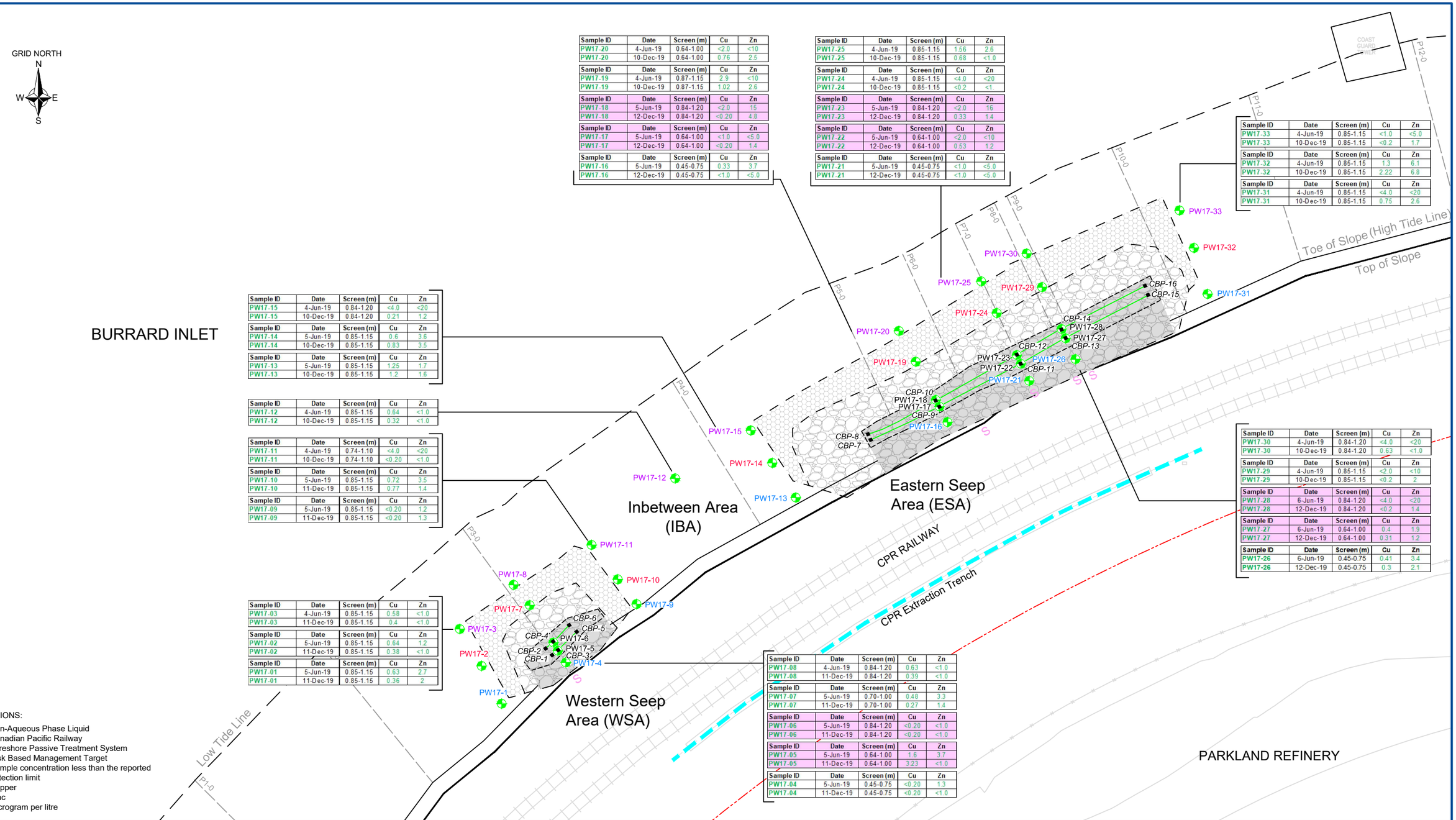
WATER ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS - 2019

Foreshore 2019 Annual Monitoring Report
Foreshore Below Area 2 - Parkland Refinery, Burnaby, BC

PARKLAND REFINING (B.C.) LTD.

DATE:	PROJECT NO.:	DRAWN BY:	REVISION NO.:	DRAWING NO.:
February 2020	60601814	NT	0	FIGURE 3

FILE NAME: \\cabny1fp001\prod\1686\Projects\URS-CHEVRON\60601814 2019 Foreshore Monitoring\900-CAD_GIS\910-CAD\05-MODELS\C\2019 Figures\FIG03 - Water Analytical Results for PAH (Sep-Dec 2019) 2020-01-16 - 60601814.dwg



Sample ID	Date	Screen (m)	Cu	Zn
PW17-20	4-Jun-19	0.64-1.00	<2.0	<10
PW17-20	10-Dec-19	0.64-1.00	0.76	2.5

Sample ID	Date	Screen (m)	Cu	Zn
PW17-19	4-Jun-19	0.87-1.15	2.9	<10
PW17-19	10-Dec-19	0.87-1.15	1.02	2.6

Sample ID	Date	Screen (m)	Cu	Zn
PW17-18	5-Jun-19	0.84-1.20	<2.0	15
PW17-18	12-Dec-19	0.84-1.20	<0.20	4.8

Sample ID	Date	Screen (m)	Cu	Zn
PW17-17	5-Jun-19	0.64-1.00	<1.0	<5.0
PW17-17	12-Dec-19	0.64-1.00	<0.20	1.4

Sample ID	Date	Screen (m)	Cu	Zn
PW17-16	5-Jun-19	0.45-0.75	0.33	3.7
PW17-16	12-Dec-19	0.45-0.75	<1.0	<5.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-25	4-Jun-19	0.85-1.15	1.56	2.6
PW17-25	10-Dec-19	0.85-1.15	0.68	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-24	4-Jun-19	0.85-1.15	<4.0	<20
PW17-24	10-Dec-19	0.85-1.15	<0.2	<1.

Sample ID	Date	Screen (m)	Cu	Zn
PW17-23	5-Jun-19	0.84-1.20	<2.0	16
PW17-23	12-Dec-19	0.84-1.20	0.33	1.4

Sample ID	Date	Screen (m)	Cu	Zn
PW17-22	5-Jun-19	0.64-1.00	<2.0	<10
PW17-22	12-Dec-19	0.64-1.00	0.53	1.2

Sample ID	Date	Screen (m)	Cu	Zn
PW17-21	5-Jun-19	0.45-0.75	<1.0	<5.0
PW17-21	12-Dec-19	0.45-0.75	<1.0	<5.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-33	4-Jun-19	0.85-1.15	<1.0	<5.0
PW17-33	10-Dec-19	0.85-1.15	<0.2	1.7

Sample ID	Date	Screen (m)	Cu	Zn
PW17-32	4-Jun-19	0.85-1.15	1.3	6.1
PW17-32	10-Dec-19	0.85-1.15	2.22	6.8

Sample ID	Date	Screen (m)	Cu	Zn
PW17-31	4-Jun-19	0.85-1.15	<4.0	<20
PW17-31	10-Dec-19	0.85-1.15	0.75	2.6

Sample ID	Date	Screen (m)	Cu	Zn
PW17-15	4-Jun-19	0.84-1.20	<4.0	<20
PW17-15	10-Dec-19	0.84-1.20	0.21	1.2

Sample ID	Date	Screen (m)	Cu	Zn
PW17-14	5-Jun-19	0.85-1.15	0.6	3.6
PW17-14	10-Dec-19	0.85-1.15	0.83	3.5

Sample ID	Date	Screen (m)	Cu	Zn
PW17-13	5-Jun-19	0.85-1.15	1.25	1.7
PW17-13	10-Dec-19	0.85-1.15	1.2	1.6

Sample ID	Date	Screen (m)	Cu	Zn
PW17-12	4-Jun-19	0.85-1.15	0.64	<1.0
PW17-12	10-Dec-19	0.85-1.15	0.32	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-11	4-Jun-19	0.74-1.10	<4.0	<20
PW17-11	10-Dec-19	0.74-1.10	<0.20	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-10	5-Jun-19	0.85-1.15	0.72	3.5
PW17-10	11-Dec-19	0.85-1.15	0.77	1.4

Sample ID	Date	Screen (m)	Cu	Zn
PW17-09	5-Jun-19	0.85-1.15	<0.20	1.2
PW17-09	11-Dec-19	0.85-1.15	<0.20	1.3

Sample ID	Date	Screen (m)	Cu	Zn
PW17-03	4-Jun-19	0.85-1.15	0.58	<1.0
PW17-03	11-Dec-19	0.85-1.15	0.4	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-02	5-Jun-19	0.85-1.15	0.64	1.2
PW17-02	11-Dec-19	0.85-1.15	0.38	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-01	5-Jun-19	0.85-1.15	0.63	2.7
PW17-01	11-Dec-19	0.85-1.15	0.36	2

Sample ID	Date	Screen (m)	Cu	Zn
PW17-30	4-Jun-19	0.84-1.20	<4.0	<20
PW17-30	10-Dec-19	0.84-1.20	0.63	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-29	4-Jun-19	0.85-1.15	<2.0	<10
PW17-29	10-Dec-19	0.85-1.15	<0.2	2

Sample ID	Date	Screen (m)	Cu	Zn
PW17-28	6-Jun-19	0.84-1.20	<4.0	<20
PW17-28	12-Dec-19	0.84-1.20	<0.2	1.4

Sample ID	Date	Screen (m)	Cu	Zn
PW17-27	6-Jun-19	0.64-1.00	0.4	1.9
PW17-27	12-Dec-19	0.64-1.00	0.31	1.2

Sample ID	Date	Screen (m)	Cu	Zn
PW17-26	6-Jun-19	0.45-0.75	0.41	3.4
PW17-26	12-Dec-19	0.45-0.75	0.3	2.1

Sample ID	Date	Screen (m)	Cu	Zn
PW17-08	4-Jun-19	0.84-1.20	0.63	<1.0
PW17-08	11-Dec-19	0.84-1.20	0.39	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-07	5-Jun-19	0.70-1.00	0.48	3.3
PW17-07	11-Dec-19	0.70-1.00	0.27	1.4

Sample ID	Date	Screen (m)	Cu	Zn
PW17-06	5-Jun-19	0.84-1.20	<0.20	<1.0
PW17-06	11-Dec-19	0.84-1.20	<0.20	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-05	5-Jun-19	0.64-1.00	1.6	3.7
PW17-05	11-Dec-19	0.64-1.00	3.23	<1.0

Sample ID	Date	Screen (m)	Cu	Zn
PW17-04	5-Jun-19	0.45-0.75	<0.20	1.3
PW17-04	11-Dec-19	0.45-0.75	<0.20	<1.0

ABBREVIATIONS:

NAPL	Non-Aqueous Phase Liquid
CPR	Canadian Pacific Railway
FPTS	Foreshore Passive Treatment System
RBMT	Risk Based Management Target
<	Sample concentration less than the reported detection limit
Cu	Copper
Zn	Zinc
ug/L	microgram per litre

LEGEND:

Property Line
Fence Line
Foreshore Sampling Transect
Monitoring Well
CPR Extraction Trench
Impermeable Sheet
Cobble Mat
Rip Rap Embankment
French Drain
NAPL Seep Observed in 2010
Contingency Biodegradational Piping

POREWATER SAMPLES

Compliance Well	PW17-8
Sentry Well	PW17-7
Performance Well	PW17-6
Up Gradient Well	PW17-4

Sample concentration less than applicable RBMTs

Sample concentration greater than applicable RBMTs

NOTE:
1. The well symbol has been colour coded to identify exceedances in the most recent sampling event.

All units in µg/L	Cu	Zn
RBMT	6.2	90

Colour coding of symbols and sample ID is based on the most recent lab result. SLR derived Risk Based Management Targets (RBMTs) that were accepted by the ENV on August 28, 2014. Details regarding the RBMTs, and associated correspondence are included in Appendix B of this report.

PINK BACKGROUND = FPTS TREATMENT CELL SAMPLE

0 10 20 metres

AECOM

WATER ANALYTICAL RESULTS FOR DISSOLVED METALS - 2019

Foreshore 2019 Annual Monitoring Report
Foreshore Below Area 2 - Parkland Refinery, Burnaby, BC

PARKLAND REFINING (B.C.) LTD.

DATE:	PROJECT NO.:	DRAWN BY:	REVISION NO.:	DRAWING NO.:
February 2020	60601814	NT	0	FIGURE 4

FILE NAME: \\cabny1fp001\prod\1686\Projects\URS-CHEVRON\60601814 2019 Foreshore Monitoring\900-CAD_GIS\910-CAD\05-MODELS\C\2019 Figures\FIG04 - Water Analytical Results for Metals (Sep-Dec 2019) 2020-01-16 - 60601814.dwg

PINK BACKGROUND = FPTS TREATMENT CELL SAMPLE

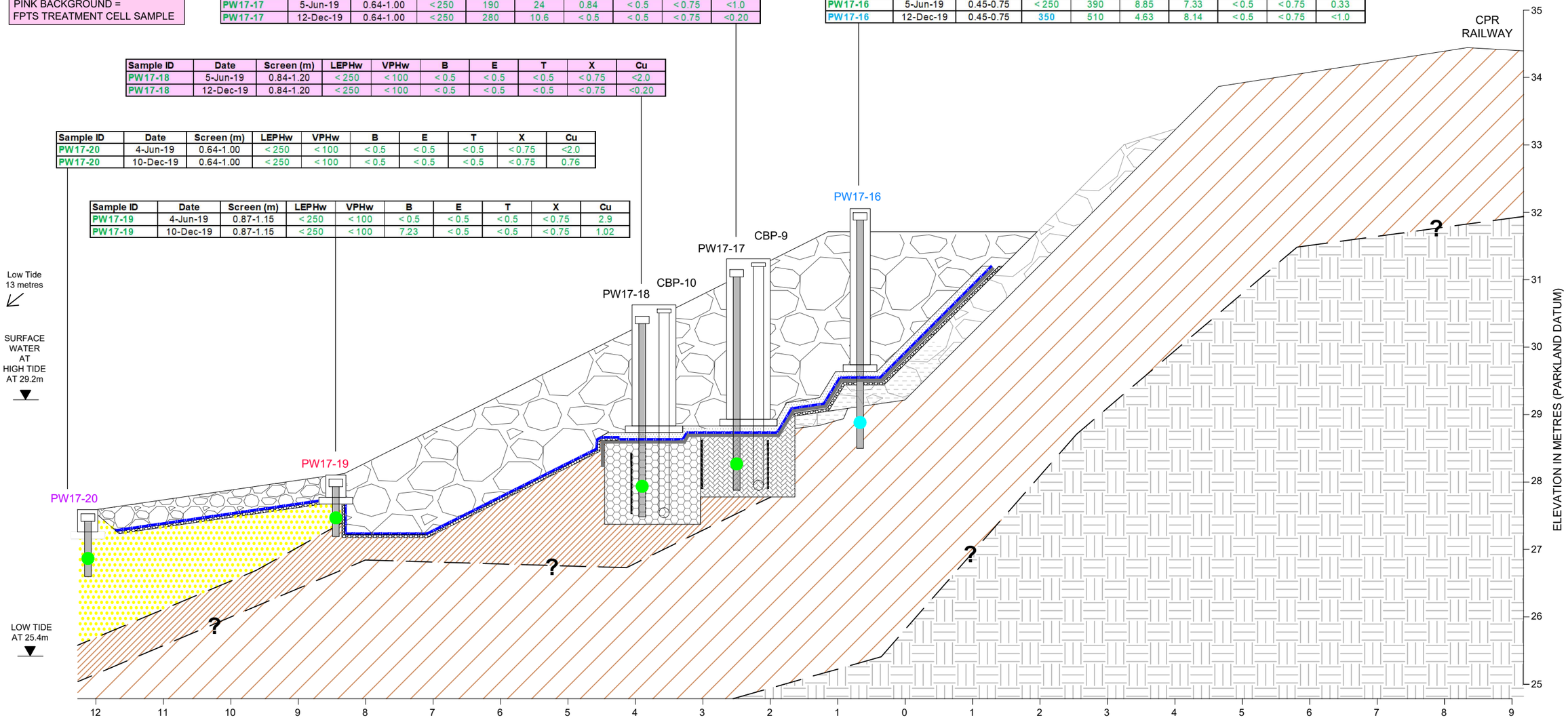
Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X	Cu
PW17-17	5-Jun-19	0.64-1.00	< 250	190	24	0.84	< 0.5	< 0.75	<1.0
PW17-17	12-Dec-19	0.64-1.00	< 250	280	10.6	< 0.5	< 0.5	< 0.75	<0.20

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X	Cu
PW17-16	5-Jun-19	0.45-0.75	< 250	390	8.85	7.33	< 0.5	< 0.75	0.33
PW17-16	12-Dec-19	0.45-0.75	350	510	4.63	8.14	< 0.5	< 0.75	<1.0

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X	Cu
PW17-18	5-Jun-19	0.84-1.20	< 250	< 100	< 0.5	< 0.5	< 0.5	< 0.75	<2.0
PW17-18	12-Dec-19	0.84-1.20	< 250	< 100	< 0.5	< 0.5	< 0.5	< 0.75	<0.20

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X	Cu
PW17-20	4-Jun-19	0.64-1.00	< 250	< 100	< 0.5	< 0.5	< 0.5	< 0.75	<2.0
PW17-20	10-Dec-19	0.64-1.00	< 250	< 100	< 0.5	< 0.5	< 0.5	< 0.75	0.76

Sample ID	Date	Screen (m)	LEPHw	VPHw	B	E	T	X	Cu
PW17-19	4-Jun-19	0.87-1.15	< 250	< 100	< 0.5	< 0.5	< 0.5	< 0.75	2.9
PW17-19	10-Dec-19	0.87-1.15	< 250	< 100	7.23	< 0.5	< 0.5	< 0.75	1.02



All units in µg/L	LEPHw	VPHw	B	E	T	X	Cu
RBMT	300	1500	2100	320	770	330	6.2

Colour coding of symbols is based on the most recent lab result. SLR derived Risk Based Management Targets (RBMTs) that were accepted by the MoE on August 28, 2014. Details regarding the RBMTs, and associated correspondence are included in Appendix B of this report.

NOTE:
1. Stratigraphic thickness extrapolated based on figures provided from URS, Detailed Site Investigation (URS, 2011a).
2. Samples were not collected from CBP-9 and CBP-10.

LEGEND

- Alluvium/colluvium
- Weathered alluvium/colluvium
- Beach Sand
- Till
- Sand, aquagate and powdered activated carbon
- Sand, aquagate and organoclay
- Sand-organoclay mixture
- Filter fabric
- Oleophilic biobarrier (OBB)
- Impermeable HDPE geomembrane
- Gravel
- Inferred stratigraphic boundary
- Baffle
- Cobbles
- Rip-Rap
- Monitoring Well
- Contingency Biodegradational Piping
- Compliance Well PW17-20
- Sentry Well PW17-19
- Performance Well PW17-18
- Up Gradient Well PW17-16
- Sample concentration less than applicable RBMTs
- Sample concentration greater than applicable RBMTs

ABBREVIATIONS:

CPR	Canadian Pacific Railway
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
LEPHw	Light Extractable Petroleum Hydrocarbons in water
VPHw	Volatile Petroleum Hydrcarbons in water
Cu	Copper
ug/L	micrograms per litre
RBMT	Risk Based Management Target
FPTS	Foreshore Passive Treatment System
<	Sample concentration less than the reported detection limit indicated

GRID NORTH
N
W E
S

metres
0 2 4 6

AECOM

CROSS SECTION A-A' EASTERN FPTS WATER ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS AND DISSOLVED COPPER JUNE AND DECEMBER 2019

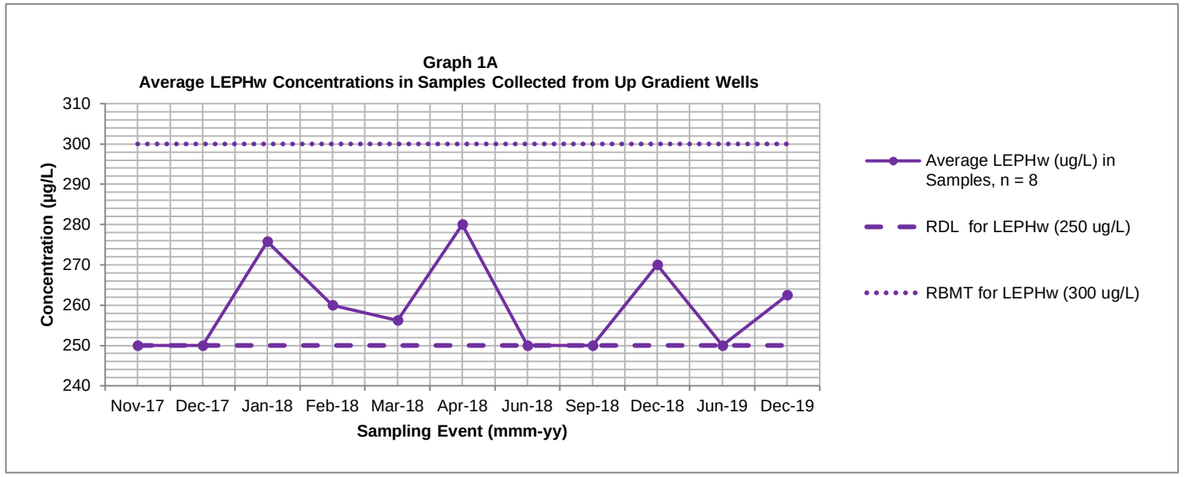
Foreshore 2019 Annual Monitoring Report
Foreshore Below Area 2 - Parkland Refinery, Burnaby, BC

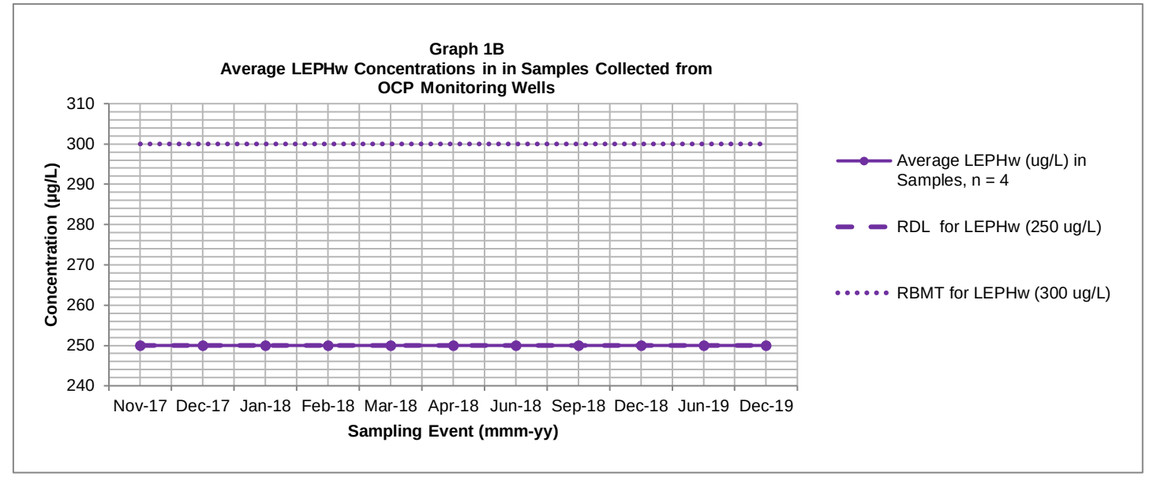
PARKLAND REFINING (B.C.) LTD.

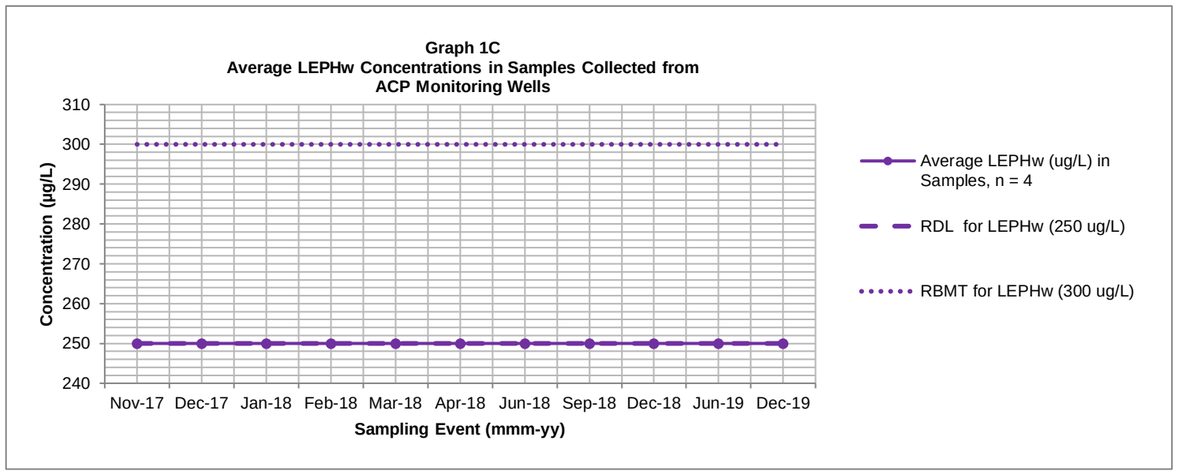
DATE:	PROJECT NO.:	DRAWN BY:	REVISION NO.:	DRAWING NO.:
February 2020	60601814	NT	0	FIGURE 5

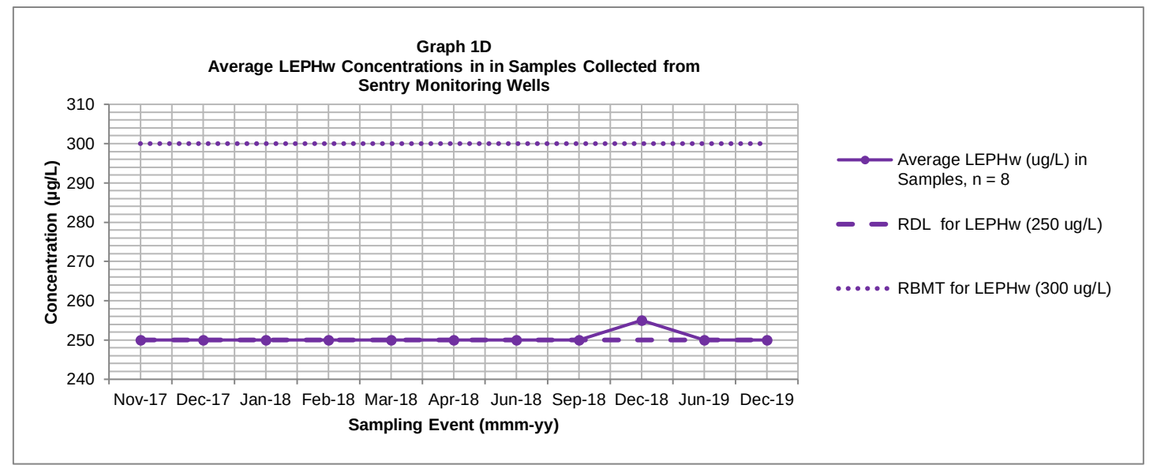
FILE NAME: H:\URS-CHEVRON\60601814 2019 Foreshore Monitoring\900-CAD_GIS\910-CAD\05-MODELS\C\2019 Figures\FIG05 - XS A-A Eastern FPTS WTR Analytical Results for PHC & CU (Sep-Dec 2019) 2020-01-16 - 60601814.dwg

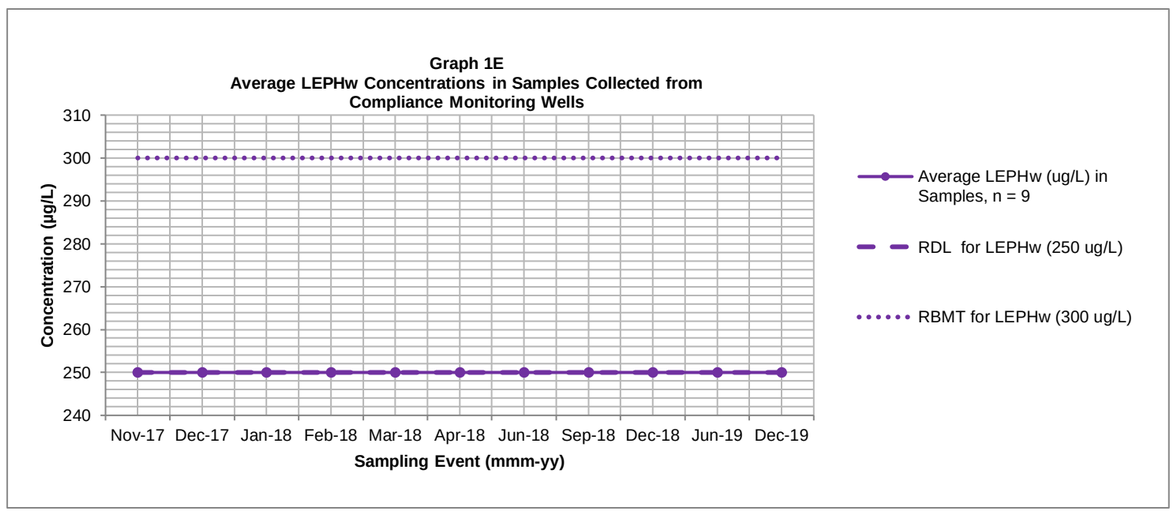
Graphs

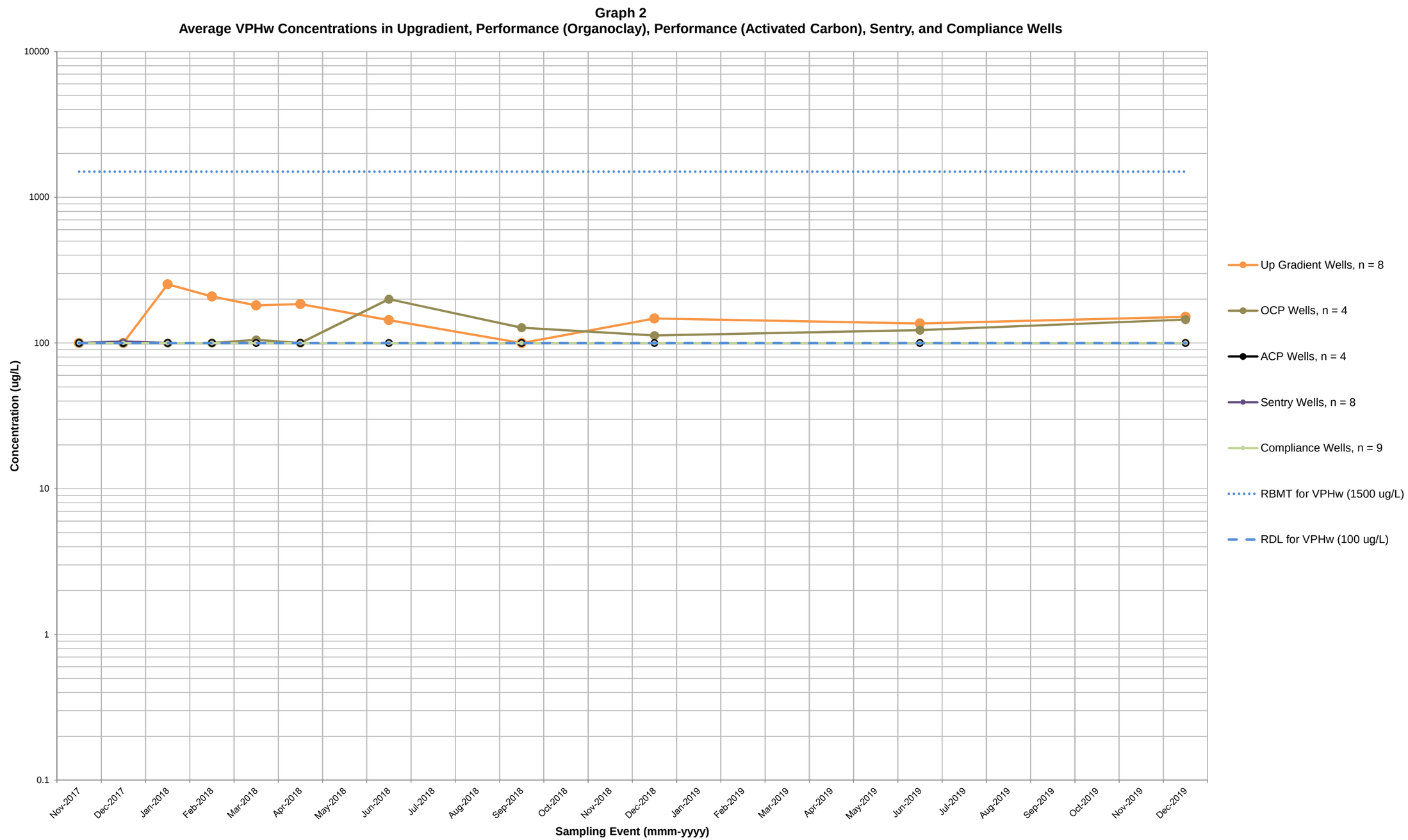

Graph 1A
Average LEPHw Concentrations in Samples Collected from Up Gradient Wells
Concentration (µg/L)
310
300
290
280
270
260
250
240
Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 Jun-18 Sep-18 Dec-18 Jun-19 Dec-19
Sampling Event (mmm-yy)
Average LEPHw (ug/L) in Samples, n = 8
RDL for LEPHw (250 ug/L)
RBMT for LEPHw (300 ug/L)

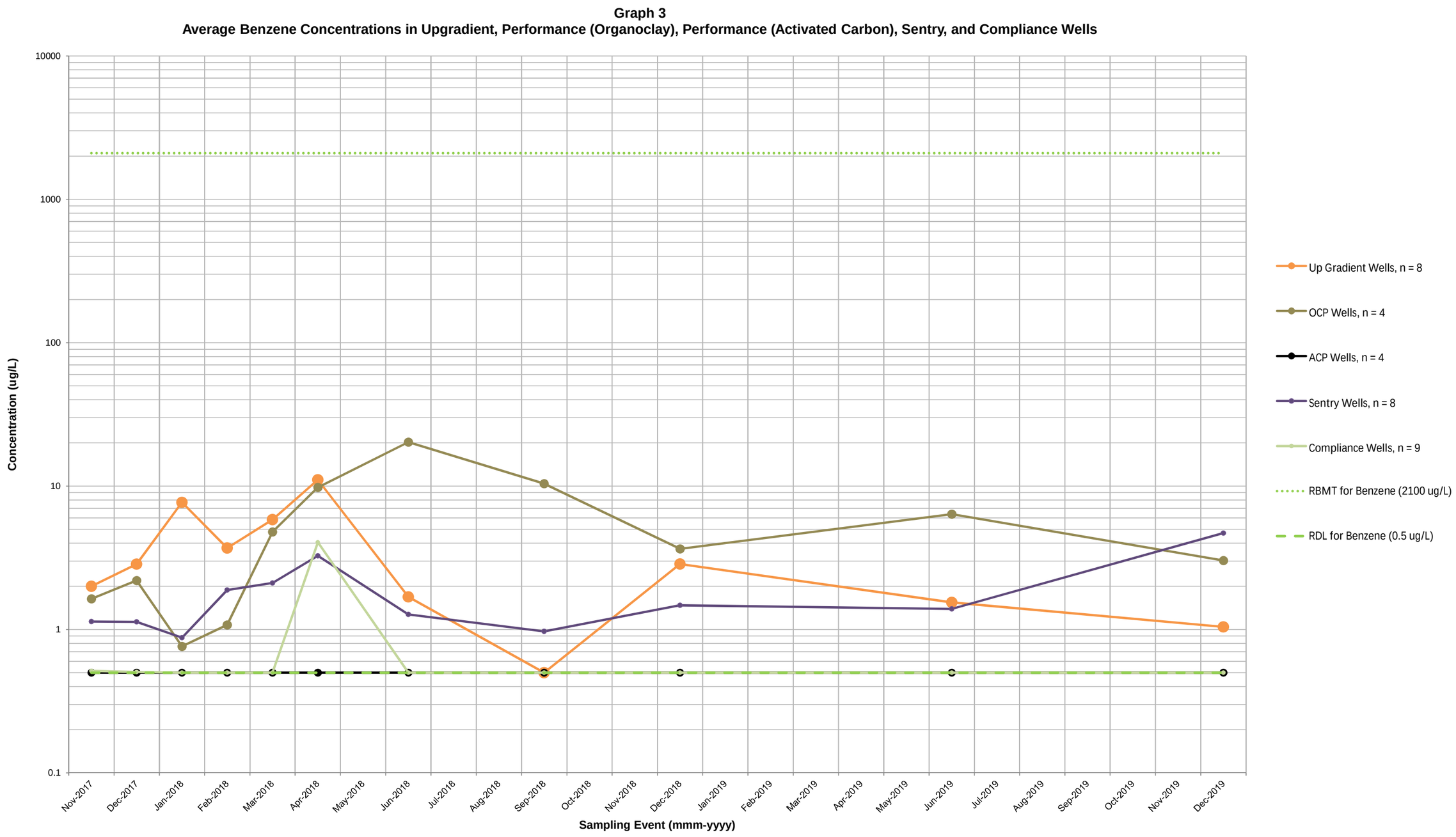

Graph 1B
Average LEPHw Concentrations in in Samples Collected from OCP Monitoring Wells
Concentration (µg/L)
310
300
290
280
270
260
250
240
Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 Jun-18 Sep-18 Dec-18 Jun-19 Dec-19
Sampling Event (mmm-yy)
Average LEPHw (ug/L) in Samples, n = 4
RDL for LEPHw (250 ug/L)
RBMT for LEPHw (300 ug/L)


Graph 1C
Average LEPHw Concentrations in Samples Collected from ACP Monitoring Wells
Concentration (µg/L)
310
300
290
280
270
260
250
240
Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 Jun-18 Sep-18 Dec-18 Jun-19 Dec-19
Sampling Event (mmm-yy)
Average LEPHw (ug/L) in Samples, n = 4
RDL for LEPHw (250 ug/L)
RBMT for LEPHw (300 ug/L)

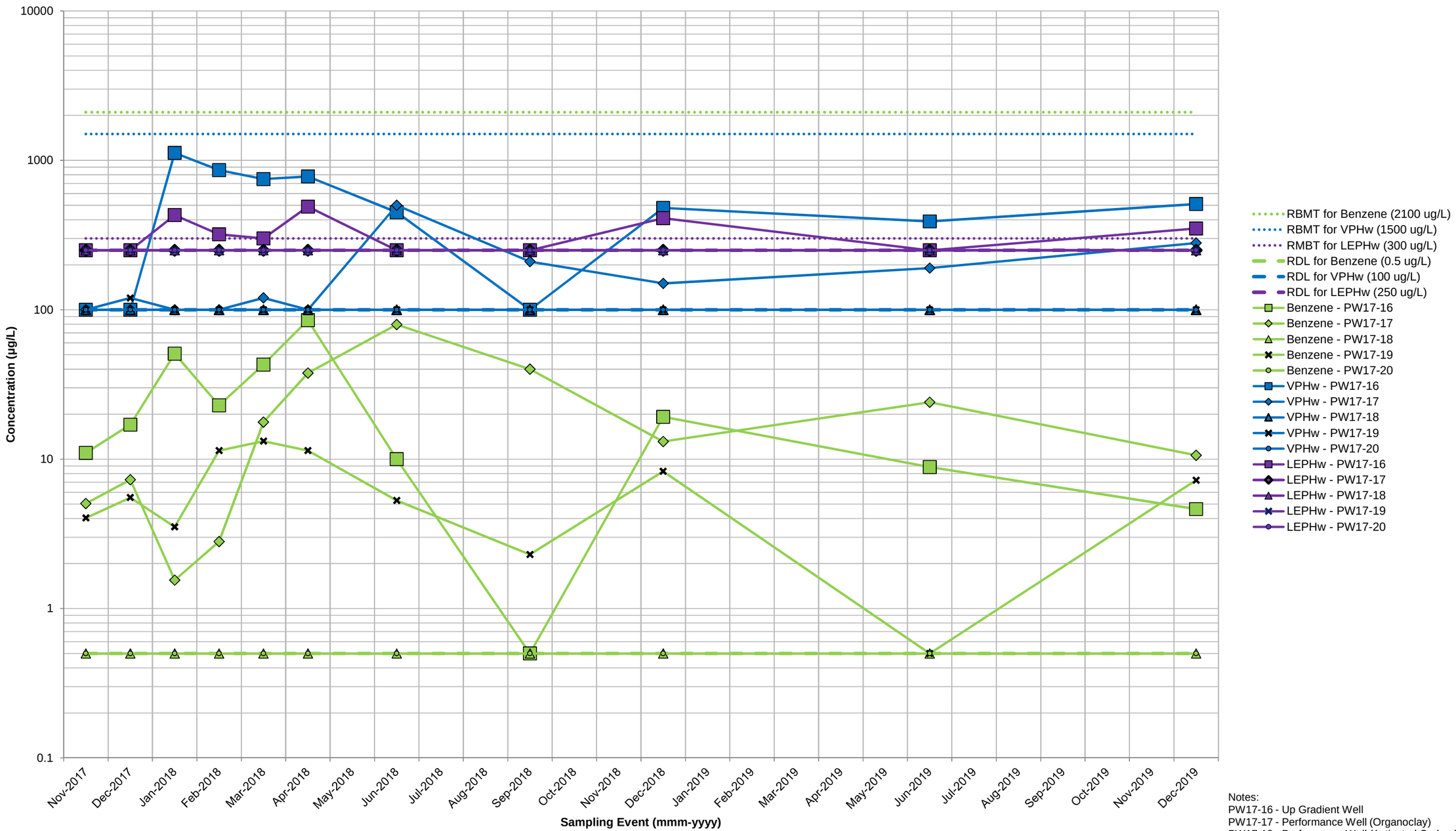

Graph 1D
Average LEPHw Concentrations in in Samples Collected from Sentry Monitoring Wells
Concentration (µg/L)
310
300
290
280
270
260
250
240
Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 Jun-18 Sep-18 Dec-18 Jun-19 Dec-19
Sampling Event (mmm-yy)
Average LEPHw (ug/L) in Samples, n = 8
RDL for LEPHw (250 ug/L)
RBMT for LEPHw (300 ug/L)


Graph 1E
Average LEPHw Concentrations in Samples Collected from Compliance Monitoring Wells
Concentration (µg/L)
310
300
290
280
270
260
250
240
Nov-17 Dec-17 Jan-18 Feb-18 Mar-18 Apr-18 Jun-18 Sep-18 Dec-18 Jun-19 Dec-19
Sampling Event (mmm-yy)
Average LEPHw (ug/L) in Samples, n = 9
RDL for LEPHw (250 ug/L)
RBMT for LEPHw (300 ug/L)

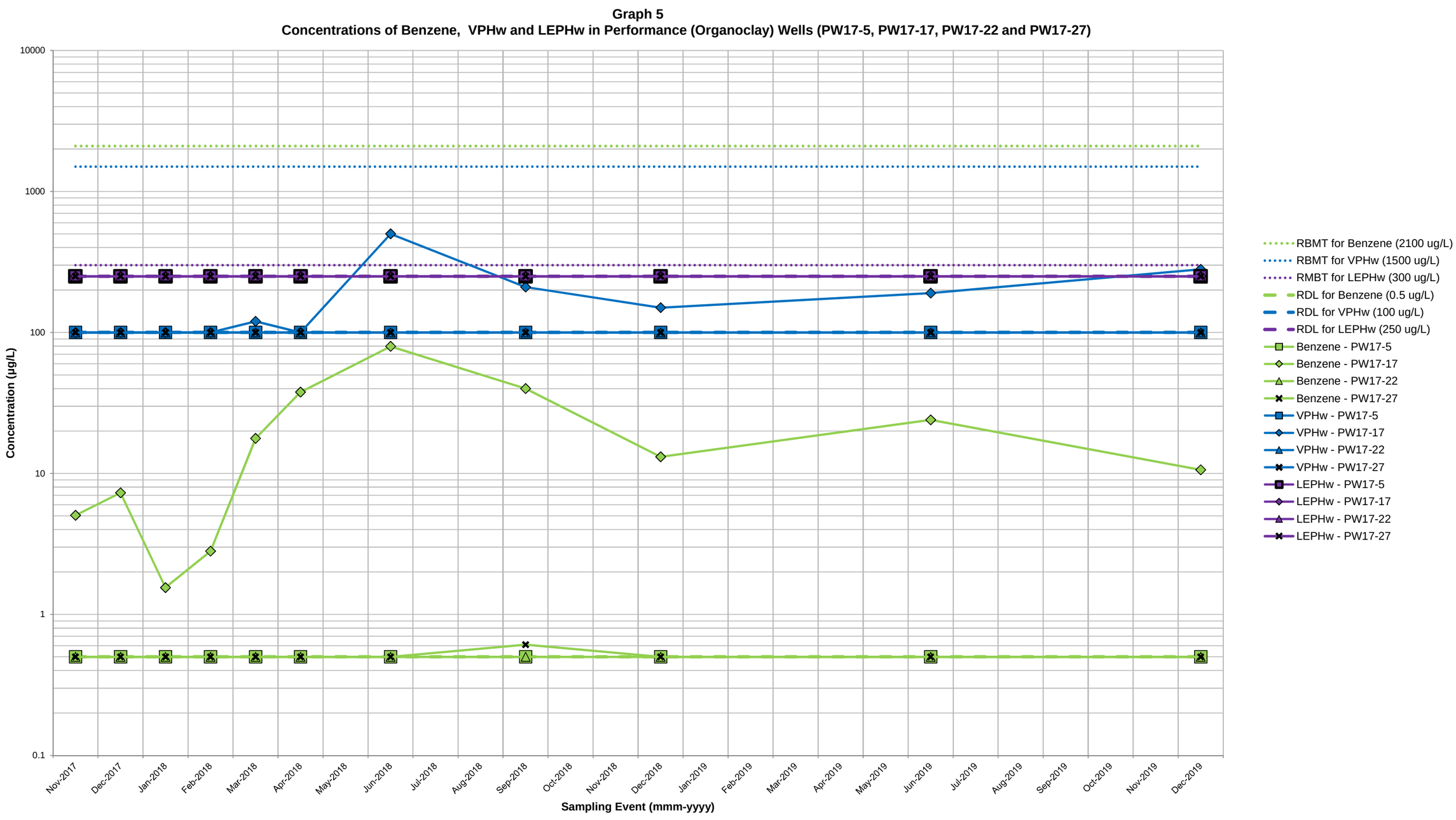

Graph 2
Average VPHw Concentrations in Upgradient, Performance (Organoclay), Performance (Activated Carbon), Sentry, and Compliance Wells
Concentration (ug/L)
10000
1000
100
10
1
0.1
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019
May-2019
Jun-2019
Jul-2019
Aug-2019
Sep-2019
Oct-2019
Nov-2019
Dec-2019
Sampling Event (mmm-yyyy)
Up Gradient Wells, n = 8
OCP Wells, n = 4
ACP Wells, n = 4
Sentry Wells, n = 8
Compliance Wells, n = 9
RBMT for VPHw (1500 ug/L)
RDL for VPHw (100 ug/L)

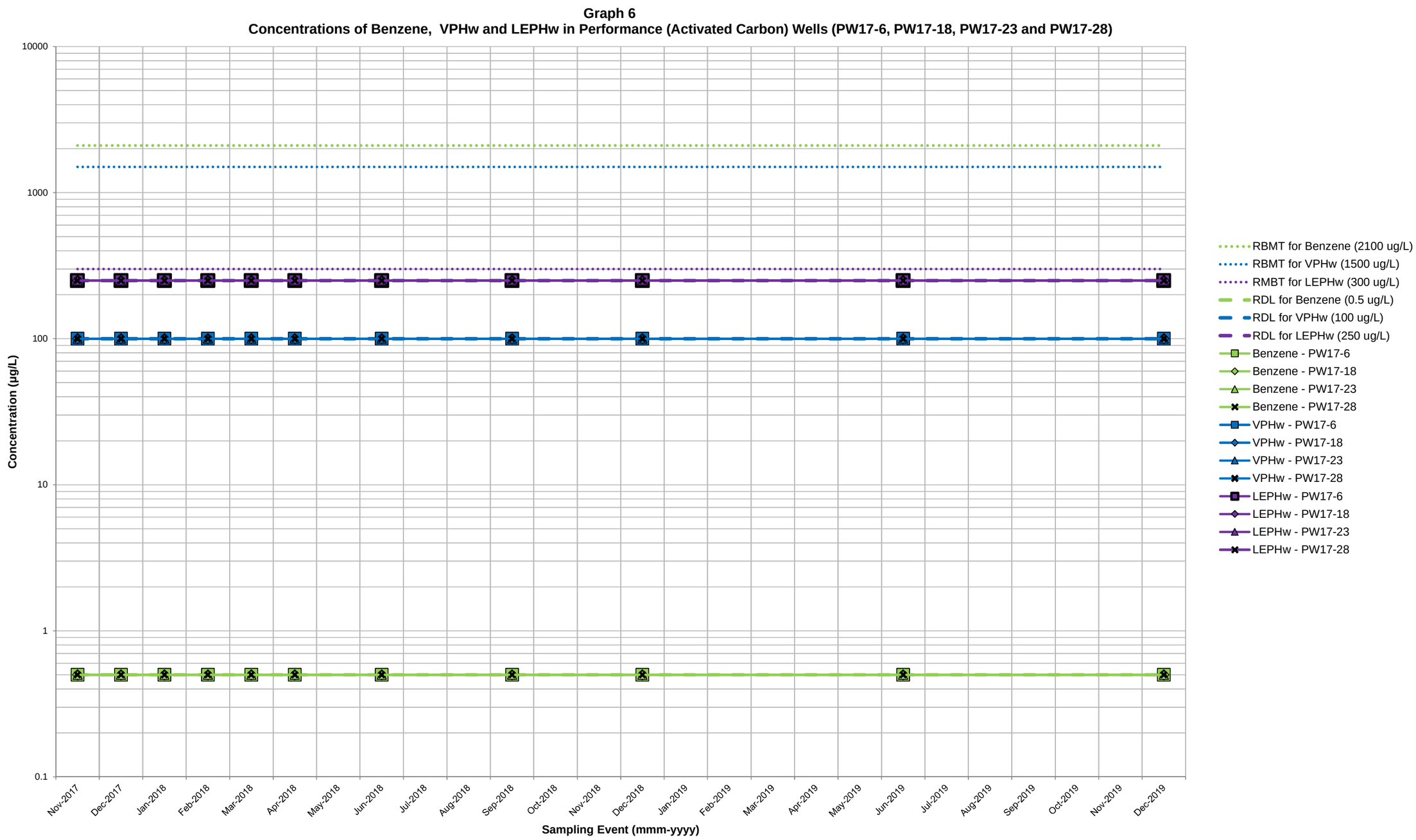

Graph 3
Average Benzene Concentrations in Upgradient, Performance (Organoclay), Performance (Activated Carbon), Sentry, and Compliance Wells
Concentration (ug/L)
10000
1000
100
10
1
0.1
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019
May-2019
Jun-2019
Jul-2019
Aug-2019
Sep-2019
Oct-2019
Nov-2019
Dec-2019
Sampling Event (mmm-yyyy)
Up Gradient Wells, n = 8
OCP Wells, n = 4
ACP Wells, n = 4
Sentry Wells, n = 8
Compliance Wells, n = 9
RBMT for Benzene (2100 ug/L)
RDL for Benzene (0.5 ug/L)

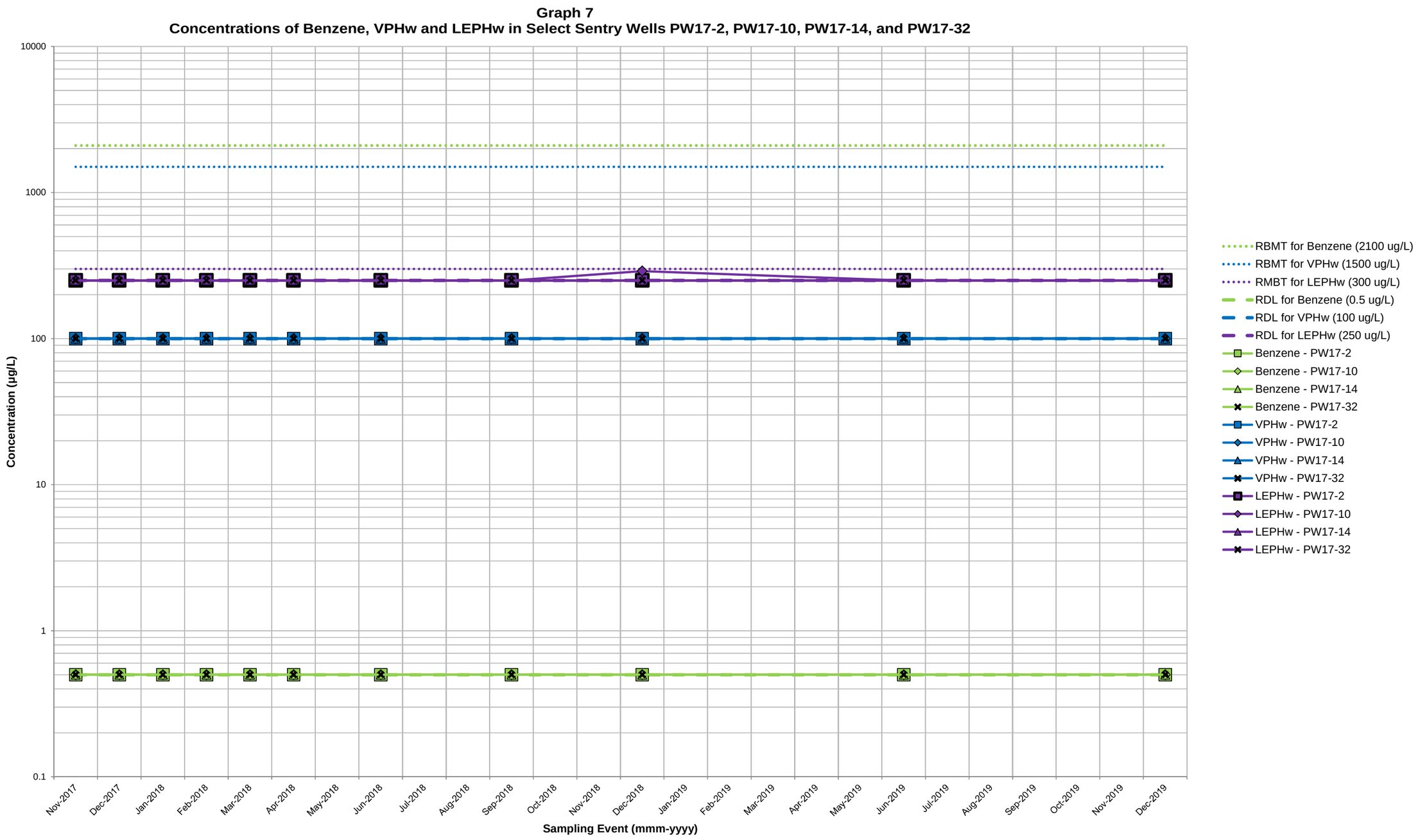
Graph 4
Concentrations of Benzene, VPHw and LEPHw in Porewater Wells (PW17-16, PW17-17, PW17-18, PW17-19 and PW17-20)



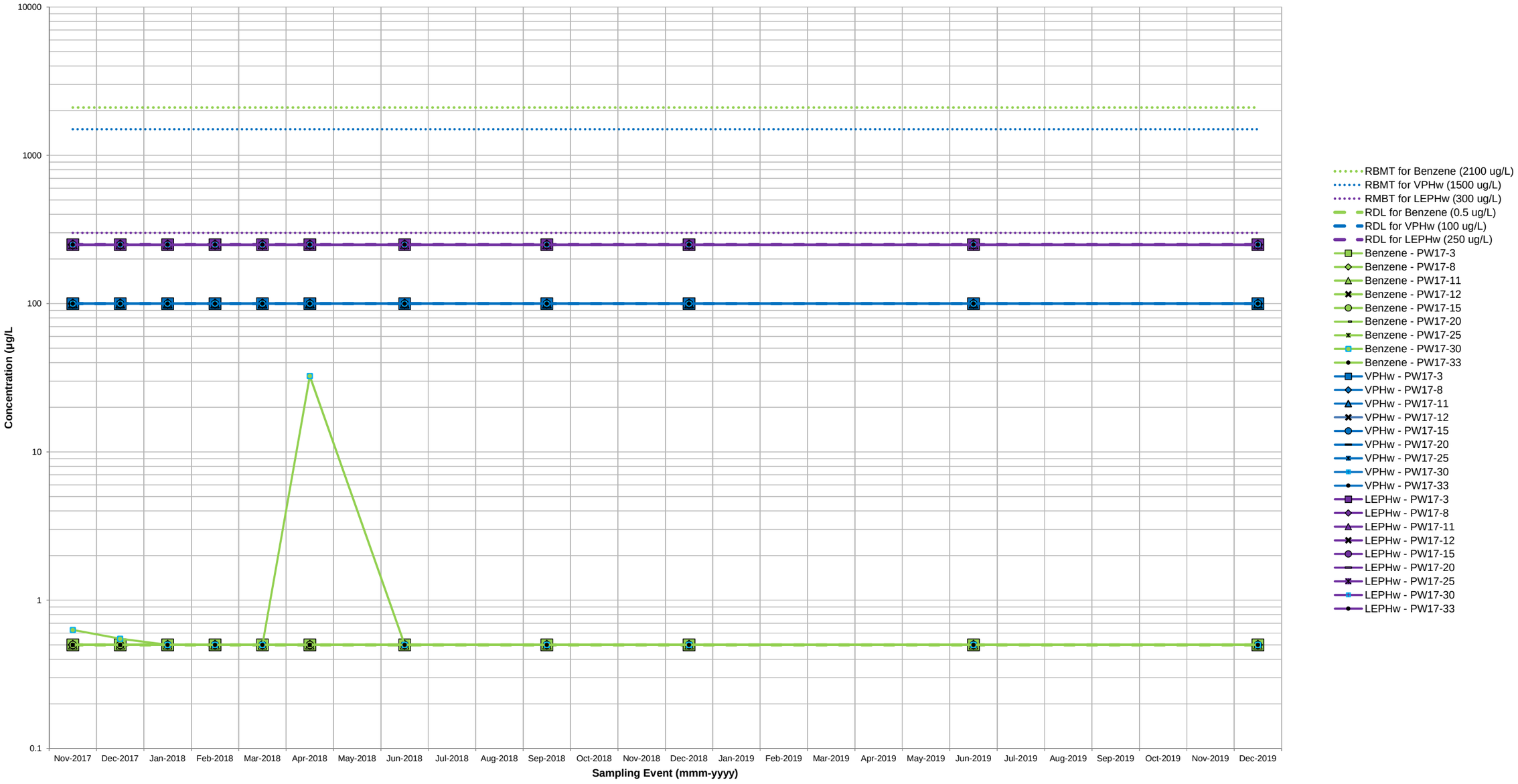
Notes:
PW17-16 - Up Gradient Well
PW17-17 - Performance Well (Organoclay)
PW17-18 - Performance Well (Activated Carbon)
PW17-19 - Sentry Well
PW17-20 - Compliance Well


Graph 5
Concentrations of Benzene, VPHw and LEPHw in Performance (Organoclay) Wells (PW17-5, PW17-17, PW17-22 and PW17-27)
Concentration (µg/L)
10000
1000
100
10
1
0.1
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019
May-2019
Jun-2019
Jul-2019
Aug-2019
Sep-2019
Oct-2019
Nov-2019
Dec-2019
Sampling Event (mmm-yyyy)
RBMT for Benzene (2100 ug/L)
RBMT for VPHw (1500 ug/L)
RMBT for LEPHw (300 ug/L)
RDL for Benzene (0.5 ug/L)
RDL for VPHw (100 ug/L)
RDL for LEPHw (250 ug/L)
Benzene - PW17-5
Benzene - PW17-17
Benzene - PW17-22
Benzene - PW17-27
VPHw - PW17-5
VPHw - PW17-17
VPHw - PW17-22
VPHw - PW17-27
LEPHw - PW17-5
LEPHw - PW17-17
LEPHw - PW17-22
LEPHw - PW17-27


Graph 6
Concentrations of Benzene, VPHw and LEPHw in Performance (Activated Carbon) Wells (PW17-6, PW17-18, PW17-23 and PW17-28)
Concentration (µg/L)
10000
1000
100
10
1
0.1
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019
May-2019
Jun-2019
Jul-2019
Aug-2019
Sep-2019
Oct-2019
Nov-2019
Dec-2019
Sampling Event (mmm-yyyy)
RBMT for Benzene (2100 ug/L)
RBMT for VPHw (1500 ug/L)
RMBT for LEPHw (300 ug/L)
RDL for Benzene (0.5 ug/L)
RDL for VPHw (100 ug/L)
RDL for LEPHw (250 ug/L)
Benzene - PW17-6
Benzene - PW17-18
Benzene - PW17-23
Benzene - PW17-28
VPHw - PW17-6
VPHw - PW17-18
VPHw - PW17-23
VPHw - PW17-28
LEPHw - PW17-6
LEPHw - PW17-18
LEPHw - PW17-23
LEPHw - PW17-28


Graph 7
Concentrations of Benzene, VPHw and LEPHw in Select Sentry Wells PW17-2, PW17-10, PW17-14, and PW17-32
Concentration (µg/L)
10000
1000
100
10
1
0.1
Nov-2017
Dec-2017
Jan-2018
Feb-2018
Mar-2018
Apr-2018
May-2018
Jun-2018
Jul-2018
Aug-2018
Sep-2018
Oct-2018
Nov-2018
Dec-2018
Jan-2019
Feb-2019
Mar-2019
Apr-2019
May-2019
Jun-2019
Jul-2019
Aug-2019
Sep-2019
Oct-2019
Nov-2019
Dec-2019
Sampling Event (mmm-yyyy)
RBMT for Benzene (2100 ug/L)
RBMT for VPHw (1500 ug/L)
RMBT for LEPHw (300 ug/L)
RDL for Benzene (0.5 ug/L)
RDL for VPHw (100 ug/L)
RDL for LEPHw (250 ug/L)
Benzene - PW17-2
Benzene - PW17-10
Benzene - PW17-14
Benzene - PW17-32
VPHw - PW17-2
VPHw - PW17-10
VPHw - PW17-14
VPHw - PW17-32
LEPHw - PW17-2
LEPHw - PW17-10
LEPHw - PW17-14
LEPHw - PW17-32

Graph 8
Concentrations of Benzene, VPHw and LEPHw in Compliance Wells PW17-3, PW17-8, PW17-11, PW17-12, PW17-15, PW17-20, PW17-25, PW17-30, and PW17-33



Appendix A
Original and Corrected Historical Water Analytical Tables, 2011-2018

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Post-Construction FPTS																		
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP1 (P3-12-NBO)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											11-Dec-17		---	---	---	---	---	---
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-5 (P3-12-NBO)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											14-Jun-18		---	---	---	---	---	---
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	13-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-2 (P3-12-NBO)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											3-Dec-18		---	---	---	---	---	---
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	**0.79**	<0.75
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	13-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
DUP 5 (P6-12-O)	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
QA/QC RPD											20-Mar-18		---	---	---	---	---	---
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-5 (P6-12-O)	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.45	<0.75
QA/QC RPD											12-Sep-18		---	---	---	---	---	---
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-1 (P8-12-NBO)	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											3-Dec-18		---	---	---	---	---	---
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<250.	<100.	<0.5	<0.5	<0.45	<0.75
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<250.	<100.	<0.5	<0.5	<0.5	<0.75
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-1(CBP-7)	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											13-Jun-18		---	---	---	---	---	---
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	6-Dec-18	L2207439	<250	<100	**2.51**	<0.50	<0.50	<0.75
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP1 (PW17-01)	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											14-Nov-17		---	---	---	---	---	---
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	23-Mar-18	L2071889	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	**1.13**	**1.66**	**5.5**

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	23-Mar-18	L2071889	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP2 (PW17-05)	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											13-Dec-17		---	---	---	---	---	---
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	23-Mar-18	L2071889	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	23-Mar-18	L2071889	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	3-Dec-18	L2205028	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Laboratory Report**						
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	**0.71**	**1.15**	**3.72**
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	3-Dec-18	L2205028	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-10 Bottle 1[3]	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	**480.**	<100	<0.50	<0.50	<0.50	<0.75
PW17-10 Bottle 2[3]	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<250	---	---	---	---	---
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	**0.54**	**0.8**	**2.81**
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	3-Dec-18	L2205028	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	<250.	<100.	**11.**	**9.62**	<0.5	**4.46**
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<250.	<100.	**17.**	**13.**	<0.5	**2.85**
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	**430.**	**1120.**	**50.9**	**120.**	**0.91**	**19.**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	**410.**	**1250.**	**53.**	**115.**	**0.99**	**19.**
QA/QC RPD											16-Jan-18		---	11.0%	4.0%	4.3%	---	0.0%
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	**290.**	**800.**	**20.**	**4.1**	<0.5	**4.43**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	**320.**	**860.**	**22.9**	**7.61**	<0.5	**4.33**
QA/QC RPD											14-Feb-18		---	7.2%	13.5%	59.9%	---	2.3%
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	**300.**	**750.**	**43.**	**26.7**	**0.58**	**5.3**
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	**490.**	**780.**	**85.1**	**132.**	**1.24**	**28.3**
DUP-1(PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	NA	18-Apr-18	L2081868	**550.**	**880.**	**70.8**	**108.**	**1.12**	**23.**
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<250.	**450.**	**9.99**	**9.**	<0.5	<0.75
DUP-2(PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<250.	**410.**	**9.83**	**8.57**	<0.5	<0.75
QA/QC RPD											13-Jun-18		---	---	1.6%	4.9%	---	---
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	<250.	<100.	<0.5	**0.96**	<0.5	<0.75
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	**410.**	**480.**	**19.2**	**61.**	**0.53**	**1.28**
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<250.	<100.	**5.04**	<0.5	<0.5	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	**7.29**	**1.81**	<0.5	<0.75
DUP3 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	**7.62**	**1.85**	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
QA/QC RPD											13-Dec-17		---	---	4.4%	---	---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	**1.55**	<0.5	<0.5	<0.75
DUP2 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	**1.59**	<0.5	<0.5	<0.75
QA/QC RPD											16-Jan-18		---	---	---	---	---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<250.	<100.	**2.81**	<0.5	<0.5	<0.75
DUP2 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<250.	<100.	**2.82**	<0.5	<0.5	<0.75
QA/QC RPD											14-Feb-18		---	---	0.4%	---	---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<250.	**120.**	**17.7**	**0.69**	<0.5	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<250.	<100.	**37.7**	**1.98**	<0.5	<0.75
DUP-2(PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	NA	18-Apr-18	L2081868	<250.	<100.	**38.4**	**1.99**	<0.5	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	<250.	**500.**	**79.6**	**10.3**	**0.56**	<0.75
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<250.	**210.**	**40.**	**0.52**	<0.5	<0.75
DUP-1 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<250.	**250.**	**41.9**	<0.5	<0.5	<0.75
QA/QC RPD											11-Sep-18		---	---	4.6%	---	---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<250	**150.**	**13.1**	**0.64**	<0.50	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											15-Nov-17		---	---	---	---	---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											16-Jan-18		---	---	---	---	---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											14-Feb-18		---	---	---	---	---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-3(PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	NA	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-3(PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											13-Jun-18		---	---	---	---	---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-2 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											11-Sep-18		---	---	---	---	---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	**4.04**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Dec-17	L2034402	<250.	**120.**	**5.53**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	15-Jan-18	L2045142	<250.	<100.	**3.52**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	13-Feb-18	L2056920	<250.	<100.	**11.4**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	21-Mar-18	L2070802	<250.	<100.	**13.2**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	16-Apr-18	L2080621	<250.	<100.	**11.4**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Jun-18	L2111276	<250.	<100.	**5.29**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Sep-18	L2161513	<250.	<100.	**2.3**	<0.5	<0.5	<0.75
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Dec-18	L2205928	<250	<100	**8.29**	<0.50	<0.50	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Nov-17	---	Monitoring well not sampled - infilled					
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-17	---	Monitoring well not sampled - infilled					
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	---	Monitoring well not sampled - infilled					
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	---	Monitoring well not sampled - infilled					
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<250.	<100.	**0.67**	<0.5	<0.5	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-21	Porewater EAZ	PW17-21	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	<250	<100	**0.7**	<0.50	<0.50	<0.75
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											13-Dec-17		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											16-Jan-18		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											15-Feb-18		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP-4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-3 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											5-Dec-18		---	---	---	---	---	---
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	**1.08**	**0.9**
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-4 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											6-Dec-18		---	---	---	---	---	---
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP2 (PW17-25)	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											14-Nov-17		---	---	---	---	---	---
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<250.	**150.**	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 1 (PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 2(PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	<250.	<100.	**0.61**	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Laboratory Report	$LEPH_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
DUP-3(PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	<250.	<100.	**0.54**	<0.5	<0.5	<0.75
QA/QC RPD											12-Sep-18		---	---	---	---	---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
DUP-5 (PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											6-Dec-18		---	---	---	---	---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 3(PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											22-Mar-18		---	---	---	---	---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
DUP 4(PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
QA/QC RPD											12-Sep-18		---	---	---	---	---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	**0.5**	<0.75
DUP-6 (PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<250	<100	<0.50	<0.50	<0.50	<0.75
QA/QC RPD											6-Dec-18		---	---	---	---	---	---
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<250.	<100.	**2.04**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<250.	<100.	**0.52**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Feb-18	L2056918	<250.	<100.	**0.69**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<250.	<100.	**0.67**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<250.	<100.	**11.7**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<250.	<100.	**1.91**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	<250.	<100.	**2.46**	<0.5	<0.5	<0.75
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Nov-17	L2022366	<250.	<100.	**0.63**	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	<250.	<100.	**0.55**	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	<250.	<100.	**32.5**	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Laboratory Report**						
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK 1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Nov-17	L2023092	<250.	<100.	<0.5	<0.5	<0.5	<0.75
RINSATE-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	11-Dec-17	L2033765	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Jan-18	L2045142	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Nov-17	L2023753	<250.	<100.	<0.5	<0.5	<0.5	<0.75
RINSATE-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Dec-17	L2034402	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Jan-18	L2045816	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Dec-17	L2035368	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS		NA	NA	NA	NA	NA	NA	15-Feb-18	L2056920	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS		NA	NA	NA	NA	NA	NA	14-Feb-18	L2056918	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-3	NA	NA	ALS		NA	NA	NA	NA	NA	NA	15-Feb-18	L2057618	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Apr-18	L2080621	---	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	17-Apr-18	L2081248	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Jun-18	L2111276	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Jun-18	L2111824	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112662	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	10-Sep-18	L2161513	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	11-Sep-18	L2162362	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163271	<250.	<100.	<0.5	<0.5	<0.5	<0.75
R-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	4-Dec-18	L2205928	<250	<100	<0.50	<0.50	<0.50	<0.75
R-BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	5-Dec-18	L2206732	<250	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Nov-17	L2022366	---	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Laboratory Report**						
T-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Nov-17	L2023092	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Nov-17	L2023753	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	11-Dec-17	L2033765	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Dec-17	L2034402	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Dec-17	L2035368	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Nov-17	L2022366	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Nov-17	L2023092	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Dec-17	L2034402	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Dec-17	L2035368	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Jan-18	L2045142	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Jan-18	L2045142	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Jan-18	L2045816	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Jan-18	L2045816	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Feb-18	L2056920	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Feb-18	L2056918	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Feb-18	L2056918	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	15-Feb-18	L2057618	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	20-Mar-18	L2070135	---	<100.	<0.5	<0.5	<0.45	<0.75
T-BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	22-Mar-18	L2071404	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-5	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	23-Mar-18	L2071889	---	<100.	<0.5	<0.5	<0.5	<0.75
T-BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	16-Apr-18	L2080621	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	17-Apr-18	L2081248	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	18-Apr-18	L2081868	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Jun-18	L2111276	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Jun-18	L2111276	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Jun-18	L2111824	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Jun-18	L2111824	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-5	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112693	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-6	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112693	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-7	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112662	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	10-Sep-18	L2161513	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	10-Sep-18	L2161513	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	11-Sep-18	L2162362	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	11-Sep-18	L2162362	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-5	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163271	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-5	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163271	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-7	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163427	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-8	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163427	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-6	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	13-Sep-18	L2164036	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-1	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-2	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	---	<100.	<0.5	<0.5	<0.5	<0.75
TRAVEL BLANK-3	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205028	---	<100.	<0.5	<0.5	<0.5	<0.75

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													LEPH$_w$	VPHw	Benzene	Ethylbenzene	Toluene	Xylenes
Upper Cap Concentrations[1]													5,000	15,000	10,000	25000	20,000	3,000
RBMT[2]													300	1,500	2,100	320	770	330
Reported Detection Limit													250	100	0.5	0.5	0.5	0.75
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Laboratory Report**						
TRAVEL BLANK-4	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	4-Dec-18	L2205928	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-5	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	5-Dec-18	L2206732	---	<100	<0.50	<0.50	<0.50	<0.75
TRAVEL BLANK-6	NA	NA	ALS	NA	NA	NA	NA	NA	NA	NA	6-Dec-18	L2207439	---	<100	<0.50	<0.50	<0.50	<0.75

Notes
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.

1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances
2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	Sample Concentration greater than Upper Cap

Abbreviations
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
C - Compliance well
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
IBA - In between area
LEPHw - light extractable petroleum hydrocarbons in water
NA - not applicable
OC - organoclay
P - Performance well
PAC - powder activated carbon
RBMT - risk based management target
S - Sentry well
U - Up gradient well
VPHw - volatile petroleum hydrocarbons in water
W FPTS - Western Foreshore Passive Treatment System

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR10	CSR10	CSR10	CSR10	CSR10	CSR10	DL	DL	DL	NS	NS	NS	CSR10	CSR10	BC AWQG	BC AWQG	CSR10	CSR10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
Pre-Construction FPTS																																							
PSI Samples																																							
P8-3	*	Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.50-0.70	0.50	0.70	Weathered Colluvium	---	16-Jul-10	2,740	2,740	1,550	2,800	---	2,800	---	---	---	1,550	---	1,550	---	---	---	1,120	4,580	2,910	270	<1.0	7.9	266	---
P8-0-A	*	Porewater EAZ	P8-0	ALS	DCM	NA	EB	0.05-0.15	0.05	0.15	Beach sand	---	16-Jul-10	8,740	8,740	5,950	8,790	---	8,790	---	---	---	5,950	---	5,950	---	---	---	3,200	10,300	778	492	<5.0	2,450	3,390	---
Field Duplicate/Equipment Blank/Travel Blank																																							
DUP-15 (P8-3)		Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.50-0.70	0.50	0.70	Weathered Colluvium	---	16-Jul-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1,420	4,550	2,670	229	<1.0	6.6	220	---
RINSE1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jul-10	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<1.0	---
TRAVEL BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jul-10	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
DSI Samples																																							
Western IRA Barrier																																							
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	NA	WB	0.7-0.9	0.7	0.9	Beach sand	---	23-Feb-11	**530**	**530**	**5,500**	**530**	---	**530**	---	---	---	**5,500**	---	**5,500**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-May-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	14-Jun-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	15-Jun-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3-3-W	#	Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	20-Apr-11	10,200	**10,200**	8,530	10,200	10,200	**10,200**	8,900	8,900	**8,900**	8,540	8,540	**8,540**	6,650	6,650	**6,650**	540	550	<0.50	<0.50	<0.50	<1.0	1.36	---
P3-7D		Porewater	P3-7	ALS	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Feb-11	**1,350**	**1,350**	**11,100**	**1,350**	---	**1,350**	---	---	---	**11,100**	---	**11,100**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P3-12S		Porewater EAZ	P3-12	ALS	DCM	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	21-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3-12D		Porewater	P3-12	ALS	DCM	NA	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Feb-11	<250	<250	**270**	<250	---	<250	---	---	---	**270**	---	**270**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3R-7S		Porewater EAZ	P3R-7	ALS	DCM	DS	WB	0.8-1.0	0.8	1.0	Beach sand	---	18-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	18-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	18-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3.5-7S		Porewater EAZ	P3.5-7	ALS	DCM	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	22-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	**0.79**	---
P3.5-7I		Porewater	P3.5-7	ALS	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3.5-7D		Porewater	P3.5-7	ALS	DCM	NA	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	22-Feb-11	**450**	**450**	**2,410**	**450**	---	**450**	---	---	---	**2,410**	---	**2,410**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P3.5-7D		Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
Eastern IRA Barrier																																							
P5-3-0.4S		Grab sample	P5-3	ALS	DCM	NA	EB	Grab sample	Grab sample	Grab sample	---	---	11-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P5-3S		Porewater EAZ	P5-3	ALS	DCM	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	23-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.75**	<0.50	<0.50	**2.1**	**0.90**	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	23-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	**1.06**	---
P5-3D		Porewater	P5-3	ALS	DCM	NA	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	23-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	**1.11**	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	**1,690**	**4,090**	**30.9**	**291**	<2.5	**739**	**1,330**	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	14-Jun-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P5.5-3-W	#	Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	19-Apr-11	420	420	440	420	---	**420**	---	---	---	440	---	**440**	---	---	---	140	400	220	26.7	<0.50	<1.0	13.1	---
P6-3S	*	Porewater EAZ	P6-3	ALS	DCM	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	25-Jan-11	1,560	1,560	2,140	1,570	---	**1,570**	---	---	---	2,140	---	**2,140**	---	---	---	1,450	2,620	705	191	<2.5	6.1	261	---
P6-3S	*	Porewater EAZ	P6-3	ALS	DCM	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	11-Feb-11	2,110	2,110	350	2,150	---	**2,150**	---	---	---	350	---	**350**	---	---	---	---	---	---	---	---	---	---	---
P6-3I	*	Porewater EAZ	P6-3	ALS	DCM	NA	EB	0.5-0.7	0.5	0.7	Weathered Colluvium	---	9-Feb-11	2,040	2,040	260	2,090	---	**2,090**	---	---	---	260	---	**260**	---	---	---	2,030	3,860	949	335	<5.0	<10	500	---
P6-3D	*	Porewater	P6-3	ALS	DCM	NA	EB	1.4-1.6	1.4	1.6	Weathered Colluvium	---	9-Feb-11	2,210	2,210	300	2,260	---	**2,260**	---	---	---	300	---	**300**	---	---	---	1,910	3,320	825	243	<5.0	<10	337	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Apr-11	**280**	**280**	<250	**280**	---	**280**	---	---	---	<250	---	<250	---	---	---	<100	<100	**37.4**	<0.50	<0.50	<1.0	**0.87**	---
P6-8I		Porewater	P6-8	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**24.3**	<0.50	<0.50	<1.0	**3.34**	---
P6-8D		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	6-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**19.8**	<0.50	<0.50	<1.0	**1.65**	---
P6-12D		Porewater	P6-12	ALS	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	9-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**4.02**	<0.50	<0.50	<1.0	<0.84	---
P6-12S		Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P6-12I		Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Feb-11	<250	<250	**440**	<250	---	<250	---	---	---	**440**	---	**440**	---	---	---	<100	<100	**1.31**	<0.50	<0.50	<1.0	<0.71	---
P7-3-W	#	Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-Apr-11	500	500	280	500	---	**500**	---	---	---	280	---	**280**	---	---	---	230	610	155	25.9	<0.50	41.4	155	---
P8-3S	*	Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	27-Jan-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	160	210	8.77	12.4	<0.50	1.8	24.2	---
P8-3S	*	Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	8-Feb-11	350	350	<250	350	---	**350**	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P8-3D	*	Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	27-Jan-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	340	370	2.75	1.51	0.54	2.4	26.2	---
P8-3D	*	Porewater EAZ	P8-3	ALS	DCM	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	8-Feb-11	510	510	<250	510	---	**510**	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	6-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**1.86**	<0.50	<0.50	<1.0	<0.71	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**35.1**	**1.79**	<0.50	<1.0	**0.85**	---
P8-7.5D		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	6-Apr-11	<250	<250	**280**	<250	---	<250	---	---	---	**280**	---	**280**	---	---	---	<100	**120**	**70.5**	**5.32**	<0.50	<1.0	**2.00**	---
P8-12S		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	28-Jan-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P8-12S		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	7-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	28-Jan-11	**800**	**800**	**2,030**	**800**	---	**800**	---	---	---	**2,040**	---	**2,040**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	8-Feb-11	<280	<280	<280	<280	---	<280	---	---	---	<280	---	<280	---	---	---	---	---	---	---	---	---	---	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	5-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	28-Jan-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P9-3-W	#	Porewater EAZ	P9-3	ALS	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	20-Apr-11	<250	<250	280	<250	---	<250	<250	<250	<250	260	260	**260**	<250	<250	<250	110	130	1.42	1.09	<0.50	1.6	11.6	---
P9-7S		Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Apr-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P9-7I		Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Apr-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**4.98**	<0.50	<0.50	<1.0	<0.71	---
P9-7D		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Apr-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.18**	<0.50	<0.50	<1.0	<0.71	---
P10-3S		Porewater EAZ	P10-3	ALS	DCM	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	**1.44**	<0.50	**5.8**	**7.83**	---
P10-3I		Porewater EAZ	P10-3	ALS	DCM	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	**2.77**	<0.50	**8.5**	**16.4**	---
P10-3D		Porewater	P10-3	ALS	DCM	NA	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	22-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**5.64**	<0.50	<0.50	<1.0	**1.35**	---
Culvert Runoff Area																																							
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	11-Feb-11	<250	<250	**1,340**	<250	---	<250	---	---	---	**1,340**	---	**1,340**	---	---	---	<100	<100	<0.50	<0.50	<0.50	**2.8**	<0.71	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	25-Jan-11	<250	<250	**350**	<250	---	<250	---	---	---	**350**	---	**350**	---	---	---	<100	<100	<0.50	**2.47**	<0.50	**2.8**	**13.9**	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	28-Jan-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	14-Jun-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	11-Feb-11	**410**	**410**	**3,010**	**410**	---	**410**	---	---	---	**3,010**	---	**3,010**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	8-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	<0.50
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	19-Apr-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	20-Apr-11	<250	<250	<250	<250	---	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Feb-11	**490**	**490**	**590**	**490**	---	**490**	---	---	---	**590**	---	**590**	---	---	---	<100	**280**	<0.50	<0.50	<0.50	**375**	<0.71	**0.98**
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Feb-11	**530**	**530**	<250	**530**	---	**530**	<250	---	<250	<250	---	<250	<280	---	<280	<110	**460**	<0.50	<0.50	<0.50	**578**	<0.71	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P14-17S		Porewater EAZ	P14-17	ALS	---	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	7-Apr-11	Well Not Sampled																									
P14-17S		Porewater EAZ	P14-17	ALS	---	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	19-Apr-11	Well Not Sampled - Insufficient Water for Analysis																									
P14-17I		Porewater	P14-17	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	19-Apr-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14-17I		Porewater	P14-17	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	20-Apr-11	<250	<250	<250	<250	---	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P14-17D		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.75**	<0.50	<0.50	<1.0	<0.71	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	20-Apr-11	Well Not Sampled - Insufficient Water for Analysis																									
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	20-Apr-11	<250	<250	**260**	<250	---	<250	<250	<250	<250	**260**	**260**	**260**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	14-Jun-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [5]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{12}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [6]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P14-12-O		Surface Water	P14-12	ALS	DCM	NA	CL	NA	NA	NA	---	---	7-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
PR-2S		Surface Water	PR2	ALS	DCM	NA	RL	NA	NA	NA	---	---	8-Apr-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100 UJ	<0.50	<0.50	<0.50	<1.0	<0.71	---
PR-S-W		Surface Water	PEC	ALS	DCM	NA	RL	NA	NA	NA	---	---	7-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
PEC-3-O		Surface Water	PEC-3	ALS	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
PEC-12-O		Surface Water	PEC-12	ALS	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
Field Duplicate/Equipment Blank/Travel Blank																																					
DUP-2 (P8-12D)		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	28-Jan-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
DUP-2 (P3.5-7D)		Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
DUP-3 (P8-12-O)		Surface Water	P8-12	ALS	DCM	NA	EB	NA	NA	NA	---	---	8-Feb-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	<0.50
DUP-3 (P14-17D)		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
DUP-4 (P8-3D)	*	Porewater	P8-3	ALS	DCM	NA	EB	1.4-1.6	1.4	1.6	Weathered Colluvium	---	9-Feb-11	2,300	2,300	260	2,250	---	**2,250**	---	---	---	260	---	**260**	---	---	---	2,960	4,680	890	324	<5.0	<10	510	---
DUP-4 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	20-Apr-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
DUP-5 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	10-May-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
DUP-6 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	15-Jun-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	<0.50
DUP-7 (PR2-3-O)		Surface Water	PR2-3	ALS	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.75	---
DUR-GW1 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Apr-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.12**	<0.50	<0.50	<1.0	<0.71	---
Travel Blank		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	---	---	28-Jan-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
Trip Blank		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Feb-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.71	---
Monitoring Samples																																					
Western IRA Barrier																																					
P2.5-7S		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Sep-12	Well Not Sampled - Insufficient Water for Analysis																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Dec-12	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<250	<250	<250	**480**	<250 CR	<250 CR	<250	<250	<250	---	---	---	---	---	---	---	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<300	<300	<300	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-13	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Sep-13	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Dec-13	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Mar-14	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	10-Jun-14	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Sep-14	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	1-Dec-14	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Sep-15	Well Not Sampled - Dry																							
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	1-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	2-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	Well Not Found - Dry																							---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7S		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-17	Well Not Sampled - Dry																							
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	5-Oct-11	<250	<250	**460**	<250	---	<250	<250	---	<250	**460**	---	**460**	**420**	---	**420**	<100	<100	<0.50	<0.50	<0.50	**0.90**	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-Dec-11	<290	<290	<290	<290	---	<290	---	---	---	<290	---	<290	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	15-Mar-12	<330	<330	<330	<330	---	<330	<330	---	<330	<330	---	<330	<330	---	<330	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	6-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	12-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	12-Dec-12	**550**	<260 CR	<280 CR	**550**	<260 CR	<260 CR	**450**	<250 CR	<250 CR	**580**	<280 CR	<280 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-13	<500	<500	<250 CR	<500	<500	<500	**630**	<630	**<630**	**390**	<250 CR	<250 CR	<2,300	<2,300	<2,300	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-May-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	**260**	---	**260**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	18-Jun-13	**610**	<300 CR	<320 CR	**610**	<300 CR	<300 CR	**530**	<260 CR	<260 CR	**640**	<320 CR	<320 CR	**480**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	17-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	19-Sep-13	**260**	<250 CR	<250	**260**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Dec-13	**660**	<310 CR	<330 CR	**660**	<310 CR	<310 CR	**590**	<260 CR	<260 CR	**730**	<330 CR	<330 CR	**540**	<270 CR	<270 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	13-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	9-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	13-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7I		Porewater EAZ	P2.5-7	ALS	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	5-Jun-17	Well Not Sampled - Dry																							
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	**770**	<370 CR	<380 CR	**770**	<370 CR	<370 CR	**700**	<350 CR	<350 CR	**760**	<380 CR	<380 CR	**650**	<320 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Jun-13	**440**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**590**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	**480**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P2.5-7D		Porewater	P2.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH[a]	Final LEPH[a]	Final HEPH[a,2,6]	EPH[a](C10-C19)[1]	Revised EPH[a] (C10-C19)[1]	Final EPH[a] (C10-C19)[1,6]	EPH[a](C10-C19)[1] (Silica gel)	Revised EPH[a] (C10-C19)[1] (Silica gel)	Final EPH[a] (C10-C19)[1] (Silica gel)	EPH[a](C19-C32)	Revised EPH[a] (C19-C32)	Final EPH[a] (C19-C32)[1]	EPH[a](C19-C32)[1] (Silica gel)	Revised EPH[a] (C19-C32)	Final EPH[a] (C19-C32)[1] (Silica gel)	VPH[a]	VH[a](C6-C10)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[5]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P3-3-AG	+	Porewater EAZ	P3-3	Agat	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Dec-13	<100	<100	**200**	<100	---	<100	---	---	---	**200**	---	**200**	---	---	---	---	---	---	---	---	---	---	---
P3-3-MA	+	Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3-3		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-Dec-13	**630**	<250 CR	**440 CR**	**630**	<250 CR	<250 CR	---	---	---	**920**	**440 CR**	**440 CR**	---	---	---	---	---	---	---	---	---	---	---
P3-3		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3	+	Porewater EAZ	P3-3	ALS	BC	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	---	---	---	<250	---	<250	---	---	---	**390**	---	**390**	---	---	---	---	---	---	---	---	---	---	---
P3-3-AG	+	Porewater EAZ	P3-3	Agat	BC	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	**120**	**120**	**320**	**120**	---	**120**	---	---	---	**320**	---	**320**	---	---	---	---	---	---	---	---	---	---	---
P3-3-MA	+	Porewater EAZ	P3-3	Maxxam	BC	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	<200	<200	**480**	<200 UJ	---	<200 UJ	---	---	---	**480 J**	---	**480 J**	---	---	---	---	---	---	---	---	---	---	---
P3-3		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Jun-14	<250	<250	**530**	<250	---	<250	<250	---	<250	**530**	---	**530**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-14	<250	<250	**480**	<250	---	<250	<250	---	<250	**480**	---	**480**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-B		Porewater EAZ	P3-3	ALS	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	<250	<250	**380**	<250	---	<250	<250	---	<250	**380**	---	**380**	<250	---	<250	---	---	---	---	---	---	---	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3		Porewater EAZ	P3-3	ALS	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	2-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Apr-12	**430**	<250 CR	**1,090 CR**	**430**	<250 CR	<250 CR	<250	<250	<250	**1,360**	**1,090 CR**	**1,090 CR**	**350**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-May-12	**720**	<330 CR	<330 CR	**720**	<330 CR	<330 CR	**520**	<250 CR	<250 CR	**660**	<330 CR	<330 CR	**530**	<260 CR	<260 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	**450 J**	<250 CR	<250 CR	**450 J**	<250 CR	<250 CR	**280 J**	<250 CR	<250 CR	**440 J**	<250 CR	<250 CR	**300 J**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jul-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	3-Aug-12	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Oct-12	**510**	<250 CR	<250 CR	**510**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	**390**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-13	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D-A	@	Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Jun-13	**460**	<250 CR	<250 CR	**460**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	**940**	<470 CR	<500 CR	**940**	<470 CR	<470 CR	**700**	<350 CR	<350 CR	**1,080**	<500 CR	<500 CR	**750**	<380 CR	<380 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Dec-14	<250	<250	**280**	<250	---	<250	<250	---	<250	**280**	---	**280**	**260**	---	**260**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	---	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-15	Well Not Sampled - Not Found																						---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-7D		Porewater	P3-7	ALS	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jun-17	Well Not Sampled - Not Found																						---
P3R-7S		Porewater EAZ	P3R-7	ALS	---	DS	WB	0.8-1.0	0.8	1.0	Beach sand	---	12-Sep-12	Well Destroyed																						
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.60	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	2-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	8-May-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Jul-12	<250	<250	**260**	<250	---	<250	<250	---	<250	**260**	---	**260**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	3-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	12-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	8-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	14-Jun-13	**1,030**	**650 CR**	<300 CR	**1,030**	**650 CR**	**650 CR**	**340**	<250 CR	<250 CR	**680**	<300 CR	<300 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	17-Sep-13	**520**	<260 CR	<280 CR	**520**	<260 CR	<260 CR	**360**	<250 CR	<250 CR	**670**	<280 CR	<280 CR	**310**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	12-Dec-13	**700**	<340 CR	<360 CR	**700**	<340 CR	<340 CR	**510**	<250 CR	<250 CR	**1,010**	<360 CR	<360 CR	**540**	<270 CR	<270 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Mar-14	<250	<250	**870**	<250	---	<250	<250	---	<250	**870**	---	**870**	**260**	---	**260**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	10-Jun-14	<250	<250	**270**	<250	---	<250	<250	---	<250	**270**	---	**270**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7I		Porewater	P3R-7	ALS	---	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	1-Dec-14	Well Destroyed																						
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.70	<0.75	---
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	2-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3R-7D		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{16}$) [5]	Revised EPH$_w$ (C$_{12}$-C$_{16}$) [5]	Final EPH$_w$ (C$_{12}$-C$_{16}$) [5,6]	EPH$_w$(C$_{16}$-C$_{21}$) [5] (Silica gel)	Revised EPH$_w$ (C$_{16}$-C$_{21}$) [5] (Silica gel)	Final EPH$_w$ (C$_{16}$-C$_{21}$) [5] (Silica gel)	EPH$_w$(C$_{21}$-C$_{32}$)	Revised EPH$_w$ (C$_{21}$-C$_{32}$)	Final EPH$_w$ (C$_{21}$-C$_{32}$) [5]	EPH$_w$(C$_{16}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{16}$-C$_{32}$)	Final EPH$_w$ (C$_{16}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P3-12S	Porewater EAZ	P3-12	ALS	---	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Sep-13	Well Not Sampled - Insufficient Water for Analysis																						
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Dec-13	**530**	<250 CR	<250 CR	**530**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**600**	<250 CR	<250 CR	**540**	<250 CR	<250 CR	---	---	---	---	---	---	---	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	11-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	10-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	18-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P3-12S	Porewater EAZ	P3-12	ALS	DCM	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	4-Dec-14	Incomplete Analysis - Insufficient water in well															<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-15	Incomplete Analysis - Insufficient water in well															<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	15-Aug-16	---	---	---	<250	---	---	---	---	---	<250	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12S	Porewater EAZ	P3-12	ALS	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Oct-11	**270**	**270**	**920**	**270**	---	**270**	<250	---	<250	**920**	---	**920**	**670**	---	**670**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	6-Jun-12	**490**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**530**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	12-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	18-Jun-13	**560**	<280 CR	<330 CR	**560**	<280 CR	<280 CR	**490**	<250 CR	<250 CR	**700**	<330 CR	<330 CR	**440**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-Sep-13	**330**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	12-Dec-13	**400**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Jun-14	<350	<350	<350	<350	---	<350	<350	---	<350	<350	---	<350	<350	---	<350	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12D	Porewater	P3-12	ALS	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7S	Porewater EAZ	P3.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	6-Oct-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7S	Porewater EAZ	P3.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7S	Porewater EAZ	P3.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7S	Porewater EAZ	P3.5-7	ALS	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7S-R	Porewater EAZ	P3.5-7R	ALS	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Sep-12	Well Destroyed																						
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	**280**	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	**580**	<250 CR	<250 CR	**580**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**620**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Dec-12	**950**	<330 CR	<350 CR	**950**	<330 CR	<330 CR	**530**	<260 CR	<260 CR	**990**	<350 CR	<350 CR	**560**	<280 CR	<280 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	**1,340**	**590 CR**	<400 CR	**1,340**	**590 CR**	**590 CR**	**370**	<250 CR	<250 CR	**840**	<400 CR	<400 CR	**370**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	**1,030**	<400 CR	<700 CR	**1,030**	<400 CR	<400 CR	**590**	<260 CR	<260 CR	**1,380**	<700 CR	<700 CR	**640**	<270 CR	<270 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-May-13	**830**	<330 CR	<350 CR	**830**	<330 CR	<330 CR	**640**	<270 CR	<270 CR	**850**	<350 CR	<350 CR	**440**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-13	**540**	<250 CR	<250 CR	**540**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**570**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	**810**	<390 CR	<420 CR	**810**	<390 CR	<390 CR	**540**	<270 CR	<270 CR	**920**	<420 CR	<420 CR	**510**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I +	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-13	**460**	<250 CR	<250 CR	**460**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**580**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	---	---	---	---	---	---	---	---
P3.5-7I-AG +	Porewater	P3.5-7	Agat	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I-MA +	Groundwater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I +	Porewater	P3.5-7	ALS	BC	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I-AG +	Porewater	P3.5-7	Agat	BC	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	**289**	**289**	**690**	**290**	---	**290**	---	---	---	**690**	---	**690**	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I-MA +	Porewater	P3.5-7	Maxxam	BC	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	**260**	**260**	**560**	**260 J**	---	**260 J**	---	---	---	**560 J**	---	**560 J**	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	4-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-7I	Porewater	P3.5-7	ALS

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

														LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{19}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
Sample ID [4]		**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Lithology of Screen Interval (Secondary)**	**Sample Date**																								
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12S		Porewater EAZ	P3.5-12	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	27-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	13-Dec-13	**410**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**580**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12I		Porewater	P3.5-12	ALS	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	27-Mar-13	**690**	<350 CR	<330 CR	**690**	<350 CR	<350 CR	**610**	<300 CR	<300 CR	**660**	<330 CR	<330 CR	**570**	<290 CR	<290 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-May-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D	+	Porewater	P3.5-12	ALS	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3.5-12D-AG	+	Porewater	P3.5-12	Agat	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P3.5-12D-MA	+	Porewater	P3.5-12	Maxxam	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	25-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.5-12D		Porewater	P3.5-12	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	15-Mar-13	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	20-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	14-Jun-13	**320 J**	<250 CR	<250 CR	**320 J**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Sep-13	**320**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<250	<250	<250	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	12-Dec-13	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3S		Porewater EAZ	P3.8-3	ALS	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I		Porewater	P3.8-3	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I		Porewater	P3.8-3	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-13	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I		Porewater	P3.8-3	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I	+	Porewater	P3.8-3	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	**490**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**550**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I-AG	+	Porewater	P3.8-3	Agat	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P3.8-3I-MA	+	Porewater	P3.8-3	Maxxam	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3.8-3I		Porewater	P3.8-3	ALS	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3I	+	Porewater	P3.8-3	ALS	BC	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3.8-3I-AG	+	Porewater	P3.8-3	Agat	BC	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<100	<100	**110**	<100	---	<100	---	---	---	**110**	---	**110**	---	---	---	---	---	---	---

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	$LEPH_w$	Final $LEPH_w$	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{18})$ [1]	Revised EPH_w ($C_{10}-C_{19}$) [1]	Final EPH_w ($C_{10}-C_{19}$) [1,6]	$EPH_w(C_{12}-C_{18})$ [1] (Silica gel)	Revised EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	Final EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	$EPH_w(C_{12}-C_{18})$	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) [6]	$EPH_w(C_{19}-C_{32})$ (Silica gel)	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) (Silica gel)	VPH_w	VH_w (C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR10	CSR10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [5]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P3.8-3D		Porewater	P3.8-3	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3.8-3D		Porewater	P3.8-3	ALS	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
Eastern IRA Barrier																																					
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Mar-13	**280**	<250 CR	<250	**280**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	20-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Sep-13	**260**	<250 CR	<250	**260**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	12-Dec-13	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**500**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S	+	Porewater EAZ	P4.2-3	ALS	BC	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P4.2-3S-AG	+	Porewater EAZ	P4.2-3	Agat	BC	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Mar-14	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P4.2-3S-MA	+	Porewater EAZ	P4.2-3	Maxxam	BC	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	DCM	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**1.66**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3S		Porewater EAZ	P4.2-3	ALS	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	1-Mar-16	Well Destroyed																							
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Dec-13	**250**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<250	<250	<250	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.60**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.85**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**1.45**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.88**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**2.58**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**3.60**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3I)		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3	Weathered Colluvium	---	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3I)		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3	Weathered Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	22-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	28-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	4-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3I		Porewater	P4.2-3	ALS	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.99**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**2.89**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.73**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**0.52**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.36**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	1-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	10-Mar-15	Well infilled with sand and gravel																							
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**4.4**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**41.1**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**35.2**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**89**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**59.6**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5	Colluvium	---	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**87**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**37%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**43.9**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5	Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**39.2**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**11%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Feb-17	Well not sampled - cap off																							
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**61.9**	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**72.6**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**16%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**41.9**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**43.8**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	28-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**40.0**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	28-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**38.7**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**40.2**	<0.50	<0.50	<0.50	<0.75	---
P4.2-3D-A		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	170	**143**	**0.52**	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D-A)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	170	**135**	**0.56**	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**6%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**68**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**66.8**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**68**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P4.2-3D)		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**68.7**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1%**	---	---	---	---	---
P4.2-3D		Porewater	P4.2-3	ALS	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH[a]	Final LEPH[a]	Final HEPH[a,5,6]	EPH[a] (C_{19}-C_{32}) [1]	Revised EPH[a] (C_{19}-C_{32}) [1]	Final EPH[a] (C_{19}-C_{32}) [1,6]	EPH[a] (C_{19}-C_{32}) [1] (Silica gel)	Revised EPH[a] (C_{19}-C_{32}) [1] (Silica gel)	Final EPH[a] (C_{19}-C_{32}) [1] (Silica gel)	EPH[a] (C_{19}-C_{32})	Revised EPH[a] (C_{19}-C_{32})	Final EPH[a] (C_{19}-C_{32}) [1]	EPH[a] (C_{19}-C_{32}) (Silica gel)	Revised EPH[a] (C_{19}-C_{32})	Final EPH[a] (C_{19}-C_{32}) (Silica gel)	VPH[a]	VH[a] (C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR10	CSR10	CSR10	CSR10	CSR10	CSR10	DL	DL	DL	NS	NS	NS	CSR10	CSR10	BC AWQG	BC AWQG	CSR10	CSR10	BC AWQG (FW)	BC AWQG
RBMT[7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Aug-16	---	---	---	<250	---	---	---	---	---	**520**	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	16-Aug-16	<250	<250	**520**	<250	---	<250	---	---	---	**520**	---	**520**	---	---	---	---	---	---	---	---	---	---	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	21-Nov-16	<250	<250	**310**	<250	---	<250	---	---	---	**310**	---	**310**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Dec-16	<350	<350	<350	<350	---	<350	---	---	---	<350	---	<350	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	16-Feb-17	<250	<250	**280**	<250	---	<250	---	---	---	**280**	---	**280**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8S		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Dec-11	<300	<300	<300	<300	---	<300	<290	---	<290	<300	---	<300	<290	---	<290	---	---	---	---	---	---	---	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Apr-12	**630**	<250 CR	<250 CR	**630**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**690**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-May-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	4-Jun-12	**1,060**	<420 CR	**1,000 CR**	**1,060**	<420 CR	<420 CR	**620**	<270 CR	<270 CR	**1,890**	**1,000 CR**	**1,000 CR**	**660**	<290 CR	<290 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jul-12	**350**	<250 CR	**260 CR**	**350**	<250 CR	<250 CR	<250	<250	<250	**530**	**260 CR**	**260 CR**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Aug-12	**580**	<290 CR	<280 CR	**580**	<290 CR	<290 CR	**490**	<250 CR	<250 CR	**550**	<280 CR	<280 CR	**460**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-12	**590**	<300 CR	<330 CR	**590**	<300 CR	<300 CR	**500**	<250 CR	<250 CR	**700**	<330 CR	<330 CR	**500**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Oct-12	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Dec-12	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Jan-13	**520**	<260 CR	<250 CR	**520**	<260 CR	<250 CR	**300**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	14-Mar-13	**400**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Jun-13	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Sep-13	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-13	**610**	<250 CR	**300 CR**	**610**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**750**	**300 CR**	**300 CR**	**430**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Dec-14	<250	<250	**270**	<250	---	<250	<250	---	<250	**270**	---	**270**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-17	<250	<250	**340**	<250	---	<250	---	---	---	**340**	---	**340**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8I		Porewater EAZ	P4.8-8	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P4.8-8D		Porewater	P4.8-8	ALS	---	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jan-12	Well Not Sampled - Insufficient Water for Analysis																						
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Feb-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Apr-12	**320**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<250	<250	<250	**320**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-12	**660**	<300 CR	<320 CR	**660**	<300 CR	<300 CR	**600**	<300 CR	<300 CR	**750**	<320 CR	<320 CR	**640**	<320 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jun-12	**1,080**	<410 CR	**570 CR**	**1,080**	<410 CR	<410 CR	**590**	<290 CR	<290 CR	**1,440**	**570 CR**	**570 CR**	**680**	<310 CR	<310 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jul-12	**260**	<250 CR	**260 CR**	**260**	<250 CR	<250 CR	<250	<250	<250	**430**	**260 CR**	**260 CR**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	2-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Sep-12	**670**	<340 CR	<300 CR	**670**	<340 CR	<340 CR	<250	<250	<250	**610**	<300 CR	<300 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Oct-12	**620**	<300 CR	<320 CR	**620**	<300 CR	<300 CR	**420**	<250 CR	<250 CR	**630**	<320 CR	<320 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Dec-12	**290**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	<250	<250	<250	**300**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	**700**	<350 CR	<360 CR	**700**	<350 CR	<350 CR	**520**	<260 CR	<260 CR	**710**	<360 CR	<360 CR	**520**	<260 CR	<260 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	14-Mar-13	**440**	<250 CR	**290 CR**	**440**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**670**	**290 CR**	**290 CR**	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-13	**260**	<250 CR	<250	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D-F	F	Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-13	**660**	<250 CR	<270 CR	**660**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**580**	<270 CR	<270 CR	**280**	<250 CR	<250 CR	---	---	---	---	---	---	---	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Jun-13	**710**	<350 CR	<390 CR	**710**	<350 CR	<350 CR	**500**	<250 CR	<250 CR	**770**	<390 CR	<390 CR	**460**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	19-Sep-13	**310**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	<250	<250	<250	**420**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D-F	F	Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	19-Sep-13	**330**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	**430**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	**1.61**	<0.75	---
P4.8-8D	+	Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	**660**	<260 CR	<280 CR	**660**	<260 CR	<260 CR	**470**	<250 CR	<250 CR	**770**	<280 CR	<280 CR	**510**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D-AG	+	Porewater	P4.8-8	Agat	DCM	CS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P4.8-8D-MA	+	Porewater	P4.8-8	Maxxam	DCM	CS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D	+	Porewater	P4.8-8	ALS	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---
P4.8-8D-AG	+	Porewater	P4.8-8	Agat	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P4.8-8D-MA	+	Porewater	P4.8-8	Maxxam	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<200	<200	**220**	<200	---	<200	---	---	---	**220**	---	**220**	---	---	---	---	---	---	---	---	---	---	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.8-8D		Porewater	P4.8-8	ALS	DCM	DS	EB	1.3-1.5	1.3

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH[a]	Final LEPH[a]	Final HEPH[a, 2,6]	EPH[a] (C_{12}-C_{18}) [5]	Revised EPH[a] (C_{19}-C_{32}) [1]	Final EPH[a] (C_{19}-C_{32}) [1,6]	EPH[a] (C_{12}-C_{18}) [1] (Silica gel)	Revised EPH[a] (C_{19}-C_{32}) [1] (Silica gel)	Final EPH[a] (C_{19}-C_{32}) [1] (Silica gel)	EPH[a] (C_{19}-C_{32})	Revised EPH[a] (C_{19}-C_{32})	Final EPH[a] (C_{19}-C_{32}) [6]	EPH[a] (C_{19}-C_{32}) (Silica gel)	Revised EPH[a] (C_{19}-C_{32})	Final EPH[a] (C_{19}-C_{32}) (Silica gel)	VPH[a]	VPH[a] (C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P4.9-5	Porewater EAZ	P4.9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-5	Porewater EAZ	P4.9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	27-Mar-13	**740**	<370 CR	<360 CR	**740**	<370 CR	<370 CR	**580**	<290 CR	<290 CR	**710**	<360 CR	<360 CR	**580**	<290 CR	<290 CR	<100	<100	**0.85**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	12-Jun-13	**430**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<100	<100	**0.96**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Sep-13	<250	<250	<250 CR	<250	<250	<250	<250	<250	<250	**280**	<250 CR	<250 CR	<250	<250	<250	<100	<100	**2.13**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Dec-13	**490**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	DCM	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	2-Dec-14	**280**	**280**	**660**	**280**	<250	**280**	<250	---	<250	**660**	<250	**660**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P4.9-12S)	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12S	Porewater EAZ	P4.9-12	ALS	Hexane	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**5.86**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.57**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.72**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.40**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.12**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**3.68**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.97**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.59**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.65**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.54**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.55**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12I	Porewater	P4.9-12	ALS	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	27-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**5.07**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**12.8**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**20.9**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.65**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**12.1**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**16.1**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**23.7**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.81**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**15.5**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P4.9-12D)	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**15.8**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2%**	---	---	---	---	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**9.90**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.57**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**11.7**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**3.40**	<0.50	<0.50	**0.87**	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**3.91**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**3.59**	<0.50	<0.50	<0.50	<0.75	---
P4.9-12D	Porewater	P4.9-12	ALS	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**6.82**	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	28-Sep-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	**0.91**	**1.09**	<0.50	**0.73**	**12.2**	---
P5-3S	Porewater EAZ	P5-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Nov-11	Well Not Sampled																						
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**200**	**220**	**19.9**	**0.53**	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Dec-11	**370**	**370**	<250	**370**	---	**370**	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Feb-12	<250	<250	**280**	<250	<250	<250	<250	<250	<250	**280**	**280**	**280**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-May-12	**360**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.70	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.55**	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jul-12	**790**	<360 CR	<380 CR	**790**	<360 CR	<360 CR	**670**	<330 CR	<330 CR	**810**	<380 CR	<380 CR	**630**	<330 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Aug-12	**860**	<410 CR	<440 CR	**860**	<410 CR	<410 CR	**570**	<280 CR	<280 CR	**950**	<440 CR	<440 CR	**590**	<300 CR	<300 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-12	Well Not Sampled - Insufficient Water for Analysis																						
P5-3S	Porewater EAZ	P5-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Oct-12	Well Not Sampled - Dry																						
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.73**	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	25-Feb-13	Well Not Sampled																						
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<1,000	<1,000	<1,000	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-13	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3S	Porewater EAZ	P5-3	ALS	D

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{32}$)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) [1]	EPH$_w$(C$_{10}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR10	CSR10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Nov-12	290	290	<250	290	290	290	<250	<250	<250	<250	<250	<250	<250	<250	<250	130	140	3.05	1.17	<0.50	<0.50	3.24 UJ	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-12	260	<250 CR	<250	260	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.23	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	3.69	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-13	350	<250 CR	<250	350	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<1,100	<1,100	<1,100	<100	<100	4.96	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	110	110	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-13	870	<450 CR	<350 CR	870	<450 CR	<450 CR	520	<250 CR	<250 CR	810	<350 CR	<350 CR	550	<250 CR	<250 CR	<100	<100	0.63	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	250	250	<250	250	---	250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P5-3I	+	Porewater EAZ	P5-3	ALS	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	---	---	---	560	---	560	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P5-3I-AG	+	Porewater EAZ	P5-3	Agat	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	210	210	<100	210	---	210	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P5-3I-MA	+	Porewater EAZ	P5-3	Maxxam	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	810	810	400	810	---	810	---	---	---	400	---	400	---	---	---	---	---	---	---	---	---	---	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	3-Dec-14	300	300	380	300	---	300	<250	---	<250	380	---	380	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	3-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	19-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Dec-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3I		Porewater EAZ	P5-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	28-Sep-11	740	740	1,330	740	---	740	430	---	430	1,330	---	1,330	810	---	810	<100	<100	<0.50	<0.50	<0.50	<0.50	1.86	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Nov-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Dec-11	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	---	---	---	<250 UJ	---	<250 UJ	---	---	---	<100 UJ	<100 UJ	0.50 J	<0.50 UJ	<0.50 UJ	<0.50 UJ	<0.75 UJ	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jan-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	26-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-12	400	<250 CR	<250 CR	400	<250 CR	<250 CR	270	<250 CR	<250 CR	370	<250 CR	<250 CR	260	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.90	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jul-12	680	<290 CR	500 CR	680	<290 CR	<290 CR	560	<250 CR	<250 CR	1,120	500 CR	500 CR	450	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-12	440	<250 CR	<250 CR	440	<250 CR	<250 CR	400	<250 CR	<250 CR	470	<250 CR	<250 CR	400	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Oct-12	860	<430 CR	<410 CR	860	<430 CR	<430 CR	680	<340 CR	<340 CR	820	<410 CR	<410 CR	600	<300 CR	<300 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-12	260	<250 CR	<250	260	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.65	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	25-Feb-13	Well Not Sampled																							---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	5.65	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	810	<350 CR	310 CR	810	<350 CR	<350 CR	480	<250 CR	<250 CR	820	310 CR	310 CR	470	<250 CR	<250 CR	100	100	1.06	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D		Porewater	P5-3	ALS	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Mar-16	Well Not Sampled - Infilled																							---
P5-3D		Porewater	P5-3	ALS	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-May-16	Well Destroyed																							---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Dec-11	390	<250 CR	<300 CR	390	<250 CR	<250 CR	<250	<250	<250	440	<300 CR	<300 CR	260	<250 CR	<250 CR	<100	<100	2.31	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	1.27	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Feb-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	0.70	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Feb-12	260	<250 CR	760 CR	260	<250 CR	<250 CR	<250	<250	<250	840	760 CR	760 CR	340	260 CR	260 CR	---	---	---	---	---	---	---	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	1.49	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Apr-12	840	<300 CR	<320 CR	840	<300 CR	<300 CR	500	<250 CR	<250 CR	770	<320 CR	<320 CR	480	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jun-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	0.58	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-12	1,200	<470 CR	1,550 CR	1,200	<470 CR	<470 CR	870	<420 CR	<420 CR	2,560	1,550 CR	1,550 CR	880	<440 CR	<440 CR	---	---	---	---	---	---	---	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jul-12	280	<250 CR	530 CR	280	<250 CR	<250 CR	<250	<250	<250	560	530 CR	530 CR	360	330 CR	330 CR	<100	<100	1.38	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Aug-12	1,360	<560 CR	<600 CR	1,360	<560 CR	<560 CR	1,000	<450 CR	<450 CR	1,630	<600 CR	<600 CR	1,160	<480 CR	<480 CR	<100	<100	1.96	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-12	560	<250 CR	<250 CR	560	<250 CR	<250 CR	630	<250 CR	<250 CR	620	<250 CR	<250 CR	600	<250 CR	<250 CR	<100	<100	2.09	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Oct-12	560	<280 CR	<280 CR	560	<280 CR	<280 CR	440	<250 CR	<250 CR	580	<280 CR	<280 CR	430	<250 CR	<250 CR	<100	<100	0.69	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	1.48	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-Nov-12	1,010	<420 CR	630 CR	1,010	<420 CR	<420 CR	770	<360 CR	<360 CR	1,530	630 CR	630 CR	1,120	<380 CR	<380 CR	---	---	---	---	---	---	---	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Dec-12	<260	<260	<260	<260	<260	<260	<250	<250	<250	<260	<260	<260	<250	<250	<250	<100	<100	3.40	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Jan-13	<430	<430	640	<430	<430	<430	<430	<430	<430	640	640	640	<430	<430	<430	<100	<100	1.68	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-13	420	<250 CR	<300 CR	420	<250 CR	<250 CR	340	<250 CR	<250 CR	580	<300 CR	<300 CR	360	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7S		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Jun-13	660	<290 CR	<350 CR	660	<290 CR	<290 CR	520	<260 CR	<260 CR	920	<350 CR	<350 CR	600	<290 CR	<290 CR	<100	<100

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{32}$)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [5]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Sep-13	**400**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	<250	<250	<250	<100	<100	**1.75**	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-13	**650**	<250 CR	<250 CR	**650**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**640**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	<100	<100	**1.83**	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Mar-14	<250	<250	**310**	<250	---	<250	<250	---	<250	**310**	---	**310**	<250	---	<250	<100	<100	**1.18**	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.24**	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7I		Porewater EAZ	P5-7	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**2.87**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.72**	<0.50	<0.50	**0.55**	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Feb-12	<250	<250	**630**	<250	<250	<250	<250	<250	<250	**630**	**630**	**630**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.16**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jun-12	**970**	<390 CR	**810 CR**	**970**	<390 CR	<390 CR	**610**	<280 CR	<280 CR	**1,630**	**810 CR**	**810 CR**	**600**	<300 CR	<300 CR	<100	<100	**1.94**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jul-12	**280**	**280**	<250	**280**	**280**	**280**	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.60**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Aug-12	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-12	**740**	<320 CR	<340 CR	**740**	<320 CR	<320 CR	**510**	<250 CR	<250 CR	**710**	<340 CR	<340 CR	**560**	<260 CR	<260 CR	<100	<100	**2.88**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Oct-12	**580**	<280 CR	<280 CR	**580**	<280 CR	<280 CR	**450**	<250 CR	<250 CR	**560**	<280 CR	<280 CR	**430**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Nov-12	**350**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<250	<250	<250	<100	<100	**3.29**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Dec-12	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<250	<250	<250	**280**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	**560**	<280 CR	<260 CR	**560**	<280 CR	<280 CR	**340**	<250 CR	<250 CR	**510**	<260 CR	<260 CR	**320**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-13	**520**	<250 CR	<250 CR	**520**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Jun-13	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Sep-13	**630**	<310 CR	<330 CR	**630**	<310 CR	<310 CR	**440**	<250 CR	<250 CR	**650**	<330 CR	<330 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D	+	Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	**670**	<270 CR	<280 CR	**670**	<270 CR	<270 CR	**590**	<270 CR	<270 CR	**660**	<280 CR	<280 CR	**590**	<290 CR	<290 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D-AG	+	Porewater	P5-7	Agat	DCM	CS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P5-7D-MA	+	Groundwater	P5-7	Maxxam	DCM	CS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**0.68**	<0.50	<0.50	<0.50	<0.75	---
P5-7D	+	Porewater	P5-7	ALS	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P5-7D-AG	+	Porewater	P5-7	Agat	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Mar-14	**110**	**110**	**180**	**110**	---	**110**	---	---	---	**180**	---	**180**	---	---	---	---	---	---	---	---	---	---	---
P5-7D-MA	+	Porewater	P5-7	Maxxam	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Mar-14	<200	<200	**200**	<200 UJ	---	<200 UJ	---	---	---	**200 J**	---	**200 J**	---	---	---	---	---	---	---	---	---	---	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.05**	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-7D		Porewater	P5-7	ALS	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jun-12	**2,180**	**1,820 CR**	<250 CR	**2,210**	**1,850 CR**	**1,850 CR**	**1,160**	**810 CR**	**810 CR**	**410**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**4,100**	**9,310**	**1,810**	**510**	<2.5	**499**	**2,420**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**4,100**	**7,520**	**1,170**	**496**	<2.5	**219**	**1,580**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	14-Sep-12	**1,060**	**1,060**	<250	**1,080**	---	**1,080**	**370**	---	**370**	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	**1,540**	**1,540**	<250	**1,580**	**1,580**	**1,580**	**770**	**770**	**770**	<250	<250	<250	<250	<250	<250	**5,400**	**9,100**	**1,230**	**537**	<5.0	**94.2**	**1,840**	<5.0
P5.25-3		Porewater EAZ	P5.25-3	ALS	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	Well Not Sampled																						
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	**2,260**	**2,260**	<250	**2,330**	**2,330**	**2,330**	**1,060**	**1,060**	**1,060**	<250	<250	<250	<250	<250	<250	**3,800**	**10,600**	**1,510**	**797**	<10	**604**	**3,910**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Jun-13	**2,780**	**2,430 CR**	<250 CR	**2,830**	**2,490 CR**	**2,490 CR**	**1,130**	**820 CR**	**820 CR**	**370**	<250 CR	<250 CR	<250	<250	<250	**2,290**	**4,550**	**751**	**426**	<2.5	**20.2**	**1,060**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Sep-13	**3,390**	**2,790 CR**	<320 CR	**3,440**	**2,840 CR**	**2,840 CR**	**1,260**	**670 CR**	**670 CR**	**880**	<320 CR	<320 CR	**510**	<260 CR	<260 CR	**3,600**	**5,920**	**576**	**367**	<2.5	**100**	**1,270**	---
P5.25-3	+	Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**3,000**	**2,690 CR**	<250 CR	**3,060**	**2,750 CR**	**2,750 CR**	**990**	**690 CR**	**690 CR**	**410**	<250 CR	<250 CR	<250	<250	<250	**3,720**	**6,160**	**598**	**404**	<2.5	**41.3**	**1,400**	---
P5.25-3-AG	+	Porewater EAZ	P5.25-3	Agat	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**2,380**	**2,380**	**370**	**2,390**	---	**2,390**	---	---	---	**370**	---	**370**	---	---	---	---	---	---	---	---	---	---	---
P5.25-3-MA	+	Porewater EAZ	P5.25-3	Maxxam	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**1,600**	**1,600**	<200	**1,700**	---	**1,700**	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Dec-13	**2,820**	**2,240 CR**	<300 CR	**2,870**	**2,280 CR**	**2,280 CR**	---	---	---	**610**	<300 CR	<300 CR	---	---	---	---	---	---	---	---	---	---	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**1,930**	**1,930**	<250	**1,990**	---	**1,990**	**1,040**	---	**1,040**	<250	---	<250	<250	---	<250	**6,020**	**3,830**	**515**	**433**	<2.5	**32.8**	**1,200**	---
P5.25-3	+	Porewater EAZ	P5.25-3	ALS	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	---	---	---	**4,050**	---	**4,050**	---	---	---	**630**	---	**630**	---	---	---	---	---	---	---	---	---	---	---
P5.25-3-AG	+	Porewater EAZ	P5.25-3	Agat	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**1,260**	**1,260**	**240**	**1,300**	---	**1,300**	---	---	---	**240**	---	**240**	---	---	---	---	---	---	---	---	---	---	---
P5.25-3-MA	+	Porewater EAZ	P5.25-3	Maxxam	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**2,000**	**2,000**	**990**	**2,100 J**	---	**2,100 J**	---	---	---	**990 J**	---	**990 J**	---	---	---	---	---	---	---	---	---	---	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	**1,870**	**1,870**	<250	**1,920**	---	**1,920**	**560**	---	**560**	<250	---	<250	<250	---	<250	**3,100**	**4,960**	**588**	**373**	<2.5	**12.8**	**882**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Sep-14	**2,320**	**2,320**	**380**	**2,350**	---	**2,350**	**500**	---	**500**	**380**	---	**380**	<250	---	<250	**2,290**	**3,340**	**206**	**112**	<2.5	**25.3**	**703**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	**2,640**	**2,640**	**510**	**2,680**	---	**2,680**	**590**	---	**590**	**510**	---	**510**	**350**	---	**350**	**2,500**	**3,530**	**225**	**202**	<1.0	**10.1**	**594**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	**1,340**	**1,340**	<250	**1,370**	---	**1,370**	**760**	---	**760**	<250	---	<250	<250	---	<250	**2,540**	**3,470**	**273**	**141**	<2.5	**6.5**	**504**	---
P5.25-3-B		Porewater EAZ	P5.25-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	**1,280**	**1,280**	<250	**1,300**	---	**1,300**	---	---	---	<250	---	<250	---	---	---	**1,180**	**1,560**	**100**	**6.7**	<1.0	**5.3**	**260**	---
DUP-8 (P5.25-3)		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	**1,120**	**1,120**	<250	**1,140**	---	**1,140**	---	---	---	<250	---	<250	---	---	---	**1,220**	**1,580**	**96.1**	**5.80**	<0.50	**4.99**	**251**	
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3%**	**1%**	**4%**	**14%**	---	**6%**	**4%**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**1,390**	**1,390**	<250	**1,410**	---	**1,410**	---	---	---	<250	---	<250	---	---	---	**1,520**	**1,750**	**118**	**20.1**	<1.0	**7.2**	**77.2**	---
DUP-8 (P5.25-3)		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**1,430**	**1,430**	<250	**1,450**	---	**1,450**	---	---	---	<250	---	<250	---	---	---	**1,170**	**1,400**	**118**	**25.0**	<0.50	**7.00**	**85.1**	---
QA/QC RPD													**Duplicates**	**3%**	**3%**	---	**3%**	---	**3%**	---	---	---	---	---	---	---	---	**26%**	**22%**	**0%**	**22%**	---	**3%**	**10%**	---
P5.25-3		Porewater EAZ	P5.25-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	**1,310**	**1,310**	<250	**1,330**	---	**1,330**	---	---	---	<250	---	<250	---	---	---	**1,280**	**1,480**	**128**	**4.09**

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1]	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{32}$)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Apr-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	122,000	142,000	3,380	1,600	<25	4,660	10,500	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Apr-12	10,800	10,800	8,160	10,800	10,800	10,800	7,800	7,800	7,800	8,160	8,160	8,160	6,310	6,310	6,310	---	---	---	---	---	---	---	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-May-12	2,810	2,810	1,710	2,850	---	2,850	2,310	---	2,310	1,710	---	1,710	1,530	---	1,530	5,600	19,100	3,880	1,110	<25	2,880	5,670	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jun-12	2,040	2,040	860	2,090	2,090	2,090	1,340	1,340	1,340	860	860	860	640	640	640	4,600	14,700	3,200	797	<10	1,300	4,840	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jul-12	2,910	2,910	1,330	2,960	2,960	2,960	1,720	1,720	1,720	1,330	1,330	1,330	1,040	1,040	1,040	<2,000	9,300	2,940	580	1.09	283	3,570	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Aug-12	1,590	1,590	520	1,620	1,620	1,620	490	490	490	520	520	520	290	290	290	1,600	5,900	1,890	111	<5.0	94.6	2,210	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Sep-12	Well Not Sampled - Insufficient Water for Analysis																						
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5,600	10,900	2,210	274	<5.0	303	2,520	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Nov-12	4,160	3,700 CR	1,640 CR	4,200	3,740 CR	3,740 CR	900	440 CR	440 CR	2,130	1,640 CR	1,640 CR	680	<250 CR	<250 CR	5,500	11,300	1,800	280	<5.0	383	3,350	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	1,700	1,390 CR	560 CR	1,730	1,420 CR	1,420 CR	890	500 CR	500 CR	910	560 CR	560 CR	330	<250 CR	<250 CR	4,800	8,900	1,100	206	<5.0	167	2,590	<5.0
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Jan-13	1,670	1,670	<250	1,720	1,720	1,720	990	990	990	<250	<250	<250	<250	<250	<250	3,800	7,800	1,280	253	<5.0	113	2,350	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	Well Not Sampled																							
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	1,500	1,500	<250	1,550	1,550	1,550	840	840	840	<250	<250	<250	<250	<250	<250	3,800	8,700	1,440	327	<10	222	2,890	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Jun-13	1,830	1,590 CR	<250 CR	1,890	1,650 CR	1,650 CR	1,080	800 CR	800 CR	320	<250 CR	<250 CR	<250	<250 CR	<250	1,500	6,500	1,230	697	<5.0	180	2,870	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Sep-13	2,120	1,790 CR	<250 CR	2,140	1,820 CR	1,820 CR	750	430 CR	430 CR	500	<250 CR	<250 CR	300	<250 CR	<250 CR	3,120	5,090	687	214	<2.5	40.2	1,030	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	2,160	2,160	620	2,230	2,230	2,230	1,040	1,040	1,040	620	620	620	460	460	460	8,100	11,400	759	808	<2.5	84.2	1,720	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-14	1,670	1,670	910	1,720	---	1,720	870	---	870	910	---	910	490	---	490	3,490	5,880	625	554	<2.5	39.0	1,180	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	1,660	1,660	660	1,720	---	1,720	500	---	500	660	---	660	<250	---	<250	3,620	6,180	735	646	<2.5	36.2	1,140	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	2,200	2,200	700	2,250	---	2,250	530	---	530	700	---	700	450	---	450	4,570	6,460	539	255	<2.5	38.6	1,060	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	2,220	2,220	800	2,280	---	2,280	660	---	660	800	---	800	270	---	270	3,990	5,690	458	344	<2.5	13.5	874	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	1,290	1,290	470	1,330	---	1,330	900	---	900	470	---	470	350	---	350	3,090	4,670	418	329	<2.5	15	825	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	1,310	1,310	<250	1,340	---	1,340	---	---	---	<250	---	<250	---	---	---	2,950	4,450	341	339	<2.5	18.9	805	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	1,300	1,300	410	1,340	---	1,340	---	---	---	410	---	410	---	---	---	3,040	4,110	354	43.1	<2.5	14.2	665	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	1,270	1,270	<250	1,310	---	1,310	---	---	---	<250	---	<250	---	---	---	3,560	4,840	317	163	<2.5	15.1	787	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	1,230	1,230	290	1,280	---	1,280	---	---	---	290	---	290	---	---	---	4,000	4,900	173	102	<1.0	7.3	612	---
DUP-7 (P5.5-3R)		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	1,190	1,190	320	1,240	---	1,240	---	---	---	320	---	320	---	---	---	3,560	4,460	173	104	<1.0	7.3	618	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	12%	9%	0%	2%	---	0%	1%	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	1,270	1,270	<250	1,310	---	1,310	---	---	---	<250	---	<250	---	---	---	3,210	4,400	201	169	<2.5	15.4	803	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	1,310	1,310	380	1,340	---	1,340	---	---	---	380	---	380	---	---	---	1,410	2,990	326	133	<1.0	35.3	1,080	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	23-Nov-16	1,360	1,360	390	1,400	---	1,400	---	---	---	390	---	390	---	---	---	2,590	3,920	238	187	<1.3	16.8	893	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	1,160	1,160	<250	1,190	---	1,190	---	---	---	<250	---	<250	---	---	---	3,430	4,480	116	148	<0.50	8.22	774	---
P5.5-3R		Porewater EAZ	P5.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	1,130	1,130	680	1,160	---	1,160	---	---	---	680	---	680	---	---	---	2,710	3,620	116	164	<0.50	11.0	614	---
DUP-5 (P5.5-3R)		Porewater EAZ	P5.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	1,020	1,020	400	1,050	---	1,050	---	---	---	400	---	400	---	---	---	2,750	3,630	113	162	<0.50	10.7	595	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1%	0%	3%	1%	---	3%	3%	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	26-Sep-11	290	290	<250	290	290	290	<250	<250	<250	<250	<250	<250	<250	<250	<250	130	150	25.0	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	4-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	2.82 J	<0.50	<0.50	<0.50	<0.75	5.36
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100 UJ	<100 UJ	7.08 J	<0.50 UJ	<0.50 UJ	<0.50 UJ	<0.75 UJ	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Dec-11	350	350	<250	350	350	350	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	140	94.4	<0.50	<0.50	<0.80	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	1-Feb-12	350	<250 CR	500 CR	350	<250 CR	<250 CR	<250	<250	<250	720	500 CR	500 CR	<250	<250	<250	<100	280	270	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	43.1	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	40.6	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-May-12	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	410	490	77.8	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	4-Jun-12	270	270	<250	270	270	270	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	20.6	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	4-Jul-12	980	<500 CR	660 CR	980	<500 CR	<500 CR	670	<250 CR	<250 CR	1,220	660 CR	660 CR	530	<260 CR	<260 CR	<100	<100	30.4	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	1-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	26.7	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-12	690	<250 CR	<250 CR	690	<250 CR	<250 CR	590	<250 CR	<250 CR	720	<250 CR	<250 CR	560	<250 CR	<250 CR	<100	100	6.35	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Oct-12	800	<310 CR	<270 CR	800	<310 CR	<310 CR	520	<260 CR	<260 CR	540	<270 CR	<270 CR	440	<250 CR	<250 CR	170	180	7.01	0.61	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Dec-12	1,010	490 CR	1,580 CR	1,010	490 CR	490 CR	520	<260 CR	<260 CR	2,060	1,580 CR	1,580 CR	480	<250 CR	<250 CR	<100	<100	23.8	<0.50	<0.50	<0.50	<0.75	5.14
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Jan-13	1,110	<400 CR	720 CR	1,110	<400 CR	<400 CR	480	<250 CR	<250 CR	1,580	720 CR	720 CR	440	<250 CR	<250 CR	110	300	189	0.65	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	---	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	25-Feb-13	Well Not Sampled																							
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-13	720	<350 CR	480 CR	720	<350 CR	<350 CR	500	<250 CR	<250 CR	890	480 CR	480 CR	360	<250 CR	<250 CR	570	850	276	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-May-13	1,110	<550 CR	480 CR	1,110	<550 CR	<550 CR	740	<260 CR	<260 CR	1,110	480 CR	480 CR	510	<260 CR	<260 CR	<100	100	30.0	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Jun-13	930	<500 CR	460 CR	930	<500 CR	<500 CR	520	<250 CR	<250 CR	980	460 CR	460 CR	430	<250 CR	<250 CR	270	300	24.0	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-Sep-13	750	<290 CR	<310 CR	750	<290 CR	<290 CR	450	<250 CR	<250 CR	720	<310 CR	<310 CR	370	<250 CR	<250 CR	220	230	6.96	<0.50	<0.50	<0.50	<0.75	---
P6-8S	+	Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-13	580	290 CR	<250 CR	580	290 CR	290 CR	270	<250 CR	<250 CR	510	<250 CR	<250 CR	250	<250 CR	<250 CR	450	460	14.1	<0.50	<0.50	<0.50	<0.75	---
P6-8S-AG	+	Porewater EAZ	P6-8	Agat	DCM	DS	EB	0.8-1.0	0.8	1	Weathered Colluvium	---	9-Dec-13	240 J	240 J	380 J	240 J	---	240 J	---	---	---	380 J	---	380 J	---	---	---	---	---	---	---	---	---	---	---
P6-8S-MA	+	Porewater EAZ	P6-8	Maxxam	DCM	DS	EB	0.8-1.0	0.8	1	Weathered Colluvium	---	9-Dec-13	500 J+	500 J+	280 J+	500 J+	---	500 J+	---	---	---	280 J+	---	280 J+	---	---	---	---	---	---	---	---	---	---	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Dec-13	1,000	<340 CR	370 CR	1,000	<340 CR	<340 CR	---	---	---	1,090	370 CR	370 CR	---	---	---	---	---	---	---	---	---	---	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	330	330	260	330	---	330	<250	---	<250	260	---	260	<250	---	<250	300	320	16.9	<0.50	<0.50	<0.50	<0.75	---
P6-8S	+	Porewater EAZ	P6-8	ALS	BC	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	---	---	---	970	---	970	---	---	---	500	---	500	---	---	---	---	---	---	---	---	---	---	---
P6-8S-AG	+	Porewater EAZ	P6-8	Agat	BC	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	300	300	420	300	---	300	---	---	---	420	---	420	---	---	---	---	---	---	---	---	---	---	---
P6-8S-MA	+	Porewater EAZ	P6-8	Maxxam	BC	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	450	450	480	450 J	---	450 J	---	---	---	480 J	---	480 J	---	---	---	---	---	---	---	---	---	---	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Jun-14	500	500	<250	500	---	500	<250	---	<250	<250	---	<250	<250	---	<250	200	200	1.06	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-14	370	370	<250	370	---	370	<250	---	<250	<250	---	<250	<250	---	<250	240	240	1.92	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Dec-14	680	680	260	680	---	680	<250	---	<250	260	---	260	<250	---	<250	230	230	1.89	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	1.10	<0.50	<0.50	<0.50	<0.75	---
P6-8S-B		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	600	600	380	600	---	600	<250	---	<250	380	---	380	<250	---	<250	---	---	---	---	---	---	---	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	110	110	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	170	180	2.16	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	200	210	5.51	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	130	130	2.15	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	0.92	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.64	<0.50	<0.50	<0.50	<0.75	---
P6-8S		Porewater EAZ	P6-8	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.30	<0.50	<0.50	<0.50	<0.75	---
P6-8I		Porewater	P6-8	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	26-Sep-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.37	<0.50	<0.50	<0.50	<0.75	---
P6-8I		Porewater	P6-8	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8I		Porewater	P6-8	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C_{10}-C_{19}) [1]	Revised EPH$_w$ (C_{10}-C_{19}) [1]	Final EPH$_w$ (C_{10}-C_{19}) [1,6]	EPH$_w$(C_{10}-C_{19}) [1] (Silica gel)	Revised EPH$_w$ (C_{10}-C_{19}) [1] (Silica gel)	Final EPH$_w$ (C_{10}-C_{19}) [1] (Silica gel)	EPH$_w$(C_{19}-C_{32})	Revised EPH$_w$ (C_{19}-C_{32})	Final EPH$_w$ (C_{19}-C_{32}) [6]	EPH$_w$(C_{19}-C_{32}) (Silica gel)	Revised EPH$_w$ (C_{19}-C_{32})	Final EPH$_w$ (C_{19}-C_{32}) (Silica gel)	VPH$_w$	VH$_w$(C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Jul-12	<250	<250	**260**	<250	<250	<250	<250	<250	<250	**250**	**250**	**250**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	1-Aug-12	**330**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	**360**	<250 CR	<250 CR	<250	<250	<250	<100	<100	**0.86**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Sep-12	**510**	<250 CR	<250 CR	**510**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	11-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.04**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.77**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Dec-12	**440 J**	<250 CR	**530 J,CR**	**440 J**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**880 J**	**530 CR**	**530 J,CR**	**340 J**	<250 CR	<250 CR	<100	<100	**1.63**	<0.50	<0.50	<0.50	<0.75	**6.41**
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	---	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	25-Feb-13	Well Not Sampled																						
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	9-Dec-13	**370**	<250 CR	**450 CR**	**370**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**780**	**450 CR**	**450 CR**	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**3.40 J**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.54**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.54**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**0.77**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**2.24**	<0.50	<0.50	**0.65**	<0.75	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**43.6**	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**49.9**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**13%**	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	**140**	**64.1**	<0.50	<0.50	<0.50	<0.75	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**9.92**	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P6-8D)	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4	4.4	Colluvium	---	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**9.94**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0%**	---	---	---	---	---
P6-8D	Porewater	P6-8	ALS	Hexane	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	**150**	**83.1**	**0.57**	<0.50	**0.57**	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	26-Sep-11	<250	<250	**370 CR**	<250	<250	<250	<250	<250	<250	**450**	**370 CR**	**370 CR**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	**1.96**	**2.36**	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**0.87**	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	6-Jun-12	<250	<250	<250 CR	<250	<250	<250	<250	<250	<250	**260**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-12	**430**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-13	**350**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Jun-13	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<250	<250	<250	**250**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-13	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	2-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	4-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P6-12S	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	15-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-15	<250	<250	**310**	<250	---	<250	---	---	---	**310**	---	**310**	---	---	---	---	---	---	---	---	---	---	---
P6-12S	Porewater EAZ	P6-12	ALS	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	8-Sep-15	Well Not Sampled - Dry																						
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	15-Aug-16	---	---	---	---	---	---	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12S	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	26-Sep-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.51**	<0.50	<0.50	**0.75**	**0.91**	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.68**	<0.50	<0.50	<0.30	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**41.4**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	6-Jun-12	**300**	**300**	<250	<250	**300**	**300**	**300**	<250	<250	<250	<250	<250	<250	<250	<250	**130**	**310**	**182**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.91**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	31-Oct-12	**610**	<250 CR	<250 CR	**610**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**520**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	<100	<100	**1.03**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	8-Nov-12	**270**	**270**	<250	**270**	**270**	**270**	<250	<250	<250	<250	<250	<250	<250	<250	<250	**110**	**120**	**5.03**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Dec-12	**330**	<250 CR	<250	**330**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	**110**	**120**	**4.49**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	13-Mar-13	**310**	**310**	<250	**310**	**310**	**310**	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	**130**	**40.6**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Jun-13	**290**	**290**	<250	**290**	**290**	**290**	<250	<250	<250	<250	<250	<250	<250	<250	<250	**360**	**370**	**5.52**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	17-Sep-13	**360**	<250 CR	<250	**360**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	9-Dec-13	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<350	<100	<100	**1.32**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	10-Mar-14	**290**	**290**	<250	**290**	---	**290**	<250	---	<250	<250	---	<250	<250	---	<250	**190**	**190**	**4.35**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Jun-14	**270**	**270**	<250	**270**	---	**270**	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Sep-14	**340**	**340**	<250	**340**	---	**340**	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	2-Dec-14	**300**	**300**	<250	**300**	---	**300**	<250	---	<250	<250	---	<250	<250	---	<250	**110**	**110**	**1.74**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	10-Mar-15	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	**140**	**140**	**1.50**	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12I	Porewater EAZ	P6-12	ALS	Hexane	DS	EB	0.6-0.8

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-12	1,220	870 CR	<250 CR	1,240	890 CR	890 CR	470	290 CR	290 CR	270	<250 CR	<250 CR	<250	<250	<250	4,000	7,890	2,030	579	<2.5	242	1,050	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Dec-12	1,070	1,070	<250	1,070	1,070	1,070	<250	<250	<250	<250	<250	<250	<250	<250	<250	2,060	4,290	936	162	<2.5	90.1	1,040	<2.5
P6.25-3		Porewater EAZ	P6.25-3	ALS	---	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	25-Feb-13	Well Not Sampled																							
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-13	1,450	1,450	<250	1,470	1,470	1,470	720	720	720	<250	<250	<250	<250	<250	<250	3,500	8,700	1,770	606	<5.0	266	2,520	---
P6.25-3A	~	Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	1,750	1,750	370	1,790	---	1,790	990	---	990	370	---	370	<250	---	<250	4,400	10,100	1,520	684	<10	379	3,150	---
P6.25-3B	~	Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	130	370	23.9	25.6	<0.50	14.0	181	---
P6.25-3C	~	Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	1,820	1,820	340	1,860	---	1,860	750	---	750	340	---	340	<250	---	<250	4,900	9,400	1,240	536	<10	308	2,470	---
P6.25-3D	~	Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	1,790	1,530 CR	<250 CR	1,830	1,580 CR	1,580 CR	810	560 CR	560 CR	310	<250 CR	<250 CR	<250	<250	<250	5,300	9,100	1,340	664	<5.0	114	1,630	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Sep-13	2,380	1,830 CR	<250 CR	2,420	1,860 CR	1,860 CR	760	340 CR	340 CR	420	<250 CR	<250 CR	270	<250 CR	<250 CR	4,700	7,500	996	675	<2.5	51.2	1,050	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Dec-13	2,480	1,870 CR	<300 CR	2,520	1,900 CR	1,900 CR	860	450 CR	450 CR	590	<300 CR	<300 CR	410	<250 CR	<250 CR	4,600	7,150	701	684	<2.5	37.0	1,090	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	800	800	<250	800	---	800	330	---	330	<250	---	<250	<250	---	<250	1,700	2,970	393	204	<2.5	16.2	652	---
P6.25-3	+	Porewater EAZ	P6.25-3	ALS	BC	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	---	---	---	2,500	---	2,500	---	---	---	550	---	550	---	---	---	---	---	---	---	---	---	---	---	---
P6.25-3-AG	+	Porewater EAZ	P6.25-3	Agat	BC	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	830	830	300	840	---	840	---	---	---	300	---	300	---	---	---	---	---	---	---	---	---	---	---	---
P6.25-3-MA	+	Porewater EAZ	P6.25-3	Maxxam	BC	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	1,400	1,400	920	1,400 J	---	1,400 J	---	---	---	920 J	---	920 J	---	---	---	---	---	---	---	---	---	---	---	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	13-Jun-14	1,040	1,040	<250	1,050	---	1,050	300	---	300	<250	---	<250	<250	---	<250	2,900	4,990	646	445	<2.5	5.06	946	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	1,220	1,220	<250	1,230	---	1,230	370	---	370	<250	---	<250	<250	---	<250	2,130	3,910	579	256	<2.5	133	814	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	1,510 J	1,510 J	350 J	1,520 J	---	1,520 J	<250	---	<250	350 J	---	350 J	<250	---	<250	1,450	2,080	313	113	<2.5	35.4	166	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-15	330	330	<250	330	---	330	<250	---	<250	<250	---	<250	<250	---	<250	1,000	1,330	244	35.6	<1.0	4.1	38.7	---
DUP-5 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-15	310	310	<250	310	---	310	<250	---	<250	<250	---	<250	<250	---	<250	1,020	1,320	217	36.4	<1.0	4.2	42.7	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2%	1%	12%	2%	---	2%	10%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	18-Jun-15	580	580	<250	590	---	590	---	---	---	<250	---	<250	---	---	---	1,440	2,000	350	61.4	<2.5	5.3	141	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Sep-15	450	450	<250	450	---	450	---	---	---	<250	---	<250	---	---	---	1,020	1,540	333	37.0	<2.5	15.0	127	---
DUP-7 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Sep-15	480	480	<250	490	---	490	---	---	---	<250	---	<250	---	---	---	1,290	1,840	338	46.1	<1.0	14.6	152	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	23%	18%	1%	22%	---	3%	18%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-Dec-15	380	380	<250	380	---	380	---	---	---	<250	---	<250	---	---	---	560	820	170	12.3	<0.50	14.2	60.7	---
DUP-6 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-Dec-15	450	450	<250	460	---	460	---	---	---	<250	---	<250	---	---	---	600	880	185	14.7	<0.50	16.2	71.9	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	7%	7%	8%	18%	---	13%	17%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	2-Mar-16	<250	<250	560	<250	---	<250	---	---	---	560	---	560	---	---	---	140	240	44	13.3	<0.50	1.36	35	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	18-May-16	250	250	<250	250	---	250	---	---	---	<250	---	<250	---	---	---	360	500	89.4	20.6	<0.50	3.67	25.3	---
DUP-3 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	350	490	92.4	21.0	<0.50	3.79	25.8	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3%	2%	---	3%	2%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	22-Aug-16	420	420	<250	430	---	430	---	---	---	<250	---	<250	---	---	---	<200	550	286	16.2	<1.0	2.4	48.8	---
DUP-2 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	22-Aug-16	380	380	<250	380	---	380	---	---	---	<250	---	<250	---	---	---	420	760	275	15.9	<1.0	2.3	47.9	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	32%	4%	2%	---	---	2%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	24-Nov-16	420	420	<250	420	---	420	---	---	---	<250	---	<250	---	---	---	1,400	1,730	120	32.4	<0.50	24.7	155	---
DUP-8 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	24-Nov-16	320	320	<250	320	---	320	---	---	---	<250	---	<250	---	---	---	1,040	1,360	119	28.3	<0.50	23.6	153	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30%	24%	1%	14%	---	5%	1%	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	360	520	150	1.61	<0.50	0.58	2.55	---
DUP-6 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Mar-17	<250	<250	320	<250	---	<250	---	---	---	320	---	320	---	---	---	390	540	138	1.48	<0.50	0.55	1.86	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4%	8%	---	---	---	---	---
P6.25-3		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	490	610	109	4.09	<0.50	3.93	3.17	---
DUP-4 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	Hexane	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	7-Jun-17	250	250	<250	250	---	250	---	---	---	<250	---	<250	---	---	---	490	620	116	4.30	<0.50	4.09	2.63	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2%	6%	5%	---	---	4%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jun-12	1,490	1,490	690	1,520	1,520	1,520	590	590	590	690	690	690	<250	<250	<250	1,760	5,660	1,800	520	<0.50	97.9	1,480	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-12	1,350	960 CR	<250 CR	1,370	980 CR	980 CR	580	300 CR	300 CR	350	<250 CR	<250 CR	260	<250 CR	<250 CR	5,170	5,630	188	93.6	<0.50	3.85	168	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	1,660	1,450 CR	<250 CR	1,700	1,490 CR	1,490 CR	650	350 CR	350 CR	350	<250 CR	<250 CR	260	<250 CR	<250 CR	2,280	4,650	901	366	<2.5	41.1	1,070	<2.5
P6.5-3		Porewater EAZ	P6.5-3	ALS	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	Well Not Sampled																							
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	1,550	1,550	<250	1,580	1,580	1,580	870	870	870	<250	<250	<250	<250	<250	<250	3,080	5,180	989	233	<5.0	81.5	792	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	1,710	1,470 CR	<250 CR	1,740	1,500 CR	1,500 CR	780	540 CR	540 CR	320 J	<250 CR	<250 CR	<250	<250	<250	6,100	8,600	1,100	401	<5.0	68.3	961	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Sep-13	1,600	1,600	<250	1,620	1,620	1,620	500	500	500	<250	<250	<250	<250	<250	<250	2,060	3,440	490	328	<1.0	15.8	554	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	1,510	1,280 CR	<250 CR	1,520	1,280 CR	1,280 CR	690 J	450 CR	450 J,CR	300 J	<250 CR	<250 CR	270	<250 CR	<250 CR	2,610	3,230	223	156	<2.5	4.9	239	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	1,120	1,120	<250	1,150	---	1,150	720	---	720	<250	---	<250	<250	---	<250	3,230	2,250	297	213	<0.50	6.32	467	---
P6.5-3	+	Porewater EAZ	P6.5-3	ALS	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	---	---	---	2,770	---	2,770	---	---	---	510	---	510	---	---	---	---	---	---	---	---	---	---	---
P6.5-3-AG	+	Porewater EAZ	P6.5-3	Agat	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	1,130	1,130	260	1,140	---	1,140	---	---	---	260	---	260	---	---	---	---	---	---	---	---	---	---	---
P6.5-3-MA	+	Porewater EAZ	P6.5-3	Maxxam	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	1,600	1,600	790	1,600 J	---	1,600 J	---	---	---	790 J	---	790 J	---	---	---	---	---	---	---	---	---	---	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	1,430	1,430	<250	1,440	---	1,440	480	---	480	<250	---	<250	<250	---	<250	1,990	2,860	501	116	<2.5	3.4	254	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	1,170	1,170	<250	1,170	---	1,170	310	---	310	<250	---	<250	<250	---	<250	1,270	1,770	280	41.7	<2.5 UJ	5.8	178	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	1,220	1,220	340	1,230	---	1,230	<250	---	<250	340	---	340	<250	---	<250	750	1,000	118	33.8	<0.50	2.46	88.4	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	450	610	97.8	41.2	<0.50	0.86	15.1	---
DUP-8 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	400	550	94.1	39.6	<0.50	0.95	14.5	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10%	4%	4%	---	---	4%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	230	350	99.5	3.05	<0.50	0.98	16.9	---
DUP-7 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	220	340	103	3.06	<0.50	1.00	17.0	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3%	0%	---	---	1%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	530	530	<250	540	---	540	---	---	---	<250	---	<250	---	---	---	1,200	1,460	123	8.2	<1.0	2.0	133	---
DUP-6 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	550	550	<250	550	---	550	---	---	---	<250	---	<250	---	---	---	1,780	2,030	121	7.1	<1.0	1.7	120	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	39%	33%	2%	14%	---	---	10%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	520	520	<250	530	---	530	---	---	---	<250	---	<250	---	---	---	550	680	89.6	1.88	<0.50	1.00	33.3	---
DUP-5 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	470	470	<250	470	---	470	---	---	---	<250	---	<250	---	---	---	600	720	86.1	1.82	<0.50	1.00	30.9	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9%	6%	4%	---	---	---	7%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	610	610	290	610	---	610	---	---	---	290	---	290	---	---	---	900	1,110	160	27.8	<0.50	1.63	23.8	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	550	550	<250	550	---	550	---	---	---	<250	---	<250	---	---	---	240	380	119	15.8	<0.50	1.10	6.33	---
DUP-4 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	380	380	<250	380	---	380	---	---	---	<250	---	<250	---	---	---	210	350	114	14.1	<0.50	1.06	5.82	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4%	11%	---	---	8%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	470	470	<250	470	---	470	---	---	---	<250	---	<250	---	---	---	450	560	83.6	1.62	<0.50	1.31	22.4	---
DUP-3 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	480	480	<250	480	---	480	---	---	---	<250	---	<250	---	---	---	460	580	87.3	1.62	<0.50	1.32	22.2	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4%	4%	---	---	---	1%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	560	560	<250	560	---	560	---	---	---	<250	---	<250	---	---	---	760	820	47.7	1.83	<0.50	0.94	7.63	---
DUP-7 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	600	600	<250	600	---	600	---	---	---	<250	---	<250	---	---	---	720	770	46.9	1.64	<0.50	1.03	6.40	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5%	6%	2%	---	---	---	18%	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	350	420	64.9	2.77	<0.50	0.57	1.39	---
DUP-7 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	320	400	67.2	2.74	<0.50	0.56	1.22	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3%	1%	---	---	---	---
P6.5-3		Porewater EAZ	P6.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	370	370	<250

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{12}$)	Revised EPH$_w$ (C$_{10}$-C$_{12}$)	Final EPH$_w$ (C$_{10}$-C$_{12}$) [1]	EPH$_w$(C$_{10}$-C$_{12}$) (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{12}$)	Final EPH$_w$ (C$_{10}$-C$_{12}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
B-7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Mar-15	770	770	<250	780	---	780	520	---	520	<250	---	<250	<250	---	<250	970	1,330	191	88.4	<1.0	1.8	75.8	---
P7-3-B	---	Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Mar-15	1,150	1,150	600	1,160	---	1,160	460	---	460	600	---	600	<250	---	<250	---	---	---	---	---	---	---	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	17-Jun-15	700	700	<250	700	---	700	---	---	---	<250	---	<250	---	---	---	660	780	67.9	4.75	<0.50	0.95	47.3	---
DUP-6 (P7-3)		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	17-Jun-15	530	530	<250	780	---	780	---	---	---	<250	---	<250	---	---	---	630	750	65.6	4.79	<0.50	0.93	46.9	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5%	4%	3%	1%	---	---	1%	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	11-Sep-15	1,010	1,010	270	1,020	---	1,020	---	---	---	270	---	270	---	---	---	730	820	47.6	1.84	<0.50	0.60	39.9	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	9-Dec-15	1,070	1,070	<250	1,070	---	1,070	---	---	---	<250	---	<250	---	---	---	610	790	59.0	1.11	<0.50	0.77	117	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	2-Mar-16	1,220	1,220	<250	1,220	---	1,220	---	---	---	<250	---	<250	---	---	---	820	1,020	90.9	15.4	<0.50	<0.70	98.8	---
DUP-6 (P7-3)		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	2-Mar-16	1,130	1,130	<250	1,140	---	1,140	---	---	---	<250	---	<250	---	---	---	900	1,120	94.2	16.7	<0.50	<0.80	109	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9%	9%	4%	8%	---	---	10%	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-May-16	700	700	340	700	---	700	---	---	---	340	---	340	---	---	---	820	870	41.5	5.78	<0.50	<0.50	0.82	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-Aug-16	730	730	620	730	---	730	---	---	---	620	---	620	---	---	---	460	480	19.5	<0.50	<0.50	<0.50	1.78	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Nov-16	820	820	<250	820	---	820	---	---	---	<250	---	<250	---	---	---	450	500	27.4	1.32	<0.50	0.52	18.5	---
DUP-5 (P7-3)		Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Nov-16	880	880	<250	880	---	880	---	---	---	<250	---	<250	---	---	---	440	490	28.8	1.26	<0.50	0.52	19.4	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5%	---	---	---	5%	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	16-Mar-17	820	820	<250	820	---	820	---	---	---	<250	---	<250	---	---	---	540	600	54.7	4.93	<0.50	<0.50	2.36	---
P7-3		Porewater EAZ	P7-3	ALS	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	7-Jun-17	700	700	<250	700	---	700	---	---	---	<250	---	<250	---	---	---	840	980	100	27.6	<0.50	0.82	11.0	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	840	500 CR	520 CR	840	500 CR	500 CR	380	<250 CR	<250 CR	880	520 CR	520 CR	530	<250 CR	<250 CR	<230	990	1,140	<0.50	<0.50	13.2	2.47	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-12	550	<300 CR	<250 CR	550	<300 CR	<300 CR	270	<250 CR	<250 CR	380	<250 CR	<250 CR	260	<250 CR	<250 CR	<500	1,150	861	<2.5	<2.5	<2.5	<3.5	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-12	630	350 CR	420 CR	630	350 CR	350 CR	<250	<250	<250	730	420 CR	420 CR	<250	<250	<250	890	1,300	354	48.1	<1.0	3.0	2.8	<1.0
P7-5		Porewater EAZ	P7-5	ALS	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Well Not Sampled																						
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Mar-13	500	500	260	500	500	500	<250	<250	<250	260	260	260	<250	<250	<250	1,010	2,060	808	236	<2.5	9.8 J	<3.5	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-13	750	390 CR	<250 CR	750	390 CR	390 CR	300	<250 CR	<250 CR	430	<250 CR	<250 CR	<250	<250	<250	1,760	2,670	629	264	<1.0	11.6	10.4	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Sep-13	340	340	<250	340	340	340	<250	<250	<250	<250	<250	<250	<250	<250	<250	280	730	441	1.9	<1.0	4.6	2.2	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-13	1,110	660 CR	<250 CR	1,110	660 CR	660 CR	360	<250 CR	<250 CR	650	<250 CR	<250 CR	360	<250 CR	<250 CR	730	1,100	362	<1.0	<1.0	3.2	<1.4	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Mar-14	460	460	<250	460	---	460	<250	---	<250	<250	---	<250	<250	---	<250	1,100	1,440	310	18.2	<0.50	13.9	4.23	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Jun-14	530	530	<250	530	---	530	<250	---	<250	<250	---	<250	<250	---	<250	610	1,090	378	8.54	<1.0	8.8	3.6	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-14	490	490	<250	490	---	490	<250	---	<250	<250	---	<250	<250	---	<250	220	520	305	<1.0	<1.0	1.5	2.8	---
P7-5		Porewater EAZ	P7-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	3-Dec-14	920	920	340	920	---	920	<250	---	<250	340	---	340	<250	---	<250	350	470	117	<0.50	<0.50	<0.50	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	430	600	162	0.88	<0.50	2.15	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Jun-15	440	440	270	440	---	440	---	---	---	270	---	270	---	---	---	580	810	213	3.62	<0.50	4.78	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	230	330	104	<0.50	<0.50	1.01	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	380	460	76.6	<0.50	<0.50	0.52	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	300	410	111	<0.50	<0.50	<0.50	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	260	380	110	<0.50	<0.50	0.83	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	240	360	121	<0.50	<0.50	1.72	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	120	140	15.3	<0.50	<0.50	0.81	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	330	480	143	<0.50	<0.50	0.57	<0.75	---
P7-5		Porewater EAZ	P7-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	230	360	123	<0.50	<0.50	2.03	<0.75	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	4-Jun-12	2,620	2,010 CR	710 CR	2,640	2,020 CR	2,020 CR	1,240	620 CR	620 CR	1,370	710 CR	710 CR	520	<260 CR	<260 CR	3,000	6,200	796	264	<5.0	243	1,950	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	12-Sep-12	820	820	<250	830	830	830	290	290	290	<250	<250	<250	<250	<250	<250	2,840	4,380	621	209	<2.5	10.1	697	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Dec-12	2,020	2,020	<250	2,070	2,070	2,070	1,200	1,200	1,200	<250	<250	<250	<250	<250	<250	6,300	9,100	671	517	<5.0	34.5	1,570	<5.0
P7.5-3		Porewater EAZ	P7.5-3	ALS	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	25-Feb-13	Well Not Sampled																						
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	12-Mar-13	2,110	2,110	<250	2,160	2,160	2,160	1,210	1,210	1,210	<250	<250	<250	<250	<250	<250	4,900	7,100	446	450	<5.0	20.2	1,220	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	8-May-13	1,850	1,850	<250	1,890	1,890	1,890	1,370	1,370	1,370	<250	<250	<250	<250	<250	<250	4,110	6,060	299	381	<1.0	42.6	1,230	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Jun-13	1,730	1,730	<250	1,760	1,760	1,760	980	980	980	<250	<250	<250	<250	<250	<250	3,380	4,710	183	347	<1.0	9.4	789	---
P7.5-3-A	@	Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	11-Jun-13	1,960	1,960	<250	2,000	2,000	2,000	1,130	1,130	1,130	<250	<250	<250	<250	<250	<250	3,470	5,090	294	402	<1.0	18.5	907	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	16-Sep-13	1,840	1,840	<250	1,860	1,860	1,860	650	650	650	<250	<250	<250	<250	<250	<250	2,860	4,110	199	300	<0.50	9.62	744	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Dec-13	2,310	1,660 CR	<250 CR	2,330	1,690 CR	1,690 CR	990	600 CR	600 CR	480	<250 CR	<250 CR	280	<250 CR	<250 CR	2,740	3,830	103	256	<0.50	5.16	724	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Mar-14	1,600	1,600	<250	1,630	---	1,630	1,120	---	1,120	<250	---	<250	<250	---	<250	1,230	1,440	6.72	51.2	<0.50	1.31	152	---
P7.5-3	+	Porewater EAZ	P7.5-3	ALS	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Mar-14	---	---	---	2,470	---	2,470	---	---	---	410 J	---	410 J	---	---	---	---	---	---	---	---	---	---	---
P7.5-3-AG	+	Porewater EAZ	P7.5-3	Agat	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Mar-14	2,370 J	2,370 J	660 J	2,390 J	---	2,390 J	---	---	---	660 J	---	660 J	---	---	---	---	---	---	---	---	---	---	---
P7.5-3-MA	+	Porewater EAZ	P7.5-3	Maxxam	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Mar-14	1,600	1,600	350	1,700 J	---	1,700 J	---	---	---	350 J	---	350 J	---	---	---	---	---	---	---	---	---	---	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Jun-14	1,450	1,450	<250	1,470	---	1,470	550	---	550	<250	---	<250	<250	---	<250	2,280	2,820	47.3	163	<0.50	2.85	328	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	12-Sep-14	2,390 J	2,390	<250	2,410	---	2,410 J	700	---	700	<250	---	<250	<250	---	<250	3,070	3,830	47.8	186	<1.0 UJ	6.2	518	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	3-Dec-14	2,040	2,040	310	2,050	---	2,050	460	---	460	310	---	310	<250	---	<250	2,120	2,620	14.7	145	<1.0	2.5	345	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Mar-15	860	860	<250	870	---	870	670	---	670	<250	---	<250	<250	---	<250	1,190	1,390	6.46	47.3	<0.50	1.23	141	---
DUP-7 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Mar-15	850	850	<250	860	---	860	580	---	580	<250	---	<250	<250	---	<250	1,230	1,440	6.72	51.2	<0.50	1.31	152	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3%	4%	4%	8%	---	---	8%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	17-Jun-15	1,240	1,240	<250	1,250	---	1,250	---	---	---	<250	---	<250	---	---	---	2,000	2,390	13.2	66.8	<0.50	2.20	260	---
DUP-5 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	17-Jun-15	1,120	1,120	<250	1,130	---	1,130	---	---	---	<250	---	<250	---	---	---	2,060	2,390	13.1	64.4	<0.50	2.15	258	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3%	2%	1%	4%	---	---	1%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	11-Sep-15	1,310	1,310	<250	1,330	---	1,330	---	---	---	<250	---	<250	---	---	---	2,460	3,000	8.2	94.9	<1.0	3.4	442	---
DUP-5 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	11-Sep-15	1,400	1,400	<250	1,420	---	1,420	---	---	---	<250	---	<250	---	---	---	2,620	3,170	8.2	95.6	<1.0	3.5	449	---
QA/QC RPD													**Duplicates**	7%	7%	---	7%	---	7%	---	---	---	---	---	---	---	---	---	6%	6%	0%	1%	---	3%	2%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	9-Dec-15	540	540	<250	550	---	550	---	---	---	<250	---	<250	---	---	---	270	310	4.82	4.66	<0.50	<0.50	29.4	---
DUP-4 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	9-Dec-15	680	680	<250	690	---	690	---	---	---	<250	---	<250	---	---	---	250	290	4.73	4.42	<0.50	<0.50	27.8	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2%	5%	---	---	6%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	2-Mar-16	880	880	<250	880	---	880	---	---	---	<250	---	<250	---	---	---	1,280	1,380	3.74	30.9	<0.50	<0.70	70	---
DUP-5 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	2-Mar-16	790	790	<250	800	---	800	---	---	---	<250	---	<250	---	---	---	1,290	1,390	3.73	30.9	<0.50	<0.70	69.8	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1%	1%	0%	0%	---	---	0%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	19-May-16	620	620	<250	620	---	620	---	---	---	<250	---	<250	---	---	---	230	270	2.39	12.7	<0.50	0.88	23.0	---
DUP-6 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	19-May-16	710	710	<250	720	---	720	---	---	---	<250	---	<250	---	---	---	220	260	2.39	12.6	<0.50	0.89	23.0	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1%	---	---	0%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	22-Aug-16	1,190	1,190	280	1,190	---	1,190	---	---	---	280	---	280	---	---	---	1,000	1,070	4.33	4.59	<0.50	0.74	64.3	---
DUP-4 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	22-Aug-16	1,100	1,100	<250	1,100	---	1,100	---	---	---	<250	---	<250	---	---	---	1,140	1,220	4.56	4.69	<0.50	0.76	66.0	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	13%	13%	5%	2%	---	---	3%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	24-Nov-16	1,020	1,020	<250	1,020	---	1,020	---	---	---	<250	---	<250	---	---	---	1,030	1,040	3.87	2.98	<0.50	<0.50	8.76	---
DUP-2 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	24-Nov-16	1,060	1,060	<250	1,060	---	1,060	---	---	---	<250	---	<250	---	---	---	850	870	3.91	4.22	<0.50	<0.50	13.9	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	19%	18%	1%	34%	---	---	45%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	16-Mar-17	750	750	<250	750	---	750	---	---	---	<250	---	<250	---	---	---	1,050	1,090	2.87	12.5	<0.50	<0.50	20.8	---
DUP-8 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	16-Mar-17	720	720	<250	730	---	730	---	---	---	<250	---	<250	---	---	---	1,190	1,230	2.63	15.3	<0.50	<0.50	25.8	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	13%	12%	9%	20%	---	---	21%	---
P7.5-3		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	7-Jun-17	570	570	<250	580	---	580	---	---	---	<250	---	<250	---	---	---	710	740	3.17	7.15	<0.50	<0.50	20.3	---
DUP-2 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	7-Jun-17	590	590	<250	590	---	590	---	---	---	<250	---	<250	---	---	---	680	720	<4.0	8.16	<0.50	<0.50	22.5	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [5]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{12}$-C$_{22}$)	Revised EPH$_w$ (C$_{10}$-C$_{22}$)	Final EPH$_w$ (C$_{10}$-C$_{22}$) [1]	EPH$_w$(C$_{12}$-C$_{22}$) (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{22}$)	Final EPH$_w$ (C$_{10}$-C$_{22}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P8-3		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	24-Nov-16	330	330	<250	330	---	330	---	---	---	<250	---	<250	---	---	---	510	560	19.2	5.73	<0.50	2.72	28.4	---
DUP-4 (P8-3)		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	24-Nov-16	310	310	<250	310	---	310	---	---	---	<250	---	<250	---	---	---	480	530	18.7	5.45	<0.50	2.57	27.9	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6%	3%	5%	---	6%	2%	---
P8-3		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	16-Mar-17	260	260	<250	260	---	260	---	---	---	<250	---	<250	---	---	---	360	450	13.4	34.4	<0.50	3.76	34.6	---
DUP-5 (P8-3)		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	16-Mar-17	270	270	<250	270	---	270	---	---	---	<250	---	<250	---	---	---	370	460	14.1	34.2	<0.50	3.82	34.2	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5%	1%	---	2%	1%	---
P8-3		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	7-Jun-17	270	270	<250	270	---	270	---	---	---	<250	---	<250	---	---	---	360	430	12.2	37.5	<0.50	4.11	17.1	---
DUP-1 (P8-3)		Porewater EAZ	P8-3	ALS	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	360	420	12.9	34.4	<0.50	3.93	14.5	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6%	9%	---	4%	16%	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	27-Sep-11	340	340	570	340	---	340	300	---	300	570	---	570	540	---	540	<100	<100	0.55	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	3-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	3.34	<0.50	<0.50	<0.50	<0.75	13.9
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	3.39	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	5.69	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.97	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	16.7	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Apr-12	250	250	<250	250	250	250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<200	280	249	4.3	<1.0	3.7	1.4	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	7-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	330	280	3.55	<0.50	3.59	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jul-12	730	<280 CR	480 CR	730	<280 CR	<280 CR	420	<250 CR	<250 CR	1,080	480 CR	480 CR	410	<250 CR	<250 CR	110	300	193	1.56	<0.50	2.17	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	1-Aug-12	390	<250 CR	<250 CR	390	<250 CR	<250 CR	290	<250 CR	<250 CR	400	<250 CR	<250 CR	290	<250 CR	<250 CR	<100	130	79.8	<0.50	<0.50	0.71	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	11-Sep-12	700	<350 CR	<390 CR	700	<350 CR	<350 CR	<250	<250	<250	780	<390 CR	<390 CR	<250	<250	<250	<100	<100	2.10	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	11-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	170	240	71.1	<0.50	<0.50	0.60	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	8-Nov-12	1,590	<670 CR	840 CR	1,590	<670 CR	<670 CR	760	<350 CR	<350 CR	2,260	840 CR	840 CR	870	<370 CR	<370 CR	<100	<100	0.59	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Dec-12	570	<250 CR	2,070 CR	570	<250 CR	<250 CR	280	<250 CR	<250 CR	2,580	2,070 CR	2,070 CR	370	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	3.72
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	8-Jan-13	500	<250 CR	<250 CR	500	<250 CR	<250 CR	280	<250 CR	<250 CR	560	<250 CR	<250 CR	300	<250 CR	<250 CR	<100	<100	37.5	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	---	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	25-Feb-13	Well Not Sampled																							
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	12-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	27.7	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	13-Mar-13	570	<250 CR	<250 CR	570	<250 CR	<250 CR	350	<250 CR	<250 CR	530	<250 CR	<250 CR	320	<250 CR	<250 CR	---	---	---	---	---	---	---	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	8-May-13	600	<350 CR	<250 CR	600	<350 CR	<350 CR	440	<250 CR	<250 CR	490	<250 CR	<250 CR	270	<250 CR	<250 CR	<100	160	62.8	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Jun-13	640	<250 CR	<250 CR	640	<250 CR	<250 CR	280	<250 CR	<250 CR	530	<250 CR	<250 CR	280	<250 CR	<250 CR	<100	<100	54.2	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	16-Sep-13	580	<300 CR	340 CR	580	<300 CR	<300 CR	270	<250 CR	<250 CR	670	340 CR	340 CR	450	<250 CR	<250 CR	<100	130	32.4	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	9-Dec-13	660	<250 CR	1,230 CR	660	<250 CR	<250 CR	320	<250 CR	<250 CR	1,670	1,230 CR	1,230 CR	310	<250 CR	<250 CR	<100	110	20.5	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	17-Dec-13	790	<300 CR	350 CR	790	<300 CR	<300 CR	---	---	---	1,000	350 CR	350 CR	---	---	---	---	---	---	---	---	---	---	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Mar-14	260	260	<250	260	260	---	260	<250	---	<250	---	<250	<250	---	<250	<100	<100	8.47	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	11-Jun-14	340	340	<250	340	---	340	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	8.55	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	11-Sep-14	320	320	290	320	---	320	<250	---	<250	290	---	290	<250	---	<250	<100	<100	4.76	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	2-Dec-14	380	380	670	380	---	380	<250	---	<250	670	---	670	340	---	340	<100	<100	2.52	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	9-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	0.60	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.46	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	2.06	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.94	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P8-7.5S)		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.60	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.91	<0.50	<0.50	<0.50	<0.75	---
P8-7.5S		Porewater EAZ	P8-7.5	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	2.12	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	27-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	12.9	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	3-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	4.42	<0.50	<0.50	<0.50	<0.75	16
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	2.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	1.97	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.77	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	14.5	0.91	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	7.83	0.56	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jul-12	340	<250 CR	<250 CR	340	<250 CR	<250 CR	<250	<250	<250	340	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Aug-12	310	<250 CR	<250 CR	310	<250 CR	<250 CR	<250	<250	<250	260	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	18.4	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Oct-12	270	<250 CR	<250 CR	270	<250 CR	<250 CR	<250	<250	<250	250	<250 CR	<250 CR	<250	<250	<250	<100	<100	20.5	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	33.4	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-12	<250	<250	<250 CR	<250	<250	<250	<250	<250	<250	420	<250 CR	<250 CR	<250	<250	<250	<100	<100	7.34	<0.50	<0.50	<0.50	<0.75	9.71
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	7.01	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	---	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	Well Not Sampled																							
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	2.65	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	170	132	<0.50	<0.50	0.61	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	160	87.1	<0.50	<0.50	0.56	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Dec-13	500	<250 CR	690 CR	500	<250 CR	<250 CR	260	<250 CR	<250 CR	1,050	690 CR	690 CR	290	<250 CR	<250 CR	<100	<100	1.46	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	120	25.4	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I	+	Porewater	P8-7.5	ALS	BC	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	---	---	---	740	---	740	---	---	---	290	---	290	---	---	---	---	---	---	---	---	---	---	---
P8-7.5I-AG	+	Porewater	P8-7.5	Agat	BC	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	180	180	150	180	---	180	---	---	---	150	---	150	---	---	---	---	---	---	---	---	---	---	---
P8-7.5I-MA	+	Porewater	P8-7.5	Maxxam	BC	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	320	320	400	320 J	---	320 J	---	---	---	400 J	---	400 J	---	---	---	---	---	---	---	---	---	---	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Jun-14	290	290	<250	290	---	290	<250	---	<250	<250	---	<250	<250	---	<250	<100	120	24.7	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	290	290	<250	290	---	290	<250	---	<250	<250	---	<250	<250	---	<250	100	110	13.3	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Dec-14	280	280	<250	280	---	280	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	0.72	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Mar-15	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	0.62	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I-B		Porewater	P8-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Mar-15	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	7.04	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	6.09	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	4.91	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	1.33	<0.50	<0.50	<0.50	<0.75	---
P8-7.5I		Porewater	P8-7.5	ALS	Hexane	DS	EB

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [5]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	DL	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**10%**	---	---	---	---	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**38.9**	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P8-7.5D)		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**32.5**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**18%**	---	---	---	---	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**32.6**	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P8-7.5D)		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**32.9**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1%**	---	---	---	---	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**13.4**	<0.50	<0.50	<0.50	<0.75	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**37.0**	<0.50	<0.50	<0.50	<0.75	---
DUP-2 (P8-7.5D)		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**37.7**	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2%**	---	---	---	---	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**14.8**	<0.50	<0.50	<0.50	<0.75	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**19.0**	<0.50	<0.50	<0.50	<0.75	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**64.4**	<0.50	<0.50	<0.50	<0.75	---
P8-7.5D		Porewater	P8-7.5	ALS	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**27.2**	<0.50	<0.50	<0.50	<0.75	---
P8-12S		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	27-Sep-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	**0.71**	**0.75**	---
P8-12S		Porewater EAZ	P8-12	ALS	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-12	Well Not Found																						
P8-12S		Porewater EAZ	P8-12	ALS	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Dec-12	Well Not Found - Assumed Destroyed																						
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	27-Sep-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	---	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	6-Oct-11	Well Not Sampled																						
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	3-Nov-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	7-Dec-11	**460**	<250 CR	<350 CR	**460**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**570**	<350 CR	<350 CR	**370**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.70	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	5-Jun-12	**1,400**	<570 CR	<610 CR	**1,400**	<570 CR	<570 CR	**1,150**	<540 CR	<540 CR	**1,440**	<610 CR	<610 CR	**1,110**	<560 CR	<560 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	11-Sep-12	**590**	<290 CR	<270 CR	**590**	<290 CR	<290 CR	**440**	<250 CR	<250 CR	**550**	<270 CR	<270 CR	**400**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	12-Oct-12	**530**	<250 CR	<250 CR	**530**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**560**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	8-Nov-12	**860**	<290 CR	<310 CR	**860**	<290 CR	<290 CR	**620**	<250 CR	<250 CR	**840**	<310 CR	<310 CR	**790**	<350 CR	<350 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	10-Dec-12	**350**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	13-Mar-13	**720**	<330 CR	<340 CR	**720**	<330 CR	<330 CR	**710**	<300 CR	<300 CR	**680**	<340 CR	<340 CR	<3,100	<2,500 CR	<2,500 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	8-May-13	**270**	**270**	**390**	**270**	---	**270**	<250	---	<250	**390**	---	**390**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	12-Jun-13	**610**	<310 CR	<300 CR	**620**	<310 CR	<310 CR	**500**	<250 CR	<250 CR	**600**	<300 CR	<300 CR	**420**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	19-Sep-13	**540**	<260 CR	<250 CR	**540**	<260 CR	<260 CR	**330**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	---	---	---	---	---	---	---	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	9-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-14	<380	<380	<380	<380	---	<380	<380	---	<380	<380	---	<380	<380	---	<380	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	11-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	18-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	2-Dec-14	Incomplete Analysis - Insufficient water in well															<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	Insufficient water for analysis							---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12I		Porewater EAZ	P8-12	ALS	Hexane	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	27-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	4-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**14.6**	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	11-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.71**	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	10-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.75**	<0.50	<0.50	<0.50	<0.75	**8.48**
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	13-Mar-13	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<100	<100	**2.16**	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	8-May-13	**400**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D-F	F	Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	8-May-13	**330**	**330**	<250	**330**	**330**	**330**	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	12-Jun-13	**430**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**510**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	11-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	9-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	15-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12D		Porewater	P8-12	ALS	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-3		Porewater EAZ	P9-3	ALS	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	6-Dec-11	**3,510**	**3,510**	**2,490**	**3,520**	---	**3,520**	**2,940**	---	**2,940**	**2,490**	---	**2,490**	**2,400**	---	**2,400**	<3,100	**18,500**	**2,790**	**416**	<10	**7,590**	**4,890**	---
P9-3		Porewater EAZ	P9-3	ALS	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	4-Jan-12	**1,830**	**1,830**	**870**	**1,840**	---	**1,840**	**1,350**	---	**1,350**	**870**	---	**870**	**810**	---	**810**	<2,100	**13,100**	**3,170**	**438**	<5.0	**3,740**	**4,330**	---
P9-3		Porewater EAZ	P9-3	ALS	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	1-Feb-12	**1,980**	**1,980**	**1,220**	**1,990**	**1,990**	**1,990**	**1,400**	**1,400**	**1,400**	**1,220**	**1,220**	**1,220**	**790**	**790**	**790**	<2,900	**17,300**	**2,550**	**502**	<10	**7,380**	**5,170**	---
P9-3		Porewater EAZ	P9-3	ALS	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	13-Mar-12	**1,530**	**1,530**	**640**	<1,600	---	<1,600	**1,320**	---	**1,320**	**640**	---	**640**	**620**	---	**620**	<5,000	**17,700**	**2,640**	**490**	<25	**8,270**	**4,680**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Apr-12	**14,000**	**14,000**	**12,100**	**14,000**	**14,000**	**14,000**	**9,630**	**9,630**	**9,630**	**12,100**	**12,100**	**12,100**	**8,680**	**8,680**	**8,680**	**11,100**	**20,100**	**1,410**	**550**	<10	**2,780**	**4,140**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-May-12	**1,410**	**1,410**	**780**	**1,410**	**1,410**	**1,410**	**1,010**	**1,010**	**1,010**	**780**	**780**	**780**	**700**	**700**	**700**	**2,300**	**9,530**	**1,280**	**371**	<2.5	**2,030**	**3,560**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jun-12	**850**	**850**	<250	**860**	**860**	**860**	**410**	**410**	**410**	<250	<250	<250	<250	<250	<250	**3,300**	**7,700**	**871**	**252**	<5.0	**394**	**2,800**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jul-12	**1,320**	**1,030** CR	**640** CR	**1,320**	**1,040** CR	**1,040** CR	**620**	**340** CR	**340** CR	**940**	**640** CR	**640** CR	**430**	<250 CR	<250 CR	**3,600**	**8,400**	**793**	**391**	<5.0	**168**	**3,500**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Aug-12	**2,010**	**930** CR	<570 CR	**2,010**	**930** CR	**930** CR	**1,330**	<570 CR	<570 CR	**1,140**	<570 CR	<570 CR	**970**	<490 CR	<490 CR	**2,100**	**4,800**	**451**	**105**	<0.50	**30.4**	**2,050**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1,990**	**3,930**	**391**	**64.4**	<2.5	**18.7**	**1,470**	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	14-Sep-12	**1,120**	**1,120**	**270**	**1,130**	---	**1,130**	**300**	---	**300**	**270**	---	**270**	<250	---	<250	---	---	---	---	---	---	---	---
P9-3R		Porewater EAZ	P9-3R	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Oct-12	**1,140**	**

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{12}$)	Revised EPH$_w$ (C$_{10}$-C$_{12}$)	Final EPH$_w$ (C$_{10}$-C$_{12}$) [1]	EPH$_w$(C$_{10}$-C$_{12}$) (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{12}$)	Final EPH$_w$ (C$_{10}$-C$_{12}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-12	700	<300 CR	<250 CR	700	<300 CR	<300 CR	320	<250 CR	<250 CR	340	<250 CR	<250 CR	<250	<250	<250	910	1,880	766	108	<1.0	1.8	93.1	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-12	450	<250 CR	480 CR	450	<250 CR	<250 CR	<250	<250	<250	700	480 CR	480 CR	<250	<250	<250	1,290	2,410	845	170	<2.5	<2.5	98.1	<2.5
P9-5	Porewater EAZ	P9-5	ALS	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Well Not Sampled																						
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	14-Mar-13	310	310	<250	310	310	310	<250	<250	<250	<250	<250	<250	<300	<300	<300	870	1,330	185	128	<1.0	2.7	148	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-13	620	320 CR	<250 CR	620	320 CR	320 CR	350	<250 CR	<250 CR	350	<250 CR	<250 CR	<250	<250	<250	1,930	2,460	241	180	<1.0	8.6	101	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Sep-13	890	340 CR	<290 CR	890	340 CR	340 CR	470	<250 CR	<250 CR	700	<290 CR	<290 CR	480	<250 CR	<250 CR	650	1,120	247	168	<1.0	2.2	53.2	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-13	580	580	<250	580	580	580	<250	<250	<250	<250	<250	<250	<250	<250	700	1,120	252	147	<0.50	1.63	20.6	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Mar-14	380	380	<250	380	---	380	<250	---	<250	<250	---	<250	<250	---	<250	940	1,250	137	156	<0.50	5.84	2.42	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-14	360	360	290	360	---	360	<250	---	<250	290	---	290	<250	---	<250	540	780	45.7	146	<1.0	13.5	25.6	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-14	450	450	<250	470	---	470	<250	---	<250	<250	---	<250	<250	---	<250	180	200	14.2	9.71	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	3-Dec-14	660	660	<250	660	---	660	<250	---	<250	<250	---	<250	<250	---	<250	250	330	64.9	24.0	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	---	330	350	17.7	<0.50	<0.50	0.54	1.21	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	240	250	3.22	1.45	<0.50	1.52	0.81	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	150	150	4.11	<0.50	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	180	190	12.5	<0.50	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	210	230	20	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-5)	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	240	260	22.1	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10%	---	---	---	---	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	140	140	4.84	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P9-5)	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	110	120	4.43	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9%	---	---	---	---	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	170	170	3.84	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P9-5)	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	120	130	3.56	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	8%	---	---	---	---	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	190	190	2.5	<0.50	<0.50	<0.50	<0.75	---
P9-5	Porewater EAZ	P9-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	28-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	3-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	18.6	<0.50	<0.50	0.55	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.77	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	27-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	49.6	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.16	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	3.70	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Jun-12	400	<250 CR	<250 CR	400	<250 CR	<250 CR	310	<250 CR	<250 CR	600	<250 CR	<250 CR	300	<250 CR	<250 CR	<100	<100	1.06	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Jul-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	3.61	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	5.27	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Sep-12	420	<250 CR	<250 CR	420	<250 CR	<250 CR	<250	<250	<250	480	<250 CR	<250 CR	<250	<250	<250	<100	<100	3.42	<0.50	<0.50	<0.50	<0.75	480
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.67	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	2.84	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	---	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	25-Feb-13	Well Not Sampled																						
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Jun-13	430	<250 CR	<250 CR	430	<250 CR	<250 CR	370	<250 CR	<250 CR	440	<250 CR	<250 CR	310	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Dec-13	520	<250 CR	<250 CR	520	<250 CR	<250 CR	470	<250 CR	<250 CR	570	<250 CR	<250 CR	450	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	4.12	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	1.81	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7S	Porewater EAZ	P9-7	ALS	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	28-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	4.79	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	6.66 J	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	29.4	<0.50	<0.50	2.34	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	160	155	1.13	<0.50	9.05	2.93	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	220	164	3.40	<0.50	6.02	4.40	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	27-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	15.9	0.82	<0.50	<0.50	40.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	2.42	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	6.88	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.98	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jul-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	0.54 J	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.67	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	---	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	Well Not Sampled																						
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.63	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	2.03	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-13	280	<250 CR	<250 CR	280	<250 CR	<250 CR	<250	<250	<250	290	<250 CR	<250 CR	<250	<250	<250	<100	<100	1.84	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	11.1	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	2.44	<0.50	<0.50	<0.50	<0.75	---
P9-7I	Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{32}$)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P9-7D	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	---	---	---	---	<250	---	<250	---	---	---	<100	<100	**4.46**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**1.39**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**4.11**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**28.9**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**28.4**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**23.5**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**3.88**	<0.50	<0.50	<0.50	<0.75	---
P9-7D	Porewater	P9-7	ALS	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**9.23**	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	**350**	**350**	**890**	**350**	**350**	**350**	<250	<250	<250	**890**	**890**	**890**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Sep-12	**1,050**	<470 CR	<500 CR	**1,050**	<470 CR	<470 CR	**730**	<360 CR	<360 CR	**1,180**	<500 CR	<500 CR	**640**	<320 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Well Not Sampled																						
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-13	**470**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**640**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Jun-13	**440**	**440**	**1,460**	**440**	**440**	**440**	<250	<250	<250	**1,460**	**1,460**	**1,460**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-13	**450**	**270 CR**	**880 CR**	**450**	**270 CR**	**270 CR**	**290**	<250 CR	<250 CR	**1,070**	**880 CR**	**880 CR**	**350**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-14	**380**	**380**	**1,310**	**380**	---	**380**	<1,100	---	<1,100	**1,310**	---	**1,310**	<1,400	---	<1,400	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-14	**350**	**350**	**810**	**350**	---	**350**	<250	---	<250	**810**	---	**810**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-Aug-16	<250	<250	**640**	<250	---	<250	---	---	---	**640**	---	**640**	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	23-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P9.5-5	Porewater EAZ	P9.5-5	ALS	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	28-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Nov-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	**280**	---	**280**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Dec-11	<250	<250	**290**	<250	<250	<250	<250	<250	<250	**290**	**290**	**290**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.80	<0.78	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	27-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	29-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	---	---	---	---	---	---	---	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Sep-12	Well Not Sampled - Insufficient Water for Analysis																						
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-13	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<250	<250	<250	**350**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Sep-13	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	**270**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	16-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3S	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	28-Sep-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	---	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Oct-11	Well Not Sampled																						
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	27-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Sep-12	<250	<250	<250	**370**	<250	<250	<250	<250	<250	**370**	**370**	**370**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-13	**460**	<250 CR	<250 CR	**290 CR**	**460**	<250 CR	**320**	<250 CR	<250 CR	**740**	**290 CR**	**290 CR**	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Jun-13	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	**270**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Dec-13	**740**	<370 CR	<400 CR	**740**	<370 CR	<370 CR	**590**	<300 CR	<300 CR	**1,000**	<400 CR	<400 CR	**630**	<320 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I +	Porewater EAZ	P10-3	ALS	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	---	---	---	---	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P10-3I-AG +	Porewater EAZ	P10-3	Agat	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<100	<100	<100	<100	---	<100	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
P10-3I-MA +	Porewater EAZ	P10-3	Maxxam	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	3-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P10-3I	Porewater EAZ	P10-3	ALS	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-May-16	<250	<250

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	EPH_w	Final EPH_w	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{21})$ [1]	Revised EPH_w $(C_{12}-C_{21})$ [1]	Final EPH_w $(C_{12}-C_{21})$ [1,6]	$EPH_w(C_{12}-C_{21})$ [1] (Silica gel)	Revised EPH_w $(C_{12}-C_{21})$ [1] (Silica gel)	Final EPH_w $(C_{12}-C_{21})$ [1] (Silica gel)	$EPH_w(C_{21}-C_{32})$	Revised EPH_w $(C_{21}-C_{32})$	Final EPH_w $(C_{21}-C_{32})$ [5]	$EPH_w(C_{21}-C_{32})$ (Silica gel)	Revised EPH_w $(C_{21}-C_{32})$	Final EPH_w $(C_{21}-C_{32})$ (Silica gel)	VPH_w	$VH_w(C_6-C_{10})$	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	---	---	---	---	---	---	---	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3S		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	6-Oct-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.80	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3I		Porewater EAZ	P14-3	ALS	---	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	10-Dec-12	Well Destroyed																					
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	6-Oct-11	<250	<250	**400**	<250	<250	<250	<250	<250	<250	**400**	**400**	**400**	**280**	**280**	**280**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	7-Dec-11	**360**	<250 CR	**330 CR**	**360**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**580**	**330 CR**	**330 CR**	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<1.0	<0.78	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	12-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	9-May-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-3D		Porewater EAZ	P14-3	ALS	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	13-Sep-12	**580**	<290 CR	<290 CR	**580**	<290 CR	<290 CR	**510**	<250 CR	<250 CR	**590**	<290 CR	<290 CR	**500**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	12-Oct-12	**490**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**540**	<270 CR	<270 CR	**490**	<250 CR	<250 CR	**500**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	8-Nov-12	**730**	<370 CR	<370 CR	**730**	<370 CR	<370 CR	**710**	<360 CR	<360 CR	**730**	<370 CR	<370 CR	**590**	<300 CR	<300 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	12-Dec-12	**350**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<250	<250	<250	**400**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	**260**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	15-Mar-13	**390**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	13-Jun-13	**510**	<250 CR	<250 CR	**510**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**630**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	16-Dec-13	**790**	<400 CR	<450 CR	**790**	<400 CR	<400 CR	**680**	<340 CR	<340 CR	**910**	<450 CR	<450 CR	**690**	<340 CR	<340 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12I		Porewater	P14-12	ALS	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Oct-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Dec-11	**750**	<320 CR	<340 CR	**750**	<320 CR	<320 CR	**620**	<270 CR	<270 CR	**990**	<340 CR	<340 CR	**630**	<280 CR	<280 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Jun-12	**2,150**	<780 CR	**1,440 CR**	**2,150**	<780 CR	<780 CR	**1,180**	<500 CR	<500 CR	**3,100**	**1,440 CR**	**1,440 CR**	**1,110**	<530 CR	<530 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	**630**	<310 CR	<330 CR	**630**	<310 CR	<310 CR	**580**	<270 CR	<270 CR	**660**	<330 CR	<330 CR	**540**	<270 CR	<270 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	**450**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**460**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-13	**360**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-May-13	<1,600	<1,600	<1,600	<1,600	---	<1,600	<1,600	---	<1,600	<1,600	---	<1,600	<1,600	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-May-13	**850**	<350 CR	<350 CR	**850**	<350 CR	<350 CR	**410**	<330 CR	<330 CR	**890**	<350 CR	<350 CR	<330	<330	<330	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Jun-13	**470**	<250 CR	<260 CR	**470**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**560**	<260 CR	<260 CR	**410**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	**280**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<250	<250	<250	**330**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-12D		Porewater	P14-12	ALS	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	**0.86**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<1.5	<1.0	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	**1.19**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.88**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.51**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.74**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.70**	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12I		Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-13	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	**350**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14R-12D		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-17S		Porewater EAZ	P14-17	ALS	DCM	NA	CL	0.8-1.0	0.8

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	$LEPH_w$	Final $LEPH_w$	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{18})$ [7]	Revised EPH_w ($C_{10}-C_{19}$) [1]	Final EPH_w ($C_{10}-C_{19}$) [1,6]	$EPH_w(C_{12}-C_{18})$ [7] (Silica gel)	Revised EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	Final EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	$EPH_w(C_{12}-C_{18})$ (Silica gel)	Revised EPH_w ($C_{10}-C_{19}$)	Final EPH_w ($C_{10}-C_{19}$) [6]	$EPH_w(C_{12}-C_{18})$ (Silica gel)	Revised EPH_w ($C_{10}-C_{19}$)	Final EPH_w ($C_{10}-C_{19}$) (Silica gel)	VPH_w	$VH_w(C_6-C_{10})$	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [5]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P14-17D		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-17D		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-17D	+	Porewater	P14-17	ALS	BC	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P14-17D-AG	+	Porewater	P14-17	Agat	BC	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<100	<100	**120**	<100	---	<100	---	---	---	**120**	---	**120**	---	---	---	---	---	---	---	---	---	---	---
P14-17D-MA	+	Porewater	P14-17	Maxxam	BC	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<200	<200	**230**	<200 UJ	---	<200 UJ	---	---	---	**230 J**	---	**230 J**	---	---	---	---	---	---	---	---	---	---	---
P14-17D		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14-17D		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	13-Sep-12	Well Not Sampled - Dry																							
P14.5-12S		Porewater EAZ	P14.5-12	ALS	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Dec-12	Well Not Sampled - Insufficient Water for Analysis																							
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Jun-13	**250**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	16-Dec-13	**330**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**460**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12S		Porewater EAZ	P14.5-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	11-Sep-14	<250	<250	**350**	<250	---	<250	<250	---	<250	**350**	---	**350**	**280**	---	**280**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	7-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	9-Dec-11	<250	<250	<250	<250	---	<250	---	---	<250	<250	---	<250	<250	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	13-Sep-12	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<250	<250	<250	**280**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	12-Oct-12	**440**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	8-Nov-12	**860**	<430 CR	<440 CR	**860**	<430 CR	<430 CR	**840**	<420 CR	<420 CR	**890**	<440 CR	<440 CR	**760**	<380 CR	<380 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	12-Dec-12	**400**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	9-Jan-13	**390 J**	<250 CR	<250 CR	**390 J**	<250 CR	<250 CR	**350 J**	<250 CR	<250 CR	**450 J**	<250 CR	<250 CR	**330 J**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	15-Mar-13	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	23-May-13	**370**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	16-Dec-13	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12I		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	7-Jun-12	**270**	**270**	**1,350**	**270**	**270**	**270**	**270**	<250	<250	**1,350**	**1,350**	**1,350**	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D-AG	+	Porewater	P14.5-12	Agat	BC	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P14.5-12D-MA	+	Porewater	P14.5-12	Maxxam	BC	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	<200	<200	<200	<200 UJ	---	<200 UJ	---	---	---	<200 UJ	---	<200 UJ	---	---	---	---	---	---	---	---	---	---	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P14.5-12D		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Jun-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Jun-13	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-Dec-13	**410**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	<450	<450	<450	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	**560 J**	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	**560 J**	---	**560 J**	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12S		Porewater EAZ	P15-12	ALS	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	**310**	---	**310**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12I		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	11-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	16-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P15-12D		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P17.5-3S		Porewater EAZ	P17.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P17.5-3S		Porewater EAZ	P17.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Jun-13	**250**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P17.5-3S		Porewater EAZ	P17.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

														LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
Sample ID [4]		**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Lithology of Screen Interval (Secondary)**	**Sample Date**																								
P18-4.5S		Porewater EAZ	P18-4.5	ALS	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	3-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5S		Porewater EAZ	P18-4.5	ALS	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	20-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5S		Porewater EAZ	P18-4.5	ALS	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	22-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	18-Sep-13	**260**	**260**	<250	**260**	**260**	**260**	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I	+	Porewater	P18-4.5	ALS	BC	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	---	---	---	---	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P18-4.5I-AG	+	Porewater	P18-4.5	Agat	BC	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	**170**	**170**	**200**	**170**	---	**170**	---	---	---	**200**	---	**200**	---	---	---	---	---	---	---	---	---	---	---
P18-4.5I-MA	+	Porewater	P18-4.5	Maxxam	BC	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	**270**	**270**	**290**	**270 J**	---	**270 J**	---	---	---	**290 J**	---	**290 J**	---	---	---	---	---	---	---	---	---	---	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5I		Porewater	P18-4.5	ALS	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<250 UJ	---	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D	+	Porewater	P18-4.5	ALS	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	---	---	---	---	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P18-4.5D-AG	+	Porewater	P18-4.5	Agat	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	**110**	**110**	**110**	**120**	---	**120**	---	---	---	**110**	---	**110**	---	---	---	---	---	---	---	---	---	---	---
P18-4.5D-MA	+	Porewater	P18-4.5	Maxxam	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	**200**	**200**	**240**	**200 J**	---	**200 J**	---	---	---	**240 J**	---	**240 J**	---	---	---	---	---	---	---	---	---	---	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18-4.5D		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Mar-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Dec-13	**310**	<250 CR	**950 CR**	**310**	<250 CR	<250 CR	<250	<250	<250	**1,150**	**950 CR**	**950 CR**	**770**	**590 CR**	**590 CR**	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Mar-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3S		Porewater EAZ	P18.5-3	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	13-Dec-13	<250	<250	**310 CR**	<250	<250	<250	<250	<250	<250	**480**	**310 CR**	**310 CR**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	9-Jun-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3I		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	**120**	**120**	<0.50	<0.50	<0.50	<0.50	<0.75	---
P18.5-3D		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<250	<250	**280**	<250	---	<250	<250	---	<250	**280**	---	**280**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
Reference Area																																					
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Oct-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Dec-11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Feb-12	**390**	<250 CR	**480 CR**	**390**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**770**	**480 CR**	**480 CR**	**380**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Apr-12	<500	<500	<500	<500	<500	<500	---	---	<500	<500	---	<500	<500	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.60	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jul-12	<250	<250	**260**	<250	<250	<250	<250	<250	<250	**260**	**260**	**260**	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	3-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Nov-12	**330**	<250 CR	**330 CR**	**330**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**640**	**330 CR**	**330 CR**	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jan-13	**260**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-May-13	<250	<250	**340**	<250	---	<250	<250	---	<250	**340**	---	**340**	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	23-May-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	19-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	12-Dec-13	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	14-Mar-14	<500	<500	<250	<500	---	<500	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8S		Porewater EAZ	PR2-8	ALS	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	7-Oct-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	---	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	2-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	11-Apr-12	<500	<500	<500	<500	<500	<500	<700	<700	<700	<500	<500	<500	<700	<700	<700	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	9-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	6-Jul-12	**530**	<250 CR	<250 CR	**530**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	3-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8I		Porewater	PR2-8	ALS	DCM	NA	RL	2.7-3

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	$LEPH_w$	Final $LEPH_w$	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{18})$ [5]	Revised EPH_w ($C_{12}-C_{18}$) [1]	Final EPH_w ($C_{12}-C_{18}$) [1,6]	$EPH_w(C_{12}-C_{18})$ [1] (Silica gel)	Revised EPH_w ($C_{12}-C_{18}$) [1] (Silica gel)	Final EPH_w ($C_{12}-C_{18}$) [1] (Silica gel)	$EPH_w(C_{19}-C_{32})$	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) [6]	$EPH_w(C_{19}-C_{32})$ (Silica gel)	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) (Silica gel)	VPH_w	VH_w (C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
PR2-8D		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8D		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8D	+	Porewater	PR2-8	ALS	BC	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
PR2-8D-AG	+	Porewater	PR2-8	Agat	BC	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<100	<100	**200**	<100	---	<100	---	---	---	**200**	---	**200**	---	---	---	---	---	---	---	---	---	---	---
PR2-8D-MA	+	Porewater	PR2-8	Maxxam	BC	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<200	<200	**200**	<200	---	<200	---	---	---	**200**	---	**200**	---	---	---	---	---	---	---	---	---	---	---
PR2-8D		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8D		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-13	<250	<250	<250	CR	<250	CR	<250	<250	<250	**300**	<250	CR	<250	CR	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5S		Porewater EAZ	PEC-5	ALS	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	19-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5I		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	8-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Sep-12	---	---	---	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	19-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D	+	Porewater	PEC-5	ALS	BC	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
PEC-5D-AG	+	Porewater	PEC-5	Agat	BC	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	<100	<100	**200**	<100	---	<100	---	---	---	**200**	---	**200**	---	---	---	---	---	---	---	---	---	---	---
PEC-5D-MA	+	Porewater	PEC-5	Maxxam	BC	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PEC-5D		Porewater	PEC-5	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
Seawater																																					
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	6-Jun-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	18-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	13-Nov-12	**270**	<250	CR	<250	CR	**270**	<250	CR	<250	CR	<250	<250	**260**	<250	CR	<250	CR	<250	<250	<250	<250	<250	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	10-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	11-Mar-13	**650 J**	<250	CR	<250	CR	**650 J**	<250	CR	<250	CR	**560 J**	<250	CR	<250	CR	**720 J**	<250	CR	<250	CR	**670 J**	<250	CR	<250	CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	24-Jun-13	**500**	<250	CR	<250	CR	**500**	<250	CR	<250	CR	**400**	<250	CR	<250	CR	**500**	<250	CR	<250	CR	**340**	<250	CR	<250	CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	DCM	NA	WB	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-O		Surface Water	P3-3	ALS	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	18-Sep-12	**260**	<250	CR	<250	CR	**260**	<250	CR	<250	CR	**250**	<250	CR	<250	CR	**270**	<250	CR	<250	CR	**260**	<250	CR	<250	CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Nov-12	**300**	<250	CR	<250	CR	**300**	<250	CR	<250	CR	**280**	<250	CR	<250	CR	**320**	<250	CR	<250	CR	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	**320**
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-12	<250	<250	<250	<250	<250	<250	---	<250	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Mar-13	**480**	<250	CR	<250	CR	**480**	<250	CR	<250	CR	**390**	<250	CR	<250	CR	**530**	<250	CR	<250	CR	**490**	<250	CR	<250	CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	24-Jun-13	**870**	<430	CR	<420	CR	**870**	<430	CR	<430	CR	**350**	<250	CR	<250	CR	**840**	<420	CR	<420	CR	**410**	<250	CR	<250	CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO	+	Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO-AG	+	Surface Water	P3-3	Agat	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<100 UJ	<100 UJ	<100 UJ	<100 UJ	---	<100 UJ	---	---	---	<100 UJ	---	<100 UJ	---	---	---	---	---	---	---	---	---	---	---
P3-3-NBO-MA	+	Surface Water	P3-3	Maxxam	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<200	<200	<200	<200	<200	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO	+	Surface Water	P3-3	ALS	BC	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
P3-3-NBO-AG	+	Surface Water	P3-3	Agat	BC	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	**160**	**160**	**110**	**160**	---	**160**	---	---	---	**110**	---	**110**	---	---	---	---	---	---	---	---	---	---	---
P3-3-NBO-MA	+	Surface Water	P3-3	Maxxam	BC	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<200	<200	<200	<200	<200	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Mar-15	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Sep-15	<250	<250	<250	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-3-NBO		Surface Water	P3-3	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	$LEPH_w$	Final $LEPH_w$	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{18})$ [5]	Revised EPH_w ($C_{10}-C_{19}$) [1]	Final EPH_w ($C_{10}-C_{19}$) [1,6]	$EPH_w(C_{12}-C_{18})$ [1] (Silica gel)	Revised EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	Final EPH_w ($C_{10}-C_{19}$) [1] (Silica gel)	$EPH_w(C_{12}-C_{21})$	Revised EPH_w ($C_{10}-C_{21}$)	Final EPH_w ($C_{10}-C_{21}$) [6]	$EPH_w(C_{12}-C_{21})$ (Silica gel)	Revised EPH_w ($C_{10}-C_{21}$)	Final EPH_w ($C_{10}-C_{21}$) (Silica gel)	VPH_w	$VH_w(C_6-C_{10})$	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O		Surface Water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-O		Surface Water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P3-12-O)		Surface water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O		Surface Water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P3-12-O)		Surface water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O		Surface Water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P3-12-O)		Surface water	P3-12	ALS	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	18-Sep-12	**310**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	<250	---	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Nov-12	**320**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Mar-13	**350**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	24-Jun-13	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P3-12-NBO)		Surface water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD													Duplicates	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P3-12-NBO		Surface Water	P3-12	ALS	Hexane	NA	WB	NBO	NBO	NBO	---	---	8-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**2.27**	<0.50	<0.50	**3.71**	**3.82**	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	6-Jun-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	---	NA	EB	SW	SW	SW	---	---	10-Dec-12	Well Not Sampled																							
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<250	<250	<250	**360**	<250 CR	<250 CR	**260**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	**600**	<300 CR	<310 CR	**600**	<300 CR	<300 CR	**490**	<250 CR	<250 CR	**660**	<310 CR	<310 CR	**540**	<260 CR	<260 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	**780**	<390 CR	<380 CR	**780**	<390 CR	<390 CR	**560**	<280 CR	<280 CR	**750**	<380 CR	<380 CR	**470**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-O		Surface Water	P6-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**17.4**	**1.82**	<0.50	**10.0**	**12.7**	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	**520**	<260 CR	<250 CR	**520**	<260 CR	<260 CR	**490**	<250 CR	<250 CR	**500**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	---	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	Well Not Sampled																							
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	**360**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	**530**	<270 CR	<250 CR	**530**	<270 CR	<270 CR	**420**	<250 CR	<250 CR	**480**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	**260 J**	<250 UJ	<250 UJ	**260 J**	<250 CR	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-3-NBO		Surface Water	P6-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8-O		Surface Water	P6-8	ALS	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8-NBO		Surface Water	P6-8	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8-NBO		Surface Water	P6-8	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	**340**	<250 CR	<250 CR	**340**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Nov-12	**330**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	10-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	**280**	<250 CR	<250 CR	**280**	<250 CR	<250 CR	<250	<250	<250	**270**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-O		Surface Water	P6-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**300**	<250 CR

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	$LEPH_w$	Final $LEPH_w$	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{18})$ [1]	Revised EPH_w ($C_{19}-C_{32}$) [1]	Final EPH_w ($C_{19}-C_{32}$) [1,5]	$EPH_w(C_{19}-C_{32})$ (Silica gel) [1]	Revised EPH_w ($C_{19}-C_{32}$) [1] (Silica gel)	Final EPH_w ($C_{19}-C_{32}$) [1] (Silica gel)	$EPH_w(C_{10}-C_{32})$	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) [5]	$EPH_w(C_{10}-C_{32})$ (Silica gel)	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) (Silica gel)	VPH_w	$VH_w(C_6-C_{10})$	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
P6-12-NBO	Surface Water	P6-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-12-NBO	Surface Water	P6-12	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	**130**	**16.2**	**3.56**	<0.50	**39.9**	**29.3**	
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	6-Jun-12	<250	<250	<250	<250	---	<250	---	---	<100	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	---	NA	EB	SW	SW	SW	---	---	10-Dec-12	Well Not Sampled																						
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	**440**	<250 CR	<250 CR	**440**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	**510**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	**460**	<250 CR	<250 CR	**460**	<250 CR	<250 CR	**410**	<250 CR	<250 CR	**450**	<250 CR	<250 CR	**320**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	<100	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-O	Surface Water	P8-3	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	**110**	**14.3**	**2.04**	<0.50	**17.9**	**22.5**	
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	**470**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	---	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	Well Not Sampled																						
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	**370**	<250 CR	<260 CR	**370**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**520**	<260 CR	<260 CR	**390**	<250 CR	<250 CR	<100	<100	**0.50**	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	**380**	<250 CR	<250 CR	**380**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	**900**	<430 CR	<450 CR	**900**	<430 CR	<430 CR	**670**	<330 CR	<330 CR	**1,000**	<450 CR	<450 CR	**670**	<330 CR	<330 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-3-NBO	Surface Water	P8-3	ALS	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-8-O	Surface Water	P8-8	ALS	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.60	<0.75	---
P8-8-NBO	Surface Water	P8-8	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-8-NBO	Surface Water	P8-8	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<250	<250	<250	<250	<250	<250	**250**	<250 CR	<250 CR	<250	<250	<250	**290**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Nov-12	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**250**	<250	<250	**280**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	10-Dec-12	**390**	<250 CR	<250 CR	**390**	<250 CR	<250 CR	**330**	<250 CR	<250 CR	**470**	<250 CR	<250 CR	**350**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	**420**	<250 CR	<250 CR	**420**	<250 CR	<250 CR	**370**	<250 CR	<250 CR	**490**	<250 CR	<250 CR	**400**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	**690**	<350 CR	<320 CR	**690**	<350 CR	<350 CR	**620**	<310 CR	<310 CR	**640**	<320 CR	<320 CR	**510**	<260 CR	<260 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-12-O)	Surface water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P8-12-O)	Surface water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P8-12-O)	Surface water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
QA/QC RPD												**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-O	Surface Water	P8-12	ALS	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	**550**	<270 CR	<280 CR	**550**	<270 CR	<270 CR	**480**	<250 CR	<250 CR	**550**	<280 CR	<280 CR	**440**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12	ALS	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P8-12-NBO	Surface Water	P8-12

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]		Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [5]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [5]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [5,6]	EPH$_w$(C$_{19}$-C$_{32}$) [5]	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [5] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [5] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [5]	EPH$_w$(C$_{10}$-C$_{32}$) [5] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]														250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source														DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]														300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	11-Mar-13	340	<250 CR	<250 CR	340	<250 CR	<250 CR	340	<250 CR	<250 CR	360	<250 CR	<250 CR	340	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	24-Jun-13	<250	<250	<250 CR	<250	<250	<250	<250	<250	<250	260	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O	+	Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O-AG	+	Surface Water	PR2-3	Agat	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<100 UJ	<100 UJ	<100 UJ	<100 UJ	---	<100 UJ	---	---	---	<100 UJ	---	<100 UJ	---	---	---	---	---	---	---	---	---	---	---
PR2-3-O-MA	+	Surface Water	PR2-3	Maxxam	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O	+	Surface Water	PR2-3	ALS	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	---	---	---	<250	---	<250	---	---	---	<250	---	<250	---	---	---	---	---	---	---	---	---	---	---
PR2-3-O-AG	+	Surface Water	PR2-3	Agat	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	150	150	<100	150	---	150	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
PR2-3-O-MA	+	Surface Water	PR2-3	Maxxam	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	---	---	<250	<250	---	<250	---	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-O		Surface Water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	---	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	6-Jun-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	18-Sep-12	440	<250 CR	<250 CR	440	<250 CR	<250 CR	480	<250 CR	<250 CR	440	<250 CR	<250 CR	430	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	350	<250 CR	<250 CR	350	<250 CR	<250 CR	280	<250 CR	<250 CR	340	<250 CR	<250 CR	270	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	9-Jan-13	250	<250 CR	<250 CR	250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	11-Mar-13	450	<250 CR	<250 CR	450	<250 CR	<250 CR	450	<250 CR	<250 CR	500	<250 CR	<250 CR	510	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	24-Jun-13	490	<250 CR	<250 CR	490	<250 CR	<250 CR	390	<250 CR	<250 CR	510	<250 CR	<250 CR	340	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-3-NBO		Surface Water	PR2-3	ALS	---	NA	RL	NBO	NBO	NBO	---	---	13-Jun-14	Sample not shipped to laboratory																							
PR2-3-NBO		Surface Water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	
PR2-8-O		Surface Water	PR2-8	ALS	DCM	NA	RL	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100 UJ	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-8-NBO		Surface Water	PR2-8	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	18-Sep-12	280	<250 CR	<250 CR	280	<250 CR	<250 CR	280	<250 CR	<250 CR	290	<250 CR	<250 CR	260	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	13-Nov-12	310	<250 CR	<250 CR	310	<250 CR	<250 CR	260	<250 CR	<250 CR	300	<250 CR	<250 CR	260	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	10-Dec-12	370	<250 CR	<250 CR	370	<250 CR	<250 CR	250	<250 CR	<250 CR	490	<250 CR	<250 CR	250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	9-Jan-13	280	<250 CR	<250 CR	280	<250 CR	<250 CR	250	<250 CR	<250 CR	260	<250 CR	<250 CR	250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	11-Mar-13	390	<250 CR	<250 CR	390	<250 CR	<250 CR	310	<250 CR	<250 CR	420	<250 CR	<250 CR	350	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	24-Jun-13	910	<450 CR	<480 CR	910	<450 CR	<450 CR	660	<330 CR	<330 CR	1,030	<480 CR	<480 CR	650	<320 CR	<320 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-O		Surface Water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	9-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	11-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	18-Sep-12	330	<250 CR	<250 CR	330	<250 CR	<250 CR	270	<250 CR	<250 CR	330	<250 CR	<250 CR	250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	9-Jan-13	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<250	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	11-Mar-13	530	<250 CR	<260 CR	530	<250 CR	<250 CR	470	<250 CR	<250 CR	600	<260 CR	<260 CR	490	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	24-Jun-13	930	<460 CR	<460 CR	930	<460 CR	<460 CR	700	<350 CR	<350 CR	920	<460 CR	<460 CR	580	<290 CR	<290 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
PR2-12-NBO		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RAC-SW		Surface Run-off	RAC	ALS	DCM	NA	RL	SW	SW	SW	---	---	18-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
Tidal Cycle Sampling																																						
P5-3D-A		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P5-3D-B		Porewater	P5-3	ALS	Traditional	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	4.89	<0.50	<0.50	<0.50	<0.75	---
P5-3D-C		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	5.85	<0.50	<0.50	<0.50	<0.75	---
P5-3D-D		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	7.63	<0.50	<0.50	<0.50	<0.75	---
P5-3D-E		Porewater	P5-3	ALS	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	8.47	<0.50	<0.50	<0.50	<0.75	---
P6-8S-A		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	620	<250 CR	<250 CR	620	<250 CR	<250 CR	360	<250 CR	<250 CR	440	<250 CR	<250 CR	260	<250 CR	<250 CR	260	280	14.8	<0.50	<0.50	<0.50	<0.75	---
P6-8S-B		Porewater EAZ	P6-8	ALS	Traditional	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	630	<300 CR	<250 CR	630	<300 CR	<300 CR	370	<250 CR	<250 CR	560	<250 CR	<250 CR	280	<250 CR	<250 CR	290	300	11.8	<0.50	<0.50	<0.50	<0.75	---
P6-8S-C		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	1,210	<450 CR	<480 CR	1,210	<450 CR	<450 CR	880	<420 CR	<420 CR	1,140	<480 CR	<480 CR	720	<360 CR	<360 CR	390	320	13.0	<0.50	<0.50	<0.50	<0.75	---
P6-8S-D		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	1,110	<450 CR	<440 CR	1,110	<450 CR	<450 CR	820	<410 CR	<410 CR	890	<440 CR	<440 CR	670	<330 CR	<330 CR	330	350	13.1	<0.50	<0.50	<0.50	<0.75	---
P6-8S-E		Porewater EAZ	P6-8	ALS	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	360	<250 CR	<250 CR	360	<250 CR	<250 CR	250	<250 CR	<250 CR	250	<250 CR	<250 CR	250	<250 CR	<250 CR	340	350	15.1	<0.50	<0.50	<0.50	<0.75	---
P6-8D-A		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
P6-8D-B		Porewater	P6-8	ALS	Traditional	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	0.88	<0.50	<0.50	<0.50	<0.75	---
P6-8D-C		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.03	<0.50	<0.50	<0.50	<0.75	---
P6-8D-D		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.73	<0.50	<0.50	<0.50	<0.75	---
P6-8D-E		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	2.50	<0.50	<0.50	<0.50	<0.75	---
P7-3-A		Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	1,160	770 CR	<250 CR	1,170	780 CR	780 CR	670	300 CR	300 CR	620	<250 CR	<250 CR	530	<250 CR	<250 CR	1,530	2,440	322	112	<1.0	3.7	468	---
P7-3-B		Porewater EAZ	P7-3	ALS	Traditional	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	1,400	1,050 CR	440 CR	1,400	1,050 CR	1,050 CR	810	390 CR	390 CR	800	440 CR	440 CR	600	<250 CR	<250 CR	1,540	2,470	352	124	<1.0	3.9	455	---
P7-3-C		Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	2,360	1,030 CR	<570 CR	2,360	1,040 CR	1,040 CR	1,340	<540 CR	<540 CR	1,130	<570 CR	<570 CR	840	<420 CR	<420 CR	1,550	2,350	313	119	<1.0	3.4	366	---
P7-3-D		Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	2,390	1,390 CR	<530 CR	2,400	1,400 CR	1,400 CR	1,370	<480 CR	<480 CR	1,060	<530 CR	<530 CR	830	<410 CR	<410 CR	1,450	2,300	325	124	<1.0	3.5	396	---
P7-3-E		Porewater EAZ	P7-3	ALS	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	1,600	1,070 CR	<280 CR	1,600	1,070 CR	1,070 CR	780	420 CR	420 CR	790	<280 CR	<280 CR	530	<250 CR	<250 CR	1,560	2,400	384	126	<1.0	3.4	323	---
Field Duplicate/Equipment Blank/Travel Blank																																						
DUP-1 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	21.4 J	3.37	<0.50	<0.50	1.00 J	---
DUP-1 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jul-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	13.6	1.66	<0.50	<0.50	<0.75	---
DUP-1 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	1-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250 UJ	<250	<250	<250	<250	<250	<100	<100	27.7	3.73	<0.50	<0.50	<0.75	---
DUP-1 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-12	480 J	<250 CR	<250 CR	480 J	<250 CR	<250 CR	380 J	<250 CR	<250 CR	460 J	<250 CR	<250 CR	340 J	<250 CR	<250 CR	<100	<100	0.83	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	11-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.01	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	1.78	<0.50	<0.50	<0.50	<0.75	---
DUP-1 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Dec-12	<250 UJ	<250	<250 UJ	<250 UJ	<250	<250	<250	<250	<250	500 J	<250 CR	<250 UJ	<250 UJ	<250 UJ	<250	<100	<100	1.58	<0.50	<0.50	<0.50	<0.75	6.23
DUP-1 (P14C-SW)		Surface Run-off	P14C	ALS	DCM	NA	CL	SW	SW	SW	---	---	18-Dec-12	<250

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{12}$-C$_{18}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$ [5]	EPH$_w$(C$_{12}$-C$_{18}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1] (Silica gel)	EPH$_w$(C$_{19}$-C$_{32}$)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [5]	EPH$_w$(C$_{19}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$)	Final EPH$_w$ (C$_{19}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$ (C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
DUP-2 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**3.13**	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	6-Jul-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	3-Aug-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	12-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Oct-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Dec-12	**270**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<250	<250	<250	**420**	<250 CR	<250 CR	<250	<250	<250	<100	<100	**0.98**	<0.50	<0.50	<0.50	<0.75	**10.5**
DUP-3 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	8-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50 UJ	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	12-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**5.81**	**0.56**	<0.50	<0.50	<0.75	---
DUP-3 (P8-3)		Porewater EAZ	P8-3	ALS	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Jun-13	**750**	**750**	<250	**750**	**750**	**750**	<250	<250	<250	<250	<250	<250	<250	<250	<250	**1,640 J**	**3,240 J**	**515**	**302**	<1.0	**50.8**	**729**	---
DUP-3 (P4.2-3D)		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.72**	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (PR2-3-NBO)		Surface water	PR2-3	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.16 J**	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P18.5-3D)		Porewater	P18.5-3	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	Till	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**40.1**	<0.50	<0.50	<0.50	<0.75	---
DUP-3 (P8-7.5D)		Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	2-Dec-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**20.6**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P3-7D)		Porewater	P3-7	ALS	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	**620 J**	<250 CR	<250 CR	**620 J**	<250 CR	<250 CR	**480 J**	<250 CR	<250 CR	**630 J**	<250 CR	<250 CR	**480 J**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P3.5-7D)		Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P14R-12D)		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Oct-12	**500**	<250 CR	<250 CR	**500**	<250 CR	<250 CR	**360**	<250 CR	<250 CR	**430**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P14R-12D)		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Nov-12	**380 J**	<250 CR	<250 CR	**380 J**	<250 CR	<250 CR	**310 J**	<250 CR	<250 CR	**350 J**	<250 CR	<250 CR	**270**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-7I)		Porewater	P9-7	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**0.76 J**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P3-12-NBO)		Surface Water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P18-4.5S)		Porewater EAZ	P18-4.5	ALS	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	27-Mar-13	**1,080**	<440 CR	<600 CR	**1,080**	<440 CR	<440 CR	**820**	<410 CR	<410 CR	**1,520**	<600 CR	<600 CR	**1,300**	<460 CR	<460 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**7.68**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**3.53**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Dec-13	<250	<250	<250 UJ	<250	<250	<250	<250	<250	<250	<250 UJ	<250	<250 UJ	<250 UJ	<250	<250 UJ	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P8-12-O)		Surface water	P8-12	ALS	DCM	NA	EB	SW	SW	SW	Colluvium	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P9-7.5I)		Porewater	P9-7.5	ALS	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	**260**	**260**	<250	**260**	---	**260**	<250	---	<250	<250	---	<250	<250	---	<250	**110**	**130**	**15.5**	<0.50	<0.50	<0.50	<0.75	---
DUP-4 (P8-3)		Porewater EAZ	P8-3	ALS	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	3-Dec-14	**1,500**	**1,500**	<250	**1,500**	---	**1,500**	<250	---	<250	<250	---	<250	<250	---	<250	**670**	**790**	**79.3**	**13.1**	<0.50	**1.46**	**21.5**	---
DUP-5 (P14R-12D)		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Sep-12	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (PR2-12-NBO)		Surface Water	PR2-12	ALS	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**2.49**	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P14.5-12I)		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	9-Jan-13	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<250 UJ	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.05**	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	**1,570**	**1,570**	<250	**1,600**	**1,600**	**1,600**	**840**	**840**	**840**	<250 UJ	<250	<250	<250	<250	<250	**5,200**	**7,600**	**1,060**	**383**	<5.0	**58.8**	**872**	---
DUP-5 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P3-12-NBO)		Surface water	P3-12	ALS	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (PR2-3-O)		Surface water	PR2-3	ALS	DCM	NA	RL	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (PR2-3-O)-AG	+	Surface water	PR2-3	Agat	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	**140**	**140**	<100	**140**	---	**140**	---	---	---	<100	---	<100	---	---	---	---	---	---	---	---	---	---	---
DUP-5 (PR2-3-O)-MA	+	Surface water	PR2-3	Maxxam	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	<200	<200	<200	<200	---	<200	---	---	---	<200	---	<200	---	---	---	---	---	---	---	---	---	---	---
DUP-5 (P3-12-O)		Surface water	P3-12	ALS	DCM	NA	WB	SW	SW	SW	---	---	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-5 (P8-3)		Porewater EAZ	P8-3	ALS	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	12-Sep-14	**1,020**	**1,020**	<250	**1,020**	---	**1,020**	<250	---	<250	<250	---	<250	<250	---	<250	**870**	**1,160**	**102**	**114**	<0.50	**2.79**	**74.4**	---
DUP-5 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	3-Dec-14	**1,900**	**1,900**	**270**	**1,910**	---	**1,910**	**410**	---	**410**	**270**	---	**270**	<250	---	<250	**1,970**	**2,490**	**15.0**	**149**	<1.0	**2.5**	**354**	---
DUP-6 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P14.5-12D)		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P3.5-7D)		Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	12-Dec-12	**370 J**	<250 CR	<250 CR	**370 J**	<250 CR	<250 CR	<250	<250	<250	**370 J**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P3.5-7D)		Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P4.9-5)		Porewater EAZ	P4.9-5	ALS	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-13	**300**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	**300**	<250 CR	<250 CR	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P14-17D)		Porewater	P14-17	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**1,730**	**1,510 CR**	<250 CR	**1,740**	**1,520 CR**	**1,520 CR**	**510 J**	**290 CR**	**290 J,CR**	**400 J**	<250 CR	<250 CR	<250	<250	<250	**2,790**	**3,460**	**236**	**172**	<2.5	**5.2**	**262**	---
DUP-6 (PR2-12-O)		Surface water	PR2-12	ALS	DCM	NA	RL	SW	SW	SW	---	---	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	10-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-6 (P7.5-3)		Porewater EAZ	P7.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Till	12-Sep-14	**3,090 J**	**3,090**	<250	**3,100**	---	**3,100 J**	**810**	---	**810**	<250	---	<250	<250	---	<250	**2,970**	**3,740**	**48.0**	**187**	<2.5 UJ	**6.6**	**530**	---
DUP-6 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	**1,250**	**1,250**	**410**	**1,250**	---	**1,250**	<250	---	<250	**410**	---	**410**	<250	---	<250	**770**	**1,010**	**119**	**35.2**	<0.50	**2.48**	**91.4**	---
DUP-7 (P14R-12D)		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P14.5-12D)		Porewater	P14.5-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P14.5-12I)		Porewater	P14.5-12	ALS	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P15-12I)		Porewater	P15-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P18-4.5D)		Porewater	P18-4.5	ALS	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P3.8-3D)		Porewater	P3.8-3	ALS	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-13	**660 J**	<270 CR	<280 CR	**660 J**	<270 CR	<270 CR	**440 J**	<250 CR	<250 CR	**760**	<280 CR	<280 CR	**470**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P4.2-3D)		Porewater	P4.2-3	ALS	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P6-8D)		Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**4.19 J**	<0.50	<0.50	<0.50	<0.75	---
DUP-7 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	**1,320**	**1,320**	<250	**1,340**	---	**1,340**	**360**	---	**360**	<250	---	<250	<250	---	<250	**2,060**	**3,800**	**565**	**251**	<2.5	**129**	**795**	---
DUP-7 (P6.25-3)		Porewater EAZ	P6.25-3	ALS	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	**1,190 J**	**1,190 J**	**260**	**1,190 J**	---	**1,190 J**	<250	---	<250	**260 J**	---	**260 J**	<250	---	<250	**1,250**	**1,880**	**301**	**107**	<1.0	**33.5**	**156**	---
DUP-8 (P14-17I)		Porewater	P14-17	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	**520**	<250 CR	**880 CR**	**520**	<250 CR	<250 CR	**630 J**	<310 CR	<310 UJ,CR	**1,240**	**880 CR**	**880 CR**	**480 J**	<250 CR	<250 CR	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (PEC-5I)		Porewater	PEC-5	ALS	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P14R-12D)		Porewater	P14R-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-13	**250**	<250 CR	<250 CR	**250**	<250 CR	<250 CR	**310**	<250 CR	<250 CR	<250 UJ	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P15-12D)		Porewater	P15-12	ALS	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P18.5-3D)		Porewater	P18.5-3	ALS	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	---	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	12-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P3R-7D)		Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	11-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P9-7D)		Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	Weathered Colluvium	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**37.2**	<0.50	<0.50	<0.50	<0.75	---
DUP-8 (P6.5-3)		Porewater EAZ	P6.5-3	ALS	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	**1,360**	**1,360**	<250	**1,360**	---	**1,360**	**320**	---	**320**	<250	---	<250	<250	---	<250	**1,290**	**1,800**	**275**	**43.6**	<1.0 UJ	**5.6**	**180**	---
DUP-9 (PR2-8D)		Porewater	PR2-8	ALS	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Jun-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50 UJ	<0.75	---
DUP-9 (PR2-8D)

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C$_{10}$-C$_{19}$) [1]	Revised EPH$_w$ (C$_{10}$-C$_{19}$) [1]	Final EPH$_w$ (C$_{10}$-C$_{19}$) [1,6]	EPH$_w$(C$_{19}$-C$_{32}$) [1] (Silica gel)	Revised EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	Final EPH$_w$ (C$_{19}$-C$_{32}$) [1] (Silica gel)	EPH$_w$(C$_{10}$-C$_{32}$)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) [1]	EPH$_w$(C$_{10}$-C$_{32}$) (Silica gel)	Revised EPH$_w$ (C$_{10}$-C$_{32}$)	Final EPH$_w$ (C$_{10}$-C$_{32}$) (Silica gel)	VPH$_w$	VH$_w$(C$_6$-C$_{10}$)	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[5]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
DUP-G (P8-7.5D)	Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	26-Mar-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**15.5**	**2.60**	<0.50	<0.50	**1.23**	---
DUP-H (P8-7.5D)	Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	5-Dec-11	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	**1.32**	<0.50	<0.50	<0.50	<0.75	---
DUP-H (P14R-12I)	Porewater	P14R-12	ALS	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<1.2	<0.86	---
DUP-H (P9-7D)	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	27-Mar-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-I (P3R-7D)	Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Dec-11	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.70	<0.75	---
DUP-I (P6-8D)	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**23.4**	<0.50	<0.50	<0.50	<0.75	---
DUP-J (P3.5-7D)	Porewater	P3.5-7	ALS	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	8-Dec-11	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.60	<0.78	---
DUP-J (P8-7.5D)	Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	9-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-K (P9-7D)	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**10.7**	**0.55**	<0.50	<0.50	<0.75	---
DUP-K (P9-7D)	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Apr-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**6.89**	<0.50	<0.50	<0.50	**2.22**	---
DUP-L (P8-7.5D)	Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-L (P6-8D)	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**1.52**	<0.50	<0.50	<0.50	<0.75	---
DUP-M (P6-8D)	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	5-Jan-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-M (P3R-7D)	Porewater	P3R-7	ALS	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	8-May-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
DUP-N (P8-7.5D)	Porewater	P8-7.5	ALS	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**9.7**	**1.3**	<1.0	<1.0	<1.4	---
DUP-N (P9-7D)	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	9-May-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	**7.10**	<0.50	<0.50	<0.50	<0.75	---
DUP-O (P6-8D)	Porewater	P6-8	ALS	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**1.43**	<0.50	<0.50	<0.50	<0.75	---
DUP-P (P9-7D)	Porewater	P9-7	ALS	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	1-Feb-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	**10.6**	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	20-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-May-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	23-May-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-May-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	20-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	4-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK -1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK - 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	29-Feb-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	20-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	22-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	21-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	22-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
T-BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	23-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	25-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	22-Dec-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Jan-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Feb-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jun-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	LEPH$_w$	Final LEPH$_w$	Final HEPH$_w$ [2,6]	EPH$_w$(C_{10}-C_{19}) [1]	Revised EPH$_w$ (C_{10}-C_{19}) [1]	Final EPH$_w$ (C_{10}-C_{19}) [1,6]	EPH$_w$(C_{10}-C_{19}) (Silica gel) [1]	Revised EPH$_w$ (C_{10}-C_{19}) [1] (Silica gel)	Final EPH$_w$ (C_{10}-C_{19}) [1] (Silica gel)	EPH$_w$(C_{19}-C_{32})	Revised EPH$_w$ (C_{19}-C_{32})	Final EPH$_w$ (C_{19}-C_{32}) [1]	EPH$_w$(C_{19}-C_{32}) (Silica gel)	Revised EPH$_w$ (C_{19}-C_{32})	Final EPH$_w$ (C_{19}-C_{32}) (Silica gel)	VPH$_w$	VH$_w$(C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [5]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	4-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK - 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	29-Feb-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Mar-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-May-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Aug-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	21-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	22-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
T-BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	23-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
T-BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Mar-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jun-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Jun-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Jun-17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Dec-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK - 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK -3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TB-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	29-Feb-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	16-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK-4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
ALS TRAVEL BLANK 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 7	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 7	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 8	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 8	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 9	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 9	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 10	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 10	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
ALS TRAVEL BLANK 10	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [4]	Matrix	Sample Location	Laboratory	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	EPH_w	Final EPH_w	Final $HEPH_w$ [2,6]	$EPH_w(C_{12}-C_{19})$ [1]	Revised EPH_w ($C_{12}-C_{19}$) [1]	Final EPH_w ($C_{12}-C_{19}$) [1,6]	$EPH_w(C_{12}-C_{19})$ [1] (Silica gel)	Revised EPH_w ($C_{12}-C_{19}$) [1] (Silica gel)	Final EPH_w ($C_{12}-C_{19}$) [1] (Silica gel)	$EPH_w(C_{19}-C_{32})$	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) [1]	$EPH_w(C_{19}-C_{32})$ (Silica gel)	Revised EPH_w ($C_{19}-C_{32}$)	Final EPH_w ($C_{19}-C_{32}$) (Silica gel)	VPH_w	VH_w (C_6-C_{10})	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	DL	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT [7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
RINSATE 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Dec-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Dec-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	13-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Dec-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	11-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	19-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK 6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	24-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
RINSEATE 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-13	<250	<250	<250	<250	<250	<250	---	---	---	<250	<250	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	10-Mar-15	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	15-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	8-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	7-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RB-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	29-Feb-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	16-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	16-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	21-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Jan-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	16-Feb-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	5-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
E-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Apr-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-12	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	**1.14**	<0.75	---
RINSEATE 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE-2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	<250	<250	<250	<250	<250	<250	---	---	---	<250	<250	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	10-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	8-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RB-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	1-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	17-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	17-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	22-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	14-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	6-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<1,400	<1,400	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	<250 UJ	<250 UJ	<250 UJ	<250 UJ	---	<250 UJ	---	---	---	<250 UJ	---	<250 UJ	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Jun-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	11-Sep-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	9-Dec-15	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RB-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	2-Mar-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	18-May-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	19-Aug-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	15-Mar-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	NA	7-Jun-17	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	15-Mar-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	20-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE-6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Dec-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSATE 6	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jul-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	3-Aug-12	<250	<250	<250	<250	<250	<250	---	---	---	<250	<250	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Sep-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Oct-12	<250	<250	<250	<250	<250	<250	---	---	---	<250	<250	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	**0.56**	**0.85**	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Jan-13	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Oct-12	<250	<250	<250	<250	<250	<250	---	---	---	<250	<250	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Nov-12	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Jan-13	<250	<250	<250	<250	---	<250	<250	---	<250	<250	---	<250	<250	---	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 2	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Sep-12	<250	<250	<250	<250	---	<250	---	---	---	<250	---	<250	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 3	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 4	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
RINSEATE BLANK 5	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Jun-13	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	27-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK 1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRAVEL BLANK-1	NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	---	---	---

TABLE A-1
CONCENTRATIONS OF PETROLEUM HYDROCARBON PARAMETERS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													LEPH[4]	Final LEPH[4]	Final HEPH[4,5]	EPH[4](C[19]-C[32])[1]	Revised EPH[4] (C[19]-C[32])[1]	Final EPH[4] (C[19]-C[32])[1,6]	EPH[4](C[19]-C[32])[1] (Silica gel)	Revised EPH[4] (C[19]-C[32])[1] (Silica gel)	Final EPH[4] (C[19]-C[32])[1] (Silica gel)	EPH[4](C[19]-C[32])	Revised EPH[4] (C[19]-C[32])	Final EPH[4] (C[19]-C[32])[1]	EPH[4](C[19]-C[32]) (Silica gel)	Revised EPH[4] (C[19]-C[32])	Final EPH[4] (C[19]-C[32]) (Silica gel)	VPH[4]	VH[4] (C[6]-C[10])	Benzene	Ethylbenzene	Styrene	Toluene	Xylenes	MTBE
Updated Screening Level [3]													250	250	NS	500	500	500	500	500	500	NS	NS	NS	NS	NS	NS	150	1,500	110	250	72	330	30	440
Source													DL	DL	NS	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	CSR/10	DL	DL	DL	NS	NS	NS	CSR/10	CSR/10	BC AWQG	BC AWQG	CSR/10	CSR/10	BC AWQG (FW)	BC AWQG
RBMT[7]													300	300	---	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	2,100	320	---	770	330	---
Sample ID [4]		**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Lithology of Screen Interval (Secondary)**	**Sample Date**																						
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Jun-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Aug-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	1-Aug-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Aug-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	2-Aug-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	14-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Jan-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Dec-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	<0.50
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Jan-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Jan-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 1		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	17-Jun-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	4-Jul-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	13-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	7-Jan-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Jan-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 2		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jul-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	18-Sep-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Oct-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	8-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	11-Mar-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	9-Dec-13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 3		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 4		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	10-Mar-14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 4		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jul-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 4		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 5		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jul-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---
TRIP BLANK 6		NA	NA	ALS	DCM	NA	NA	NA	NA	NA	NA	NA	6-Jul-12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.75	---

Notes
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.
1 - BCMoE (British Columbia Ministry of Environment) groundwater standard is for LEPH corrected for polycyclic aromatic hydrocarbons (PAHs); EPHw(C10-<C19) 1 is LEPH uncorrected for PAHs and therefore conservative.
2 - HEPH USL removed per the BCMoE letter from June 21, 2013

3 - The rational supporting the Updated Screening Levels (USLs) for porewater and surface water is provided by SLR Consulting Canada Ltd. in their memorandum entitled Updated Screening Levels for Foreshore Monitoring including an Addendum, dated May 9 and June 6, 2013, respectively. A general hierarchy was developed for defining USLs as follows: First) BC Water Quality Guidelines (approved then working); Second) 1/10 CSR aquatic life marine standards (for porewater); and lastly, reference area concentration (which commonly defaults to the laboratory detection limit)
4 - Sample IDs do not exactly match laboratory reports. They have been cleaned up for easy comparison of same location over time.
5 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than Updated Screening Level
SHADE	Sample concentration greater than Updated Screening Level and/or RBMT

Abbreviations
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres
Acronyms
AG - Aquagate
ATB- well located in anchor trench barrier
BC AWQG - British Columbia Approved Water Quality Guidelines. Marine unless otherwise noted as FW (freshwater).
C - Compliance well (Post-construction)
CL - culvert location
CS - well located cross slope
CSR/10 - Contaminated Sites Regulation (including up to Stage 11 amendments, November 2017) divided by ten (10)
DL - detection limit
DS - well located down slope
EAZ - ecologically active zone
EB - eastern barrier
E FPTS - Eastern Foreshore Passive Treatment System
EPHw - extractable petroleum hydrocarbons in water
HEPHw - heavy extractable petroleum hydrocarbons in water
IBA - In between area
LEPHw - light extractable petroleum hydrocarbons in water
NA - not applicable
NBO - near bottom samples
NS - no standard established for indicated parameter
OB - well located within the original barrier
OC - organoclay
P - Performance well (Post-construction)
PAC - powder activated carbon
RBMT - risk based management target
S - Sentry well (Post-construction)
SW - surface water samples
U - Up gradient well (Post-construction)
USAT - well located up slope of anchor trench
VHw - volatile hydrocarbons in water
VPHw - volatile petroleum hydrocarbons in water
W FPTS - Western Foreshore Passive Treatment System

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
Sample ID	**Matrix**	**Sample Location**	**Laboratory**	**Method**	**Well Location**	**Location Area**	**Screened Interval (m)**	**Top Screen (m)**	**Bottom Screen (m)**	**Lithology of Screen Interval (Primary)**	**Sample Date**	**Report**		
Post-Construction FTPS														
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	**0.0084**	<0.05
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<0.005	<0.05
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<0.005	<0.05
P3-6-NBO	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
P3-6-O	Surface Water	PW17-06	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
DUP1 (P3-12-NBO)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
QA/QC RPD											11-Dec-17		---	---
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<0.005	<0.05
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	13-Sep-18	L2163427	<0.005	<0.05
P3-12-NBO	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
DUP-2 (P3-12-NBO)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
QA/QC RPD											3-Dec-18		---	---
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
DUP-5 (P3-12-O)	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
QA/QC RPD											14-Jun-18		---	---
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
P3-12-O	Surface Water	PW17-08	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	**0.054**
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<0.005	<0.05
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<0.005	<0.05
P6-6-NBO	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
P6-6-O	Surface Water	PW17-18	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<0.005	<0.05
P6-12-NBO	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	**0.01**	<0.050
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
DUP 5 (P6-12-O)	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
QA/QC RPD											20-Mar-18		---	---
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
DUP-5 (P6-12-O)	Surface Water	PW17-20	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
QA/QC RPD											12-Sep-18		---	---
P6-12-O	Surface Water	PW17-20	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<0.005	<0.05
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<0.005	<0.05
P8-6-NBO	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
P8-6-O	Surface Water	PW17-28	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	<0.005	<0.05
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	<0.005	<0.05
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	<0.005	<0.05
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	<0.005	<0.05
P8-12-NBO	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
DUP-1 (P8-12-NBO)	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	<0.0050	<0.050
QA/QC RPD											3-Dec-18		---	---
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	<0.005	<0.05
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	<0.005	<0.05
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	<0.005	<0.05
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	<0.005	<0.05
P8-12-O	Surface Water	PW17-30	ALS	Hexane	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	<0.0050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<0.005	<0.05
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	<0.005	<0.05
CBP-1	Porewater	CBP-1	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<0.005	<0.05
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	<0.005	<0.05
CBP-2	Porewater	CBP-2	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	4-Dec-18	L2205928	<0.0050	<0.050
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	**0.0184**	<0.05
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	**0.0212**	<0.05
CBP-5	Porewater	CBP-5	ALS	Hexane	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	**0.0116**	<0.05
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	<0.005	<0.05
CBP-6	Porewater	CBP-6	ALS	Hexane	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<0.0050	<0.050
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<0.005	<0.05
DUP-1 (CBP-7)	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	<0.005	<0.05
QA/QC RPD											13-Jun-18		---	---
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	<0.005	<0.05
CBP-7	Porewater	CBP-7	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<0.005	<0.05
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<0.005	<0.05
CBP-8	Porewater	CBP-8	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<0.0050	<0.050
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	14-Jun-18	L2112662	<0.005	<0.05
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	<0.005	<0.05
CBP-15	Porewater	CBP-15	ALS	Hexane	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	6-Dec-18	L2207439	<0.0050	<0.050
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	**0.007**	<0.05
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<0.005	<0.05
CBP-16	Porewater	CBP-16	ALS	Hexane	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<0.0050	<0.050
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
DUP1 (PW17-01)	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
QA/QC RPD											14-Nov-17		---	---
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<0.005	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	16-Jan-18	L2045816	<0.005	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<0.005	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<0.005	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	**0.0068**	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Jun-18	L2111824	<0.005	<0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-01	Porewater	PW17-01	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<0.0050	<0.050
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Jun-18	L2111824	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<0.005	<0.05
PW17-02	Porewater	PW17-02	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Nov-17	L2023753	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	23-Mar-18	L2071889	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-03	Porewater	PW17-03	ALS	Hexane	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	23-Mar-18	L2071889	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	<0.005	<0.05
PW17-04	Porewater EAZ	PW17-04	ALS	Hexane	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	<0.0050	<0.050
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
DUP2 (PW17-05)	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
QA/QC RPD											13-Dec-17		---	---
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	23-Mar-18	L2071889	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<0.005	<0.05
PW17-05	Porewater EAZ	PW17-05	ALS	Hexane	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	23-Mar-18	L2071889	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<0.005	<0.05
PW17-06	Porewater	PW17-06	ALS	Hexane	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<0.0050	<0.050
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Nov-17	L2023092	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-07	Porewater EAZ	PW17-07	ALS	Hexane	S	W FPTS	0.70-1.00	0.7	1	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-08	Porewater	PW17-08	ALS	Hexane	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	<0.005	<0.05
PW17-09	Porewater	PW17-09	ALS	Hexane	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<0.0050	<0.050
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-10	Porewater	PW17-10	ALS	Hexane	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Nov-17	L2023753	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-11	Porewater	PW17-11	ALS	Hexane	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	3-Dec-18	L2205028	<0.0050	<0.050
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	**0.0188**	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	**0.0052**	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	**0.0052**	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	**0.016**	<0.05
PW17-12	Porewater	PW17-12	ALS	Hexane	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	**0.0147**	<0.050
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	<0.005	<0.05
PW17-13	Porewater	PW17-13	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<0.0050	<0.050
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-14	Porewater	PW17-14	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	**0.046**	<0.050
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	13-Dec-17	L2035368	**0.008**	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-15	Porewater	PW17-15	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	**0.011**	<0.050
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	<0.005	<0.05
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<0.005	<0.05
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<0.005	**2.1**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<0.005	**1.98**
QA/QC RPD											16-Jan-18		---	5.9%
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	<0.005	<2.
DUP1 (PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	<0.005	<2.
QA/QC RPD											14-Feb-18		---	---
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<0.005	<2.
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<0.005	<5.
DUP-1(PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<0.005	<5.
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<0.005	<0.7
DUP-2(PW17-16)	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	<0.005	<0.9
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	<0.005	<0.2
PW17-16	Porewater EAZ	PW17-16	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	<0.0050	<2.0
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<0.005	<0.05
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
DUP3 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
QA/QC RPD											13-Dec-17		---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
DUP2 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
QA/QC RPD											16-Jan-18		---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<0.005	<0.05
DUP2 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	<0.005	<0.05
QA/QC RPD											14-Feb-18		---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<0.005	<0.05
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<0.005	<0.05
DUP-2(PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<0.005	<0.05
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	<0.005	<0.05
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<0.005	<0.05
DUP-1 (PW17-17)	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
QA/QC RPD											11-Sep-18		---	---
PW17-17	Porewater EAZ	PW17-17	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<0.005	<0.05
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<0.005	<0.05
QA/QC RPD											15-Nov-17		---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<0.005	<0.05
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<0.005	<0.05
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<0.005	<0.05
QA/QC RPD											16-Jan-18		---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<0.005	<0.05
DUP3 (PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	<0.005	<0.05
QA/QC RPD											14-Feb-18		---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<0.005	<0.05
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<0.005	<0.05
DUP-3(PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<0.005	<0.05
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<0.005	<0.05
DUP-3(PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	<0.005	<0.05
QA/QC RPD											13-Jun-18		---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<0.005	<0.05
DUP-2(PW17-18)	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	<0.005	<0.05
QA/QC RPD											11-Sep-18		---	---
PW17-18	Porewater	PW17-18	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	<0.0050	<0.050
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Dec-17	L2034402	<0.005	<0.05
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	15-Jan-18	L2045142	<0.005	<0.2
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	13-Feb-18	L2056920	<0.005	<0.1
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	21-Mar-18	L2070802	<0.005	<0.2
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	16-Apr-18	L2080621	<0.005	<0.2
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Jun-18	L2111276	<0.005	**0.096**
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Sep-18	L2161513	<0.005	<0.07
PW17-19	Porewater	PW17-19	ALS	Hexane	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Dec-18	L2205928	<0.0050	<0.060
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-20	Porewater EAZ	PW17-20	ALS	Hexane	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Nov-17	---		
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-17	---		
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	---		
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	---		
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<0.005	<0.2
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	<0.005	<0.09
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	<0.005	<0.2
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2163271	<0.005	<0.2
PW17-21	Porewater EAZ	PW17-21	ALS	---	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	<0.0050	<0.20
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	<0.005	<0.05
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
QA/QC RPD											13-Dec-17		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
QA/QC RPD											16-Jan-18		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<0.005	<0.05
DUP4 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<0.005	<0.05
QA/QC RPD											15-Feb-18		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<0.005	<0.05
DUP 4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<0.005	<0.05
QA/QC RPD											22-Mar-18		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<0.005	<0.05
DUP-4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	<0.005	<0.05
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<0.005	<0.05
DUP 4(PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<0.005	<0.05
QA/QC RPD											14-Jun-18		---	---
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	10-Sep-18	L2161513	<0.005	<0.05
PW17-22	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
DUP-3 (PW17-22)	Porewater EAZ	PW17-22	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	<0.0050	<0.050
QA/QC RPD											5-Dec-18		---	---
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	10-Sep-18	L2161513	<0.005	<0.05
PW17-23	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<0.0050	<0.050
DUP-4 (PW17-23)	Porewater	PW17-23	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<0.0050	<0.050
QA/QC RPD											6-Dec-18		---	---

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-24	Porewater	PW17-24	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
DUP2 (PW17-25)	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
QA/QC RPD											14-Nov-17		---	---
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	<0.005	<0.05
PW17-25	Porewater	PW17-25	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	**0.006**	<0.050
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Nov-17	L2023753	<0.005	<0.05
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	<0.005	<0.05
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	<0.005	<0.05
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	L2057618	<0.005	<0.05
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<0.005	<0.2
DUP 1(PW17-26)	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	<0.005	<0.1
QA/QC RPD											22-Mar-18		---	---
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	17-Apr-18	L2081248	<0.005	<0.2
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	<0.005	<0.2
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Sep-18	L2163271	<0.005	<0.2
PW17-26	Porewater EAZ	PW17-26	ALS	Hexane	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	<0.0050	<0.050
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Nov-17	L2023753	<0.005	<0.3
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	<0.005	<0.05
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	<0.005	<0.05
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	<0.005	<0.07
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<0.005	<0.05
DUP 2(PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	<0.005	<0.05
QA/QC RPD											22-Mar-18		---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	17-Apr-18	L2081248	<0.005	<0.05
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	<0.005	<0.05
DUP-3(PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	<0.005	<0.05
QA/QC RPD											12-Sep-18		---	---
PW17-27	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	<0.0050	<0.050
DUP-5 (PW17-27)	Porewater EAZ	PW17-27	ALS	Hexane	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	<0.0050	<0.050
QA/QC RPD											6-Dec-18		---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Nov-17	L2023753	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<0.005	<0.05
DUP 3(PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	<0.005	<0.05
QA/QC RPD											22-Mar-18		---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	<0.005	<0.05
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<0.005	<0.05
DUP-4(PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	<0.005	<0.05
QA/QC RPD											12-Sep-18		---	---
PW17-28	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<0.0050	<0.050
DUP-6 (PW17-28)	Porewater	PW17-28	ALS	Hexane	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	<0.0050	<0.050
QA/QC RPD											6-Dec-18		---	---
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Feb-18	L2056918	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	<0.005	<0.05
PW17-29	Porewater	PW17-29	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	<0.0050	<0.050
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Sep-18	L2162362	<0.005	<0.05
PW17-30	Porewater	PW17-30	ALS	Hexane	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Sep-18	L2163271	<0.005	<0.05
PW17-31	Porewater	PW17-31	ALS	Hexane	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<0.005	<0.05
PW17-32	Porewater	PW17-32	ALS	Hexane	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	<0.005	<0.05
PW17-33	Porewater	PW17-33	ALS	Hexane	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	<0.0050	<0.050
R-BLANK 1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	15-Nov-17	L2023092	<0.005	<0.05
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	15-Jan-18	L2045142	<0.005	<0.05
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	15-Feb-18	L2056920	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	16-Nov-17	L2023753	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	16-Jan-18	L2045816	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	14-Feb-18	L2056918	<0.005	<0.05
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	13-Dec-17	L2035368	<0.005	<0.05
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	15-Feb-18	L2057618	<0.005	<0.05
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	<0.005	<0.05
RINSATE-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Dec-17	L2033765	<0.005	<0.05
RINSATE-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	12-Dec-17	L2034402	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	17-Apr-18	L2081248	<0.005	<0.05
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	12-Jun-18	L2111276	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	13-Jun-18	L2111824	<0.005	<0.05
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112662	<0.005	<0.05

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

													Benzo(a)pyrene[3]	Naphthalene[3]
Upper Cap Concentrations[1]													1	100
RBMT[2]													0.28	44
Reported Detection Limit													0.005	0.05
R-BLANK 1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	10-Sep-18	L2161513	<0.005	<0.05
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	11-Sep-18	L2162362	<0.005	<0.05
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163271	<0.005	<0.05
R-BLANK-1	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	<0.0050	<0.050
R-BLANK-2	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	4-Dec-18	L2205928	<0.0050	<0.050
R-BLANK-3	NA	NA	ALS	Hexane	NA	NA	NA	NA	NA	NA	5-Dec-18	L2206732	<0.0050	<0.050

Notes
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.

1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances
2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter da
3 - The Ministry of Environment and Climate Change Strategy (ENV) requires the co-reporting of PAHs when LEPH and HEPH calculations are required, consequently, LEPH and HEPH must be co-reported with the corresponding PAH results. Benzo(a)pyrene and naphthalene are considered site specific contaminants of concern (COCs), all PAHs were analyzed to calculate LEPH and/or HEPH and were either not detected or detected below Updated Screening Levels (USLs). For the purpose of this monitoring report, these PAHs have not been tabulated; however, as it is an ENV requirement, the data has been included in the ALS laboratory reports provided in Appendix C.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	Sample Concentration greater than Upper Cap

Abbreviations
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
BCAWQG - BC CSR Aquatic life quality guidelines
C - Compliance well
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
LEPH - Light Extractable Petroleum Hydrocarbons
HEPH - Heavy Extractable Petroleum Hydrocarbons
IBA - In between area
NA - not applicable
NS - no standard established for indicated parameter.
OC - organoclay
P - Performance well
PAC - powder activated carbon
PAH - Polycyclic Aromatic Hydrocarbons
RBMT - risk based management target
S - Sentry well
U - Up gradient well
USL - Upper Cap Standard Limit
W FPTS - Western Foreshore Passive Treatment System

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]		Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[4]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[4]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[4]	Total PAHs[5]
Updated Screening Level (Porewater and Porewater EAZ) [1]													6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]													6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source													BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]													---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
Pre-Construction FPTS																															
PSI Samples																															
P6-3	*	Porewater EAZ	P6-3	DCM	NA	EB	0.50-0.70	0.50	0.70	Weathered Colluvium	---	16-Jul-10	<0.050	<0.10	<0.15	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.320**	<0.050	56.8	0.226	0.197	<0.60	57.2
P6-0-A	*	Porewater EAZ	P6-0	DCM	NA	EB	0.05-0.15	0.05	0.15	Beach sand	---	16-Jul-10	<1.5	<0.30	<1.0	<0.15	0.127	0.038	0.059	0.067	<0.050	0.141	<0.050	<0.10	1.64	<0.050	53.2	1.74	0.791	<1.7	63.6
Field Duplicate/Equipment Blank/Travel Blank																															
DUP-15 (P6-3)	*	Porewater EAZ	P6-3	---	NA	EB	0.50-0.70	0.50	0.70	Weathered Colluvium	---	16-Jul-10	Not Sampled																		
RINSE1		NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jul-10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.071**	<0.050	<0.050	<0.050	<0.20
TRAVEL BLANK		NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	16-Jul-10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DSI Samples																															
Western IRA Barrier																															
P2.5-7I		Porewater EAZ	P2.5-7	DCM	NA	WB	0.7-0.9	0.7	0.9	Beach sand	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.170**	<0.050	<0.050	<0.050	<0.21
P2.5-7I		Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-May-11	**0.745**	<0.050	<0.050	**0.104**	**0.098**	**0.025**	**0.062**	<0.050	<0.050	**0.057**	<0.050	**0.703**	**0.499**	<0.050	**0.121**	**1.78**	**0.534**	<0.050	**4.72**
P2.5-7I		Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	15-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D		Porewater	P2.5-7	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P2.5-7D		Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-W	#	Porewater EAZ	P3-3	DCM	DB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	20-Apr-11	<1.5	<0.40	<2.5	1.28	1.55	1.49	0.866	0.878	1.44	1.72	0.212	3.27	1.36	0.723	<2.5	4.88	4.61	<2.0	23.8
P3-7D		Porewater	P3-7	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Feb-11	<0.15	<0.050	<0.060	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.40	<0.050	<0.050	<0.20	<0.52
P3-7D		Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.050	<0.25
P3-7D		Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12S		Porewater EAZ	P3-12	DCM	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	21-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D		Porewater	P3-12	DCM	NA	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.12	<0.050	<0.050	<0.050	<0.23
P3.5-7S		Porewater EAZ	P3.5-7	DCM	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	22-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.304**	<0.050	<0.050	<0.050	**0.30**
P3.5-7I		Porewater	P3.5-7	DCM	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P3.5-7D		Porewater	P3.5-7	DCM	NA	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	22-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.170**	<0.050	<0.050	**0.269**	**0.44**
P3.5-7D		Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7S		Porewater EAZ	P3R-7	DCM	DS	WB	0.8-1.0	0.8	1.0	Beach sand	---	18-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.070	<0.23
P3R-7I		Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	18-Apr-11	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.124**	<0.050	<0.50	**0.083**	<0.050	<0.30	<0.64
P3R-7D		Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	18-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.078**	<0.050	<0.050	<0.050	<0.21
Eastern IRA Barrier																															
P5-3-0.4S		Grab sample	P5-3	DCM	NA	EB	Grab sample	Grab sample	Grab sample	---	---	11-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S		Porewater EAZ	P5-3	DCM	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.242**	<0.050	<0.050	<0.050	**0.24**
P5-3I		Porewater EAZ	P5-3	DCM	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.399**	**0.069**	<0.050	<0.050	**0.47**
P5-3D		Porewater	P5-3	DCM	NA	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	23-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.359**	<0.050	<0.050	<0.050	**0.36**
P5-3D		Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D		Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	14-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.5-3-W	#	Porewater EAZ	P5.5-3	DCM	DB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.628	<0.050	<0.050	<0.050	8.83
P6-3S	*	Porewater EAZ	P6-3	DCM	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	25-Jan-11	**0.130**	**0.071**	<0.070	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.050	<0.050	<0.31	<0.060	**0.130**	<0.050	**6.36**	**0.108**	<0.13	<0.10	**6.80**
P6-3S	*	Porewater EAZ	P6-3	DCM	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	11-Feb-11	**0.461**	<0.085	**0.055**	<0.085	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.493**	<0.050	**44.6**	**0.258**	<0.050	<0.73	**45.8**
P6-3I	*	Porewater EAZ	P6-3	DCM	NA	EB	0.5-0.7	0.5	0.7	Weathered Colluvium	---	9-Feb-11	**0.445**	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.420**	<0.050	**45.3**	**0.164**	<0.050	<0.59	**50.3**
P6-3D	*	Porewater	P6-3	DCM	NA	EB	1.4-1.6	1.4	1.6	Weathered Colluvium	---	9-Feb-11	**0.573**	<0.090	<0.050	**0.069**	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.573**	<0.050	**51.3**	**0.300**	<0.050	<0.72	**52.5**
P6-8S		Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.25**	<0.050	<0.050	<0.050	**1.25**
P6-8I		Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.05**	<0.050	<0.050	<0.050	**1.05**
P6-8D		Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.716**	<0.050	<0.050	<0.050	**0.72**
P6-12S		Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.050	<0.25
P6-12I		Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.14	<0.050	<0.050	<0.050	<0.24
P6-12D		Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	9-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.34	<0.050	<0.050	<0.050	<0.40
P7-3-W	#	Porewater EAZ	P7-3	DCM	DB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P8-3S	*	Porewater EAZ	P8-3	---	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	27-Jan-11	Not Sampled																		
P8-3S	*	Porewater EAZ	P8-3	DCM	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.12	<0.050	<0.050	<0.13	---
P8-3D	*	Porewater EAZ	P8-3	---	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	27-Jan-11	Not Sampled																		
P8-3D	*	Porewater EAZ	P8-3	DCM	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.38	<0.050	**0.059**	<0.85	---
P8-7.5S		Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.115**	<0.050	<0.050	<0.050	<0.21
P8-7.5I		Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.098**	<0.050	<0.050	<0.050	<0.21
P8-7.5D		Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	6-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.082**	<0.050	<0.050	<0.050	<0.21
P8-12S		Porewater EAZ	P8-12	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	28-Jan-11	Not Sampled																		
P8-12S		Porewater EAZ	P8-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	7-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.050	<0.25
P8-12I		Porewater EAZ	P8-12	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	28-Jan-11	<0.17	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.060	<0.050	<0.16 U	<0.35	**0.064**	<0.050	<0.50
P8-12I		Porewater EAZ	P8-12	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	---
P8-12I		Porewater EAZ	P8-12	DCM	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	5-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P8-12D		Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	28-Jan-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.19 U	<0.050	<0.050	<0.050	<0.28
P9-3-W	#	Porewater EAZ	P9-3	DCM	DB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	20-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	0.858	0.973	<0.050	0.843	0.868	<0.050	0.139	<0.050	0.087	0.129	0.122	<0.050	0.72
P9-7S		Porewater EAZ	P9-7	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.301**	<0.050	<0.050	<0.050	**0.30**
P9-7I		Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D		Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3S		Porewater EAZ	P10-3	DCM	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.431**	<0.050	<0.050	<0.050	**0.43**
P10-3I		Porewater EAZ	P10-3	DCM	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.451**	<0.050	<0.050	<0.050	**0.45**
P10-3D		Porewater	P10-3	DCM	NA	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	22-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.341**	<0.050	<0.050	<0.050	**0.34**
Culvert Runoff Area																															
P14-3S		Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	11-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.015	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.11	<0.050	<0.050	<0.050	<0.23
P14-3I		Porewater EAZ	P14-3	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	25-Jan-11	<0.050	**0.055**	<0.050	<0.050	**0.056**	<0.080	**0.076**	<0.050	<0.050	**0.072**	<0.050	**0.107**	**0.075**	<0.050	**1.26**	**0.135**	**0.116**	<0.050	**1.96**
P14-3I		Porewater EAZ	P14-3	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	28-Jan-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3I		Porewater EAZ	P14-3	---	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	14-Jun-11	Insufficient Water for Analysis																		
P14-3D		Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	11-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.015	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.24	<0.050	<0.050	<0.050	<0.31
P14-12I		Porewater	P14-12	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.198**	<0.050	<0.050	<0.050	---
P14-12I		Porewater	P14-12	DCM	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	20-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-12D		Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.18	<0.050	<0.050	<0.080	---
P14-12D		Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.14	<0.28
P14-12D		Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-12D		Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S		Porewater EAZ	P14-17	---	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	7-Apr-11	Not Sampled																		
P14-17S		Porewater EAZ	P14-17	---	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	19-Apr-11	Insufficient Water for Analysis																		
P14-17I		Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	20-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.102**	<0.050	<0.050	<0.050	<0.21
P14-17D		Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I		Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.085**	<0.050	<0.050	<0.050	**0.065**	<0.050	<0.21
P14R-12I		Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D		Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S		Porewater EAZ	P14.5-12	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	20-Apr-11	Insufficient Water for Analysis																		
P14.5-12I		Porewater	P14.5-12	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	20-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	**

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P14-12-O	Surface Water	P14-12	DCM	NA	CL	NA	NA	NA	---	---	7-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR-2S	Surface Water	PR2	DCM	NA	RL	NA	NA	NA	---	---	8-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR-S-W	Surface Water	PEC	DCM	NA	RL	NA	NA	NA	---	---	7-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-3-O	Surface Water	PEC-3	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-12-O	Surface Water	PEC-12	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-12-O	Surface Water	PR2-12	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
Field Duplicate/Equipment Blank/Travel Blank																														
DUP-2 (P8-12D)	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	28-Jan-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.16	<0.050	<0.050	<0.061	<0.26
DUP-2 (P3.5-7D)	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-12-O)	Surface Water	P8-12	DCM	NA	EB	NA	NA	NA	---	---	8-Feb-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DUP-3 (P14-17D)	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
DUP-4 (P8-3D) *	Porewater	P8-3	DCM	NA	EB	1.4-1.6	1.4	1.6	Weathered Colluvium	---	9-Feb-11	0.590	<0.10	<0.050	0.066	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.567	<0.050	0.73	0.299	<0.050	<0.79	63.5
DUP-4 (PR2-8D)	Porewater	PR2-8	---	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	20-Apr-11	Not Sampled																		
DUP-5 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	10-May-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-6 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	15-Jun-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (PR2-3-O)	Surface Water	PR2-3	DCM	NA	RL	NA	NA	NA	---	---	4-Jul-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-GW1 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Apr-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
Monitoring Samples																														
Western IRA Barrier																														
P2.5-7S	Porewater EAZ	P2.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Sep-12	Insufficient Water for Analysis																		
P2.5-7S	Porewater EAZ	P2.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-13	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Sep-13	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Dec-13	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	12-Mar-14	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	10-Jun-14	Insufficient Water for Analysis																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Sep-14	Insufficient Water for Analysis																		
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	1-Dec-14	Insufficient Water for Analysis																		
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.050	<0.020	<0.010	<0.050	<0.083
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Sep-15	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	Not Sampled - Dry																		
P2.5-7S	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P2.5-7S	Porewater EAZ	P2.5-7	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-17	Not Sampled - Dry																		
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	5-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	12-Dec-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.061**	<0.050	<0.050	<0.22
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	18-Jun-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.281**	<0.050	<0.050	<0.050	**0.28**
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	DCM	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P2.5-7I	Porewater EAZ	P2.5-7	Hexane	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0220**	**0.071**	<0.050	<0.050	**0.102**	<0.0050	**0.432**	**0.067**	<0.050	**0.318**	**0.154**	**1.17**		
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P2.5-7D	Porewater	P2.5-7	Hexane	CS	WB	1.5-1.7

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P3-3	Porewater EAZ	P3-3	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-14	**0.072**	<0.050	<0.050	**0.181**	**0.232**	**0.225**	**0.241**	**0.158**	**0.109**	**0.26**	<0.050	**0.587**	**0.080**	**0.135**	<0.050	**0.671**	**0.632**	<0.050	**3.58**
P3-3	Porewater EAZ	P3-3	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	**0.030**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.095**	<0.050	<0.050	<0.050	**0.089**	**0.108**	<0.050	**0.32**
P3-3-B	Porewater EAZ	P3-3	DCM	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3	Porewater EAZ	P3-3	Hexane	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	**0.073**	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.139**	**0.055**	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-May-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.29
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Oct-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.28
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D-A	@ Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	---	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-15	Sampled - Not Found																		
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-7D	Porewater	P3-7	Hexane	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-7D	Porewater	P3-7	---	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jun-17	Sampled - Not Found																		
P3R-7S	Porewater EAZ	P3R-7	---	DS	WB	0.8-1.0	0.8	1.0	Beach sand	---	12-Sep-12	Well Destroyed																		
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	<0.050	<0.050	**0.096**	**0.068**	<0.050	<0.050	**0.22**
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	8-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.014**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.060**	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.081**	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.069**	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.105**	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	17-Sep-13	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	12-Dec-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.052**	<0.050	<0.050	<0.050	**0.052**	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	DCM	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7I	Porewater	P3R-7	---	DS	WB	3.0-3.4	3.0	3.4	Colluvium	---	1-Dec-14	Well Destroyed																		
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	8-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3R-7D	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12S	Porewater EAZ	P3-12	---	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-15	s - Insufficient water in well																		
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.071**	<0.050	<0.050	<0.050	<0.21
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	25-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12S	Porewater EAZ	P3-12	Hexane	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Oct-11	<0.050	<0.050	<0.060	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	6-Jun-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	18-Jun-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	DCM	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	25-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12D	Porewater	P3-12	Hexane	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.190**	**0.055**	<0.050	<0.050	**0.193**	<0.050	<0.050	**0.44**
P3.5-7S-R	Porewater EAZ	P3.5-7R	---	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Sep-12	ll Destroyed																		
P3.5-7S	Porewater EAZ	P3.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	6-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7S	Porewater EAZ	P3.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7S	Porewater EAZ	P3.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7S	Porewater EAZ	P3.5-7	DCM	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	**0.086**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Dec-12	<0.090	**0.114**	<0.050	<0.050	<0.050	<0.040	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	**0.068**	<0.050	<0.050	<0.23
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.22
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.069**	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.094**	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3.5-7I	Porewater	P3.5-7	DCM	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	4-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.060	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.092**	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-7I	Porewater	P3.5-7	Hexane	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.054**	<0.050	<0.050	<0.050	**0.068**	<0.050	<0.050	<0.20
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	6-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.060 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-7D	Porewater	P3.5-7	Hexane	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	16-May-16	<0.050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[4]	Anthracene[6]	Benz(a)anthracene[5]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[4]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[4]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	25-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-12I	Porewater	P3.5-12	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	27-Mar-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.066**	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D-AG +	Porewater	P3.5-12	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.04	<0.2	---
P3.5-12D-MA +	Porewater	P3.5-12	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.020	<0.10	<0.050	<0.020	<0.24	<0.24
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	25-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.5-12D	Porewater	P3.5-12	Hexane	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	20-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0188**	<0.050	<0.050	<0.050	<0.050	**0.0167**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	18-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3S	Porewater EAZ	P3.8-3	Hexane	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I +	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I-AG +	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	---
P3.8-3I-MA +	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	c	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P3.8-3I-AG +	Porewater	P3.8-3	BC	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.2**	**0.23**	<0.2	---
P3.8-3I-MA +	Porewater	P3.8-3	BC	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.020	<0.10	<0.050	<0.020	<0.24	<0.24
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	DCM	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3I	Porewater	P3.8-3	Hexane	CS	WB	2.6-3.0	2.6	3.0	Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3.8-3I	Porew

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(ghi)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P4.2-3S	Porewater EAZ	P4.2-3	Hexane	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	---	1-Mar-16	ll Destroyed																		
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.075**	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.081**	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	DCM	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.082**	<0.050	<0.050	<0.050	<0.050	**0.055**	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-1 (P4.2-3I)	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0233**	<0.050	<0.050	<0.050	<0.050	**0.0204**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-1 (P4.2-3I)	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	**0.05**	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	22-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	28-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	4-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-2	Hexane	CS	EB	2.6-3.1	2.6	3.0	Weathered Colluvium	---	12-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	---	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	10-Mar-15	with sand and gravel																		
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3D	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.2-3I	Porewater	P4.2-3	Hexane	CS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3D	Porewater	P4.2-3	---	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	16-Feb-17	sampled - cap off																		
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	**0.16**	**0.209**	**0.0517**	<0.20	<0.050	<0.080	**0.349**	<0.0050	**1.03**	<0.050	<0.050	<0.050	**0.058**	**0.903**	<0.050	**2.76**
DUP-2 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5	Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	**0.141**	**0.177**	**0.0321**	**0.068**	<0.050	<0.050	**0.253**	<0.0050	**0.789**	<0.050	<0.050	<0.050	**0.057**	**0.626**	<0.050	**2.14**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	**26%**	---	---	**32%**	---	**26%**	---	---	---	---	**36%**	---	**25%**
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Mar-17	<0.050	<0.050	<0.050	**0.064**	**0.053**	**0.0063**	<0.050	<0.050	<0.050	**0.065**	<0.0050	**0.48**	<0.050	<0.050	<0.050	<0.050	**0.372**	<0.050	**1.04**
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	22-Mar-17	<0.050	<0.050	<0.050	**0.141**	**0.102**	**0.0117**	<0.050	<0.050	<0.050	**0.134**	<0.0050	**0.662**	<0.050	<0.050	<0.050	<0.050	**0.504**	<0.050	**1.56**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	**32%**	---	---	---	---	**30%**	---	---
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	28-Mar-17	<0.050	<0.050	<0.050	**0.090**	**0.067**	**0.0121**	<0.050	<0.050	<0.050	**0.073**	<0.0050	**0.545**	<0.050	<0.050	<0.050	<0.050	**0.421**	<0.050	**1.21**
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	28-Mar-17	<0.050	<0.050	<0.050	**0.097**	**0.080**	**0.0175**	<0.050	<0.050	<0.050	**0.103**	<0.0050	**0.552**	<0.050	<0.050	<0.050	<0.050	**0.420**	<0.050	**1.27**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	**1%**	---	---	---	---	**0%**	---	**5%**
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<0.050	<0.050	<0.050	**0.061**	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.306**	<0.050	<0.050	<0.050	<0.050	**0.234**	<0.050	**0.6**
P4.2-3D-A	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.090**	<0.050	<0.050	<0.050	<0.050	**0.065**	<0.050	<0.20
DUP-1 (P4.2-3D-A)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	4-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.088**	<0.050	<0.050	<0.050	<0.050	**0.065**	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Apr-17	<0.050	<0.050	<0.050	**0.055**	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.455**	<0.050	<0.050	<0.050	<0.050	**0.33**	<0.050	**0.84**
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	12-Apr-17	<0.050	<0.050	<0.050	**0.136**	<0.050	**0.0058**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.487**	<0.050	<0.050	<0.050	<0.050	**0.349**	<0.050	**0.98**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	**7%**	---	---	---	---	**6%**	---	---
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Apr-17	<0.050	<0.050	<0.050	**0.099**	**0.103**	**0.0136**	<0.050	<0.050	<0.050	**0.12**	<0.0050	**0.886**	<0.050	<0.050	<0.050	<0.050	**0.658**	<0.050	**1.88**
DUP-1 (P4.2-3D)	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	18-Apr-17	<0.050	<0.050	<0.050	**0.089**	**0.081**	**0.0108**	<0.050	<0.050	<0.050	**0.094**	<0.0050	**0.758**	<0.050	<0.050	<0.050	<0.050	**0.565**	<0.050	**1.6**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	**16%**	---	---	---	---	**15%**	---	**16%**
P4.2-3D	Porewater	P4.2-3	Hexane	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	**0.053**	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.594**	<0.050	<0.050	<0.050	<0.050	**0.430**	<0.050	**1.08**
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050			<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.080	<0.050	<0.050	<0.29
P4.8-8S	Porewater EAZ	P4.8-8	---	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jan-12	Insufficient Water for Analysis																		
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	---	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Apr-12	Not Sampled																		
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-May-12	<0.30	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	**0.122**	<0.050	<0.050	<0.050	**0.130**	<0.10	<0.070	<0.050	<0.38
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Aug-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.040	<0.050	<0.050	<0.050	<0.050	<0.050	**0.061**	<0.050	<0.050	<0.070	<0.050	**0.079**	<0.050	<0.22
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.018	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Nov-12	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.28
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8S	Porewater EAZ	P4.8-8	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.28
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.40	<0.45
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-13	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	**0.078**	**0.0854**	**0.108**	**0.06**	**0.091**	**0.094**	**0.0642**	**0.075**	<0.050	**0.068**	<0.050	<0.050	**0.098**	<0.050	**0.82**
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8I	Porewater EAZ	P4.8-8	Hexane	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	---	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jan-12	Insufficient Water for Analysis																		
P4.8-8D	Porewater	P4.8-8	---	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Feb-12	Not Sampled																		
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.29
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jun-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	**0.095**	**0.109**	**0.132**	**0.078**	**0.060**	**0.099**	<0.050	**0.271**	<0.050	**0.066**	<0.050	**0.297**	**0.281**	<0.050	**1.49**
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	2-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Sep-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Oct-12	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.104**	<0.050	<0.050	<0.050	<0.22
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.28
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	14-Mar-13	<0.090	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	<0.050	<0.22
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D-F F	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-13	**0.062**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D-F	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D +	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P4.8-8D-AG +	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	---
P4.8-8D-MA +	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	c <0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D-AG +	Porewater	P4.8-8	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---
P4.8-8D-MA +	Porewater	P4.8-8	BC	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	DCM	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	**0.011**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.064**	<0.050	<0.050	<0.050	<0.050	**0.059**	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.8-8D	Porewater	P4.8-8	---	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-Apr-17	ot sampled - Dry																		
P4.8-8D	Porewater	P4.8-8	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0080**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.069**	<0.050	<0.050	<0.050	**0.068**	**0.054**	<0.050	<0.20
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Sep-12	<0.080	<0.050	<0.050	<0.050	<0.050	**0.024**	**0.053**	<0.050	<0.050	**0.059**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Dec-12	**0.052**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.070**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-5	Porewater EAZ	P4.9-5	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Not Sampled																		
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.017**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.067**	<0.050	<0.050	<0.050	<0.050	**0.057**	<0.050	<0.21
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	**0.020**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.289** J	**0.058**	<0.050	**0.059**	**0.163** J	**0.149** J	<0.050	**0.74** J
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Sep-13	**0.256**	<0.050	<0.050	**0.198**	**0.200**	**0.050**	**0.140**	<0.050	**0.061**	**0.133**	<0.050	**1.45**	**0.197**	<0.050	<0.050	**0.717**	**0.709**	<0.050	**4.11**
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-13	<0.050	<0.050	<0.050	**0.050**	**0.060**	**0.021**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.402**	<0.050	<0.050	<0.050	**0.138**	**0.217**	<0.050	**0.89**
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Mar-14	<0.050	<0.050	<0.050	**0.053**	**0.060**	**0.013**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.378**	<0.050	<0.050	<0.050	**0.106**	**0.184**	<0.050	**0.80**
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-5	Porewater EAZ	P4.9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P4.9-12I	Porewater	P4.9-12	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	DCM	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.9-12I	Porewater	P4.9-12	Hexane	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	27-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	DCM	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P4.9-12D)	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5	Colluvium	Weathered Colluvium	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P4.9-12D	Porewater	P4.9-12	Hexane	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	28-Sep-11	Insufficient Water for Analysis																		
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Nov-11	Not Sampled																		
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.064**	<0.050	<0.40	<0.050	<0.050	<0.20	<0.49
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.072**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.014**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	4-Jul-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Aug-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-12	Insufficient Water for Analysis																		
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Oct-12	Not Sampled - Dry																		
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	25-Feb-13	Not Sampled																		
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.107**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.083**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	---	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Sep-14	Insufficient Water for Analysis																		
P5-3S	Porewater EAZ	P5-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	3-Dec-14	<0.050	<0.050	<0.50	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<5.0	<5.0
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	3-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0071**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Dec-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-Jan-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	16-Feb-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0079**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3S	Porewater EAZ	P5-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0260**	**0.052**	<0.050	<0.050	<0.050	<0.050	**0.0056**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	28-Sep-11	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	**0.467**	<0.050	<0.050	<0.050	**0.47**
P5-3I	Porewater EAZ	P5-3	---	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Oct-11	Not Sampled																		
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-3I	Porewater EAZ	P5-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.013	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-May-12	<0.090	<0.050	<0.050	<0.050	<0.050	**0.022**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.079**	**0.055**	<0.050	**0.068**	**0.166**	**0.073**	<0.050	**0.46**
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	4-Jul-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.54
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Oct-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	<0.29
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	25-Feb-13	Not Sampled																		
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.060**	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	<0.22
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	Hexane	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D	Porewater	P5-3	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Mar-16	Sampled - Infilled																		
P5-3D	Porewater	P5-3	---	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-May-16	ell Destroyed																		
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Dec-11	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.056**	<0.050	**0.102**	**0.071**	<0.050	<0.050	**0.23**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Apr-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.126**	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-May-12	**0.056**	**0.068**	<0.050	<0.050	**0.051**	<0.060	**0.056**	<0.050	<0.050	<0.050	<0.050	**0.140**	**0.060**	<0.050	**0.221**	**0.156**	<0.050	<0.050	**0.81**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.080	**0.163**	**0.084**	**0.141**	<0.050	<0.15	<0.050	**0.082**	<0.050	<0.050	**0.102**	**0.188**	**0.236**	<0.050	**1.00**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Aug-12	<0.20	<0.050	<0.050	<0.050	<0.090	**0.300**	**0.145**	**0.187**	<0.050	<0.070	<0.050	<0.10	<0.050	<0.050	<0.060	<0.050	**0.433**	<0.050	**1.06**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Sep-12	<0.070	<0.050	<0.050	<0.050	<0.050	**0.016**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.060**	<0.050	<0.050	<0.050	<0.050	**0.076**	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Oct-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.141**	<0.050	<0.050	<0.050	<0.22
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-Nov-12	<0.090	<0.050	<0.050	<0.050	<0.20	**0.418**	**0.218**	**0.283**	<0.050	<0.080	<0.090	**0.136**	<0.050	**0.065**	<0.060	<0.090	**0.624**	<0.050	**1.74**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	**0.079**	**0.137**	**0.241**	**0.165**	**0.260**	**0.064**	<0.20	**0.056**	**0.281**	**0.050**	**0.071**	**0.061**	**0.280**	**0.372**	<0.050	**2.12**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.012**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.066**	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.136**	**0.063**	**0.091**	<0.050	<0.080	<0.050	<0.050	<0.050	<0.050	**0.067**	<0.050	**0.180**	<0.050	**0.54**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.037**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.070**	**0.056**	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Dec-13	<0.20	<0.050	<0.050	<0.050	<0.050	**0.026**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.062**	<0.050	**0.051**	<0.050	<0.28
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	**0.056**	<0.050	**0.065**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	**0.100**	<0.050	**0.22**
P5-7S	Porewater EAZ	P5-7	---	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Jun-14	Insufficient Water for Analysis																		
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Sep-14	<0.050	**0.098**	<0.050	**0.156**	**0.531**	**0.368**	**0.472**	**0.333**	**0.205**	**0.563**	**0.066**	**1.24**	**0.058**	**0.318**	**0.081**	**0.556**	**1.15**	<0.050	**6.20**
P5-7S	Porewater EAZ	P5-7	DCM	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.040	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.068**	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	**0.047**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0117**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-7S	Porewater EAZ	P5-7	Hexane	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0088**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.118**	<0.050	<0.050	<0.050	**0.085**	**0.082**	<0.050	**0.29**
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-May-12	<0.050	**0.066**	<0.050	**0.100**	**0.059**	**0.058**	**0.069**	<0.050	<0.050	**0.060**	<0.050	**0.134**	**0.067**	<0.050	**0.057**	**0.237**	**0.120**	<0.050	**1.03**
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	4-Jun-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Aug-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Oct-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.173**	**0.095**	<0.050	<0.050	**0.27**
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Nov-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-13	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7I	Porewater EAZ	P5-7	DCM

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	1-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5-7D	Porewater	P5-7	Hexane	DS	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.107**	<0.050	<0.050	<0.050	**0.107**	**0.085**	<0.050	**0.30**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jun-12	<0.40	<0.070	<0.070	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.497**	<0.050	**35.2**	**0.286**	<0.050	<0.60	**36.0**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	14-Sep-12	**0.132**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.258**	<0.050	**20.1**	**0.222**	<0.050	<0.25	**20.7**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	<0.40	<0.070	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.527**	<0.050	**45.1**	**0.303**	<0.050	<0.60	---
P5.25-3	Porewater EAZ	P5.25-3	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	Not Sampled																		
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	<0.50	<0.10	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.716**	<0.050	**74.8**	**0.444**	**0.059**	<0.70	---
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Jun-13	**0.563**	<0.20	<0.10	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.873**	<0.050	**53.4**	**0.468**	**0.053**	<0.80	**55.3**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Sep-13	<0.60	<0.20	<0.20	<0.070	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.893**	<0.050	**49.0**	**0.723**	**0.168**	<0.80	**50.7**
P5.25-3 +	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**0.494**	<0.20	<0.090	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.773**	<0.050	**57.3**	**0.492**	**0.088**	<0.90	**59.1**
P5.25-3-AG +	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.24**	<0.05	<0.05	<0.05	**0.07**	<0.1	---
P5.25-3-MA +	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**0.47**	<0.050	<0.050	<0.050	<0.010	<0.0090	<0.050 c	<0.050	<0.050	<0.050	<0.050	**0.047**	**1.1**	<0.050	**52**	**0.60**	**0.094**	<0.50	**78**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Dec-13	**0.494**	<0.20	<0.20	<0.060	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.80	<0.050	**40.8**	<0.60	**0.108**	<0.90	**41.4**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.60	<0.20	<0.080	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.735**	<0.050	**59.7**	**0.444**	**0.058**	<2.0	**60.9**
P5.25-3-AG +	Porewater EAZ	P5.25-3	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.6**	<0.1	**39**	**0.4**	**0.04**	<0.2	---
P5.25-3-MA +	Porewater EAZ	P5.25-3	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**0.39**	<0.050	<0.050	**0.039**	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	**0.03**	**0.8**	<0.050	**41**	**0.51**	**0.068**	<0.24	**62**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	<0.50	<0.10	<0.090	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.693**	<0.050	**58.4**	**0.475**	**0.079**	<0.90	**59.7**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Sep-14	**0.422**	**0.076** J	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.560**	<0.050	**27.1**	**0.421**	**0.118**	<0.050	**28.7**
P5.25-3	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	**0.587**	<0.10	<0.050	<0.070	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.772**	<0.050	**34.7**	**0.505**	**0.108**	<0.80	**36.7**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	**0.451**	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.717**	<0.050	**27.1**	**0.45**	**0.123**	<2.0	**28.8**
P5.25-3-B	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	**0.336**	<0.060	<0.010	<0.040	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	**0.024**	**0.454**	<0.010	**20.7**	**0.281**	**0.082**	<2.0	**21.9**
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	**0.331**	<0.060	<0.010	<0.040	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	**0.025**	**0.430**	<0.010	**17.0**	**0.274**	**0.086**	<2.0	**21.1**
QA/QC RPD											**Duplicates**	**1%**	---	---	---	---	---	---	---	---	---	---	---	**5%**	---	**20%**	**3%**	---	---	**4%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**0.447**	<0.090	<0.050	<0.070	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.749**	<0.050	**18**	**0.533**	**0.145**	<2.0	**19.9**
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**0.414**	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.654**	<0.050	**17.4**	**0.482**	**0.130**	<2.0	**19.1**
QA/QC RPD											**Duplicates**	**8%**	---	---	---	---	---	---	---	---	---	---	---	**14%**	---	**3%**	**10%**	---	---	**4%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	**0.48**	<0.090	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.658**	<0.050	**19.8**	**0.366**	**0.066**	<3.0	**21.4**
DUP-7 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	**0.456**	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.647**	<0.050	**22.4**	**0.346**	**0.053**	<3.0	**23.9**
QA/QC RPD											**Duplicates**	**5%**	---	---	---	---	---	---	---	---	---	---	---	**2%**	---	**12%**	**6%**	---	---	**11%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	**0.516**	<0.10	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.786**	<0.050	**35.9**	**0.511**	**0.086**	<4.0	**37.8**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	<0.60	<0.20	<0.20	<0.10	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.09**	<0.050	**19.5**	**0.693**	**0.129**	<4.0	21.4
DUP-5 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	<0.60	<0.20	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.679**	<0.050	**18.3**	**0.437**	**0.135**	<4.0	19.6
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	**46%**	---	**6%**	**45%**	---	---	**9%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	**0.477**	<0.080	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.662**	<0.050	**1.66**	**0.430**	**0.089**	<2.0	**3.3**
DUP-1 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	**0.486**	<0.080	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.791**	<0.050	**1.87**	**0.500**	**0.086**	<2.0	**3.7**
QA/QC RPD											**Duplicates**	**2%**	---	---	---	---	---	---	---	---	---	---	---	**18%**	---	**12%**	**15%**	---	---	**11%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	23-Nov-16	**0.509**	<0.090	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.685**	<0.050	<2.0	**0.370**	**0.076**	<4.0	<4.5
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	**0.39**	<0.090	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.602**	<0.050	**12.1**	**0.394**	**0.076**	<4.0	13.6
DUP-4 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	**0.405**	<0.090	<0.20	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.568**	<0.050	**15.4**	**0.329**	**0.071**	<3.0	16.7
QA/QC RPD											**Duplicates**	**4%**	---	---	---	---	---	---	---	---	---	---	---	**6%**	---	**24%**	**18%**	---	---	**20%**
P5.25-3	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	**0.404**	<0.090	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.628**	<0.050	**16.7**	**0.352**	<0.050	<5.0	**18.1**
DUP-6 (P5.25-3)	Porewater EAZ	P5.25-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	**0.405**	<0.10	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.682**	<0.050	**16.3**	**0.393**	<0.050	<4.0	**17.8**
QA/QC RPD											**Duplicates**	**0%**	---	---	---	---	---	---	---	---	---	---	---	**8%**	---	**2%**	**11%**	---	---	**2%**
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	---
P5.25-5	Porewater EAZ	P5.25-5	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Not Sampled																		
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	4-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Jun-15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.050	<0.020	<0.010	<0.050	<0.083
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	22-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5.25-5	Porewater EAZ	P5.25-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.057**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P5.5-3	Porewater EAZ	P5.5-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-12	<0.20	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.384**	<0.050	**31.4**	**0.189**	<0.050	<0.40	**32.0**
P5.5-3R	Porewater EAZ	P5.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Apr-12	<2.0	<0.40	<2.0	<0.40	<0.080	<0.080	<0.20	**0.082**	<0.050	<0.10	<0.050	<0.20	**1.81**	<0.050	**47.2**	**2.19**	**0.800**	<3.0	**52.1**
P5.5-3R	Porewater EAZ	P5.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-May-12	<0.30	<0.070	<0.30	<0.10	<0.050	**0.039**	<0.050	<0.050	<0.050	**0.050**	<0.050	**0.079**	**0.346**	<0.050	**43.5**	**0.482**	**0.205**	<0.80	**44.7**
P5.5-3R	Porewater EAZ	P5.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jun-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.144**	<0.050	**53.2**	**0.182**	**0.053**	<0.70	**53.6**
P5.5-3R	Porewater EAZ	P5.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jul-12	<0.30	<0.070	<0.090	<0.060	<0.050	**0.012**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.282**	<0.050	**53.2**	**0.397**	**0.155**	<0.75	**54.1**
P5.5-3R	Porewater EAZ	P5.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Aug-12	**0.070**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.081**	<0.050	**22.6**	**0.089**	<0.050	<0.30	**22.9**
P5.5-3R	Porewater EAZ	P5.5-3	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Sep-12

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-12	<0.070	<0.050	<0.050	<0.050	<0.050	**0.015**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.22
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Oct-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.070	<0.29
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Dec-12	<0.15	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	---
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Jan-13	<0.090	<0.050	<0.050	<0.050	<0.050	**0.022**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.050**	<0.10	<0.050	<0.20	<0.050	<0.050	<0.070	<0.31
P6-8S	Porewater EAZ	P6-8	---	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	25-Feb-13	Not Sampled																		
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.031**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.070	---
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-May-13	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Jun-13	<0.060	<0.050	<0.050	**0.166**	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	**0.054**	<0.050	<0.050	<0.25
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-Sep-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.070	<0.050	<0.080	<0.30
P6-8S +	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-13	<0.050	<0.050	<0.050	**0.072**	<0.050	**0.020**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	**0.072**	<0.050	<0.050	<0.28
P6-8S-AG +	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-13	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.02 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.04 UJ	<0.2 UJ	---
P6-8S-MA +	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1	Weathered Colluvium	---	9-Dec-13	<0.050	<0.050	<0.050	**0.038** J+	**0.010** J+	**0.012** J+	<0.050 c	<0.050	<0.050	<0.050	<0.050	**0.19** J+	<0.050	<0.050	<0.10	**0.15** J+	**0.15** J+	<0.50	**0.56** J+
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Dec-13	<0.10	<0.050	<0.050	<0.050	<0.050	**0.026**	<0.050	**0.083**	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	**0.182**	**0.121**	**0.094**	<0.050	**0.51**
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P6-8S-AG +	Porewater EAZ	P6-8	BC	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---
P6-8S-MA +	Porewater EAZ	P6-8	BC	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	**0.016**	<0.010	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.024**	<0.050	<0.050	<0.10	<0.050	**0.023** J	<0.24	<0.24
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8S	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P6-8S-B	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.060	<0.28
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.2**	<0.050	<0.050	<0.30	**0.108**	**0.163**	<0.20	**0.53**
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.065**	<0.050	<0.050	<0.050	<0.050	**0.06**	<0.050	<0.21
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.116**	<0.050	<0.050	<0.20	<0.050	**0.145**	<0.10	<0.30
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.21
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.112**	<0.050	<0.050	<0.070	<0.050	**0.096**	<0.050	**0.26**
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.175**	<0.050	<0.050	<0.050	<0.050	**0.168**	<0.050	0.34
P6-8S	Porewater EAZ	P6-8	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0068**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.099**	<0.050	<0.050	**0.085**	**0.068**	**0.089**	<0.050	**0.35**
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.164**	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.619**	<0.050	<0.050	<0.050	**0.62**
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.732**	<0.050	<0.050	<0.050	**0.73**
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.225**	<0.050	<0.050	<0.050	**0.22**
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Sep-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.173**	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	---	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	Not Sampled																		
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.085**	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	**0.069**	**0.060**	**0.063**	<0.050	<0.050	<0.050	**0.058**	<0.050	<0.050	<0.050	<0.050	**0.069**	<0.050	**0.32**
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	16-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-8I	Porewater	P6-8	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.092**	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	**0.063**	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.018**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	**0.075**	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	1-Aug-12	<0.10	<0.050	<0.050	<0.050	<0.050	**0.014**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Sep-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Dec-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P6-8D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	DCM	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	4-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	18-Jun-15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	**0.012**	**0.011**	<0.010	<0.020	<0.010	**0.041**	**0.060**	<0.010	<0.050	**0.033**	**0.031**	<0.050	**0.189**
P6-12S	Porewater EAZ	P6-12	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	8-Sep-15	Not Sampled - Dry																		
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	16-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12S	Porewater EAZ	P6-12	Hexane	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.150**	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	**0.052**	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.137**	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.050	<0.25
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I [11]	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Jun-14	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.1
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	DCM	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	<0.22
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.21
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.072**	<0.050	<0.050	<0.050	<0.21
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.22
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.22
P6-12I	Porewater EAZ	P6-12	Hexane	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	5-Jun-17	**0.086**	<0.050	<0.050	**0.104**	**0.196**	**0.0812**	**0.126**	<0.050	**0.059**	**0.207**	**0.0096**	**0.889**	**0.151**	<0.050	<0.050	**0.644**	**0.703**	<0.050	**3.26**
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	**0.059**	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	DCM	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12D	Porewater	P6-12	Hexane	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0096**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.186**	<0.050	<0.050	<0.050	**0.107**	**0.143**	<0.050	**0.45**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Jun-12	<0.30	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.215**	<0.050	**31.3**	**0.088**	<0.050	<0.40	**31.6**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-12	<0.15	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.144**	<0.050	**24.2**	**0.066**	<0.050	<0.30	**24.4**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.27**	<0.050	<0.050	<0.15	---
P6.25-3	Porewater EAZ	P6.25-3	---	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	25-Feb-13	Not Sampled																		
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.115**	<0.050	**17.5**	<0.050	<0.050	<0.40	---
P6.25-3A ~	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<0.30	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.233**	<0.050	**39.5**	**0.092**	<0.050	<0.40	**39.8**
P6.25-3B ~	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.26**	<0.050	<0.050	<0.050	**1.26**
P6.25-3C ~	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.229**	<0.050	**32.8**	**0.088**	<0.050	<0.40	**33.2**
P6.25-3D ~	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	**0.302**	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.355**	<0.050	**43.7**	**0.145**	<0.050	<0.50	**44.5**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Sep-13	<0.40	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.345**	<0.050	**35.0**	**0.201**	<0.050	<0.50	**35.6**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Dec-13	**0.176**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.232**	<0.050	**35.4**	**0.107**	<0.050	<0.50	**35.9**
P6.25-3	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.43**	<0.050	<0.050	<0.20	**3.43**
P6.25-3-AG +	Porewater EAZ	P6.25-3	BC	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

												Acenaphthene[a]	Acenaphthylene[a]	Acridine[a]	Anthracene[a]	Benz(a)anthracene[a]	Benzo(a)pyrene	Benzo(b)fluoranthene[a]	Benzo(g,h,i)perylene[a]	Benzo(k)fluoranthene[a]	Chrysene[a]	Dibenz(a,h)anthracene[a]	Fluoranthene[a]	Fluorene[a]	Indeno(1,2,3-c,d)pyrene[a]	Naphthalene	Phenanthrene[a]	Pyrene[a]	Quinoline[a]	Total PAHs[a]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [3]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
Sample ID [5]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date																			
P6.5-3	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	**0.166**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.242**	<0.050	**7.40**	<0.20 U	<0.050	<0.50	**7.81**
P6.5-3	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.30	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.352**	<0.050	**20.9**	**0.139**	<0.050	<0.70	**21.4**
P6.5-3-AG +	Porewater EAZ	P6.5-3	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**	<0.1	**13**	**0.1**	<0.04	<0.2	---
P6.5-3-MA +	Porewater EAZ	P6.5-3	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	**0.26**	<0.050	<0.050	**0.023**	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	**0.41**	<0.050	**15**	**0.16**	<0.020	<0.24	**16**
P6.5-3	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	<0.40	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.489**	<0.050	**18.8**	**0.184**	<0.050	<0.80	**19.5**
P6.5-3	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	**0.42** J	<0.10 UJ	<0.10 UJ	<0.10 UJ	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.50** J	<0.050	<4.0	**0.23** J	<0.050	<0.70 UJ	<4.1
P6.5-3	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	<0.20	<0.090	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.163**	<0.050	**2.52**	**0.114**	<0.050	<0.070	**2.80**
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.392**	<0.050	<0.050	<0.40	<0.45
DUP-8 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.402**	<0.050	<0.050	<0.40	<0.45
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**3%**	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.70	<0.050	<0.050	<0.30	<0.79
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.70	<0.050	<0.050	<0.30	<0.79
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**0.148**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.189**	<0.050	**4.56**	**0.102**	<0.050	<2.0	**5.0**
DUP-6 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	**0.174**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.206**	<0.050	**5.33**	**0.117**	<0.050	<2.0	**5.8**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**16%**	---	---	---	**15%**
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	**0.132**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.153**	<0.050	<0.20	**0.070**	<0.050	**0.826**	**1.18**
DUP-5 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	**0.130**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.158**	<0.050	<0.40	**0.065**	<0.050	<2.0	<2.0
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	**0.275**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.284**	<0.050	<2.0	**0.081**	<0.050	<3.0	<3.6
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	**0.238**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.216**	<0.050	<2.0	**0.060**	<0.050	<2.0	<2.8
DUP-4 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	**0.186**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.187**	<0.050	<1.0	<0.050	<0.050	<2.0	<2.2
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	**0.196**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.212**	<0.050	<0.30	**0.062**	<0.050	<2.0	<2.0
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	**0.197**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.224**	<0.050	<0.20	**0.066**	<0.050	<2.0	<2.0
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	**0.225**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.296**	<0.050	<1.0	**0.134**	<0.050	<3.0	<3.2
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	**0.275**	<0.070	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.333**	<0.050	<1.0	**0.130**	<0.050	<3.0	<3.2
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	**12%**	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	**0.058**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.078**	<0.050	<0.30	<0.050	<0.050	<0.70	<0.78
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	**0.052**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.069**	<0.050	<0.30	<0.050	<0.050	<0.60	<0.70
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.5-3	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	**0.154**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.178**	<0.050	<0.80	<0.050	<0.050	<3.0	<3.1
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	**0.154**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.172**	<0.050	<0.80	<0.050	<0.050	<3.0	<3.1
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P6.75-3	Porewater EAZ	P6.75-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Jun-12	<0.50	<0.070	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.386**	<0.050	**51.9**	**0.157**	<0.050	<0.70	**52.4**
P6.75-3	Porewater EAZ	P6.75-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-12	<0.15	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.124**	<0.050	**19.4**	<0.050	<0.050	<0.30	**19.5**
P6.75-3	Porewater EAZ	P6.75-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Dec-12	<0.40	<0.070	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.357**	<0.050	**44.7**	**0.159**	<0.050	<0.50	---
P6.75-3	Porewater EAZ	P6.75-3	---	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	25-Feb-13	Not Sampled																		
P6.75-3	Porewater EAZ	P6.75-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-13	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.066**	<0.050	**6.04**	<0.050	<0.050	<0.20	---
P6.75-3	Porewater EAZ	P6.75-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.074**	<0.050	<0.050	<0.050	<0.21
P6.75-3	Porewater EAZ	P6.75-3	---	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Sep-13	ll Destroyed																		
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	6-Dec-11	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.64**	<0.050	<0.050	<0.50	**1.64**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	4-Jan-12	<0.20	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	**3.79**	<0.050	<0.050	<0.90	**3.79**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	1-Feb-12	<0.20	<0.050	<0.20	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	**3.51**	**0.060**	<0.050	<1.0	**3.6**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Mar-12	**0.062**	<0.050	**0.055**	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.21**	<0.050	<0.050	<0.60	**3.32**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Apr-12	<0.60	<0.30	<0.70	<0.20	<0.050	<0.020	<0.20	**0.073**	<0.050	<0.050	<0.050	<0.090	**0.432**	<0.050	**7.32**	<0.40	<0.090	<4.0	**7.8**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	9-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.64**	<0.050	<0.050	<0.30	**1.64**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	5-Jun-12	<0.20	<0.20	<0.20	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<5.0	<0.050	<0.050	<0.90	<5.1
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	4-Jul-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.90**	<0.050	<0.050	<0.60	**3.90**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.82**	<0.050	<0.050	<0.40	**1.82**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.08**	<0.050	<0.050	<0.15	**1.08**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	12-Oct-12	<0.080	<0.20	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.56**	<0.050	<0.050	<0.30	**1.56**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.59**	<0.050	<0.050	<0.50	**3.59**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Dec-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**4.10**	<0.070	**0.094**	<0.35	---
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**4.10**	<0.050	<0.050	<0.050	**4.10**
P7-3	Porewater EAZ	P7-3	---	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	25-Feb-13	Not Sampled																		
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**6.27**	<0.050	<0.050	<0.60	---
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	12-Jun-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**5.55**	<0.050	<0.050	<0.50	**5.55**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	16-Sep-13	<0.080	<0.050	<0.20	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	**4.91**	<0.050	<0.050	<0.40	**4.91**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**6.12**	<0.050	<0.050	<0.50	**6.12**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**10.6**	<0.050	<0.050	<0.60	**10.6**
P7-3-AG +	Porewater EAZ	P7-3	BC	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**7**	<0.1	<0.04	<0.2	---
P7-3-MA +	Porewater EAZ	P7-3	BC	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	10-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	**9.7**	**0.09**	**0.039**	<0.24	**12**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**5.28**	<0.050	<0.050	<0.50	**5.28**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	12-Sep-14	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**4.41**	<0.050	<0.050	<0.40	**4.41**
P7-3	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	3-Dec-14	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**8.21**	<0.050	<0.050	<0.60	**8.21**
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Mar-15	**0.067**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.24**	<0.050	<0.050	<2.0	**3.3**
P7-3-B	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	13-Mar-15	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.08**	<0.050	<0.050	<0.50	**3.08**
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	17-Jun-15	**0.053**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.46**	<0.050	<0.050	<0.90	**1.52**
DUP-6 (P7-3)	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.48**	<0.050	<0.050	<0.80	**1.56**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**1%**	---	---	---	**3%**
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	11-Sep-15	**0.059**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**2.02**	<0.050	<0.050	<0.90	**2.08**
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	9-Dec-15	**0.056**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<3.0	<0.050	<0.050	<0.60	<3.1
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	2-Mar-16	**0.058**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**5.52**	<0.050	<0.050	<3.0	**5.6**
DUP-6 (P7-3)	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**4.86**	<0.050	<0.050	<3.0	**4.9**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**13%**	---	---	---	**13%**
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.70	<0.050	<0.050	<2.0	<2.1
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	19-Aug-16	**0.059**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	**0.482**	<0.050	<0.050	<0.80	<0.82
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Nov-16	**0.072**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<2.0	<2.8
DUP-5 (P7-3)	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Nov-16	**0.078**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<2.0	<2.8
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	16-Mar-17	**0.075**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<4.0	<4.5
P7-3	Porewater EAZ	P7-3	Hexane	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	7-Jun-17

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P7.5-3-MA +	Porewater EAZ	P7.5-3	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	10-Mar-14	**0.47**	<0.050	<0.050	**0.029**	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	**0.034** J	**0.68**	<0.050	**25** J	**0.40** J	**0.067** J	<0.24	**53**
P7.5-3	Porewater EAZ	P7.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Jun-14	<0.50	<0.080	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.587**	<0.050	**19.3**	**0.335**	**0.056**	<0.70	**20.3**
P7.5-3	Porewater EAZ	P7.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	12-Sep-14	**0.439**	<0.090	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.469**	<0.050	**15.3**	**0.293**	<0.050	<0.60 UJ	**16.5**
P7.5-3	Porewater EAZ	P7.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	3-Dec-14	**0.318**	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.319**	<0.050	**10.9**	**0.198**	<0.050	<0.060	**11.8**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Mar-15	**0.370**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.375**	<0.050	**8.41**	**0.149**	<0.050	<1.5	**9.3**
DUP-7 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Mar-15	**0.377**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.427**	<0.050	**8.44**	**0.162**	<0.050	<2.0	**9.4**
QA/QC RPD											**Duplicates**	**2%**	---	---	---	---	---	---	---	---	---	---	---	**13%**	---	**0%**	---	---	---	**1%**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	17-Jun-15	**0.378**	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.480**	<0.050	**10.6**	**0.328**	<0.050	<1.0	**11.8**
DUP-5 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	17-Jun-15	**0.455**	<0.070	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.548**	<0.050	**13.2**	**0.393**	<0.050	<2.0	**14.6**
QA/QC RPD											**Duplicates**	**18%**	---	---	---	---	---	---	---	---	---	---	---	**13%**	---	**22%**	**18%**	---	---	**21%**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	11-Sep-15	**0.522**	<0.090	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.647**	<0.050	**14.7**	**0.38**	**0.055**	<3.0	**16.3**
DUP-5 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	11-Sep-15	**0.432**	<0.070	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.520**	<0.050	**14**	**0.325**	<0.050	<3.0	**15.2**
QA/QC RPD											**Duplicates**	**19%**	---	---	---	---	---	---	---	---	---	---	---	**22%**	---	**5%**	**16%**	---	---	**7%**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	9-Dec-15	**0.120**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.125**	<0.050	**1.67**	<0.050	<0.050	**0.64**	**2.56**
DUP-4 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	9-Dec-15	**0.195**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.187**	<0.050	**2.5**	**0.061**	<0.050	<2.0	**2.9**
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**40%**	---	---	---	**12%**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	2-Mar-16	**0.363**	**0.054**	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.437**	<0.050	**2.24**	**0.158**	<0.050	<3.0	**3.2**
DUP-5 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	2-Mar-16	**0.359**	**0.056**	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.418**	<0.050	**1.95**	**0.152**	<0.050	<3.0	<3.0
QA/QC RPD											**Duplicates**	**1%**	---	---	---	---	---	---	---	---	---	---	---	**4%**	---	**14%**	---	---	---	---
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	19-May-16	**0.262**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.312**	<0.050	**5.12**	**0.133**	<0.050	<3.0	5.8
DUP-6 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	19-May-16	**0.279**	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.301**	<0.050	**5.20**	**0.141**	<0.050	<3.0	5.9
QA/QC RPD											**Duplicates**	**6%**	---	---	---	---	---	---	---	---	---	---	---	**4%**	---	**2%**	---	---	---	**2%**
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	22-Aug-16	**0.392**	<0.070	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.513**	<0.050	<2.0	**0.321**	<0.050	<3.0	<3.6
DUP-4 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	22-Aug-16	**0.382**	<0.10	<0.050	<0.050	<0.070	<0.0050	<0.050	<0.050	<0.050	<0.070	<0.0050	<0.070	**0.498**	<0.050	<2.0	**0.311**	**0.078**	<3.0	<3.6
QA/QC RPD											**Duplicates**	**3%**	---	---	---	---	---	---	---	---	---	---	---	**3%**	---	---	**3%**	---	---	---
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	24-Nov-16	**0.561**	<0.20	<0.070	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.638**	<0.050	<3.0	**0.450**	**0.081**	<5.0	<5.8
DUP-2 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	24-Nov-16	**0.588**	<0.20	<0.070	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.675**	<0.050	<3.0	**0.455**	**0.082**	<5.0	<5.8
QA/QC RPD											**Duplicates**	**5%**	---	---	---	---	---	---	---	---	---	---	---	**6%**	---	---	**1%**	---	---	---
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	16-Mar-17	**0.408**	<0.080	<0.090	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.073**	**0.499**	<0.050	<2.0	**0.325**	**0.177**	<4.0	<4.5
DUP-8 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	16-Mar-17	**0.429**	<0.080	<0.20	<0.050	<0.050	**0.0075**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.08**	**0.553**	<0.050	<2.0	**0.363**	**0.19**	<4.0	<4.5
QA/QC RPD											**Duplicates**	**5%**	---	---	---	---	---	---	---	---	---	---	---	**10%**	---	---	**11%**	---	---	---
P7.5-3	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	7-Jun-17	**0.351**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.456**	<0.050	<2.0	**0.191**	**0.102**	<3.0	<3.6
DUP-2 (P7.5-3)	Porewater EAZ	P7.5-3	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	7-Jun-17	**0.369**	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	**0.482**	<0.050	<2.0	**0.192**	**0.098**	<4.0	<4.5
QA/QC RPD											**Duplicates**	**5%**	---	---	---	---	---	---	---	---	---	---	---	**6%**	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	12-Sep-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.25	<0.050	<0.050	<0.090	<0.33
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.050	---
P8-3	Porewater EAZ	P8-3	---	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	25-Feb-13	Not Sampled																		
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	---
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.070	<0.36
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.050	<0.36
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
P8-3-AG +	Porewater EAZ	P8-3	BC	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Mar-14	<1	<1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<1	<0.1	<0.04	<2	---
P8-3-MA +	Porewater EAZ	P8-3	BC	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.090	<0.37
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.20	<0.29
DUP-6 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.20	<0.32
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.30	<0.47
DUP-4 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.40	<0.54
DUP-4 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.40	<0.49
DUP-3 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.30	<0.37
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.40	<0.49
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
DUP-7 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	22-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.30	<0.36
DUP-5 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	22-Aug-16	<0.050	<0.050	<0.050	<0.070	<0.050	<0.020	<0.050	<0.050	<0.050	<0.070	<0.0050	**0.100**	<0.050	<0.050	<0.20	**0.062**	**0.086**	<0.30	<0.42
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.40	<0.050	<0.050	<0.40	<0.60
DUP-4 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<0.40	<0.67
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	16-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
DUP-5 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	16-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-3	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
DUP-1 (P8-3)	Porewater EAZ	P8-3	Hexane	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	27-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.089**	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	3-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	10-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	7-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.013**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	4-Jul-12	<0.070	<0.050	<0.050	<0.050	<0.050	**0.024**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5S	Porewater EAZ	P8-7.5	DCM	DS	EB	0.8

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.050**	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	---	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	Not Sampled																		
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I-AG +	Porewater	P8-7.5	BC	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---
P8-7.5I-MA +	Porewater	P8-7.5	BC	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.124**	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I-B	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.22
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.21
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.20
P8-7.5I	Porewater	P8-7.5	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	27-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	26-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	9-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	---	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	25-Feb-13	Not Sampled																		
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.129** J	<0.050	<0.050	<0.21
P8-7.5D-A @	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050 UJ	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	9-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4	Colluvium	Till	8-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4	Colluvium	Till	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4	Colluvium	Till	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-7.5D	Porewater	P8-7.5	Hexane	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12S	Porewater EAZ	P8-12	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	27-Sep-11	Insufficient Water for Analysis																		
P8-12S	Porewater EAZ	P8-12	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	11-Sep-12	ll Not Found																		
P8-12S	Porewater EAZ	P8-12	---	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	10-Dec-12	d - Assumed Destroyed																		
P8-12I	Porewater EAZ	P8-12	---	DS	EB	0.7-0.9

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[4]	Anthracene[5]	Benz(a)anthracene[5]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[4]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[4]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D-F F	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.058**	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	DCM	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	9-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	17-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	15-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	21-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12D	Porewater	P8-12	Hexane	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	5-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0052**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.083**	<0.050	<0.050	<0.050	**0.082**	**0.060**	<0.050	**0.23**
P9-3	Porewater EAZ	P9-3	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	6-Dec-11	<0.30	**0.076**	**0.156**	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.255**	<0.050	**11.3**	<0.080	<0.050	<2.0	**11.8**
P9-3	Porewater EAZ	P9-3	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	4-Jan-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.109**	<0.050	**8.87**	<0.050	<0.050	<0.70	**8.98**
P9-3	Porewater EAZ	P9-3	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	1-Feb-12	<0.20	<0.050	<0.070	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.142**	<0.050	**9.58**	<0.050	<0.050	<0.90	**9.72**
P9-3	Porewater EAZ	P9-3	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	13-Mar-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.150**	<0.050	**14.6**	<0.050	<0.050	<0.80	**14.7**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Apr-12	<0.90	<0.30	<1.0	<0.30	<0.30	<0.10	<0.050	**0.093**	<0.050	<0.20	<0.050	<0.10	**1.13**	<0.050	**13.2**	<2.0	<0.60	<3.0	**14.4**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-May-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	**0.059**	<0.050	<0.050	**1.56**	**0.113**	**0.057**	<0.40	**1.79**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.23**	<0.050	<0.050	<0.060	**3.23**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jul-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**2.74**	<0.050	<0.050	<0.30	**2.74**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Aug-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.17**	<0.050	<0.050	<0.40	**1.17**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	14-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**2.87**	<0.050	<0.050	<0.30	**2.87**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.30**	<0.050	<0.050	<0.20	**1.30**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.70	<2.1
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.95	<0.050	<0.050	<0.55	---
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.090	<2.0
P9-3R	Porewater EAZ	P9-3R	---	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	Not Sampled																		
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	<0.30	<0.30	<0.20	<0.20	<0.050	<0.20	<0.40	<0.20	<0.20	<0.050	<0.20	<0.050	<0.30	<0.20	<8.0	<0.40	<0.050	<7.0	---
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.70	<2.1
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.50	<2.1
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<1.0	<0.050	<0.050	<0.60	<2.1
P9-3R +	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.60	<2.1
P9-3R-AG +	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	---
P9-3R-MA +	Porewater EAZ	P9-3	DCM	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	10-Dec-13	<0.070	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	c <0.050	<0.050	<0.050	<0.050	**0.020**	<0.050	<0.050	<0.90	<0.050	**0.024**	<1.4	<1.4
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<0.050	<2.0
P9-3R-AG +	Porewater EAZ	P9-3R	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.7**	<0.1	**0.04**	<0.2	---
P9-3R-MA +	Porewater EAZ	P9-3R	BC	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	<0.16 (1)	<0.050	<0.050	**0.023**	**0.022**	**0.13**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.11**	<0.050	<0.050	**0.89**	**0.089**	**0.086**	<0.24	**1.9**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**1.94**	**0.058**	<0.050	<0.70	**2.00**
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	<0.090	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.070	<2.0	<0.20	**0.120**	<0.80	<2.2
P9-3R	Porewater EAZ	P9-3R	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	**0.066**	<0.050	<0.070	<3.0	**0.129**	**0.099**	<0.60	<3.1
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<1.5	<0.070	<0.050	<2.0	<2.5
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<1.0	<0.050	<0.050	<2.0	<2.2
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<1.0	<0.050	<0.050	<2.0	<2.2
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.70	<0.050	<0.050	<3.0	<3.1
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.50	<0.050	<0.050	<3.0	<3.0
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.60	<0.050	<0.050	<3.0	<3.1
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.40	<0.050	<0.050	<2.0	<2.0
DUP-6 (P9-3R)	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.40	<0.050	<0.050	<2.0	<2.0
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<3.0	<3.6
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<2.0	<0.050	<0.050	<3.0	<3.6
P9-3R	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0052**	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.059**	<0.050	<0.050	<0.80	**0.066**	**0.053**	<2.0	<2.2
DUP-7 (P9-3R)	Porewater EAZ	P9-3R	Hexane	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.061**	<0.070	<0.050	<0.80	**0.082**	**0.054**	<3.0	<3.1
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P9-5	Porewater EAZ	P9-5	---	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	Not Sampled																		
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Sep-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10 U	<0.050	<0.050	<0.050	<0.22
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Sep-14	**1.56**	**0.064**	<0.050	**0.512**	**0.191**	**0.049**	**0.069**	<0.050	<0.050	**0.168**	<0.050	**1.23**	**1.40**	<0.050	**8.21**	**3.82**	**0.822**	<0.050	**18.1**
P9-5	Porewater EAZ	P9-5	DCM	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P9-5	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.15	<0.050	<0.050	<0.15	<0.29
P9-5	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
P9-5	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
P9-5	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.36
P9-5	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.30	<0.41
DUP-4 (P9-5)	Porewater EAZ	P9-5	Hexane	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.20	<0.34
QA/QC RPD											**

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7S	Porewater EAZ	P9-7	Hexane	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	**0.050**	<0.050	<0.050	<0.20
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	<0.22
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	27-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	---	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	Not Sampled																		
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7I	Porewater	P9-7	Hexane	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	3-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	4-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	1-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	27-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	9-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	2-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	---	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	25-Feb-13	Not Sampled																		
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	23-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P9-7D	Porewater	P9-7	Hexane	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	**0.055**	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.050	<0.20
P10-3S	Porewater EAZ	P10-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3S	Porewater EAZ	P10-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Nov-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3S	Porewater EAZ	P10-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.060**	<0.050	<0.050	<0.21
P10-3S	Porewater EAZ	P10-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	29-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3S	Porewater EAZ	P10-3	DCM	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P10-3S	Porewater EAZ	P10-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3S	Porewater EAZ	P10-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	19-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3S	Porewater EAZ	P10-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3S	Porewater EAZ	P10-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3S	Porewater EAZ	P10-3	Hexane	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	---	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Oct-11	Not Sampled																		
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	27-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	**0.052**	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I-AG +	Porewater EAZ	P10-3	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.04	<0.2	---
P10-3I-MA +	Porewater EAZ	P10-3	BC	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	DCM	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	3-Dec-14	<0.050	<0.050	<0.050	**0.080**	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	19-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3I	Porewater EAZ	P10-3	Hexane	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0076**	<0.050	<0.050	<0.050	**0.081**	<0.0050	**0.483**	**0.070**	<0.050	<0.050	**0.341**	**0.056**	<0.050	**1.04**
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	7-Dec-11	<0.050	<0.050	<0.090	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.057**	<0.050	<0.050	**0.052**	**0.178**	**0.107**	<0.050	**0.40**
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	27-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	12-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.136**	<0.050	<0.050	<0.050	**0.097**	**0.078**	<0.050	**0.31**
P10-3D	Porewater	P10-3	DCM	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	12-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	15-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	10-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.07**	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	7-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	29-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	19-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P10-3D	Porewater	P10-3	Hexane	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	**0.0084**	**0.084**	<0.050	<0.050	**0.078**	<0.0050	**0.29**	<0.050	<0.050	<0.050	**0.119**	**0.07**	<0.050	**0.65**
Culvert Runoff Area																														
P14-3S	Porewater EAZ	P14-3	---	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	6-Oct-11	Insufficient Water for Analysis																		
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	9-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	---	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	14-Sep-12	Not Sampled																		
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.053**	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3S	Porewater EAZ	P14-3	DCM	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3I	Porewater EAZ	P14-3	---	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	6-Oct-11	Not Sampled																		
P14-3I	Porewater EAZ	P14-3	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3I	Porewater EAZ	P14-3	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3I	Porewater EAZ	P14-3	DCM	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3I	Porewater EAZ	P14-3	---	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	14-Sep-12	Not Sampled																		
P14-3I	Porewater EAZ	P14-3	---	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	10-Dec-12	All Destroyed																		
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	6-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	**0.121**	<0.050	<0.050	<0.050	<0.22
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.089**	**0.052**	<0.050	<0.21
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3D	Porewater EAZ	P14-3	---	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	14-Sep-12	Not Sampled																		
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-3D	Porewater EAZ	P14-3	DCM	NA	CL	0.9-1.1	0.9	1.1	Beach sand

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P14-12D	Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.094**	<0.050	<0.050	<0.050	<0.21
P14-12D	Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-12D	Porewater	P14-12	DCM	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.050**	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12I	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050 UJ	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14R-12D	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.075**	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	13-Sep-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P14-17S	Porewater EAZ	P14-17	---	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	7-Nov-12	Sampled - tide too high																		
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.020**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	17-Sep-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	16-Dec-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	<0.050	<0.050	<0.050	<0.21
P14-17S	Porewater EAZ	P14-17	DCM	NA	CL	0.8-1.0	0.8	1.0	Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.251**	<0.050	<0.050	<0.050	**0.25**
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	<0.070	<0.050	<0.050	<0.050	<0.050	**0.010**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.105**	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.096**	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	---	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Nov-12	Sampled - tide too high																		
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.239**	<0.050	<0.050	<0.050	**0.24**
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.118**	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.039**	<0.050	**0.102**	<0.050	<0.050	<0.050	**0.066**	<0.050	<0.050	**0.058**	<0.050	**0.062**	<0.050	**0.33**
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	16-Dec-13	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	**0.054 J**	**0.119 J**	**0.22 J**	**0.179 J**	**0.511 J**	**0.056 J**	**0.107 J**	<0.070 UJ	**0.245 J**	<0.050 UJ	**0.094 J**	**0.052 J**	**0.103 J**	**0.262 J**	<0.050 UJ	**2.00 J**
P14-17I-AG +	Porewater	P14-17	BC	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	**0.1**	**0.4**	**0.37**	**0.5**	**0.4**	**0.1**	**0.8**	<0.1	**0.7**	<0.1	**0.2**	<0.1	**0.5**	**0.63**	<0.2	---
P14-17I-MA +	Porewater	P14-17	BC	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	12-Mar-14	<0.050	<0.050	<0.050	**0.01**	<0.010	<0.060	<0.050	**0.25**	<0.050	<0.050	<0.050	**0.12**	<0.050	<0.050	<0.10	<0.050	**0.087**	<0.24	**0.47**
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17I	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	**0.015**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.052**	<0.050	<0.050	**0.092**	**0.061**	<0.050	<0.050	**0.22**
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	**0.100 J**	**0.153 J**	**0.207 J**	**0.163 J**	**0.066 J**	**0.087 J**	<0.050	**0.192 J**	<0.050	**0.062 J**	<0.050	**0.146 J**	**0.163 J**	<0.050	**1.34 J**
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P14-17D-AG +	Porewater	P14-17	BC	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	**0.06**	<0.2	---
P14-17D-MA +	Porewater	P14-17	BC	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14-17D	Porewater	P14-17	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	13-Sep-12	Not Sampled - Dry																		
P14.5-12S	Porewater EAZ	P14.5-12	---	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Dec-12	Insufficient Water for Analysis																		
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	**0.061**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	**0.191**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.23
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	**0.054 J**	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P14.5-12S	Porewater EAZ	P14.5-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	11-Sep-14	<0.050	<0.050	<0.050	**0.064**	<0.050	**0.073**	<0.050	**0.37**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.51**
P14.5-12I	Porewater	P14.5-12	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P15-12S	Porewater EAZ	P15-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12S	Porewater EAZ	P15-12	DCM	NA	CL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.076**	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	---	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Sep-12	Not Sampled																		
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.051**	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12I	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	---	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	Not Sampled																		
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010 UJ	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.076**	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P15-12D	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.054**	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.013**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3S	Porewater EAZ	P17.5-3	DCM	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.071**	**0.058**	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.085**	<0.050	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.149**	<0.050	<0.050	<0.050	<0.21
P17.5-3I	Porewater	P17.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P17.5-3D-AG +	Porewater	P17.5-3	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.5 J**	**0.1**	<0.04	<0.2	---
P17.5-3D-MA +	Porewater	P17.5-3	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P17.5-3D	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	27-Mar-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.070	<0.050	<0.050	<0.050	<0.29
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.077**	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	8-Sep-14	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S-A	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	1-Dec-14	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S-B	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	4-Dec-14	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.28
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	3-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	20-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5S	Porewater EAZ	P18-4.5	Hexane	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	22-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	<0.050	<0.050	<0.21
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
P18-4.5I-AG +	Porewater	P18-4.5	BC	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1**	**0.1**	**0.05**	<0.2	---
P18-4.5I-MA +	Porewater	P18-4.5	BC	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5I	Porewater	P18-4.5	DCM	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5D	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5D	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5D	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P18-4.5D	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	**0.058**	**0.119**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.067**	<0.050	**0.31**
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	23-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	19-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.021**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.055**	<0.050	**0.072**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.073**	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	**0.049**	<0.050	**0.110**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8S	Porewater EAZ	PR2-8	DCM	NA	RL	0.8-1.0	0.8	1	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	**0.099**	<0.050	**0.112**	<0.050	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.21**
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	7-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	2-Feb-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	11-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	9-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	6-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	---	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	14-Sep-12	Not Sampled																		
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	8-Nov-12	<0.080	<0.050	<0.050	<0.050	<0.050	**0.023**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	11-Mar-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	19-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.081**	<0.050	<0.050	<0.050	<0.22
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I-AG +	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	13-Dec-13	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.1	---
PR2-8I-MA +	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050 c	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	17-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8I-AG +	Porewater	PR2-8	BC	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	14-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---
PR2-8I-MA +	Porewater	PR2-8	BC	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.195**	**0.088**	<0.050	<0.050	**0.28**
PR2-8I	Porewater	PR2-8	DCM	NA	RL	2.7-3.1	2.7	3.1	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	7-Oct-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	5-Jan-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	2-Feb-12	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.28
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	11-Apr-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-May-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.22
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	6-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.060	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	---	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	Not Sampled																		
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D-F F	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D U &	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	19-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D-AG +	Porewater	PR2-8	BC	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.04	<0.2	---
PR2-8D-MA +	Porewater	PR2-8	BC	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8D	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	---	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Sep-12	Not Sampled																		
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5S	Porewater EAZ	PEC-5	DCM	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5I	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	12-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5I	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5I	Porewater	PEC-5	---	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	14-Sep-12	Not Sampled																		
PEC-5I	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-5I	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[4]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[4]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[4]	Total PAHs[5]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.040	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-O	Surface Water	P3-3	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-3-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
PR2-3-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-12-0	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Mar-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3-3-NBO	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	24-Jun-13	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3-3-NBO	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO +	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO-AG +	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.01 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.02 UJ	<0.1 UJ	---
P3-3-NBO-MA +	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050 c	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
P3-3-NBO	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO-AG +	Surface Water	P3-3	BC	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.04	<0.2	---
P3-3-NBO-MA +	Surface Water	P3-3	BC	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P3-3-NBO	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	DCM	NA	WB	NBO	NBO	NBO	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-3-NBO	Surface Water	P3-3	Hexane	NA	WB	NBO	NBO	NBO	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-4-O	Surface Water	P3-4	DCM	NA	WB	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-4-NBO	Surface Water	P3-4	DCM	NA	WB	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	11-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	10-Dec-12	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.85	---
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	24-Jun-13	<0.090	<0.050	<0.050	<0.050	<0.050	**0.014**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P3-12-O)	Surface water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.053**	<0.050	<0.050	<0.21
DUP-1 (P3-12-O)	Surface water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.057**	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-3 (P3-12-O)	Surface water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-3 (P3-12-O)	Surface water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-O	Surface Water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-8 (P3-12-O)	Surface water	P3-12	Hexane	NA	WB	SW	SW	SW	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	18-Sep-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.062**	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	10-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P3-12-NBO	Surface Water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P3-12-NBO)	Surface water	P3-12	Hexane	NA	WB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD							

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.055**	<0.050	**0.053**	**0.349**	<0.050	<0.050	**0.46**
P6-3-NBO	Surface Water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-3-NBO	Surface Water	P6-3	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-8-O	Surface Water	P6-8	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8-NBO	Surface Water	P6-8	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.079**	<0.050	<0.050	<0.050	<0.21
P6-8-NBO	Surface Water	P6-8	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.061**	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	11-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.764**	<0.050	<0.050	<0.050	---
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O +	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O-AG +	Surface Water	P6-13	DCM	NA	EB	SW	SW	SW	---	---	9-Dec-13	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.01 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.02 UJ	<0.1 UJ	---
P6-12-O-MA +	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050 c	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O-AG +	Surface Water	P6-12	BC	NA	EB	SW	SW	SW	---	---	14-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---	---
P6-12-O-MA +	Surface Water	P6-12	BC	NA	EB	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.127**	<0.050	<0.050	<0.050	<0.21
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-O	Surface Water	P6-12	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P6-12-NBO	Surface Water	P6-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.318**	<0.050	<0.050	<0.050	**0.32**
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	---	NA	EB	SW	SW	SW	---	---	10-Dec-12	Not Sampled																		
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-3-O	Surface Water	P8-3	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	10-Dec-12	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	11-Mar-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	24-Jun-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.076**	<0.050	<0.050	<0.050	<0.22
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	**1.75** J	**0.070** J	<0.050	**0.588** J	**0.185** J	**0.049** J	**0.071** J	<0.050	<0.050	**0.172** J	<0.050	**1.37** J	**1.59** J	<0.050	**7.14** J	**4.32** J	**0.891** J	<0.050	**18.2** J
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-12-O)	Surface water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P8-12-O)	Surface water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
DUP-7 (P8-12-O)	Surface water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-O	Surface Water	P8-12	Hexane	NA	EB	SW	SW	SW	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.142**	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-12-NBO)	Surface water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
QA/QC RPD											**Duplicates**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	17-Jun-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	10-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	26-Feb-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	18-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P8-12-NBO	Surface Water	P8-12	Hexane	NA	EB	NBO	NBO	NBO	---	---	9-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
P14C-SW	Surface Run-off	P14C	DCM	NA	CL	SW	SW	SW	---	---	18-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PEC-SW	Surface Run-off	PEC	DCM	NA	RL	SW	SW	SW	---	---	18-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	18-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O +	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O-AG +	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.01 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.1 UJ	---
PR2-3-O-MA +	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	9-Dec-13	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050 c	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.50	<0.50
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O-AG +	Surface Water	PR2-3	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	<0.1	<0.1	<0.1	<0.02	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.04	<0.2	---
PR2-3-O-MA +	Surface Water	PR2-3	BC	NA	RL	SW	SW	SW	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	<0.24
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-O	Surface Water	PR2-3	DCM	NA	RL	SW	SW	SW	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	6-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	18-Sep-12	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	11-Mar-13	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-3-NBO	Surface Water	PR2-3	---	NA	RL	NBO	NBO	NBO	---	---	13-Jun-14	shipped to laboratory.																		
PR2-3-NBO	Surface Water	PR2-3	DCM	NA	RL	NBO	NBO	NBO	---	---	12-Sep-14	**0.438**	<0.050	<0.050	**0.152**	<0.050	**0.013**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.332**	**0.359**	<0.050	**1.96**	**1.08**	**0.208**	<0.050	**4.54**
PR2-8-O	Surface Water	PR2-8	DCM	NA	RL	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-8-NBO	Surface Water	PR2-8	DCM	NA	RL	NBO	NBO	NBO	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-12-O	Surface Water	PR2-12	DCM	NA	RL	SW	SW	SW	---	---	8-Dec-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-12-O	Surface Water	PR2-12	DCM	NA	RL	SW	SW	SW	---	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
PR2-12-O	Surface Water	PR2-12	DCM	N

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
P5-3D-C	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D-D	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P5-3D-E	Porewater	P5-3	DCM	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8S-A	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8S-B	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.060	<0.28
P6-8S-C	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	<0.20	<0.050	<0.050	<0.050	<0.050	**0.018**	<0.050	<0.050	<0.050	<0.050	<0.050	**0.056**	<0.050	<0.050	<0.20	<0.10	<0.050	<0.10	<0.36
P6-8S-D	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.050	<0.050	<0.10	<0.43
P6-8S-E	Porewater EAZ	P6-8	DCM	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.050	<0.28
P6-8D-A	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D-B	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D-C	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.23
P6-8D-D	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P6-8D-E	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
P7-3-A	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.19**	<0.050	<0.050	<0.30	**3.19**
P7-3-B	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.39**	<0.050	<0.050	<0.30	**3.39**
P7-3-C	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**4.68**	<0.050	<0.050	<0.40	**4.68**
P7-3-D	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**5.08**	<0.050	<0.050	<0.40	**5.08**
P7-3-E	Porewater EAZ	P7-3	DCM	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	---	24-Jun-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**3.33**	<0.050	<0.050	<0.30	**3.33**
Field Duplicate/Equipment Blank/Travel Blank																														
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	4-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	1-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-12	<0.060	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DUP-1 (P14C-SW)	Surface Run-off	P14C	DCM	NA	CL	SW	SW	SW	---	---	18-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8I)	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P3-3-O)	Surface Water	P3-3	DCM	NA	WB	SW	SW	SW	---	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P18-4.5D)	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P7.5-3)	Porewater EAZ	P7.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	8-May-13	<0.30	<0.060	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.323**	<0.050	**55.2 J**	**0.143**	<0.050	<0.80	**55.6 J**
DUP-1 (P14.5-12I)	Porewater	P14.5-12	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	23-May-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.30	<0.36
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050 UJ	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8D-C)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4	Colluvium	Till	16-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4	Colluvium	Till	9-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.096 J**	<0.050	<0.050	<0.050	<0.21
DUP-1 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P6-8I)	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-1 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	4-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	2-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P6-8I)	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (PEC-5D)	Porewater	PEC-5	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (P6-8I)	Porewater	P6-8	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-12	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DUP-2 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-2 (PEC-5D)	Porewater	PEC-5	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (PR2-3-NBO)	Surface water	PR2-3	NBO	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P18.5-3D)	Porewater	P18.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-3 (P8-7.5D)	Porewater	P8-7.5	DCM	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P3-7D)	Porewater	P3-7	DCM	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	<0.10	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
DUP-4 (P3.5-7D)	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	12-Oct-12	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	8-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P9-7I)	Porewater	P9-7	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P3-12-NBO)	Surface Water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	9-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
DUP-4 (P18-4.5S)	Porewater EAZ	P18-4.5	DCM	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	27-Mar-13	<0.20	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.090	<0.050	<0.050	<0.050	<0.29
DUP-4 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	10-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P8-12-O)	Surface water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P8-7.5I)	Porewater	P8-7.5	DCM	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-4 (P8-3)	Porewater EAZ	P8-3	DCM	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20	<0.050	<0.050	<0.080	<0.29
DUP-5 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Col

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
DUP-7 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.079** J	<0.050	<0.050	<0.050	<0.050	**0.061**	<0.050	<0.21
DUP-7 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P14.5-12D)	Porewater	P14.5-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P14.5-12I)	Porewater	P14.5-12	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P15-12I)	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P18-4.5D)	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P3.8-3D)	Porewater	P3.8-3	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
DUP-7 (P4.2-3D)	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P6.25-3)	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	**0.125** J	<0.050 UJ	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.119**	<0.050	**10.6**	**0.081**	<0.050	<0.40	**10.9**
DUP-7 (P6.25-3)	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	**2.87**	<0.050	<0.050	<0.20	**2.63**
DUP-8 (P14-17I)	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	<0.060	<0.050	<0.050	<0.050	<0.050	**0.010**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.118**	<0.050	<0.050	<0.050	<0.21
DUP-8 (PEC-5I)	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P15-12D)	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.014** J	<0.050	**0.050**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.072**	<0.050	<0.050	<0.050	<0.21
DUP-8 (P18.5-3D)	Porewater	P18.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P6.5-3)	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	**0.326** J	<0.070 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.401** J	<0.050	**3.34**	**0.167** J	<0.050	<0.050 UJ	**4.23**
DUP-9 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	8-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (P14R-12I)	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (P3.8-3S)	Porewater EAZ	P3.8-3	DCM	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	Beach Sand	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (PEC-5D)	Porewater	PEC-5	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (P3.5-12D)	Porewater	P3.5-12	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-9 (P3.5-12D)-AG +	Porewater	P3.5-12	BC	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.1**	<0.04	<0.2	---
DUP-9 (P3.5-12D)-MA +	Porewater	P3.5-12	BC	CS	WB	4.6-5.0	4.6	5.0	---	---	11-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	---
DUP-9 (P8-3)	Porewater EAZ	P8-3	DCM	NA	EB	0.3-0.7	0.3	0.7	Beach sand/OC	---	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.40	<0.050	<0.050	<0.10	<0.46
DUP-9 (P5.25-3)	Porewater EAZ	P5.25-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Sep-14	**0.427**	<0.10 UJ	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.562**	<0.050	**27.5**	**0.419**	**0.111**	<0.050	**29.1**
DUP-10 (P18-4.5D)	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-10 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-10 (P18.5-3D)	Porewater	P18.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-10 (P17.5-3D)	Porewater	P17.5-3	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
DUP-10 (P17.5-3D)-AG +	Porewater	P17.5-3	BC	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	<0.1	<0.1	<0.1	<0.1	<0.1	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**1.1** J	**0.1**	**0.04**	<0.2	---
DUP-10 (P17.5-3D)-MA +	Porewater	P17.5-3	BC	NA	FS	4.6-5.0	4.6	5.0	---	---	12-Mar-14	<0.050	<0.050	<0.050	<0.010	<0.010	<0.0090	<0.050	<0.050	<0.050	<0.050	<0.050	<0.020	<0.050	<0.050	<0.10	<0.050	<0.020	<0.24	---
DUP-10 (P7.5-3)	Porewater EAZ	P7.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	---	13-Jun-14	<0.50	<0.090	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.577**	<0.050	**21.5**	**0.369**	**0.059**	<0.70	**22.5**
DUP-10 (P8-12-O)	Surface water	P8-12	DCM	NA	EB	SW	SW	SW	---	---	12-Sep-14	<0.050 UJ	<0.050 UJ	<0.050	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	**0.051** J	<0.050 UJ	<0.050 UJ	<0.050	<0.21 UJ
DUP-11 (P6-3-NBO)	Surface water	P6-3	DCM	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.050	<0.22
DUP-11 (P8-12-NBO)	Surface water	P8-12	DCM	NA	EB	NBO	NBO	NBO	---	---	20-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-11 (P14.5-12D)	Porewater	P14.5-12	DCM	NA	CL	4.6-5.0	4.6	5	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-11 (P15-12D)	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
DUP-11 (P6.5-3)	Porewater EAZ	P6.5-3	DCM	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	<0.40	<0.070	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.455**	<0.050	**19.1**	**0.175**	<0.050	<0.80	**19.8**
DUP-11 (P3-12-O)	Surface water	P3-12	DCM	NA	WB	SW	SW	SW	---	---	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.052**	<0.050	<0.050	<0.050	<0.21
DUP-12 (P3-12-NBO)	Surface water	P3-12	DCM	NA	WB	NBO	NBO	NBO	---	---	24-Jun-13	<0.090	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
DUP-12 (P15-12D)	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-12 (PEC-5D)	Porewater	PEC-5	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-A (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.101**	<0.050	<0.050	<0.050	<0.21
DUP-A (P3.5-7D)	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-B (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-B (P14R-12I)	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-12 (P15-12D)	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5	Weathered Colluvium	---	16-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-12 (PEC-5D)	Porewater	PEC-5	DCM	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-A (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	26-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.101**	<0.050	<0.050	<0.050	<0.21
DUP-A (P3.5-7D)	Porewater	P3.5-7	DCM	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-B (P9-7D)	Porewater	P9-7	DCM	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	28-Sep-11	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-B (P14R-12I)	Porewater	P14R-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Mar-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	7-Jun-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (PR2-8D)	Porewater	PR2-8	DCM	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	14-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P14.5-12D)	Porewater	P14.5-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P14.5-12I)	Porewater	P14.5-12	DCM	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P15-12I)	Porewater	P15-12	DCM	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P18-4.5D)	Porewater	P18-4.5	DCM	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P3.8-3D)	Porewater	P3.8-3	DCM	CS	WB	4.6-5.0	4.6	5.0	Colluvium	---	12-Dec-13	<0.080	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.22
DUP-7 (P4.2-3D)	Porewater	P4.2-3	DCM	CS	EB	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P6-8D)	Porewater	P6-8	DCM	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-7 (P6.25-3)	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	**0.125** J	<0.050 UJ	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.119**	<0.050	**10.6**	**0.081**	<0.050	<0.40	**10.9**
DUP-7 (P6.25-3)	Porewater EAZ	P6.25-3	DCM	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	<0.070	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.063**	<0.050	**2.87**	<0.050	<0.050	<0.20	**2.63**
DUP-8 (P14-17I)	Porewater	P14-17	DCM	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	7-Jun-12	<0.060	<0.050	<0.050	<0.050	<0.050	**0.010**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.118**	<0.050	<0.050	<0.050	<0.21
DUP-8 (PEC-5I)	Porewater	PEC-5	DCM	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P14R-12D)	Porewater	P14R-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P15-12D)	Porewater	P15-12	DCM	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	---	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	**0.014** J	<0.050	**0.050**	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.072**	<0.050	<0.050	<0.050	<0.21
DUP-8 (P18.5-3D)	Porewater	P18.5-3	DCM	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	19-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	12-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
DUP-8 (P3R-7D)	Porewater	P3R-7	DCM	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till

TABLE A-2
CONCENTRATIONS OF POLYCYCLIC AROMATIC HYDROCARBONS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING REPORT

Sample ID [3]	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Acenaphthene[6]	Acenaphthylene[6]	Acridine[6]	Anthracene[6]	Benz(a)anthracene[6]	Benzo(a)pyrene	Benzo(b)fluoranthene[6]	Benzo(g,h,i)perylene[6]	Benzo(k)fluoranthene[6]	Chrysene[6]	Dibenz(a,h)anthracene[6]	Fluoranthene[6]	Fluorene[6]	Indeno(1,2,3-c,d)pyrene[6]	Naphthalene	Phenanthrene[6]	Pyrene[6]	Quinoline[6]	Total PAHs[6]
Updated Screening Level (Porewater and Porewater EAZ) [1]												6	46	3	4	0.1	0.01	0.48	0.17	0.48	0.1	0.26	4	12	0.21	1	0.3	4	3.4	NA
Updated Screening Level (Surfacewater) [1]												6	46	0.05	0.1	0.1	0.01	0.48	0.17	0.48	0.1	0.26	0.2	12	0.21	1	0.3	0.02 [5]	3.4	NA
Source												BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	CSR/10	BC AWQC	FIGQG (FW)	FIGQG (FW)	FIGQG (FW)	BC AWQG	FIGQG (FW)	BC AWQG	BC AWQG	FIGQG (FW)	BC AWQG	CSR/10	BC AWQG [2]	CSR/10	NS
RBMT[4]												---	---	---	---	---	0.28	---	---	---	---	---	---	---	---	44	---	---	---	---
R-BLANK-2	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	22-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
R-BLANK-2	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	14-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
RINSATE BLANK-2	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	6-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
RINSEATE 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE-3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Mar-14	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.010 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.050 UJ	<0.21 UJ
RINSATE-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	18-Jun-15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.050	<0.083
RINSATE-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	11-Sep-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	9-Dec-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RB-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	2-Mar-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	18-May-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
R-BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	19-Aug-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	---
R-BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	24-Nov-16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
R-BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	15-Mar-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
RINSATE BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	7-Jun-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20
RINSEATE 4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE 4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE-4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE 4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE 5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	15-Mar-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE-5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	17-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE 5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE-6	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	17-Dec-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.080**	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE 6	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	14-Mar-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	24-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	5-Jul-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	3-Aug-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	6-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.158**	**0.062**	<0.050	<0.050	<0.050	**0.22**
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	7-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.210
RINSATE BLANK-1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	8-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	1-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	17-Sep-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.053**	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Oct-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	7-Nov-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	8-Jan-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	**0.107**	<0.050	<0.050	<0.050	**0.110**	**0.078**	<0.050	**0.29**
RINSEATE BLANK 2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK 2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	10-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.210
RINSATE BLANK-2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	9-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-2	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	2-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-2	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	13-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	14-Sep-12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK 3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	11-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.210
RINSATE BLANK-3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-3	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	3-Dec-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK-3	NA	NA	Hexane	NA	NA	NA	NA	NA	NA	NA	11-Mar-15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	14-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK 4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.065**	<0.050	<0.050	<0.210
RINSATE BLANK-4	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	11-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSEATE BLANK 5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	18-Jun-13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.066**	<0.050	<0.050	<0.21
RINSATE BLANK 5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.210
RINSATE BLANK-5	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
RINSATE BLANK 6	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	13-Jun-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	**0.058**	<0.050	<0.050	<0.050	<0.210
RINSATE BLANK 6	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	12-Sep-14	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.21
T-BLANK-1	NA	NA	DCM	NA	NA	NA	NA	NA	NA	NA	18-Apr-17	<0.050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.0050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.20

Notes
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.
1 - The rational supporting the Updated Screening Levels (USLs) for porewater and surface water is provided by SLR Consulting Canada Ltd. in their memorandum entitled Updated Screening Levels for Foreshore Monitoring including an Addendum, dated May 9 and June 6, 2013, respectively. A general hierarchy was developed for defining USLs as follows: First) BC Water Quality Guidelines (approved then working); Second) 1/10 CSR aquatic life marine standards (for porewater); and lastly, reference area concentration (which commonly defaults to the laboratory detection limit)
2 - This is a derived value and not a BCAWQG. See Memorandum "Updated Screening Levels For Foreshore Monitoring", April 25, 2013 for how the value was derived.
3 - Sample IDs do not exactly match laboratory reports. They have been cleaned up for easy comparison of same location over time.
4 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the MoE in their letter dated August 28, 2014.
5 - The laboratory detection limit for pyrene (0.05 µg/L) exceeds the surface water USL for pyrene of 0.02 µg/L
6 - The Ministry of Environment and Climate Change Strategy (ENV) requires the co-reporting of PAHs when LEPH and HEPH calculations are required, consequently, LEPH and HEPH must be co-reported with the corresponding PAH results. Although these PAHs are not considered site specific potential contaminants of concern (PCOCs), they were analyzed to calculate LEPH and/or HEPH and were either not detected or detected below Updated Screening Levels (USLs). For the purpose of this monitoring report, these PAHs have not been tabulated; however, as it is an ENV requirement, the data has been included in the ALS laboratory reports provided in Appendix E.

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than Updated Screening Level
SHADE	Sample concentration greater than Updated Screening Level and/or RBMT

Abbreviations
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms
AG - Aquagate
ATB - well located in anchor trench barrier
BC - British Columbia Ministry of Environment Reference Method
BC AWQG - British Columbia Approved Water Quality Guidelines. Marine unless otherwise noted as FW (freshwater).
C - Compliance well (Post-construction)
CS - well located cross slope
CSR/10 - Contaminated Sites Regulation (including up to Stage 11 amendments, November 2017) divided by ten (10)
DS - well located down slope
EAZ - ecologically active zone
EB - eastern barrier
E FPTS - Eastern Foreshore Passive Treatment System
FIGQG -Federal Interim Groundwater Quality Guidelines
IBA - In between area
NA - not applicable
NBO - near bottom samples
NS - no standard established for indicated parameter
OB - well located within the original barrier
OC - organoclay
P - Performance well (Post-construction)
PAC - powder activated carbon
PAH - polycyclic aromatic hydrocarbons
RBMT - risk based management target
S - Sentry well (Post-construction)
SW - surface water samples
U - Up gradient well (Post-construction)
USAT - well located up slope of anchor trench
WB - western barrier
W FPTS - Western Foreshore Passive Treatment System

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID	Matrix	Sample Location	Method	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Sample Date	Report	Total/ Dissolved	Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
Post-Construction FTPS														
P3-6-NBO	Surface Water	PW17-06	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**23.7**	<20.
P3-6-NBO	Surface Water	PW17-06	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<10.	<60.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.68**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**1.91**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	**0.62**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.83**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	**0.88**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**1.56**	<3.
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	<0.50	<3.0
P3-6-NBO	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	<0.50	<3.0
P3-6-O	Surface Water	PW17-06	CRC ICPMS	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**10.8**	<20.
P3-6-O	Surface Water	PW17-06	CRC ICPMS	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**1.18**	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**1.28**	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.72**	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	**0.7**	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	<0.5	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	**0.66**	<3.
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	<0.50	<3.0
P3-6-O	Surface Water	PW17-06	HR ICPMS	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**1.35**	<3.0
P3-12-NBO	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**29.5**	<20.
DUP1 (P3-12-NBO)	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**7.8**	<20.
QA/QC RPD										11-Dec-17			116.4%	---
P3-12-NBO	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<10.	<60.
DUP1 (P3-12-NBO)	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<10.	<60.
QA/QC RPD										11-Dec-17			---	---
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.83**	**3.2**
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**1.04**	**3.1**
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	**0.55**	<3.
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.75**	<3.
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	13-Sep-18	L2163427	D	**0.53**	<3.
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	13-Sep-18	L2163427	T	**0.74**	<3.
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	**0.53**	<3.0
DUP-2 (P3-12-NBO)	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	**0.52**	**4.1**
QA/QC RPD										3-Dec-18			---	---
P3-12-NBO	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.92**	**3.3**
DUP-2 (P3-12-NBO)	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.51**	**5.3**
QA/QC RPD										3-Dec-18			---	---
P3-12-O	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**13.5**	<20.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
P3-12-O	Surface Water	PW17-08	CRC ICPMS	NA	W FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**0.77**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**1.54**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.56**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	**0.77**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	**0.61**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	**0.67**	<3.
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	**0.59**	<3.0
P3-12-O	Surface Water	PW17-08	HR ICPMS	NA	W FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**0.85**	<3.0
P6-6-NBO	Surface Water	PW17-18	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**20.8**	<20.
P6-6-NBO	Surface Water	PW17-18	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<10.	<60.
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.6**	**3.8**
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**1.32**	**4.6**
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	**0.6**	**3.8**
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.68**	**0.7**
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	<0.5	<3.
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**0.63**	<3.
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	<0.50	<3.0
P6-6-NBO	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.59**	<3.0
P6-6-O	Surface Water	PW17-18	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**28.1**	<20.
P6-6-O	Surface Water	PW17-18	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**1.1**	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**1.2**	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.65**	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	<0.5	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	<0.5	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	**0.92**	<3.
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	<0.50	<3.0
P6-6-O	Surface Water	PW17-18	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**0.59**	<3.0
P6-12-NBO	Surface Water	PW17-20	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**23.1**	<20.
P6-12-NBO	Surface Water	PW17-20	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<10.	<60.
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.51**	<3.
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**1.26**	**3.5**
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	<0.5	<3.
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**0.71**	<3.
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	**0.58**	**8.6**
P6-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.81**	**7.1**
P6-12-O	Surface Water	PW17-20	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**23.9**	<20.
P6-12-O	Surface Water	PW17-20	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**0.8**	<3.
DUP5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.66**	<3.
QA/QC RPD										20-Mar-18			---	---

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**1.12**	<3.
DUP5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**1.11**	<3.
QA/QC RPD										20-Mar-18			0.0	---
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.51**	<3.
DUP-5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	<0.5	<3.
QA/QC RPD										14-Jun-18			---	---
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	**1.78**	<3.
DUP5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.66**	<3.
QA/QC RPD										14-Jun-18			---	---
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	**0.63**	<3.
DUP-5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	**0.55**	<3.
QA/QC RPD										14-Jun-18			---	---
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	<0.50	<3.
DUP-5 (P6-12-O)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**0.66**	<3.
QA/QC RPD										14-Jun-18			---	---
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	<0.50	<3.0
P6-12-O	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**0.55**	<3.0
P8-6-NBO	Surface Water	PW17-28	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**22.2**	<20.
P8-6-NBO	Surface Water	PW17-28	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	**11.**	<60.
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.69**	<3.
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**0.63**	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	**1.03**	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.7**	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	**0.5**	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**0.7**	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	<0.50	<3.0
P8-6-NBO	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	<0.50	<3.0
P8-6-O	Surface Water	PW17-28	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**22.5**	<20.
P8-6-O	Surface Water	PW17-28	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**1.22**	**7.4**
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**1.04**	**10.1**
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.73**	<3.0
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	**0.7**	<3.0
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	**0.51**	<3.0
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	**0.79**	**4.7**
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	**0.55**	<3.0
P8-6-O	Surface Water	PW17-28	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**0.61**	<3.0
P8-12-NBO	Surface Water	PW17-30	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	D	**19.3**	<20.
P8-12-NBO	Surface Water	PW17-30	CRC ICPMS	NA	E FPTS	NBO	NBO	NBO	---	11-Dec-17	L2033765	T	<0.3	<60.
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	**0.59**	<3.
DUP10 (P8-12-NBO)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	D	<0.5	<3.
QA/QC RPD										20-Mar-18			---	---
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**0.84**	<3.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
DUP10 (P8-12-NBO)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	20-Mar-18	L2070135	T	**0.86**	<3.
QA/QC RPD										20-Mar-18			---	---
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	D	**0.56**	<3.
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	14-Jun-18	L2112693	T	**0.92**	<3.
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	D	<0.5	<3.
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	12-Sep-18	L2163427	T	**0.68**	<3.
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.58**	<3.0
DUP-1 (P8-12-NBO)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	T	**0.65**	**4.2**
QA/QC RPD										3-Dec-18			---	---
P8-12-NBO	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	<0.50	<3.0
DUP-1 (P8-12-NBO)	Surface Water	PW17-20	HR ICPMS	NA	E FPTS	NBO	NBO	NBO	---	3-Dec-18	L2205030	D	**0.52**	<3.0
QA/QC RPD										3-Dec-18			---	---
P8-12-O	Surface Water	PW17-30	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	D	**19.**	<20.
P8-12-O	Surface Water	PW17-30	CRC ICPMS	NA	E FPTS	SW	SW	SW	---	11-Dec-17	L2033765	T	<10.	<60.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	D	**0.76**	**4.1**
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	20-Mar-18	L2070135	T	**0.83**	<3.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	D	**0.52**	<3.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	14-Jun-18	L2112693	T	**0.81**	<3.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	D	<0.5	<3.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	12-Sep-18	L2163427	T	**0.62**	<3.
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	D	**0.77**	**4.1**
P8-12-O	Surface Water	PW17-30	HR ICPMS	NA	E FPTS	SW	SW	SW	---	3-Dec-18	L2205030	T	**0.52**	<3.0
CBP-1	Porewater	CBP-1	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-1	Porewater	CBP-1	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	D	**1.01**	**1.6**
CBP-1	Porewater	CBP-1	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.50	<3.0
CBP-2	Porewater	CBP-2	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-2	Porewater	CBP-2	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	D	**0.22**	**1.6**
CBP-2	Porewater	CBP-2	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	4-Dec-18	L2205928	D	<0.50	<3.0
CBP-5	Porewater	CBP-5	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-5	Porewater	CBP-5	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Sep-18	L2164036	D	<0.2	<1.
CBP-5	Porewater	CBP-5	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.50	<3.0
CBP-6	Porewater	CBP-6	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-6	Porewater	CBP-6	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Sep-18	L2164036	D	<0.2	**1.1**
CBP-6	Porewater	CBP-6	HR ICPMS	CBP	W FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	D	<0.50	<3.0
CBP-7	Porewater	CBP-7	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	<3.
DUP-1(CBP-7)	Porewater	CBP-7	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	<3.
QA/QC RPD										13-Jun-18			---	---
CBP-7	Porewater	CBP-7	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	D	<0.5	**4.4**
CBP-7	Porewater	CBP-7	HR ICPMS	CBP	W FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.20	**1.3**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
CBP-8	Porewater	CBP-8	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-8	Porewater	CBP-8	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	D	<0.5	<3.
CBP-8	Porewater	CBP-8	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	D	<0.20	<1.0
CBP-15	Porewater	CBP-15	HR ICPMS	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-15	Porewater	CBP-15	HR ICPMS	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	12-Sep-18	L2163271	D	<0.5	**3.2**
CBP-15	Porewater	CBP-15	HR ICPMS	CBP	E FPTS	0.9-1.0	0.9	1.0	Imported sand and AG/OC	6-Dec-18	L2207439	D	**0.22**	<1.0
CBP-16	Porewater	CBP-16	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	<3.
CBP-16	Porewater	CBP-16	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	D	<0.5	<3.
CBP-16	Porewater	CBP-16	HR ICPMS	CBP	E FPTS	1.1-1.2	1.1	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	D	<0.40	<2.0
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	**2.8**	<10.
DUP1 (PW17-01)	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	<10.	<50.
QA/QC RPD										14-Nov-17			---	---
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	D	**38.9**	**12.**
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	16-Jan-18	L2045816	D	<4.	<20.
PW17-01	Porewater	PW17-01	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	D	**2.3**	<10.
DUP6 (PW17-01)	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	**0.64**	**5.4**
PW17-01	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	**0.81**	**5.6**
QA/QC RPD										21-Mar-18			---	3.6%
PW17-01	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	D	<0.5	**3.6**
PW17-01	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Jun-18	L2111824	D	**0.55**	<3.
PW17-01	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	D	**0.54**	**4.7**
PW17-01	Porewater	PW17-01	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	D	**0.68**	<3.0
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	**2.4**	<10.
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**38.**	<10.
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-02	Porewater	PW17-02	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-02	Porewater	PW17-02	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**0.79**	<3.
PW17-02	Porewater	PW17-02	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	**0.69**	<3.
PW17-02	Porewater	PW17-02	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Jun-18	L2111824	D	<0.5	**3.2**
PW17-02	Porewater	PW17-02	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	D	**0.73**	<3.
PW17-02	Porewater	PW17-02	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	D	**0.69**	<3.0
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Nov-17	L2023753	D	<10.	<50.
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**23.7**	<10.
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	**4.1**	<20.
PW17-03	Porewater	PW17-03	CRC ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	D	**4.5**	<10.
PW17-03	Porewater	PW17-03	HR ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	23-Mar-18	L2071889	D	**0.83**	**4.7**
PW17-03	Porewater	PW17-03	HR ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	D	<2.	<10.
PW17-03	Porewater	PW17-03	HR ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**0.66**	<3.
PW17-03	Porewater	PW17-03	HR ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	<0.5	<3.
PW17-03	Porewater	PW17-03	HR ICPMS	C	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	D	<0.50	<3.0

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	D	<4.	<20.
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	D	**40.4**	**13.**
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	D	**5.2**	<10.
PW17-04	Porewater EAZ	PW17-04	CRC ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	D	**3.6**	<5.
PW17-04	Porewater EAZ	PW17-04	HR ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	23-Mar-18	L2071889	D	<0.5	**4.5**
PW17-04	Porewater EAZ	PW17-04	HR ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	D	<1.	<5.
PW17-04	Porewater EAZ	PW17-04	HR ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	D	<0.5	**3.9**
PW17-04	Porewater EAZ	PW17-04	HR ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	D	<0.5	<3.
PW17-04	Porewater EAZ	PW17-04	HR ICPMS	U	W FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	D	<0.50	<3.0
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	D	<4.	<20.
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	<2.	<10.
DUP2 (PW17-05)	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2022366	D	<2.	<10.
QA/QC RPD										13-Dec-17			---	---
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	**1.63**	<2.
PW17-05	Porewater EAZ	PW17-05	CRC ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	D	**2.43**	**2.2**
PW17-05	Porewater EAZ	PW17-05	HR ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	23-Mar-18	L2071889	D	**1.36**	<3.
PW17-05	Porewater EAZ	PW17-05	HR ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	D	**0.79**	<1.
PW17-05	Porewater EAZ	PW17-05	HR ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	D	**1.52**	<3.
PW17-05	Porewater EAZ	PW17-05	HR ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	D	**15.8**	<3.
PW17-05	Porewater EAZ	PW17-05	HR ICPMS	P	W FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	D	**4.76**	<2.0
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	D	<4.	<20.
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	D	**23.1**	<10.
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	D	**3.6**	<10.
PW17-06	Porewater	PW17-06	CRC ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	D	**2.25**	**2.4**
PW17-06	Porewater	PW17-06	HR ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	23-Mar-18	L2071889	D	<1.	<5.
PW17-06	Porewater	PW17-06	HR ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	D	<0.4	<2.
PW17-06	Porewater	PW17-06	HR ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	<3.
PW17-06	Porewater	PW17-06	HR ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	D	<0.5	<3.
PW17-06	Porewater	PW17-06	HR ICPMS	P	W FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	5-Dec-18	L2206732	D	<0.50	<3.0
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Nov-17	L2023092	D	<10.	<50.
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Dec-17	L2034402	D	**14.**	<50.
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	15-Jan-18	L2045142	D	**4.6**	**22.**
PW17-07	Porewater EAZ	PW17-07	CRC ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-07	Porewater EAZ	PW17-07	HR ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	21-Mar-18	L2070802	D	<0.5	**9.8**
PW17-07	Porewater EAZ	PW17-07	HR ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	17-Apr-18	L2081248	D	**0.58**	**5.2**
PW17-07	Porewater EAZ	PW17-07	HR ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	12-Jun-18	L2111276	D	**0.58**	**6.4**
PW17-07	Porewater EAZ	PW17-07	HR ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	10-Sep-18	L2161513	D	**0.86**	**5.8**
PW17-07	Porewater EAZ	PW17-07	HR ICPMS	S	W FPTS	0.70-1.00	0.7	1	Beach sand	3-Dec-18	L2205028	D	**0.52**	<3.0
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	D	<10.	<50.
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	D	**49.3**	**11.**
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-08	Porewater	PW17-08	CRC ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	D	<4.	<20.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-08	Porewater	PW17-08	HR ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	D	**1.73**	**6.7**
PW17-08	Porewater	PW17-08	HR ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	D	<2.	<10.
PW17-08	Porewater	PW17-08	HR ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	D	**0.63**	**3.4**
PW17-08	Porewater	PW17-08	HR ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	D	<0.5	<3.
PW17-08	Porewater	PW17-08	HR ICPMS	C	W FPTS	0.84-1.20	0.84	1.2	Beach sand	3-Dec-18	L2205028	D	<0.50	<3.0
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	<4.	<20.
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	D	**35.7**	**18.**
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	D	<4.	<20.
PW17-09	Porewater	PW17-09	CRC ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	D	<4.	<20.
PW17-09	Porewater	PW17-09	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	<0.5	<3.
PW17-09	Porewater	PW17-09	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	D	<0.5	<3.
PW17-09	Porewater	PW17-09	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	D	<0.5	<3.
PW17-09	Porewater	PW17-09	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	D	<0.5	<3.
PW17-09	Porewater	PW17-09	HR ICPMS	U	W FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	D	<0.50	<3.0
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	D	<10.	<50.
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**33.7**	<10.
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	<10.	<50.
PW17-10	Porewater	PW17-10	CRC ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-10	Porewater	PW17-10	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**0.85**	**4.**
PW17-10	Porewater	PW17-10	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	**0.66**	**4.2**
PW17-10	Porewater	PW17-10	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**1.18**	<3.
PW17-10	Porewater	PW17-10	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	**0.92**	**4.4**
PW17-10	Porewater	PW17-10	HR ICPMS	S	W FPTS	0.85-1.15	0.85	1.15	Beach sand	3-Dec-18	L2205028	D	**0.69**	**4.7**
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Nov-17	L2023753	D	<4.	<20.
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Dec-17	L2034402	D	**45.2**	**10.**
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-11	Porewater	PW17-11	CRC ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	14-Feb-18	L2056918	D	**6.7**	<20.
PW17-11	Porewater	PW17-11	HR ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	21-Mar-18	L2070802	D	<0.50	<3.0
PW17-11	Porewater	PW17-11	HR ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	16-Apr-18	L2080621	D	<2.	<10.
PW17-11	Porewater	PW17-11	HR ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	12-Jun-18	L2111276	D	<0.50	<3.0
PW17-11	Porewater	PW17-11	HR ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	10-Sep-18	L2161513	D	<0.50	<3.0
PW17-11	Porewater	PW17-11	HR ICPMS	C	W FPTS	0.74-1.10	0.74	1.1	Beach sand	3-Dec-18	L2205028	D	<0.50	<3.0
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	D	<10.	<50.
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**52.1**	**11.**
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	**5.7**	<20.
PW17-12	Porewater	PW17-12	CRC ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	D	<10.	<50.
PW17-12	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	<0.5	<3.
DUP7 (PW17-12)	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**0.51**	<3.
QA/QC RPD										21-Mar-18			---	---
PW17-12	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	<0.5	<3.
PW17-12	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**0.98**	**18.7**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-12	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	**0.78**	<3.
PW17-12	Porewater	PW17-12	HR ICPMS	C	IBA	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	**0.59**	<3.0
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	<4.	<20.
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	D	**39.5**	**11.**
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	D	**3.7**	<10.
PW17-13	Porewater	PW17-13	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	13-Feb-18	L2056920	D	<4.	<20.
PW17-13	Porewater	PW17-13	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	**1.06**	**1.9**
PW17-13	Porewater	PW17-13	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	D	**2.23**	<3.
PW17-13	Porewater	PW17-13	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	D	**1.15**	<3.
PW17-13	Porewater	PW17-13	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	10-Sep-18	L2161513	D	**1.45**	**3.1**
PW17-13	Porewater	PW17-13	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	D	**1.47**	<3.0
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	<2.	<10.
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**40.3**	**13.**
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-14	Porewater	PW17-14	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-14	Porewater	PW17-14	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**1.**	**8.**
PW17-14	Porewater	PW17-14	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	**0.92**	**7.8**
PW17-14	Porewater	PW17-14	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**0.65**	**4.2**
PW17-14	Porewater	PW17-14	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	**0.59**	<3.
PW17-14	Porewater	PW17-14	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	**0.85**	**3.4**
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Nov-17	L2023753	D	<4.	<20.
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	13-Dec-17	L2035368	D	**22.5**	<20.
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	D	**31.7**	<20.
PW17-15	Porewater	PW17-15	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	D	<4.	<20.
PW17-15	Porewater	PW17-15	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	D	<0.5	<3.
PW17-15	Porewater	PW17-15	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	17-Apr-18	L2081248	D	<0.5	<3.
PW17-15	Porewater	PW17-15	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	D	<0.5	**4.4**
PW17-15	Porewater	PW17-15	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	10-Sep-18	L2161513	D	<0.5	<3.
PW17-15	Porewater	PW17-15	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	D	<0.50	<3.0
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Nov-17	L2023092	D	<4.	<20.
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	D	**29.7**	**10.**
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	D	**1.**	**4.6**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	D	**1.07**	**4.7**
QA/QC RPD										16-Jan-18			---	---
PW17-16	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	D	**1.6**	**4.**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Feb-18	L2056918	D	**7.46**	**11.5**
QA/QC RPD										14-Feb-18			129.4%	---
PW17-16	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	D	**0.34**	**5.**
PW17-16	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	D	<0.2	**1.7**
DUP1 (PW17-16)	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	D	<0.2	**1.7**
QA/QC RPD										18-Apr-18			---	---
PW17-16	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	D	**0.62**	**5.5**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
DUP-2 (PW17-16)	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Jun-18	L2111824	D	**0.64**	**6.9**
QA/QC RPD										13-Jun-18			---	22.6%
PW17-16	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	11-Sep-18	L2162362	D	**0.77**	**4.6**
PW17-16	Porewater EAZ	PW17-16	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	5-Dec-18	L2206732	D	<0.20	**1.3**
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	D	**1.48**	**11.5**
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	**1.2**	<4.
DUP3 (PW17-17)	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	**2.24**	<4.
QA/QC RPD										13-Dec-17			60.5%	---
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	**1.4**	**2.5**
DUP2 (PW17-17)	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	**1.36**	**2.5**
QA/QC RPD										16-Jan-18			2.9%	---
PW17-17	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	D	**0.37**	**2.6**
DUP2 (PW17-17)	Porewater EAZ	PW17-17	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Feb-18	L2056918	D	**0.4**	**3.**
QA/QC RPD										14-Feb-18			---	---
PW17-17	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	D	<0.2	**1.7**
PW17-17	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	D	<0.2	**1.3**
DUP2 (PW17-17)	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	D	<0.2	**1.5**
QA/QC RPD										18-Apr-18			---	---
PW17-17	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Jun-18	L2111824	D	<0.5	**22.3**
PW17-17	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	D	<0.5	**16.5**
DUP-1 (PW17-17)	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	11-Sep-18	L2162362	D	<0.5	**15.7**
QA/QC RPD										11-Sep-18			---	5.0%
PW17-17	Porewater EAZ	PW17-17	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.20	**1.9**
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	D	**3.35**	<5.
DUP3 (PW17-18)	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	D	**3.71**	<5.
QA/QC RPD										15-Nov-17			10.2%	---
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	D	**18.3**	<4.
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	D	**1.14**	**2.5**
DUP3 (PW17-18)	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	D	**2.54**	**4.**
QA/QC RPD										16-Jan-18			76.1%	---
PW17-18	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	D	**1.68**	**1.8**
DUP3 (PW17-18)	Porewater	PW17-18	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Feb-18	L2056918	D	**2.89**	**3.**
QA/QC RPD										14-Feb-18			53.0%	---
PW17-18	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	D	<0.2	**4.1**
PW17-18	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	D	<0.2	<1.
DUP3 (PW17-18)	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	D	<0.2	<1.
QA/QC RPD										18-Apr-18			---	---
PW17-18	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	**7.5**
DUP3 (PW17-18)	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Jun-18	L2111824	D	<0.5	**8.8**
QA/QC RPD										18-Apr-18			---	16.0%
PW17-18	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	D	**0.54**	**34.9**
DUP-2 (PW17-18)	Porewater	PW17-18	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	11-Sep-18	L2162362	D	**0.6**	**35.**
QA/QC RPD										11-Sep-18			---	0.3%

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	**2.4**	**8.7**
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Dec-17	L2034402	D	**34.9**	**11.6**
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	15-Jan-18	L2045142	D	<1.	<5.
PW17-19	Porewater	PW17-19	CRC ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	13-Feb-18	L2056920	D	**4.3**	**6.2**
PW17-19	Porewater	PW17-19	HR ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	<0.2	**2.4**
PW17-19	Porewater	PW17-19	HR ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	16-Apr-18	L2080621	D	<0.2	**3.4**
PW17-19	Porewater	PW17-19	HR ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	12-Jun-18	L2111276	D	**1.04**	**3.**
PW17-19	Porewater	PW17-19	HR ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	10-Sep-18	L2161513	D	**5.**	**5.**
PW17-19	Porewater	PW17-19	HR ICPMS	S	E FPTS	0.87-1.15	0.87	1.15	Weathered Colluvium	4-Dec-18	L2205928	D	<0.50	<3.0
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	14-Nov-17	L2022366	D	**2.9**	**6.**
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Dec-17	L2034402	D	**36.6**	**8.8**
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	15-Jan-18	L2045142	D	<1.	<5.
PW17-20	Porewater EAZ	PW17-20	CRC ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	13-Feb-18	L2056920	D	**2.4**	<5.
PW17-20	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	21-Mar-18	L2070802	D	<0.5	<3.
DUP8 (PW17-20)	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	21-Mar-18	L2070802	D	<0.5	<3.
QA/QC RPD										21-Mar-18			---	---
PW17-20	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	16-Apr-18	L2080621	D	<0.4	<2.
PW17-20	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	12-Jun-18	L2111276	D	<0.5	**5.**
PW17-20	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	10-Sep-18	L2161513	D	<0.5	**3.6**
PW17-20	Porewater EAZ	PW17-20	HR ICPMS	C	E FPTS	0.64-1.00	0.64	1	Beach sand	4-Dec-18	L2205928	D	<0.50	**8.1**
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Nov-17	---	---	---	---
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Dec-17	---	---	---	---
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	---	---	---	---
PW17-21	Porewater EAZ	PW17-21	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	---	---	---	---
PW17-21	Porewater EAZ	PW17-21	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	D	**0.47**	**1.5**
PW17-21	Porewater EAZ	PW17-21	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	18-Apr-18	L2081868	D	<1.	<5.
PW17-21	Porewater EAZ	PW17-21	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	D	**0.87**	**1.4**
PW17-21	Porewater EAZ	PW17-21	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Sep-18	L2163271	D	**1.6**	<3.
PW17-21	Porewater EAZ	PW17-21	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	D	**0.95**	**1.9**
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Nov-17	L2023092	D	**1.22**	<5.
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	**1.29**	<4.
DUP4 (PW17-22)	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	**5.02**	<5.
QA/QC RPD										13-Dec-17			118.2%	---
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	<0.4	**2.1**
DUP4 (PW17-22)	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	<0.4	**2.6**
QA/QC RPD										16-Jan-18			---	---
PW17-22	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	D	**1.22**	**4.1**
DUP4 (PW17-22)	Porewater EAZ	PW17-22	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	D	**0.67**	**3.1**
QA/QC RPD										15-Feb-18			---	---
PW17-22	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	D	<0.2	**1.8**
DUP 4(PW17-22)	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	D	**0.46**	**2.1**
QA/QC RPD										22-Mar-18			---	---

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-22	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	D	<0.2	<1.
DUP 4(PW17-22)	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	18-Apr-18	L2081868	D	<0.2	<1.
QA/QC RPD										18-Apr-18			---	---
PW17-22	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	D	<0.5	**3.1**
DUP 4(PW17-22)	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	D	<0.5	**3.**
QA/QC RPD										14-Jun-18			---	---
PW17-22	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	10-Sep-18	L2161513	D	<0.5	**5.2**
PW17-22	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.20	**1.5**
DUP-3 (PW17-22)	Porewater EAZ	PW17-22	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	5-Dec-18	L2206732	D	<0.20	**1.5**
QA/QC RPD										5-Dec-18			---	---
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Nov-17	L2023092	D	**1.64**	<3.5
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	D	**19.**	<4.
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	D	**0.57**	<1.
PW17-23	Porewater	PW17-23	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	D	**0.41**	**1.8**
PW17-23	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	D	<0.5	<3.
PW17-23	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	D	<0.2	<1.
PW17-23	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	D	<0.5	**7.3**
PW17-23	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	10-Sep-18	L2161513	D	<0.5	**14.8**
PW17-23	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	D	<0.40	**2.**
DUP-4 (PW17-23)	Porewater	PW17-23	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	D	<0.20	**1.7**
QA/QC RPD										6-Dec-18			---	---
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Nov-17	L2023092	D	<10.	<50.
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**62.7**	**14.**
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	**16.7**	<20.
PW17-24	Porewater	PW17-24	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-24	Porewater	PW17-24	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	<0.5	<3.
PW17-24	Porewater	PW17-24	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	<0.5	<3.
PW17-24	Porewater	PW17-24	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**0.6**	<3.
PW17-24	Porewater	PW17-24	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	**0.72**	<3.
PW17-24	Porewater	PW17-24	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	<0.50	<3.0
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	<4.	<20.
DUP2 (PW17-25)	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	<4.	<20.
QA/QC RPD										14-Nov-17			---	---
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**54.3**	**11.**
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-25	Porewater	PW17-25	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	13-Feb-18	L2056920	D	<4.	<20.
PW17-25	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**0.89**	<3.
DUP9 (PW17-25)	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	21-Mar-18	L2070802	D	**0.96**	<3.
QA/QC RPD										21-Mar-18			---	---
PW17-25	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	D	<1.	<5.
PW17-25	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	<1.	<3.
PW17-25	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	10-Sep-18	L2161513	D	**1.15**	<3.
PW17-25	Porewater	PW17-25	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	**0.88**	<3.0

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Nov-17	L2023753	D	**0.84**	**7.7**
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	13-Dec-17	L2035368	D	**19.3**	**7.5**
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	16-Jan-18	L2045816	D	**5.45**	**7.3**
PW17-26	Porewater EAZ	PW17-26	CRC ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	15-Feb-18	L2057618	D	**8.96**	**10.**
PW17-26	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	D	**0.26**	**2.3**
DUP 1(PW17-26)	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	22-Mar-18	L2071404	D	**0.27**	**2.1**
QA/QC RPD										22-Mar-18			---	---
PW17-26	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	17-Apr-18	L2081248	D	<0.5	<3.
PW17-26	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	14-Jun-18	L2112662	D	<0.2	**1.2**
PW17-26	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	12-Sep-18	L2163271	D	<0.5	**8.2**
PW17-26	Porewater EAZ	PW17-26	HR ICPMS	U	E FPTS	0.45-0.75	0.45	0.75	Weathered Colluvium	6-Dec-18	L2207439	D	**0.21**	**2.**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Nov-17	L2023753	D	<2.	<10.
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	13-Dec-17	L2035368	D	**4.12**	<2.
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	16-Jan-18	L2045816	D	**6.48**	**7.5**
PW17-27	Porewater EAZ	PW17-27	CRC ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	15-Feb-18	L2057618	D	**5.7**	**7.8**
PW17-27	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	D	<2.	<1.
DUP 2(PW17-27)	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	22-Mar-18	L2071404	D	<2.	<1.
QA/QC RPD										22-Mar-18			---	---
PW17-27	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	17-Apr-18	L2081248	D	<0.5	<3.
PW17-27	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	14-Jun-18	L2112662	D	**0.95**	<3.
PW17-27	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	D	<0.5	<3.
DUP-3(PW17-27)	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	12-Sep-18	L2163271	D	<0.5	<3.
QA/QC RPD										12-Sep-18			---	---
PW17-27	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	D	<0.20	<1.0
DUP-5 (PW17-27)	Porewater EAZ	PW17-27	HR ICPMS	P	E FPTS	0.64-1.00	0.64	1	Imported sand and AG/OC	6-Dec-18	L2207439	D	<0.20	<1.0
QA/QC RPD										6-Dec-18			---	---
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Nov-17	L2023753	D	<2.	<10.
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	13-Dec-17	L2035368	D	**29.4**	**6.**
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	16-Jan-18	L2045816	D	**0.33**	<1.
PW17-28	Porewater	PW17-28	CRC ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	15-Feb-18	L2057618	D	**10.7**	**9.6**
PW17-28	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	D	**0.99**	<1.
DUP 3(PW17-28)	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	22-Mar-18	L2071404	D	<2.	<1.
QA/QC RPD										22-Mar-18			---	---
PW17-28	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	18-Apr-18	L2081868	D	<0.2	<1.
PW17-28	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	14-Jun-18	L2112662	D	<0.5	**3.5**
PW17-28	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	D	**1.44**	**6.5**
DUP-4(PW17-28)	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	12-Sep-18	L2163271	D	**1.52**	**7.**
QA/QC RPD										12-Sep-18			5.4%	7.4%
PW17-28	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	D	**0.2**	<1.0
DUP-6 (PW17-28)	Porewater	PW17-28	HR ICPMS	P	E FPTS	0.84-1.20	0.84	1.2	Imported sand and AG/PAC	6-Dec-18	L2207439	D	<0.20	<1.0
QA/QC RPD										6-Dec-18			---	---
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Nov-17	L2022366	D	<4.	<20.
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Dec-17	L2034402	D	**41.7**	**11.**
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	15-Jan-18	L2045142	D	**4.9**	<20.
PW17-29	Porewater	PW17-29	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	14-Feb-18	L2056918	D	**3.8**	<10.
PW17-29	Porewater	PW17-29	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	21-Mar-18	L2070802	D	**0.65**	<3.
PW17-29	Porewater	PW17-29	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	17-Apr-18	L2081248	D	**0.51**	<3.
PW17-29	Porewater	PW17-29	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	12-Jun-18	L2111276	D	**0.72**	<3.
PW17-29	Porewater	PW17-29	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	11-Sep-18	L2162362	D	**0.74**	<3.
PW17-29	Porewater	PW17-29	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Weathered Colluvium	4-Dec-18	L2205928	D	<0.50	<3.0
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Nov-17	L2022366	D	<4.	<20.
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Dec-17	L2034402	D	**48.6**	**10.**
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	15-Jan-18	L2045142	D	<4.	<20.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
PW17-30	Porewater	PW17-30	CRC ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	14-Feb-18	L2056918	D	**5.3**	<10.
PW17-30	Porewater	PW17-30	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	21-Mar-18	L2070802	D	**0.9**	<3.
PW17-30	Porewater	PW17-30	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	16-Apr-18	L2080621	D	<1.	<5.
PW17-30	Porewater	PW17-30	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	12-Jun-18	L2111276	D	**1.04**	<3.
PW17-30	Porewater	PW17-30	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	11-Sep-18	L2162362	D	**1.1**	<3.
PW17-30	Porewater	PW17-30	HR ICPMS	C	E FPTS	0.84-1.20	0.84	1.2	Beach sand	4-Dec-18	L2205928	D	**0.74**	<3.0
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	<4.	**26.**
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	D	**37.5**	<20.
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	D	**2.1**	<10.
PW17-31	Porewater	PW17-31	CRC ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	D	**5.1**	**7.8**
PW17-31	Porewater	PW17-31	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	D	**0.98**	<3.
PW17-31	Porewater	PW17-31	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	**1.18**	<3.
PW17-31	Porewater	PW17-31	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	**0.98**	<3.
PW17-31	Porewater	PW17-31	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Sep-18	L2163271	D	**1.52**	**8.8**
PW17-31	Porewater	PW17-31	HR ICPMS	U	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	**0.83**	<3.0
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	**2.8**	**11.7**
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Dec-17	L2033765	D	**29.7**	<20.
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Jan-18	L2045816	D	**2.8**	<10.
PW17-32	Porewater	PW17-32	CRC ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	D	**3.**	**19.3**
PW17-32	Porewater	PW17-32	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	D	**0.62**	**8.7**
PW17-32	Porewater	PW17-32	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	17-Apr-18	L2081248	D	<0.5	**4.7**
PW17-32	Porewater	PW17-32	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	<0.5	**4.2**
PW17-32	Porewater	PW17-32	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	D	**0.73**	<3.
PW17-32	Porewater	PW17-32	HR ICPMS	S	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	**1.01**	**8.8**
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Nov-17	L2022366	D	<2.	<10.
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Dec-17	L2034402	D	**36.3**	<10.
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	15-Jan-18	L2045142	D	<4.	<20.
PW17-33	Porewater	PW17-33	CRC ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	14-Feb-18	L2056918	D	<2.	<10.
PW17-33	Porewater	PW17-33	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	22-Mar-18	L2071404	D	<0.5	<3.
PW17-33	Porewater	PW17-33	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	16-Apr-18	L2080621	D	<1.	<5.
PW17-33	Porewater	PW17-33	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	12-Jun-18	L2111276	D	<0.5	**5.6**
PW17-33	Porewater	PW17-33	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	11-Sep-18	L2162362	D	<0.5	**3.1**
PW17-33	Porewater	PW17-33	HR ICPMS	C	E FPTS	0.85-1.15	0.85	1.15	Beach sand	4-Dec-18	L2205928	D	<0.50	<3.0
F-Blank-1A	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	<2.	**17.**
F-Blank-1B	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	<2.	<1.
F-Blank-1C	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	**0.85**	<1.
F-Blank-2A	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	<2.	<1.
F-Blank-2B	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	**0.68**	<1.
F-Blank-2C	Deionized water	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	19-Mar-18	L2070133	D	**0.7**	<1.
R-BLANK	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	D	**0.22**	<1.
R-BLANK	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	22-Mar-18	L2071404	D	<2.	<1.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

													Copper	Zinc
Upper Cap Concentrations[1]													200	1,000
RBMT[2]													6.2	90
R-BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	16-Apr-18	L2080621	D	<0.2	<1.
R-BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	12-Jun-18	L2111276	D	<0.2	<1.
R-BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	17-Apr-18	L2081248	D	<0.5	<3.
R-BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	13-Jun-18	L2111824	D	<0.2	<1.
R-BLANK-3	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112662	D	<0.2	<1.
R-BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	10-Sep-18	L2161513	D	<0.2	<1.
R-BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	11-Sep-18	L2162362	D	<0.5	<3.
R BLANK-3	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	12-Sep-18	L2163271	D	<0.5	<3.
R-BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	D	<0.50	<3.0
R-BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	4-Dec-18	L2205928	D	<0.20	<1.0
R-BLANK-3	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	5-Dec-18	L2206732	D	<0.20	<1.0
TRAVEL BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	20-Mar-18	L2070135	T	<0.5	<3.
T-BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	T	<2.	<1.
T-BLANK-3	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	21-Mar-18	L2070802	T	<2.	<1.
T-BLANK-4	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	22-Mar-18	L2071404	T	<0.5	<3.
T-BLANK-5	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	23-Mar-18	L2071889	T	<0.5	<3.
T-BLANK-5	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112693	T	<0.5	<3.
T-BLANK-6	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	14-Jun-18	L2112693	T	<0.5	<3.
TRAVEL BLANK-1	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	T	<0.50	<3.0
TRAVEL BLANK-2	NA	NA	HR ICPMS	NA	NA	NA	NA	NA	NA	3-Dec-18	L2205030	T	<0.50	<3.0

Notes
< - Sample concentration less than the detection limit indicated.
--- - Sample not analyzed for indicated parameter.
1 - Protocol 11 Table 6. Water Upper Cap Concentrations for Schedule 3.2 Substances
2 - On February 28, 2014, SLR submitted a Human Health and Ecological Risk Assessment (HHERA) to determine Risk-Based Management Targets (RBMTs) for PCOCs associated with the Foreshore seeps which was accepted by the Mo

BOLD	Sample concentration is detected
SHADE	Sample concentration greater than RBMT
SHADE	

Abbreviations
µg/L [ppb] - micrograms/litre [parts per billion]
m - metres

Acronyms:
AG - aquagate
C - Compliance well
CRC ICPMS - Collision/Reaction Cells Inductively Coupled Plasma Mass Spectrometry
D - dissolved metals
EAZ - ecologically active zone
E FPTS - Eastern Foreshore Passive Treatment System
OC - organoclay
P - Performance well
PAC - powder activated carbon
RBMT - risk based management target
S - Sentry well
SW - surface water samples
T - total metals
U - Up gradient well
W FPTS - Western Foreshore Passive Treatment System

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	15	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
Pre-Construction FPTS																																				
Dill Samples																																				
Western IRA Barrier																																				
P2.5-7I	Porewater EAZ	P2.5-7	NA	WB	0.7-0.9	0.7	0.9	Beach sand	---	25-Feb-11	D	<5.0	<0.50	<2.0	**90.6**	<0.50	**1,030**	<0.10	**275,000**	<0.50	**1.03**	**1.47**	<10	<0.30	**62**	**294,000**	**857**	**51.3**	**3.08**	<2.0	**3,800,000**	**0.084**	<5.0	**28**	**1.03**	**4.8**
P2.5-7I	Porewater EAZ	P2.5-7	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	10-May-11	---	Well Not Sampled																								
P2.5-7I	Porewater EAZ	P2.5-7	CS	WB	0.7-0.9	0.7	0.9	Beach sand	---	15-Jun-11	---	Well Not Sampled																								
P2.5-7D	Porewater	P2.5-7	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	D	<5.0	<0.50	<2.0	**83.9**	<0.50	**1,870**	<0.10	**259,000**	<0.50	**1.89**	**1.73**	<10	<0.30	**78**	**555,000**	**1,140**	**28.2**	**1.79**	<2.0	**4,310,000**	<0.050	<5.0	**2.6**	**1.16**	**14.4**
P2.5-7D	Porewater	P2.5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	20-Apr-11	D	<5.0	<0.50	<2.0	**58.2**	<0.50	**480**	<0.050	**123,000**	<0.50	**2.08**	<0.50	<10	<0.30	<20	**185,000**	**4,570**	**61**	**1.44**	<2.0	**1,020,000**	<0.050	<5.0	**2.37**	**0.84**	**31.4**
P3-7D #	Porewater EAZ	P3-7	NA	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	20-Apr-11	D	Well Not Sampled																								
P3-7D	Porewater	P3-7	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Feb-11	D	<5.0	<0.50	<2.0	**254**	<0.50	**860**	**0.756**	**131,000**	<0.50	**9.84**	**1.32**	<10	<0.30	**22**	**218,000**	**5,140**	<2.0	**27.1**	<2.0	**1,880,000**	**0.162**	<5.0	**1.58**	<0.50	**9.4**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Apr-11	D	<5.0	<0.50	<2.0	**309**	<0.50	**710**	<0.050	**130,000**	<0.50	**13.8**	<0.50	**2,180**	<0.30	**34**	**182,000**	**13,400**	**5.7**	**8.58**	<2.0	**1,700,000**	<0.050	<5.0	**19**	<0.50	**7.1**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	---	Well Not Sampled																								
P3-12S	Porewater EAZ	P3-12	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	21-Feb-11	D	**29.4**	<0.50	<2.0	**86.9**	<0.50	**1,600**	**0.116**	**182,000**	<0.50	**0.054**	**1.06**	<10	<0.30	**62**	**476,000**	**5,35**	**4.8**	**2.07**	<2.0	**4,000,000**	**0.124**	<5.0	**2.44**	<0.50	**26.7**
P3-12D	Porewater	P3-12	NA	WB	1.1-1.3	1.1	1.3	Beach sand	---	21-Feb-11	D	**5.5**	<0.50	<2.0	**15.7**	<0.50	**1,220**	<0.050	**130,000**	<0.50	**0.115**	**1.22**	<10	<0.30	**50**	**340,000**	**77.5**	**6.3**	**0.92**	<2.0	**2,640,000**	<0.050	<5.0	**1.58**	**0.76**	**24.4**
P3R-7S	Porewater EAZ	P3R-7	DS	WB	0.8-1.0	0.8	1.0	Beach sand	---	18-Apr-11	D	<5.0	<0.50	<2.0	**223**	<0.50	**1,550**	**0.291**	**258,000**	<0.50	**11.5**	<0.50	<10	<0.30	**64**	**468,000**	**5,630**	**11.4**	**14.5**	<2.0	**3,930,000**	**0.233**	<5.0	**2.85**	<0.50	**4.8**
P3R-7I	Porewater	P3R-7	SB	WB	3.0-3.4	3.0	3.4	Colluvium	---	18-Apr-11	D	**7.8**	<0.50	<2.0	**35.5**	<0.50	**310**	<0.050	**45,100**	<0.50	**0.174**	<0.50	**16**	<0.30	<20	**48,100**	**502**	**19**	<0.50	<2.0	**428,000**	<0.050	<5.0	**0.119**	<0.50	<3.0
P3R-7D	Porewater	P3R-7	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	18-Apr-11	D	**12.7**	**0.52**	<2.0	**22.4**	<0.50	**120**	<0.050	**26,600**	<0.50	**0.125**	<0.50	<10	<0.30	<20	**8,250**	**316**	**12.9**	<0.50	<2.0	**82,000**	<0.050	<5.0	**0.103**	<0.50	<3.0
P3.5-7S	Porewater EAZ	P3.5-7	NA	WB	0.2-0.4	0.2	0.4	Beach sand	---	22-Feb-11	D	**6.6**	<0.50	<2.0	**166**	<0.50	**1,790**	**1.7**	**250,000**	<0.50	**12.2**	**1.81**	<10	<0.30	**82**	**518,000**	**916**	**7.3**	**50**	**2.6**	**4,440,000**	**1.03**	<5.0	**2.61**	<0.50	**15.6**
P3.5-7I	Porewater	P3.5-7	NA	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	23-Feb-11	D	<5.0	<0.50	<2.0	**93.8**	<0.50	**1,030**	<0.050	**189,000**	<0.50	**1**	**1.3**	<10	<0.30	**39**	**316,000**	**2,690**	**19.2**	**1.16**	<2.0	**2,200,000**	<0.050	<5.0	**4.44**	**2.68**	**9.6**
P3.5-7D	Porewater	P3.5-7	NA	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	22-Feb-11	D	<5.0	<0.50	<2.0	**100**	<0.50	**460**	<0.050	**89,600**	<0.50	**2.2**	**1.03**	<10	<0.30	**27**	**120,000**	**1,060**	**6.8**	**6.25**	<2.0	**1,090,000**	**0.055**	<5.0	**6.51**	**0.96**	**12**
P3.5-7D	Porewater	P3.5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	20-Apr-11	D	<5.0	<0.50	<2.0	**258**	<0.50	**380**	<0.050	**152,000**	<0.50	**4.38**	<0.50	<10	<0.30	<20	**176,000**	**4,050**	**7.5**	**1.74**	<2.0	**992,000**	<0.050	<5.0	**4.11**	<0.50	<3.0
Eastern IRA Barrier																																				
P5-3-0-4S	Grab sample	P5-3	NA	EB	Grab sample	Grab sample	Grab sample	---	---	11-Feb-11	---	Well Not Sampled																								
P5-3S	Porewater EAZ	P5-3	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	23-Feb-11	D	**5.4**	<0.50	<2.0	**256**	<0.50	**820**	**0.094**	**173,000**	<0.50	**12**	**0.63**	<10	<0.30	<20	**291,000**	**1,360**	**2.2**	**24.9**	<2.0	**2,190,000**	**0.379**	<5.0	**0.384**	<0.50	**10.6**
P5-3I	Porewater EAZ	P5-3	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	23-Feb-11	D	<5.0	<0.50	<2.0	**72**	<0.50	**240**	<0.050	**59,000**	<0.50	**6.06**	**0.56**	<10	<0.30	<20	**45,900**	**1,410**	**7.4**	**7.11**	**11.5**	**539,000**	<0.050	<5.0	**0.19**	<0.50	**3.4**
P5-3D	Porewater	P5-3	NA	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	23-Feb-11	D	<5.0	<0.50	<2.0	**84.3**	<0.50	**250**	**0.077**	**82,100**	<0.50	**9.21**	**0.88**	<10	<0.30	<20	**68,000**	**1,780**	<2.0	**6.41**	<2.0	**317,000**	<0.050	<5.0	<0.050	<0.50	**52.4**
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	5-Apr-11	D	<5.0	<0.50	<2.0	**83.9**	<0.50	**250**	**0.052**	**73,400**	<0.50	**12.1**	**0.9**	<30	<0.30	<20	**65,700**	**3,480**	<2.0	**6.67**	<2.0	**414,000**	<0.050	<5.0	<0.050	<0.50	**728**
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Apr-11	D	<5.0	<0.50	<2.0	**63.7**	<0.50	**220**	**0.08**	**62,000**	<0.50	**13.8**	**0.87**	<10	<0.30	<20	**53,100**	**5,870**	<2.0	**7.88**	<2.0	**332,000**	<0.050	<5.0	<0.050	<0.50	**283**
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	14-Jun-11	---	Well Not Sampled																								
P5.5-3-W #	Porewater EAZ	P5.5-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	19-Apr-11	D	**5.4**	<0.50	<2.0	**148**	<0.50	**780**	**0.333**	**307,000**	<0.50	**11.2**	**0.95**	**2,550**	<0.30	**85**	**305,000**	**8,030**	**5.5**	**11**	<2.0	**2,150,000**	**0.149**	<5.0	**4.02**	<0.50	**13.2**
P6-3S *	Porewater EAZ	P6-3	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	25-Jan-11	T	**395**	<0.50	**2.9**	**17.9**	<0.50	**410**	<0.10	**41,700**	**1.17**	**1.94**	**1.9**	**6,100**	**6.16**	<20	**36,200**	**1,970**	**36**	<3.0 U	<2.0	**316,000**	**0.073**	**30.9**	**0.507**	**4.54**	**8.9**
P6-3S *	Porewater EAZ	P6-3	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P6-3S *	Porewater EAZ	P6-3	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	27-Jan-11	D	**5.2**	<0.50	<2.0	**14.9**	<0.50	**170**	<0.050	**48,400**	<0.50	**2.53**	<0.50	**2,370**	<0.30	<20	**37,800**	**2,810**	**3.1**	**0.64**	<2.0	**212,000**	**0.051**	<5.0	**0.17**	<0.50	<3.0
P6-3S *	Porewater EAZ	P6-3	NA	EB	0.2-0.6	0.2	0.6	Weathered Colluvium	---	11-Feb-11	---	Well Not Sampled																								
P6-3I *	Porewater EAZ	P6-3	NA	EB	0.5-0.7	0.5	0.7	Weathered Colluvium	---	9-Feb-11	D	**6.8**	<0.50	<2.0	**55.5**	<0.50	<10	**0.116**	**48,700**	<0.40	**15.5**	**0.87**	**91**	<0.30	<20	**15,800**	**4,170**	<2.0	**5.63**	<2.0	**36,100**	<0.050	<5.0	**0.668**	**1.06**	**6.5**
P6-3I	Porewater	P6-3	NA	EB	1.4-1.6	1.4	1.6	Weathered Colluvium	---	8-Feb-11	D	**7.8**	<0.50	<2.0	**19.5**	<0.50	<10	<0.050	**47,800**	<0.40	**12.8**	<0.50	**2,020**	<0.30	<20	**16,600**	**2,480**	<2.0	**5.16**	<2.0	**16,200**	<0.050	<5.0	<0.050	<0.50	**8.3**
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Apr-11	D	**10.3**	<0.50	<2.0	**57.8**	<0.50	**330**	<0.050	**45,000**	<0.50	**2.95**	<0.50	<10	<0.30	<20	**33,500**	**1,810**	**24.1**	**4.15**	<2.0	**334,000**	<0.050	<5.0	**0.706**	<0.50	<3.0
P6-8I	Porewater	P6-8	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	D	**5.1**	**0.54**	<2.0	**92.5**	<0.50	**190**	<0.050	**75,200**	<0.50	**3.02**	<0.50	**59**	<0.30	<20	**25,200**	**1,080**	**26.6**	**6.79**	<2.0	**177,000**	<0.050	<5.0	**1.17**	<0.50	<3.0
P6-8D	Porewater	P6-8	DS	EB	4.0-4.4	4.0	4.4	Colluvium	---	6-Apr-11	D	<5.0	<0.50	<2.0	**67.8**	<0.50	**200**	<0.050	**61,600**	<0.50	**0.61**	<0.50	<10	<0.30	<20	**25,800**	**791**	**12.4**	**1.23**	<2.0	**158,000**	<0.050	<5.0	**0.123**	<0.50	<3.0
P6-12S	Porewater EAZ	P6-12	DS	EB	0.2-0.6	0.2	0.6	Beach sand	---	15-Feb-11	D	**9.9**	**0.53**	<2.0	**95.1**	<0.50	**1,510**	**0.481**	**111,000**	<0.50	**3.53**	**2.2**	<10	<0.30	**76**	**272,000**	**364**	**11.6**	**14.3**	**2.6**	**3,500,000**	**0.488**	<5.0	**6.94**	<0.50	**7.2**
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	---	7-Feb-11	D	**8.9**	<0.50	<2.0	**81.7**	<0.50	**2,060**	<0.050	**84,000**	<0.40	**5.09**	**0.50**	**92**	<0.30	**83**	**536,000**	**446**	**6.4**	**5.58**	<2.0	**4,630,000**	<0.050	<5.0	**0.61**	**1.15**	<3.0
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	---	9-Feb-11	D	<5.0	<0.50	<2.0	**64.9**	<0.50	**1,460**	**0.343**	**167,000**	<0.40	**5.11**	**1.54**	**31**	<0.30	**65**	**382,000**	**792**	**3.3**	**7.05**	<2.0	**3,690,000**	**0.127**	<5.0	**4.13**	**1.73**	**30.4**
P7-3-0-4S #	Porewater EAZ	P7-3	NA	EB	0.2-0.4	0.2	0.4	Beach sand/OC	---	19-Apr-11	D	**11.2**	<0.50	<2.0	**78.6**	<0.50	**760**	**0.106**	**188,000**	<0.50	**5.11**	<0.50	**1,000**	<0.30	**85**	**178,000**	**5,270**	**3.9**	**6.24**	<2.0	**1,650,000**	**0.082**	<5.0	**2.71**	**0.4**	**8.4**
P8-3S *	Porewater EAZ	P8-3	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	27-Jan-11	D	**8.2**	**0.76**	<2.0	**163**	<0.50	**400**	**0.941**	**158,000**	<0.40	**10.1**	**1.74**	<10	<0.30	<20	**121,000**	**3,760**	<2.0	**27.6**	<2.0	**1,060,000**	**0.338**	<5.0	**1.86**	<0.50	**6.1**
P8-3S *	Porewater EAZ	P8-3	NA	EB	0.2-0.4	0.2	0.4	Beach sand	---	8-Feb-11	---	Well Not Sampled																								
P8-3D *	Porewater EAZ	P8-3	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	27-Jan-11	D	<5.0	**0.65**	<2.0	**167**	<0.50	**200**	**0.277**	**167,000**	<0.40	**3.43**	**1.35**	<10	<0.30	<20	**75,800**	**3,000**	**3.1**	**12.7**	**4**	**697,000**	**0.109**	<5.0	**5.12**	**0.8**	**6.8**
P8-3D *	Porewater EAZ	P8-3	NA	EB	0.9-1.1	0.9	1.1	Colluvium	---	8-Feb-11	---	Well Not Sampled																								
P8-7-5S	Porewater EAZ	P8-7-5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	---	6-Apr-11	D	**6.4**	**0.91**	<2.0	**91.7**	<0.50	**570**	<0.050	**80,700**	<0.50	**1.6**	<0.50	<10	<0.30	**23**	**56,300**	**1,270**	**53.7**	**3.77**	<2.0	**641,000**	<0.050	<5.0	**2.38**	**0.54**	<3.0
P8-7-5I	Porewater	P8-7-5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Apr-11	D	**7.3**	**0.56**	<2.0	**120**	<0.50	**110**	**0.111**	**116,000**	<0.50	**3.93**	**2.35**	<10	<0.30	<20	**28,900**	**1,420**	**15.2**	**11.9**	<2.0	**127,000**	**0.111**	<5.0	**5.33**	<0.50	<3.0
P8-7-5D	Porewater	P8-7-5	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	6-Apr-11	D	**6.3**	<0.50	<2.0	**73.5**	<0.50	**130**	<0.050	**100,000**	<0.50	**0.334**	<0.50	<10	<0.30	<20	**30,700**	**668**	**14**	**1.11**	<2.0	**56,500**	<0.050	<5.0	**0.056**	<0.50	<3.0
P8-12S	Porewater EAZ	P8-12	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	28-Jan-11	---	Well Not Sampled																								
P8-12S	Porewater EAZ	P8-12	DS	EB	0.2-0.4	0.2	0.4	Beach sand	---	7-Feb-11	D	**7.2**	**0.61**	<2.0	**42.2**	<0.50	**2,180**	**0.086**	**293,000**	<0.40	**0.474**	**0.83**	<10	<0.30	**84**	**741,000**	**183**	**7.0**	**1.09**	<2.0	**5,800,000**	<0.050	<5.0	**4.67**	**3.02**	**7.3**
P8-12I	Porewater EAZ	P8-12	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	28-Jan-11	---	Well Not Sampled																								
P8-12I	Porewater EAZ	P8-12	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	7-Feb-11	D	<5.0	**0.64**	<2.0	**72.2**	<0.50	**1,740**	**0.074**	**237,000**	<0.40	**0.456**	**1.18**	<10	<0.30	**73**	**642,000**	**403**	**10.3**	**1.73**	<2.0	**4,570,000**	<0.050	<5.0	**6.48**	**2.81**	**411**
P8-12I	Porewater EAZ	P8-12	DS	EB	0.7-0.9	0.7	0.9	Beach sand	---	5-Apr-11	---	Well Not Sampled																								
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	---	28-Jan-11	D	<5.0	<0.50	<2.0	**58.4**	<0.50	**580**	**0.056**	**100,000**	<0.10	**1.27**	**0.69**	<10	<0.30	**22**	**224,000**	**446**	**2.5**	**2.08**	<2.0	**1,560,000**	**0.087**	<5.0	**4.97**	**2.78**	**3.3**
P8-3-W #	Porewater EAZ	P8-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	20-Apr-11	D	**9.9**	<0.50	<2.0	**90**	<0.50	**610**	**0.808**	**168,000**	<0.50	**4.53**	**1.11**	<10	<0.30	**49**	**180,000**	**5,080**	**4.1**	**4.1**	**5.08**	<2.0	**1,540,000**	**0.153**	<5.0	**2.09**	**1.06**	**10.2**
P9-7S	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Apr-11	D	**5.9**	**0.53**	<2.0	**30.7**	<0.50	**30**	<0.050	**30,300**	<0.50	**0.29**	**0.64**	<30	<0.30	**22**	**8,060**	**257**	**10.8**	**1.77**	<2.0	**119,000**	<0.050	<5.0	**2.1**	<0.50	<4.0 U
P9-7I	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Apr-11	D	<5.0	<0.50	<2.0	**81.9**	<0.50	<10	<0.050	**99,100**	<0.50	**2.05**	<0.50	**1,400**	<0.30	<20	**28,900**	**922**	<2.0	**2.1**	<2.0	**31,400**	<0.050	<5.0	**0.427**	<0.50	<3.0
P9-7D	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Apr-11	D	<5.0	<0.50	<2.0	**79.8**	<0.50	<10	<0.050	**85,800**	<0.50	**1.82**	<0.50	**90**	<0.30	<20	**24,000**	**723**	<2.0	**2.45**	<2.0	**31,700**	<0.050	<5.0	**0.659**	<0.50	<3.0
P10-3S	Porewater EAZ	P10-3	NA	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	22-Feb-11	D	**25.8**	<0.50	<2.0	**415**	<0.50	**510**	**1.53**	**64,100**	<0.50	**15.6**	**1.79**	**17**	<0.30	<20	**103,000**	**1,170**	<2.0	**48.9**	<2.0	**892,000**	**0.354**	<5.0	**0.074**	<0.50	**27.2**
P10-3I	Porewater EAZ	P10-3	NA	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	22-Feb-11	D	<5.0	<0.50	<2.0	**180**	<0.50	**490**	**1.31**	**255,000**	<0.50	**48.4**	**0.83**	**109**	<0.30	<20	**260,000**	**10,500**	<2.0	**63.6**	<2.0	**1,640,000**	**0.196**	<5.0	**0.07**	<0.50	**29.5**
P10-3D	Porewater	P10-3	NA	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	---	22-Feb-11	D	<5.0	<0.50	<2.0	**197**	<0.50	**200**	**2.37**	**214,000**	<0.50	**35.3**	**1.08**	<10	<0.30	<20	**118,000**	**7,950**	<2.0	**82.4**	<2.0	**574,000**	**0.194**	<5.0	**0.156**	<0.50	**21.1**
Culvert Runoff Area																																				
P14-3S	Porewater EAZ	P14-3	NA	CL	0.3-0.5	0.3	0.5	Beach sand	---	11-Feb-11	D	**29.6**	**0.488**	**1.52**	**50.7**	<0.0050	**199**	**0.028**	**42,800**	<0.50	**1.18**	**0.64**	**44**	<0.050	**9.48**	**34,100**	**477**	**5.4**	**3.34**	<0.50	**352,000**	**0.0567**	**1.66**	**2.68**	**3.9**	**16.7**
P14-3I	Porewater EAZ	P14-3	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	25-Jan-11	T	**475**	**0.78**	**3**	**19.1**	<0.50	**670**	<0.10	**46,300**	**1.19**	**2.44**	**3.3**	**694**	<0.30	<20	**57,000**	**1,890**	**125**	<3.0 U	<2.0	**584,000**	**0.087**	**14.8**	**1.71**	**4.79**	**4.7**
P14-3I	Porewater EAZ	P14-3	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P14-3I	Porewater EAZ	P14-3	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	28-Jan-11	D	**9.6**	<0.50	<2.0	**7.7**	<0.50	**470**	<0.050	**43,000**	<0.10	**0.33**	**1.34**	<10	<0.30	<20	**69,000**	**77.1**	**4.4**	**0.69**	<2.0	**633,000**	**0.058**	<5.0	**0.749**	**1.89**	<3.0
P14-3I	Porewater EAZ	P14-3	NA	CL	0.40-0.7	0.40	0.7	Beach sand	---	14-Jun-11	---	Well Not Sampled - Insufficient Water for Analysis																								
P14-3D	Porewater EAZ	P14-3	NA	CL	0.9-1.1	0.9	1.1	Beach sand	Colluvium	11-Feb-11	D	**7.8**	**0.482**	**1.88**	**48.6**	<0.0050	**182**	<0.010	**45,400**	<0.50	**3.19**	**0.58**	<30	<0.050	**7.6**	**40,300**	**1,050**	**4.52**	**4.88**	<0.50	**302,000**	**0.0068**	**0.37**	**0.755**	**0.468**	**9.1**
P14-12I	Porewater	P14-12	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	11-Feb-11	D	<6.0	**0.226**	**1.67**	**6.83**	<0.010	**48**	<0.010	**46,800**	<1.0	**0.23**	**1.9**	<30	<0.10	**24.1**	**85,000**	**8.27**	**14.3**	**0.9**	<0.50	**878,000**	**0.0134**	<0.40	**2.48**	**1.37**	**29.5**
P14-12I	Porewater	P14-12	NA	CL	1.2-1.4	1.2	1.4	Beach sand	---	20-Apr-11	---	Well Not Sampled - Insufficient Water for Analysis																								
P14-12D	Porewater	P14-12	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Feb-11	D	<5.0	<0.50	<2.0	**14.4**	<0.50	**380**	<0.050	**50,400**	<0.40	**0.609**	**0.91**	<10	<0.30	**22**	**101,000**	**150**	**36.4**	**1.18**	<2.0	**966,000**	<0.050	<5.0	**3.85**	**1.00**	**4.6**
P14-12D	Porewater	P14-12	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Feb-11	D	<6.0	**0.18**	**1.21**	**14.8**	<0.010	**348**	<0.020	**42,300**	<1.0	**0.44**	<1.0	<30	<0.10	**19.7**	**76,500**	**262**	**54.4**	**1.14**	<0.50	**772,000**	**0.0152**	<0.40	**4.65**	**1.03**	<6.0
P14-12D	Porewater	P14-12	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	20-Apr-11	D	<5.0	<0.50	<2.0	**9.6**	<0.50	**360**	<0.10	**32,900**	<0.50	**0.574**	<0.50	<10	<0.30	<20	**56,400**	**1,170**	**148**	**1.53**	<2.0	**628,000**	**0.05**	<5.0	**5.27**	**0.95**	**213**
P14-12D	Porewater	P14-12	NA	CL	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-11	---	Well Not Sampled - Insufficient Water for Analysis																								
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1	Colluvium	---	7-Apr-11	---	Well Not Sampled																								
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1	Colluvium	---	19-Apr-11	---	Well Not Sampled - Insufficient Water for Analysis																								
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	19-Apr-11	D	**52.2**	**0.7**	<2.0	**12.3**	<0.50	**140**	**0.093**	**7,820**	<0.50	**0.215**	**1.06**	**24**	<0.30	<20	**3,400**	**64.4**	**9.5**	**2.26**	<2.0	**112,000**	<0.050	<5.0	**0.805**	**1.38**	<3.0
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	---	19-Apr-11	D	**9.0**	<0.50	<2.0	**24**	<0.50	**350**	**0.051**	**35,100**	<0.50	**0.215**	<0.50	<10	<0.30	<20	**66,300**	**185**	**3.6**	**0.65**	<2.0	**847,000**	<0.050	<5.0	**0.279**	<0.50	<3.0
P14R-12I	Porewater	P14R-12	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	19-Apr-11	D	**24.5**	**1.07**	<2.0	**21.3**	<0.50	<10	**0.638**	**17,000**	<0.50	**0.331**	**3.45**	<10	<0.30	<20	**4,060**	**103**	**2.6**	**2.7**	<2.0	**38,100**	<0.050	<5.0	**0.303**	**0.54**	**6.8**
P14R-12I	Porewater	P14R-12	NA	CL	2.6-3.0	2.6	3.0	Colluvium	---	14-Jun-11	---	Well Not Sampled																								
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
A2MW09-12	Groundwater	A2MW09-12	NA	NA	2.22-5.22	2.22	5.22	NA	NA	4-Feb-13	D	<10	<0.5	<1	<20	<5	<100	<0.05	**5,150**	<0.5	<0.5	<1	<30	<1	—	**1,740**	**121**	<1	<5	<1	**12,400**	<0.2	<50	<0.2	<30	<5
A2MW09-13	Groundwater	A2MW09-13	NA	NA	2.02-5.02	2.02	5.02	NA	NA	8-Jul-11	D	**76**	<1.0	<2.0	**34**	<5.0	<100	<0.10	**6,920**	<1.0	**4.2**	**4.3**	**62**	<2.0	<50	**1,730**	**675**	**2.6**	<10	<2.0	**57,300**	<0.40	<50	<0.40	<30	<5.0
A2MW09-13	Groundwater	A2MW09-13	NA	NA	2.02-5.02	2.02	5.02	NA	NA	8-Jul-11	T	**18,300**	<1.0	**3.8**	**149**	<5.0	<100	**0.11**	**8,070**	**30.2**	**9.4**	**21.3**	**15,200**	**4.6**	<50	**5,870**	**894**	**3.8**	**10**	<2.0	**51,200**	<0.40	**570**	<0.40	**45**	**35.9**
A2MW09-13	Groundwater	A2MW09-13	NA	NA	2.02-5.02	2.02	5.02	NA	NA	26-Nov-12	D	**34**	<0.5	<1	<20	<5	<100	<0.05	**3,880**	<0.5	<0.5	**1.6**	**48**	<1	—	**670**	**29**	<1	<5	<1	**17,500**	<0.2	<50	<0.2	<30	<5
A2MW09-13	Groundwater	A2MW09-13	NA	NA	2.02-5.02	2.02	5.02	NA	NA	4-Feb-13	D	**28**	<0.5	<1	<20	<5	<100	**0.064**	**3,410**	<0.5	**1.81**	**4.8**	**33**	<1	—	**720**	**224**	<1	<5	<1	**20,000**	<0.5	<20	<0.2	<30	<5
A2MW09-14	Groundwater	A2MW09-14	NA	NA	2.03-5.03	2.03	5.03	NA	NA	7-Jul-11	D	<10	<0.50	**3.2**	**29**	<5.0	<100	<0.050	**31,600**	<0.50	**0.95**	<1.0	**16,500**	<1.0	<50	**6,200**	**3,590**	<1.0	<5.0	<1.0	**34,000**	<0.20	<50	<0.20	<30	<5.0
A2MW09-14	Groundwater	A2MW09-14	NA	NA	2.03-5.03	2.03	5.03	NA	NA	7-Jul-11	T	**254**	<0.50	**5.8**	**47**	<5.0	<100	<0.050	**32,200**	**0.55**	**1.09**	<1.0	**25,400**	<1.0	<50	**6,310**	**3,660**	<1.0	<5.0	<1.0	**34,100**	<0.20	<50	<0.20	<30	<5.0
A2MW09-14	Groundwater	A2MW09-14	NA	NA	2.03-5.03	2.03	5.03	NA	NA	26-Nov-12	D	**14,800**	<2.5	<5	**106**	<5	<100	**2.47**	**259,000**	<0.5	**275**	**27.8**	**134,000**	<5	—	**51,600**	**30,400**	<5	**71**	<5	**69,800**	<1	<50	<1	<30	**121**
A2MW09-15	Groundwater	A2MW09-15	NA	NA	1.35-4.35	1.35	4.35	NA	NA	4-Feb-13	D	<20	<1.0	**5.9**	<20	<5.0	<100	<0.10	**20,900**	<1.0	**1.3**	<2.0	**951**	<2.0	<50	**6,380**	**1,160**	**11.5**	<10	<2.0	**151,000**	<0.40	<50	<0.40	<30	<5.0
A2MW09-15	Groundwater	A2MW09-15	NA	NA	1.35-4.35	1.35	4.35	NA	NA	7-Jul-11	T	**114**	<1.0	**6.3**	**21**	<5.0	<100	<0.10	**21,800**	<1.0	**1.4**	<2.0	**2,470**	<2.0	<50	**6,510**	**1,240**	**12.2**	<10	<2.0	**154,000**	<0.40	<50	<0.40	<30	<5.0
A2MW09-15	Groundwater	A2MW09-15	NA	NA	1.35-4.35	1.35	4.35	NA	NA	26-Nov-12	D	**19,600**	<0.5	<1	**25**	<5	<100	**0.409**	**47,300**	<0.5	**27.1**	**8.7**	**19,400**	<1	—	**14,900**	**4,750**	<1	**61.6**	<1	**88,800**	<0.2	<50	<0.2	<30	**32**
A2MW09-15	Groundwater	A2MW09-15	NA	NA	1.35-4.35	1.35	4.35	NA	NA	4-Feb-13	D	**18,000**	<0.5	<1	**22**	<5	<100	**0.078**	**35,900**	<0.5	**19.8**	**7.4**	**3,340**	<1	—	**11,900**	**6,230**	<1	**46.7**	<1	**70,600**	<0.2	<50	<0.2	<30	**21.6**
MW02-02	Groundwater	MW02-02	NA	NA	1.2-4.3	1.2	4.3	NA	NA	7-Jul-11	D	**1,360**	<2.5	**13.7**	**60**	<5.0	<100	<0.25	**3,280**	<2.5	**3.9**	**7.8**	**2,130**	<5.0	<50	**660**	**249**	**6.3**	<25	<5.0	**218,000**	<1.0	**411**	<1.0	**40**	<5.0
MW02-02	Groundwater	MW02-02	NA	NA	1.2-4.3	1.2	4.3	NA	NA	8-Jul-11	T	**2,070**	<2.5	**15.7**	**77**	<5.0	<100	<0.25	**3,470**	**3.2**	**5.1**	**9.9**	**3,060**	<5.0	<50	**670**	**233**	**6.6**	<25	<5.0	**230,000**	<1.0	**559**	<1.0	**45**	<5.0
MW02-02	Groundwater	MW02-02	NA	NA	1.2-4.3	1.2	4.3	NA	NA	27-Nov-12	D	<50	<2.5	<5	<20	<5	<100	<0.25	**12,900**	<0.5	<2.5	<5	**406**	<5	—	**3,670**	**860**	**20.2**	<25	<5	**615,000**	<1	<50	<1	<30	**8.5**
MW02-02	Groundwater	MW02-02	NA	NA	1.2-4.3	1.2	4.3	NA	NA	4-Feb-13	D	**39**	<0.5	**9.2**	<20	<5.0	<100	**0.059**	**5,820**	<0.5	**0.71**	<1	**1,090**	<1	—	**1,830**	**481**	**9.6**	<5	<1	**356,000**	<0.2	<50	<0.2	<30	<5
MW02-03	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	7-Jul-11	D	**18**	<0.50	**4.7**	<20	<5.0	<100	<0.050	**10,900**	<0.50	**2.56**	<1.0	**6,630**	<1.0	<50	**2,830**	**1,150**	<1.0	<5.0	<1.0	**22,000**	<0.20	<50	<0.20	<30	<5.0
MW02-03	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	7-Jul-11	T	**2,760**	<0.50	**5.8**	**35**	<5.0	<100	<0.050	**11,300**	**3.84**	**3.9**	**3.9**	**10,700**	<1.0	<50	**3,610**	**1,180**	<1.0	<5.0	<1.0	**21,700**	<0.20	**123**	<0.20	<30	**8.9**
MW02-03	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	27-Nov-12	D	**19**	<0.5	**6**	**131**	<5	<100	<0.05	**82,600**	<0.5	**16.5**	<1	**58,700**	<1	—	**21,000**	**8,040**	<1	<5	<1	**44,600**	<0.2	<50	<0.2	<30	<5
MW02-03	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	4-Feb-13	D	**24**	<0.5	**5.3**	**95**	<5	<100	<0.05	**65,500**	<0.5	**14**	<1	**42,900**	<1	—	**16,100**	**6,260**	<1	<5	<1	**38,600**	<0.2	<50	<0.2	<30	**6**
MW02-04	Groundwater	MW02-04	NA	NA	1.5-4.6	1.5	4.6	NA	NA	7-Jul-11	D	<50	<2.5	<5.0	**47**	<5.0	<100	<0.25	**268,000**	<2.5	**13**	**<5.0**	**99**	<5.0	<50	**87,700**	**7,370**	<5.0	<25	<5.0	**83,700**	<1.0	<50	<1.0	<30	<5.0
MW02-04	Groundwater	MW02-04	NA	NA	1.5-4.6	1.5	4.6	NA	NA	8-Jul-11	T	**2,400**	<2.5	<5.0	**56**	<5.0	<100	**1.07**	**262,000**	**2.9**	**15.0**	**10.1**	**2,030**	<5.0	<50	**87,200**	**7,220**	<5.0	<25	<5.0	**80,600**	<1.0	**103**	**1.0**	<30	**13.1**
MW02-04	Groundwater	MW02-04	NA	NA	1.5-4.6	1.5	4.6	NA	NA	27-Nov-12	D	<10	<0.5	<1	<20	<5	<100	**0.255**	**35,400**	<2.5	**2.17**	**1.8**	**66**	<1	—	**11,300**	**481**	<1	<5	<1	**27,200**	<0.2	<50	<0.2	<30	**6**
MW02-04	Groundwater	MW02-04	NA	NA	1.5-4.6	1.5	4.6	NA	NA	4-Feb-13	D	<10	<0.5	<1	**29**	<5	<100	**0.63**	**49,400**	<0.5	**16.9**	**1.9**	<30	<1	—	**15,200**	**1,690**	<1	**6.8**	<1	**27,500**	<0.2	<50	<0.2	<30	**5.9**
MW03-02	Groundwater	MW03-02	NA	NA	3.7-7.6	3.7	7.6	NA	NA	7-Jul-11	D	<10	<0.50	**1.3**	**25**	<5.0	<100	<0.050	**16,800**	<0.50	**8.00**	**2.0**	**117**	<1.0	<50	**4,850**	**1,230**	<1.0	<5.0	<1.0	**54,400**	<0.20	<50	<0.20	<30	<5.0
MW03-02	Groundwater	MW03-02	NA	NA	3.7-7.6	3.7	7.6	NA	NA	8-Jul-11	T	**17**	<0.50	**1.2**	**23**	<5.0	<100	**0.086**	**16,800**	<0.50	**7.96**	**2.9**	**207**	<1.0	<50	**4,870**	**1,230**	<1.0	<5.0	<1.0	**54,700**	<0.20	<50	<0.20	<30	<5.0
MW03-02	Groundwater	MW03-02	NA	NA	3.7-7.6	3.7	7.6	NA	NA	26-Nov-12	D	<10	<0.5	<1	<20	<5	<100	**0.058**	**5,070**	<0.5	<0.5	**1.9**	<30	<1	—	**1,450**	**190**	<1	<5	<1	**19,900**	<0.2	<50	<0.2	<30	<5
MW03-02	Groundwater	MW03-02	NA	NA	3.7-7.6	3.7	7.6	NA	NA	4-Feb-13	D	<10	<0.5	<1	<20	<5	<100	**0.058**	**5,820**	<0.5	<0.5	**2.5**	<30	<1	—	**2,540**	**159**	<1	<5	<1	**30,400**	<0.2	<50	<0.2	<30	<5
MW03-03	Groundwater	MW03-03	NA	NA	6.1-13.7	6.1	13.7	NA	NA	7-Jul-11	D	<10	<0.50	**4.3**	**34**	<5.0	<100	<0.050	**30,400**	<0.50	**1.51**	<1.0	**6,690**	<1.0	<50	**6,240**	**2,550**	<1.0	<5.0	<1.0	**16,100**	<0.20	<50	<0.20	<30	<5.0
MW03-03	Groundwater	MW03-03	NA	NA	6.1-13.7	6.1	13.7	NA	NA	8-Jul-11	T	**5,350**	<0.50	**7.3**	**90**	<5.0	<100	**1.17**	**30,700**	**4.71**	**4.68**	**33.7**	**17,300**	**5.7**	<50	**8,020**	**2,590**	**1.6**	<5.0	<1.0	**15,700**	<0.20	**196**	**0.5**	**38**	**37.1**
MW03-03	Groundwater	MW03-03	NA	NA	6.1-13.7	6.1	13.7	NA	NA	26-Nov-12	D	<10	<0.5	<1	**7.2**	**130**	<5	<100	<0.05	**40,800**	<0.5	**2.46**	<1	**12,600**	<1	—	**9,990**	**3,110**	<1	**48.6**	<1	**19,500**	<0.2	<50	<0.2	<30	<5
MW09-05I	Groundwater	A2MW09-05I	NA	NA	9.18-10.68	9.18	10.68	NA	NA	8-Jul-11	D	<10	<0.50	<1.0	**38**	<5.0	<100	<0.050	**79,700**	<0.50	<0.50	<1.0	**741**	<1.0	<50	**25,500**	**1,050**	<1.0	<5.0	<1.0	**15,000**	<0.20	<50	<0.20	<30	<5.0
MW09-05I	Groundwater	A2MW09-05I	NA	NA	9.18-10.68	9.18	10.68	NA	NA	8-Jul-11	T	**168**	<0.50	<1.0	**42**	<5.0	<100	<0.050	**82,800**	<0.50	<0.50	<1.0	**1,980**	**1.6**	<50	**26,700**	**1,130**	<1.0	<5.0	<1.0	**16,900**	<0.20	<50	<0.20	<30	<5.0
MW09-05I	Groundwater	A2MW09-05I	NA	NA	9.18-10.68	9.18	10.68	NA	NA	26-Nov-12	D	<10	<0.5	<1	**37**	<5	<100	<0.05	**57,100**	<0.5	<0.5	<1	**3,250**	<1	—	**19,400**	**1,460**	<1	<5	<1	**13,600**	<0.2	<50	<0.2	<30	<5
MW09-05I	Groundwater	A2MW09-05I	NA	NA	9.18-10.68	9.18	10.68	NA	NA	5-Feb-13	D	<10	<0.5	<1	**34**	<5	<100	<0.05	**52,600**	<0.5	<0.5	<1	**3,600**	<1	—	**17,000**	**1,670**	<1	<5	<1	**14,200**	<0.2	<50	<0.2	<30	<5
UI8	Groundwater	UI8	NA	NA	3.22-6.22	3.22	6.22	NA	NA	8-Jul-11	D	<10	<0.50	**2.2**	**66**	<5.0	<100	<0.050	**28,100**	<0.50	**6.32**	<1.0	**4,440**	<1.0	<50	**6,630**	**2,150**	<1.0	**5.2**	<1.0	**7,700**	<0.20	<50	<0.20	<30	<5.0
UI8	Groundwater	UI8	NA	NA	3.22-6.22	3.22	6.22	NA	NA	8-Jul-11	T	**135**	<0.50	**2.4**	**69**	<5.0	<100	<0.050	**28,700**	<0.50	**6.31**	<1.0	**5,450**	<1.0	<50	**6,780**	**2,210**	<1.0	**5.3**	<1.0	**7,900**	<0.20	<50	<0.20	<30	<5.0
UI8	Groundwater	UI8	NA	NA	3.22-6.22	3.22	6.22	NA	NA	26-Nov-12	D	**74**	<0.5	**1.9**	**56**	<5	<100	<0.05	**12,300**	<0.5	**6.22**	**1.3**	**2,090**	<1	—	**2,060**	**1,220**	<1	<5	<1	**10,700**	<0.2	<50	<0.2	<30	<5
UI8	Groundwater	UI8	NA	NA	3.22-6.22	3.22	6.22	NA	NA	5-Feb-13	D	**40**	<0.5	<1	**51**	<5	<100	**0.076**	**8,570**	<0.5	**1.61**	**1.3**	**169**	<1	—	**1,760**	**245**	<1	<5	<1	**7,000**	<0.2	<50	<0.2	<30	<5
UI9	Groundwater	UI9	NA	NA	3.34-3.3	3.34	3.3	NA	NA	8-Jul-11	D	<10	<0.50	**1.4**	**70**	<5.0	<100	<0.050	**20,000**	<0.50	**7.79**	<1.0	**20,200**	<1.0	<50	**4,930**	**1,880**	<1.0	<5.0	<1.0	**9,300**	<0.20	<50	<0.20	<30	**8.1**
UI9	Groundwater	UI9	NA	NA	3.34-3.3	3.34	3.3	NA	NA	8-Jul-11	T	**488**	<0.50	**1.9**	**77**	<5.0	<100	**0.059**	**20,700**	<0.50	**8.27**	**2.5**	**24,400**	<1.0	<50	**5,150**	**2,030**	<1.0	<5.0	<1.0	**9,800**	<0.20	<50	<0.20	<30	**11.4**
UI9	Groundwater	UI9	NA	NA	3.34-3.3	3.34	3.3	NA	NA	26-Nov-12	D	**30**	<0.5	<1	**43**	<5	<100	<0.05	**7,650**	<0.5	**2.42**	<1	**4,430**	<1	—	**1,230**	**511**	<1	<5	<1	**6,600**	<0.2	<50	<0.2	<30	<5
UI9	Groundwater	UI9	NA	NA	3.34-3.3	3.34	3.3	NA	NA	5-Feb-13	D	**29**	<0.5	<1	**43**	<5	<100	<0.05	**9,180**	<0.5	**3.52**	<1	**6,170**	<1	—	**1,840**	**764**	<1	<5	<1	**6,000**	<0.2	<50	<0.2	<30	**6.8**
Field Duplicate/Equipment Blank/Travel Blank																																				
DUP1 (MW02-03)	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	7-Jul-11	D	**20**	<0.50	**4.4**	<20	<5.0	<100	<0.050	**10,900**	<0.50	**2.56**	<1.0	**6,770**	<1.0	<50	**2,810**	**1,140**	<1.0	<5.0	<1.0	**21,700**	<0.20	<50	<0.20	<30	<5.0
DUP1 (MW02-03)	Groundwater	MW02-03	NA	NA	1.5-4.6	1.5	4.6	NA	NA	7-Jul-11	T	**3,170**	<0.50	**6.0**	**37**	<5.0	<100	<0.050	**11,400**	**3.74**	**3.97**	**4.4**	**11,300**	<1.0	<50	**3,640**	**1,210**	<1.0	<5.0	<1.0	**22,300**	<0.20	**146**	<0.20	<30	**9.7**
Monitoring Samples																																				
Western IRA Barrier																																				
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	9-Dec-11	D	**5.1**	<0.50	<2.0	**45.8**	<0.50	**1,980**	**0.197**	**214,000**	<0.50	**0.475**	**1.15**	<10	<0.30	**78**	**594,000**	**23**	**5.4**	**33**	<2.0	**4,930,000**	<0.050	<5.0	**2.8**	<0.50	**147**
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	12-Sep-12	—	Well Not Sampled - Insufficient Water for Analysis																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	13-Dec-12	D	**6.0**	<0.50	<2.0	**35.0**	<0.50	**2,510**	<0.050	**201,000**	<0.50	**0.060**	**0.63**	**15**	<0.30	**91**	**474,000**	**2,64**	**4.6**	**0.72**	<2.0	**3,950,000**	<0.050	<5.0	**1.54**	<0.50	**9.5**
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	9-Jan-13	D	<5.0	<0.50	<2.0	**12.0**	<0.50	**1,390**	<0.050	**102,000**	<0.50	**0.149**	**0.50**	**16**	<0.30	**47**	**289,000**	**1,02**	**3.6**	<0.50	<2.0	**2,070,000**	<0.050	<5.0	**0.875**	<0.50	**11.8**
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	14-Mar-13	D	**6.8**	**0.132**	**0.60**	**2.14**	<0.010	**664**	**0.053**	**15,700**	<1.0	<0.10	**1.71**	<30	<0.10	**21.7**	**37,100**	**0.52**	**4.35**	<0.40	<0.40	**593,000**	<0.0040	<0.40	**0.460**	**0.75**	**4.9**
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	18-Jun-13	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	17-Sep-13	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	16-Dec-13	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	12-Mar-14	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	11-Jun-14	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	9-Sep-14	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	1-Dec-14	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	13-Mar-15	D	<5.0	<0.50	<2.0	**49.7**	<0.50	**2,150**	**0.143**	**306,000**	<0.50	<0.050	**2.13**	<10	<0.30	**69**	**732,000**	**1.56**	**2.7**	**0.97**	<2.0	**5,720,000**	<0.050	<5.0	**0.797**	<0.50	**13.0**
P2.5-7S	Porewater EAZ	P2.5-7	CS	WB	0.2-0.4	0.2	0.4	Beach sand	—	13-Mar-15	T	Insufficient water of analysis																								
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	18-Jun-15	D	<5.0	<0.50	<2.0	**42.5**	<0.50	**2,450**	**0.157**	**301,000**	<0.50	<0.050	**1.74**	<10	<0.30	**73**	**802,000**	**0.67**	**3.4**	**0.78**	<2.0	**5,920,000**	<0.050	<5.0	**1.41**	**0.53**	**6.9**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	18-Jun-15	T	**182**	<0.50	<2.0	**42.9**	<0.50	**2,400**	**0.135**	**292,000**	**8.72**	**0.149**	**7.14**	**387**	**0.40**	**70.0**	**778,000**	**6.30**	**3.2**	**0.98**	<2.0	**5,930,000**	<0.050	**9.0**	**1.23**	**1.00**	**8.2**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	9-Sep-15	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	8-Dec-15	D	**2.6**	**0.227**	**0.45**	**2.70**	<0.010	**672**	<0.010	**17,500**	<1.0	<0.10	**2.09**	<30	<0.10	**16.7**	**47,000**	<0.40	**5.66**	<0.40	<0.40	**813,000**	<0.0040	<0.40	**0.236**	**0.63**	**7.9**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	8-Dec-15	T	**16.2**	**0.239**	**0.44**	**2.60**	<0.010	**693**	<0.010	**16,500**	**3.4**	<0.10	**2.6**	**48**	**0.11**	**16.6**	**45,200**	**0.63**	**5.94**	<0.40	<0.40	**785,000**	<0.010	**0.88**	**0.248**	**0.69**	<0.0
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	2-Mar-16	D	<5.0	<0.50	<2.0	**18.2**	<0.50	**1,880**	**0.170**	**207,000**	<0.50	<0.050	**0.79**	<10	<0.30	**59**	**519,000**	**0.66**	**6.9**	<0.50	<2.0	**4,000,000**	**0.065**	<5.0	**1.7**	**0.75**	**5.4**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	2-Mar-16	T	**788**	<0.50	<2.0	**20.2**	<0.50	**1,810**	**0.211**	**215,000**	**1.87**	**0.510**	**2.28**	**855**	**0.97**	**63**	**542,000**	**63.8**	**6.4**	**1.48**	<2.0	**4,170,000**	**0.075**	**26.9**	**1.82**	**2.49**	**8.1**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	17-May-16	D	<5.0	<0.50	<2.0	**48.3**	<0.50	**2,280**	**0.215**	**266,000**	<0.50	<0.050	**2.28**	<10	<0.30	**84**	**723,000**	**0.90**	**3.2**	**1.02**	<2.0	**5,680,000**	<0.050	<5.0	**0.790**	<0.50	**31.5**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	17-May-16	T	**45.1**	<0.50	<2.0	**51.5**	<0.50	**2,620**	**0.242**	**290,000**	**2.06**	**0.067**	**2.62**	**69**	<0.30	**91**	**760,000**	**2.25**	**3.2**	**1.18**	<2.0	**5,980,000**	<0.050	<5.0	**0.775**	**0.56**	**8.4**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	16-Aug-16	—	Well Not Sampled - Dry																								
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	22-Nov-16	D	<5.0	<0.50	<2.0	**27.6**	<0.50	**1,960**	**0.088**	**187,000**	<0.50	<0.050	**1.36**	<10	<0.30	**72**	**514,000**	**0.52**	**2.9**	<0.50	<2.0	**4,210,000**	<0.050	<5.0	**0.636**	<0.50	**6.1**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	22-Nov-16	T	**83.6**	<0.50	<2.0	**27.5**	<0.50	**1,890**	**0.106**	**192,000**	**2.97**	**0.054**	**2.89**	**149**	<0.30	**70.0**	**506,000**	**3.98**	**2.8**	**0.69**	<2.0	**4,210,000**	<0.050	<5.0	**0.666**	<0.50	**9.1**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	13-Mar-17	D	<5.0	<0.50	<2.0	**15.5**	<0.50	**1,210**	<0.050	**88,100**	<0.50	<0.050	**1.11**	<10	<0.30	**48**	**263,000**	**0.23**	**3.9**	<0.50	<2.0	**2,540,000**	<0.050	<5.0	**0.373**	<0.50	**4**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	—	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	13-Mar-17	T	**52.3**	<0.50	<2.0	**11.7**	<0.50	**1,280**	<0.050	**84,500**	**5.41**	<0.050	**3.50**	**103**	<0.30	**48**	**252,000**	**1.81**	**4**	<0.50	<2.0	**2,460,000**	<0.050	<5.0	**0.435**	<0.50	**4.2**
P2.5-7S	Porewater EAZ	P2.5-8	CS	WB	0.2-0.5	0.2	0.4	Beach sand	—	5-Jun-17	—	Well Not Sampled - Dry										

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]													100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	95
Source													CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
Updated Screening Level (T)[1]													100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source													BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
RBMT[4]													—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	90
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	8-Jan-13	D	**5.4**	**0.439**	**0.78**	**3.44**	<0.010	**561**	<0.010	**24,000**	<1.0	<0.10	**1.41**	<30	<0.10	**14.8**	**68,200**	**3.85**	**3.24**	**0.53**	<0.40	**660,000**	<0.0040	<0.40	**0.193**	**0.43**	**3.3**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	14-Mar-13	D	**7.4**	**0.335**	**0.54**	**5.65**	<0.010	**422**	**0.091**	**37,700**	<1.0	**0.62**	**2.00**	**792**	<0.10	**16.4**	**82,800**	**201**	**3.85**	**1.62**	<0.40	**662,000**	<0.0040	<0.40	**0.236**	**0.44**	**9.7**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-13	D	<5.0	<0.50	<2.0	**52.8**	<0.50	**2,320**	<0.050	**210,000**	<0.50	**1.51**	**0.92**	**875**	<0.30	**54**	**557,000**	**247**	**2.3**	**1.36**	<2.0	**4,110,000**	<0.050	<5.0	**0.766**	<0.50	**12.2**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-13	T	**2.720**	<0.50	**9.0**	**68.2**	<0.50	**2,880**	**0.235**	**218,000**	**2.97**	**3.08**	**15.2**	**15,100**	**10.4**	**97**	**605,000**	**393**	**4.1**	**6.59**	<2.0	**4,550,000**	<0.050	**86.1**	**1.43**	**14.7**	**52.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-Sep-13	D	<5.0	<0.50	<2.0	**68.1**	<0.50	**3,670**	**0.177**	**330,000**	<0.50	**0.797**	**1.52**	**308**	<0.30	**120**	**896,000**	**112**	**2.9**	**1.34**	<2.0	**7,650,000**	<0.050	<5.0	**0.834**	<0.50	**16.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-Sep-13	T	**75.5**	<0.50	<2.0	**75.8**	<0.50	**3,690**	**0.184**	**341,000**	<0.50	**1.44**	**1.99**	**1,500**	**0.43**	**116**	**901,000**	**339**	**3.3**	**1.27**	**J+**	**7,760,000**	<0.050	<5.0	**0.756**	**1.02**	**14.8**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Dec-13	D	**6.2**	<0.50	<2.0	**36.9**	<0.50	**2,110**	**0.279**	**256,000**	<0.50	**0.930**	**1.17**	**121**	<0.30	**72**	**676,000**	**61.5**	**3.2**	**1.67**	<2.0	**5,360,000**	<0.050	<5.0	**0.754**	<0.50	**20.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Dec-13	T	**1.990**	<0.50	**4.8**	**48.4**	<0.50	**2,030**	**0.321**	**248,000**	**1.95**	**3.63**	**9.46**	**9,380**	**6.55**	**69**	**639,000**	**339**	**4.7**	**3.25**	<2.0	**6,170,000**	<0.050	**75.4**	**1.11**	**8.37**	**43.9**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	D	**3.4**	**0.289**	**0.452**	**1.88**	<0.0050	**220**	<0.0050	**4,770**	<0.50	**0.208**	**2.22**	<30	**0.060**	**8.63**	**11.000**	**0.29**	**0.29**	<0.20	**209,000**	<0.0020	<0.20	**0.0391**	**0.205**	**4.0**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-14	T	**379**	**0.319**	**1.36**	**4.30**	**0.0246**	**185**	<0.0050	**3,210**	<0.50	**1.09**	**3.36**	**2,470**	**1.22**	**7.87**	**7,270**	**99.5**	**2.33**	**0.54**	<0.20	**154,000**	**0.0047**	**13.8**	**0.155**	**2.11**	**5.8**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Jun-14	D	<5.0	<0.50	<2.0	**60.2**	<0.50	**2,710**	<0.050	**259,000**	**1.05**	**1.58**	**1.37**	**398**	<0.30	**95**	**696,000**	**204**	**3.1**	**1.43**	<2.0	**5,390,000**	<0.050	<5.0	**0.885**	**1.10**	**14.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Jun-14	T	**6.320**	<0.50	**7.6**	**73.1**	<0.50	**2,640**	**0.396**	**275,000**	**6.16**	**8.02**	**49.0**	**15,800**	**40.4**	**112**	**679,000**	**617**	<2.0	**7.46**	<2.0	**5,600,000**	<0.050	**68.1**	**2.06**	**31.7**	**92.7**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-14	D	<5.0	<0.50	<2.0	**78.3**	<0.50	**3,180**	**0.161**	**332,000**	<0.50	**0.251**	**1.68**	**38**	<0.30	**114**	**897,000**	**33.3**	<2.0	**1.28**	<2.0	**7,690,000**	<0.050	<5.0	**0.590**	<0.50	**17.8**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-14	T	**49,400**	**0.91**	**20.6**	**226**	**1.85**	**2,960**	**1.08**	**367,000**	**43.0**	**33.6**	**152**	**85,600**	**148**	**198**	**896,000**	**2,100**	**6.0**	**37.8**	<2.0	**7,710,000**	**0.066**	**1,250**	**6.45**	**180**	**302**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	D	**28.1**	<0.50	<2.0	**35.0**	<0.50	**1,630**	<0.050	**207,000**	<0.50	**0.231**	**0.94**	**58**	<0.30	**58**	**523,000**	**31.7**	**2.2**	**60.3**	<2.0	**3,990,000**	<0.050	<5.0	**0.327**	<0.50	**16.7**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	T	**2.720**	**0.92**	**4.2**	**57.7**	<0.50	**1,510**	**0.152**	**201,000**	**3.23**	**4.31**	**14.3**	**7,530**	**6.40**	**60.0**	**503,000**	**897**	**4.2**	**69.4**	<2.0	**3,830,000**	<0.050	**91.8**	**0.839**	**9.61**	**35.0**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	D	<5.0	<0.50	<2.0	**59.6**	<0.50	**2,660**	**0.375**	**358,000**	<0.50	**0.090**	**2.06**	**15**	<0.30	**47**	**1,020,000**	**4.71**	**2.1**	**1.01**	<2.0	**5,180,000**	<0.050	<5.0	**0.392**	<0.50	**13.5**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	11-Mar-15	T	**2,870**	<0.50	**3.0**	**91.8**	<0.50	**2,670**	**0.555**	**384,000**	**3.34**	**2.73**	**15.4**	**5,260**	**5.28**	**51**	**1,020,000**	**310**	**3.7**	**5.51**	<2.0	**7,880,000**	<0.050	**144**	**0.872**	**10.9**	**32.2**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Jun-15	D	<5.0	<0.50	<2.0	**72.6**	<0.50	**2,820**	**0.233**	**334,000**	<0.50	**0.083**	**2.11**	<10	<0.30	**77**	**811,000**	**10.8**	<2.0	**1.04**	<2.0	**7,500,000**	<0.050	<5.0	**0.296**	<0.50	**16.1**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Jun-15	T	**16.9**	<0.50	<2.0	**73.7**	<0.50	**2,830**	**0.204**	**329,000**	<0.50	**0.110**	**1.51**	**71**	<0.30	**76**	**815,000**	**17.1**	<2.0	**0.94**	<2.0	**7,430,000**	<0.050	<5.0	**0.294**	<0.50	**13.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	9-Sep-15	D	<5.0	<0.50	<2.0	**65.0**	<0.50	**2,910**	**0.161**	**284,000**	<0.50	**0.069**	**2.72**	<10	<0.30	**89**	**814,000**	**5.56**	**2.2**	**1.27**	<2.0	**6,920,000**	<0.050	<5.0	**0.250**	<0.50	**22.8**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	9-Sep-15	T	**16.9**	<0.50	<2.0	**68.2**	<0.50	**2,930**	**0.166**	**279,000**	<0.50	**0.091**	**2.54**	**68**	<0.30	**92**	**809,000**	**10.3**	**2.1**	**1.16**	<2.0	**6,490,000**	<0.050	<5.0	**0.238**	<0.50	**15.9**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	8-Dec-15	D	**5.1**	**0.328**	**0.259**	**1.41**	<0.0050	**211**	<0.0050	**5,640**	<0.50	**0.104**	**2.53**	<30	<0.050	**5.53**	**17,000**	**10.2**	**3.63**	**0.31**	<0.20	**213,000**	**0.0030**	<0.20	**0.0488**	**0.359**	**10.0**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	8-Dec-15	T	**230**	**0.564**	**0.687**	**3.73**	**0.0213**	**217**	<0.0050	**4,830**	<0.50	**0.512**	**3.77**	**644**	**0.664**	**5.15**	**12,000**	**51.7**	**3.83**	**0.51**	<0.20	**185,000**	<0.0020	**1.84**	**0.116**	**1.28**	**5.1**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	1-Mar-16	D	<5.0	<0.50	<2.0	**32.6**	<0.50	**1,250**	**0.144**	**156,000**	<0.50	**0.070**	**1.95**	<10	<0.30	**47**	**424,000**	**2.36**	<2.0	**1.07**	<2.0	**3,260,000**	<0.050	<5.0	**0.162**	<0.50	**10.9**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	1-Mar-16	T	**55.2**	<0.50	<2.0	**32.4**	<0.50	**1,240**	**0.147**	**156,000**	<0.50	**0.526**	**2.45**	**368**	**0.87**	**49**	**426,000**	**66.1**	<2.0	**0.86**	<2.0	**3,230,000**	<0.050	<5.0	**0.231**	**0.66**	**10.6**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-May-16	D	<5.0	<0.50	<2.0	**65.0**	<0.50	**2,700**	**0.305**	**315,000**	<0.50	**0.106**	**3.39**	<10	<0.30	**88**	**844,000**	**9.14**	**2.9**	**1.29**	<2.0	**7,120,000**	<0.050	<5.0	**0.564**	<0.50	**29.1**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	17-May-16	T	**3,290**	**0.56**	**3.9**	**86.7**	<0.50	**2,860**	**0.669**	**335,000**	**4.45**	**8.38**	**35.5**	**8,470**	**11.4**	**97**	**857,000**	**986**	**6.3**	**6.35**	<2.0	**7,170,000**	**0.052**	**116**	**1.23**	**14.4**	**77.3**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Aug-16	D	<5.0	<0.50	<2.0	**66.2**	<0.50	**1,240**	**0.211**	**398,000**	<0.50	**0.065**	**2.28**	<10	<0.30	**105**	**836,000**	**9.34**	**2.8**	**3.68**	<2.0	**7,890,000**	**0.052**	<5.0	**0.552**	<0.50	**19.0**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	16-Aug-16	T	**33.1**	<0.50	<2.0	**71.1**	<0.50	**3,380**	**0.200**	**306,000**	**1.79**	**0.363**	**2.98**	**279**	**0.42**	**109**	**842,000**	**70.4**	**3.6**	**4.33**	<2.0	**7,740,000**	<0.050	<5.0	**0.552**	<0.50	**17.3**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	22-Nov-16	D	**8.8**	<0.50	<2.0	**23.2**	<0.50	**1,530**	**0.145**	**168,000**	<0.50	<0.050	**3.06**	<10	**0.49**	**60.0**	**409,000**	**4.99**	**2.0**	<0.50	<2.0	**5,490,000**	<0.050	<5.0	**0.191**	<0.50	**7.8**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	22-Nov-16	T	**87.5**	<0.50	<2.0	**25.5**	<0.50	**1,560**	**0.154**	**179,000**	<0.50	**0.852**	**4.70**	**584**	**1.43**	**60.0**	**434,000**	**131**	**2.2**	<0.50	<2.0	**3,700,000**	<0.050	<5.0	**0.270**	**0.93**	**11.4**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-17	D	**3.4**	**0.240**	**0.17**	**4.10**	<0.010	**370**	**0.010**	**14,700**	<1.0	<0.10	**1.89**	<30	**0.14**	**12.2**	**41,700**	<0.40	**4.25**	<0.40	<0.40	**852,000**	<0.0040	<0.40	**0.121**	**0.24**	**3.1**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-17	T	**118**	**0.283**	**0.42**	**5.02**	<0.010	**444**	**0.030**	**30,300**	<1.0	**0.67**	**3.0**	**482**	**0.78**	**15.8**	**52,100**	**91**	**4.03**	<0.40	<0.40	**882,000**	<0.010	**2.95**	**0.208**	**0.87**	<6.0
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	6-Jun-17	D	<5.0	<0.50	<2.0	**48.0**	<0.50	**1,990**	**0.232**	**259,000**	<0.50	<0.050	**2.82**	<10	**0.33**	**77**	**684,000**	**2.63**	**3**	**0.77**	<2.0	**5,420,000**	<0.050	<5.0	**0.355**	<0.50	**14.5**
P3-3	Porewater EAZ	P3-3	OB	WB	0.2-0.8	0.2	0.8	Beach sand/OC	Weathered Colluvium	6-Jun-17	T	**127**	<0.50	<2.0	**55.5**	<0.50	**2,300**	**0.239**	**266,000**	<0.50	**1.25**	**4.81**	**758**	**1.34**	**95**	**707,000**	**191**	**3.7**	**1.4**	<2.0	**5,760,000**	<0.050	**5.7**	**0.601**	**1.17**	**13.6**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	D	<5.0	<0.50	<2.0	**166**	<0.50	**980**	<0.050	**183,000**	<0.50	**6.98**	<0.50	<10	<0.30	**33**	**314,000**	**9.560**	<2.0	**4.43**	<2.0	**2,610,000**	<0.050	<5.0	**2.51**	<0.50	**23.6**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Nov-11	D	<5.0	<0.50	<2.0	**178**	<0.50	**1,180**	**0.049**	**271,000**	<0.50	**17.2**	<0.50	<10	<0.30	**40**	**460,000**	**13,700**	**2.3**	**11.2**	<2.0	**3,460,000**	<0.050	<5.0	**5.62**	<0.50	**111**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Dec-11	D	**6.9**	<0.50	<2.0	**152**	<0.50	**1,300**	**0.068**	**225,000**	<0.50	**17.5**	**0.67**	<10	<0.30	**36**	**457,000**	**10,200**	<2.0	**6.65**	<2.0	**3,450,000**	**0.058**	<5.0	**2.46**	<0.50	**102**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jan-12	D	<5.0	<0.50	<2.0	**104**	<0.50	**1,160**	**0.111**	**183,000**	<0.50	**12.5**	**0.88**	<10	<0.30	**37**	**385,000**	**7,380**	<2.0	**4.36**	<2.0	**2,680,000**	<0.050	<5.0	**1.73**	<0.50	**98.8**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	2-Feb-12	D	<30	<0.10	**0.88**	**76.7**	<0.050	**997**	<0.050	**123,000**	<5.0	**7.04**	<0.50	**660**	<0.30	**27.5**	**262,000**	**4,930**	**1.19**	**4.5**	<2.0	**2,080,000**	<0.020	<2.0	**1.37**	<0.50	**115**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-12	D	<5.0	<0.50	<2.0	**65.4**	<0.050	**1,030**	<0.050	**111,000**	<0.50	**5.39**	**0.91**	**15**	<0.30	**28**	**249,000**	**4,470**	<2.0	**10.4**	<2.0	**2,280,000**	<0.050	<5.0	**1.45**	<0.50	**93.5**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Apr-12	D	**5.7**	<0.50	<2.0	**96.1**	<0.50	**1,060**	**0.063**	**120,000**	**1.28**	**7.66**	**2.990**	<0.30	**30**	**236,000**	**17,110**	<2.0	**6.22**	<2.0	**2,120,000**	<0.050	<5.0	**2.62**	<0.50	**47.7**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-May-12	D	<5.0	<0.50	<2.0	**100**	<0.50	**1,060**	<0.050	**129,000**	<0.50	**8.19**	<0.50	**1,960**	<0.30	**25**	**274,000**	**5,180**	<2.0	**3.65**	<2.0	**2,300,000**	<0.050	<5.0	**1.59**	<0.50	**47.6**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	D	<5.0	<0.50	**2.4**	**120**	<0.50	**1,650**	<0.050	**162,000**	<0.50	**10.9** J	<0.50	**3.890** J	<0.30	**30**	**339,000**	**15,780**	<2.0	**4.24** J	<2.0	**2,410,000**	<0.050	<5.0	**1.56** J	<0.50	**31.2** J
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jul-12	D	<5.0	<0.50	<2.0	**131**	<0.50	**1,100**	<0.050	**194,000**	<0.50	**9.49**	<0.50	**2,880**	<0.30	**32**	**356,000**	**8,130**	<2.0	**7.40**	<2.0	**2,500,000**	<0.050	<5.0	**2.97**	<0.50	**147**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	3-Aug-12	D	**16.2**	<0.50	**2.3**	**135**	<0.50	**1,320**	**0.097**	**187,000**	<0.50	**11.2**	**0.73**	**3,260**	<0.30	**34**	**381,000**	**6,600**	<2.0	**4.39**	<2.0	**2,850,000**	<0.050	<5.0	**1.89**	<0.50	**52.1**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	D	<5.0	<0.50	<2.0	**147**	<0.50	**1,390**	**0.089**	**228,000**	<0.50	**11.2**	<0.50	**1,990**	<0.30	**38**	**437,000**	**7,950**	<2.0	**7.20**	<2.0	**3,110,000**	<0.050	<5.0	**2.25**	<0.50	**80.9**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Oct-12	D	<5.0	<0.50	<3.0	**195**	<0.50	**1,370**	**0.051**	**288,000**	<0.50	**17.0**	**0.55**	**4,890**	<0.30	**41**	**558,000**	**9,880**	<2.0	**5.27**	<2.0	**3,870,000**	<0.050	<5.0	**2.30**	<0.50	**17.1**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	7-Nov-12	D	<5.0	<0.50	<2.0	**147**	<0.50	**1,200**	**0.077**	**177,000**	<0.50	**14.8**	**1.88**	**1,630**	<0.30	**40**	**564,000**	**9,440**	<2.0	**9.97**	<2.0	**3,850,000**	<0.050	<5.0	**1.89**	<0.50	**120**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Dec-12	D	**5.8**	<0.50	<2.0	**39.4**	<0.50	**3,340**	**0.447**	**284,000**	<0.50	**0.74**	**24**	<0.30	**110**	**555,000**	**1,390**	**7.2**	**1.74**	<2.0	**5,710,000**	**0.089**	<5.0	**2.67**	**0.89**	**25.2**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	D	<5.0	<0.50	<2.0	**89.3**	<0.50	**2,630**	<0.050	**255,000**	<0.50	**8.21**	<0.50	**226**	<0.30	**58**	**548,000**	**7,520**	**2.5**	**5.67**	<2.0	**4,150,000**	**0.094**	<5.0	**3.66**	<0.50	**350**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Mar-13	D	<5.0	<0.50	**2.6**	**106**	<0.50	**1,290**	**0.114**	**214,000**	<0.50	**10.5**	**0.71**	**2,500**	<0.30	**31**	**462,000**	**5,830**	<2.0	**3.58**	<2.0	**3,180,000**	<0.050	<5.0	**2.29**	<0.50	**35.3**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-13	D	<5.0	<0.50	<2.0	**96.1**	<0.50	**1,250**	<0.050	**164,000**	<0.50	**8.09**	<0.50	**1,790**	<0.30	**31**	**358,000**	**4,860**	<2.0	**3.03**	<2.0	**2,510,000**	<0.050	<5.0	**1.67**	<0.50	**32.2**
P3-7D-A	@	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Jun-13	D	<5.0	<0.50	<2.0	**2.3**	**121**	<0.50	**1,340**	**0.050**	<0.50	**7.87**	<0.50	**4,650**	<0.30	**36**	**392,000**	**9,740**	<2.0	**3.33**	<2.0	**3,050,000**	<0.050	<5.0	**4.01**	<0.50	**13.2**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	D	**8.4**	<0.50	<2.0	**151**	<0.50	**1,380**	<0.050	**284,000**	<0.50	**10.1**	<0.50	**3,050**	<0.30	**36**	**559,000**	**6,920**	<2.0	**2.67**	<2.0	**3,820,000**	<0.050	<5.0	**1.96**	<0.50	**23.4**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	D	<5.0	<0.50	<2.0	**144**	<0.50	**1,270**	**0.093**	**310,000**	<0.50	**13.5**	<0.50	**3,970**	<0.30	**37**	**656,000**	**6,910**	<2.0	**2.79**	<2.0	**4,010,000**	<0.050	<5.0	**2.22**	<0.50	**94.2**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	12-Mar-14	D	<5.0	<0.50	<2.0	**126**	<0.50	**1,320**	**0.084**	**273,000**	<0.50	**10.9**	**0.95**	**597**	<0.30	**31**	**588,000**	**7,810**	<2.0	**2.75**	<2.0	**3,690,000**	<0.050	<5.0	**2.20**	<0.50	**96.7**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Jun-14	D	<5.0	<0.50	<2.0	**91.3**	<0.50	**1,170**	<0.050	**236,000**	<0.50	**9.88**	**0.82**	**3,160**	<0.30	**32**	**478,000**	**7,370**	<2.0	**2.95**	<2.0	**3,250,000**	<0.050	<5.0	**2.69**	<0.50	**28.8**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Sep-14	D	<5.0	<0.50	<2.0	**152**	<0.50	**1,530**	<0.050	**297,000**	<0.50	**11.8**	<0.50	**3,330**	<0.30	**35**	**648,000**	**7,040**	<2.0	**2.76**	<2.0	**4,120,000**	<0.050	<5.0	**1.63**	<0.50	<3.0
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Dec-14	D	<5.0	<0.50	<2.0	**119**	<0.50	**1,400**	<0.050	**262,000**	<0.50	**9.13**	<0.50	**3,820**	<0.30	**33**	**523,000**	**6,850**	<2.0	**2.56**	<2.0	**3,630,000**	<0.050	<5.0	**1.98**	<0.50	**4.8**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	D	**7.3**	<0.50	<2.0	**101**	<0.50	**1,230**	<0.050	**223,000**	<0.50	**8.21**	**0.79**	**2,120**	<0.30	**21**	**437,000**	**6,170**	<2.0	**2.01**	<2.0	**3,500,000**	<0.050	<5.0	**2.22**	<0.50	**14.4**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Jun-15	D	**9.3**	<0.50	<2.0	**118**	<0.50	**1,380**	<0.050	**243,000**	<0.50	**7.27**	<0.50	**1,800**	<0.30	**24**	**499,000**	**4,990**	<2.0	**1.65**	<2.0	**3,070,000**	<0.050	<5.0	**1.23**	<0.50	**65.6**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	D	<5.0	<0.50	<2.0	**134**	<0.50	**1,400**	<0.050	**302,000**	<0.50	**10.6**	**0.54**	**2,340**	<0.30	**32**	**632,000**	**6,670**	<2.0	**2.34**	<2.0	**3,990,000**	<0.050	<5.0	**1.21**	<0.50	**60.7**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Dec-15	---	Well Not Sampled - Not Found																							
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	D	<5.0	<0.50	<2.0	**114**	<0.50	**1,450**	<0.050	**318,000**	<0.50	**10.0**	<0.50	**4,180**	<0.30	**35**	**640,000**	**8,900**	<2.0	**2.75**	<2.0	**3,820,000**	<0.050	<5.0	**2.34**	<0.50	**11.8**
P3-7D	Porewater	P3-7	DS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-May-16	D	<5.0	<0.50	<2.0	**109**	<0.50	**1,440**	<0.050	**236,000**	<0.50	**7.10**	<0.50	**3,030**	<0.30	**32**	**524,000**	**7,220**	<2.0	**2.62**	<2.0	**3,380,000**	<0.050	<5.0

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

												Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	---	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	---	---	BC WWQG	CSR/10	BWQG	BC AWQG	---	BC WWQC	CSR/10	BC WWQG	BWQG
Updated Screening Level (T)[7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	---	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	---	---	BC WWQG	CSR/10	BWQG	BC AWQG	---	BC WWQC	CSR/10	BC WWQG	BWQG
RBMT[8]												---	---	---	---	---	---	---	---	---	---	6.2	---	---	---	---	---	---	---	---	---	---	---	---	90
Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved																								
P3-12S	Porewater EAZ	P3-12	DS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Jun-17	T	**859**	<0.50	<2.0	**24.2**	<0.50	**1,930**	**0.231**	**238,000**	**5.98**	**0.588**	**4.51**	**1.010**	**1.43**	**74**	**516,000**	**64.4**	**5.4**	**2.58**	<2.0	**4,350,000**	**0.130**	**35.7**	**1.79**	**3.27**	**7.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Oct-11	---	Well Not Sampled																							
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	8-Dec-11	D	**8.7**	<0.50	<2.0	**14.5**	<0.50	**1,410**	**0.220**	**155,000**	**3.13**	**0.273**	**1.63**	<10	<0.30	**70**	**404,000**	**736**	**30.8**	**6.02**	<2.0	**3,300,000**	**0.334**	<5.0	**2.30**	**1.58**	**388**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-12	D	**10.1**	<0.50	<2.0	**13.7**	<0.50	**1,340**	**0.188**	**143,000**	<0.50	**0.050**	**1.26**	<10	<0.30	**59**	**369,000**	**74.3**	**24.8**	**1.99**	<2.0	**2,890,000**	**0.287**	<5.0	**2.39**	**1.7**	**89.0**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	6-Jun-12	D	**6.2**	<0.50	<2.0	**10.4**	<0.50	**1,680**	**0.268**	**164,000**	<0.50	**0.230**	**1.91**	<10	<0.30	**77**	**421,000**	**1,620**	**52.8**	**3.20**	<2.0	**3,110,000**	**0.339**	<5.0	**2.61**	**1.19**	**30.1**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	13-Sep-12	D	**50.5**	<0.50	<2.0	**11.3**	<0.50	**1,840**	**0.295**	**174,000**	<0.50	**0.166**	**1.59**	**69**	<0.30	**56**	**437,000**	**1,260**	**52.7**	**8.04**	<2.0	**3,220,000**	**0.423**	<5.0	**2.87**	**1.40**	**41.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Dec-12	D	<5.0	<0.50	<2.0	**15.4**	<0.50	**1,680**	<0.050	**184,000**	<0.50	**0.051**	**2.02**	<10	<0.30	**71**	**445,000**	**24.3**	**19.0**	**2.39**	<2.0	**3,360,000**	**0.139**	<5.0	**2.76**	**0.86**	**57.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-13	D	**6.1**	<0.50	<2.0	**7.2**	<0.50	**780**	**0.075**	**74,000**	<0.50	**0.202**	**2.02**	<10	**0.83**	**29**	**184,000**	**444**	**14.7**	**1.50**	<2.0	**1,440,000**	**0.079**	<5.0	**1.24**	**0.75**	**43.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	18-Jun-13	D	<5.0	<0.50	<2.0	**16.8**	<0.50	**1,620**	<0.050	**166,000**	<0.50	**0.124**	**1.44**	<10	<0.30	**78**	**397,000**	**126**	**23.5**	**1.28**	<2.0	**3,140,000**	**0.228**	<5.0	**2.68**	**0.98**	**11.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	18-Sep-13	D	<5.0	<0.50	<2.0	**20.6**	<0.50	**1,740**	<0.050	**199,000**	<0.50	**0.170**	**1.17**	<10	<0.30	**72**	**492,000**	**277**	**24.8**	**2.70**	<2.0	**3,780,000**	**0.279**	<5.0	**2.92**	**0.99**	**26.1**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	12-Dec-13	D	**8.1**	<0.50	<2.0	**14.0**	<0.50	**1,600**	<0.050	**217,000**	<0.50	**0.277**	**0.94**	<10	<0.30	**64**	**478,000**	**723**	**22.2**	**2.75**	<2.0	**3,510,000**	**0.139**	<5.0	**2.92**	**1.02**	**7.4**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	13-Mar-14	D	**11.0**	<0.50	<2.0	**19.8**	<0.50	**1,360**	<0.050	**212,000**	<0.50	**0.343**	**1.24**	**23**	<0.30	**58**	**518,000**	**2,480**	**20.4**	**2.73**	<2.0	**3,400,000**	**0.133**	<5.0	**2.73**	**0.60**	**10.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Jun-14	D	<5.0	<0.50	**2.2**	**13.8**	<0.50	**1,660**	**0.082**	**185,000**	<0.50	**0.082**	**1.18**	<10	<0.30	**68**	**449,000**	**1,090**	**23.1**	**2.17**	<2.0	**3,010,000**	**0.173**	<5.0	**2.73**	**1.12**	**8.0**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Sep-14	D	<5.0	<0.50	<2.0	**18.8**	<0.50	**1,800**	<0.050	**201,000**	<0.50	**0.117**	**0.58**	**15**	<0.30	**73**	**481,000**	**588**	**14.7**	**0.80**	<2.0	**3,730,000**	**0.117**	<5.0	**2.81**	**0.70**	<3.0
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	1-Dec-14	D	<5.0	<0.50	<2.0	**8.3**	<0.50	**1,530**	<0.050	**100,000**	**3.03**	**0.054**	**1.57**	<10	<0.30	**42**	**256,000**	**325**	**7.3**	**1.91**	<2.0	**2,230,000**	**0.092**	<5.0	**0.822**	**0.69**	**8.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Mar-15	D	<5.0	<0.50	<2.0	**16.8**	<0.50	**1,380**	<0.050	**155,000**	<0.50	<0.050	**1.08**	<10	<0.30	**36**	**367,000**	**41.9**	**11.8**	**0.70**	<2.0	**3,050,000**	**0.083**	<5.0	**2.65**	<0.50	**9.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-Jun-15	D	<5.0	<0.50	<2.0	**11.8**	<0.50	**1,640**	<0.050	**175,000**	<0.50	<0.050	**0.56**	<10	<0.30	**44**	**405,000**	**268**	**13.1**	**0.73**	<2.0	**3,110,000**	**0.202**	<5.0	**2.26**	**0.52**	**4.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	11-Sep-15	D	<5.0	<0.50	<2.0	**15.7**	<0.50	**1,610**	**0.056**	**213,000**	<0.50	**0.057**	**0.75**	**15**	<0.30	**67**	**497,000**	**323**	**10.8**	**0.61**	<2.0	**3,300,000**	**0.247**	<5.0	**2.23**	**0.61**	**13.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	10-Dec-15	D	<5.0	<0.50	<2.0	**15.4**	<0.50	**1,580**	**0.050**	**208,000**	<0.50	<0.050	<0.50	<10	<0.30	**62**	**511,000**	**50.9**	**6.3**	**1.40**	<2.0	**3,220,000**	<0.050	<5.0	**2.70**	**0.56**	**4.7**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	14-Mar-16	D	<5.0	<0.50	<2.0	**15.3**	<0.50	**1,930**	**0.097**	**232,000**	<0.50	<0.050	**1.19**	<10	<0.30	**74**	**604,000**	**74.4**	**6.3**	<0.50	<2.0	**4,790,000**	**0.108**	<5.0	**2.64**	**0.8**	**8.3**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	17-May-16	D	<5.0	<0.50	<2.0	**16.7**	<0.50	**1,730**	**0.060**	**197,000**	<0.50	**0.101**	**1.16**	**10.0**	<0.30	**67**	**496,000**	**67.1**	**8.6**	**0.53**	<2.0	**3,780,000**	**0.092**	<5.0	**2.64**	**0.86**	**8.9**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Aug-16	D	<5.0	<0.50	<2.0	**23.0**	<0.50	**1,890**	<0.050	**240,000**	<0.50	**0.101**	**1.50**	**34**	<0.30	**78**	**587,000**	**67.0**	**8.9**	**0.77**	<2.0	**4,230,000**	<0.050	<5.0	**2.80**	**1.24**	**5.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	25-Nov-16	D	<5.0	<0.50	<2.0	**20.5**	<0.50	**1,700**	**0.065**	**237,000**	<0.50	**0.062**	**1.10**	<10	<0.30	**71**	**563,000**	**10.2**	**8.0**	<0.50	<2.0	**3,990,000**	**0.089**	<5.0	**2.66**	<0.50	**5.3**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	15-Mar-17	D	<5.0	<0.50	<2.0	**21.7**	<0.50	**1,360**	<0.050	**193,000**	<0.50	<0.050	**0.51**	<10	<0.30	**55**	**456,000**	**16.7**	**6.5**	<0.50	<2.0	**3,320,000**	<0.050	<5.0	**2.12**	<0.50	**3.5**
P3-12D	Porewater	P3-12	DS	WB	1.1-1.3	1.1	1.3	Beach sand	---	5-Jun-17	D	<5.0	<0.50	<2.0	**17.6**	<0.50	**1,520**	<0.050	**193,000**	<0.50	<0.050	**0.68**	<10	<0.30	**59**	**473,000**	**51.4**	**7.1**	<0.50	<2.0	**3,370,000**	**0.064**	<5.0	**2.79**	**0.54**	<3.0
P3-5-78-R	Porewater EAZ	P3-5-78	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Sep-12	---	Well Destroyed																							
P3-5-78	Porewater EAZ	P3-5-78	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	6-Oct-11	D	<5.0	<0.50	<2.0	**52.5**	<0.50	**2,410**	**0.164**	**270,000**	<0.50	<0.050	**1.38**	<10	<0.30	**89**	**726,000**	**1.69**	**5.8**	**6.15**	<2.0	**6,160,000**	**0.097**	<5.0	**2.26**	<0.50	**14.1**
P3-5-78	Porewater EAZ	P3-5-78	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	5-Nov-11	D	**7.9**	<0.50	<2.0	**45.7**	<0.50	**1,940**	**0.244**	**282,000**	<0.50	**0.098**	**1.59**	<10	<0.30	**86**	**718,000**	**8.14**	**4.3**	**5.92**	<2.0	**5,780,000**	**0.076**	<5.0	**1.83**	**0.55**	**379**
P3-5-78	Porewater EAZ	P3-5-78	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	2-Dec-11	D	<5.0	<0.50	<2.0	**38.0**	<0.50	**2,040**	**0.128**	**223,000**	<0.50	**0.053**	**0.83**	<10	<0.30	**79**	**576,000**	**0.92**	**4.4**	**1.90**	<2.0	**4,880,000**	<0.050	<5.0	**1.56**	<0.50	**22.3**
P3-5-78	Porewater EAZ	P3-5-78	CS	WB	0.2-0.4	0.2	0.4	Beach sand	---	13-Mar-12	D	**7.9**	<0.50	<2.0	**28.6**	<0.50	**2,030**	<0.050	**186,000**	<0.50	<0.050	**0.81**	<10	<0.30	**77**	**500,000**	**2.45**	**4.2**	**3.26**	<2.0	**4,210,000**	<0.050	<5.0	**1.22**	**0.53**	**7.0**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Oct-11	D	<5.0	<0.50	<2.0	**94.1**	<0.50	**870**	<0.050	**181,000**	<0.50	<0.050	**1.22**	**5.52**	<10	**0.84**	**28**	**313,000**	**3.45**	**9.9**	**12.8**	<2.0	**2,070,000**	<0.050	<5.0	**4.76**	**0.79**	**78.0**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-12	D	<5.0	<0.50	<2.0	**68.4**	<0.50	**510**	<0.050	**131,000**	<0.50	<0.050	<0.50	<10	<0.30	**<20**	**222,000**	**2.48**	**6.9**	**1.05**	<2.0	**1,210,000**	<0.050	<5.0	**4.03**	**1.00**	**3.5**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	6-Jun-12	D	<5.0	<0.50	<2.0	**59.0**	<0.50	**460**	**0.087**	**126,000**	<0.50	**0.050**	**1.52**	<10	<0.30	**<20**	**215,000**	**587**	**9.7**	**2.16**	<2.0	**1,070,000**	<0.050	<5.0	**4.19**	<0.50	**64.5**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Sep-12	D	<5.0	<0.50	<2.0	**93.5**	<0.50	**590**	<0.050	**153,000**	<0.50	**0.052**	**0.64**	<10	<0.30	**20**	**253,000**	**892**	**5.2**	**0.76**	<2.0	**1,230,000**	<0.050	<5.0	**5.90**	<0.50	**14.0**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Dec-12	D	<5.0	<0.50	<2.0	**12.1**	<0.50	**5,300**	<0.050	**338,000**	<0.50	**0.098**	**0.72**	<10	<0.30	**206**	**936,000**	**175**	**10.1**	<0.50	<2.0	**8,240,000**	<0.050	<5.0	**2.57**	**1.14**	**3.8**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Jan-13	D	**14.0**	**0.76**	**15.8**	**102**	<0.50	**2,140**	<0.050	**387,000**	<0.50	**0.542**	<0.50	**17**	<0.30	**72**	**861,000**	**13,000**	**<2.0**	**2.24**	**<20**	**8,790,000**	<0.050	<5.0	**3.95**	**0.90**	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	15-Mar-13	D	**6.9**	<0.50	**2.1**	**113**	<0.50	**2,020**	<0.050	**281,000**	<0.50	**0.147**	<0.50	**53**	<0.30	**85**	**670,000**	**10,600**	**5.9**	**1.58**	<2.0	**5,060,000**	<0.050	<5.0	**2.23**	**0.74**	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	14-Jun-13	D	**6.8**	<0.50	<2.0	**130**	<0.50	**1,340**	<0.050	**249,000**	<0.50	**0.159**	<0.50	**61**	<0.30	**37**	**476,000**	**17,900**	<2.0	**0.70**	<2.0	**2,770,000**	<0.050	<5.0	**0.821**	<0.50	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Sep-13	D	**20.2**	<0.50	<2.0	**114**	<0.50	**2,550**	<0.050	**319,000**	<0.50	**0.097**	<0.50	**46**	<0.30	**88**	**747,000**	**7,930**	<2.0	<0.50	**2.6**	**5,010,000**	<0.050	<5.0	**0.538**	**0.59**	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-Dec-13	D	<5.0	<0.50	<2.0	**94.7**	<0.50	**2,380**	<0.050	**269,000**	<0.50	**0.140**	<0.50	**75**	<0.30	**73**	**686,000**	**5,890**	**6.3**	**2.98**	<2.0	**4,640,000**	<0.050	<5.0	**1.56**	**0.56**	**4.8**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-14	D	<5.0	<0.50	<2.0	**102**	<0.50	**1,750**	<0.050	**264,000**	<0.50	**0.223**	<0.50	**201**	<0.30	**50.0**	**586,000**	**10,800**	**6.6**	**1.54**	<2.0	**3,920,000**	<0.050	<5.0	**1.74**	<0.50	**4.9**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Jun-14	D	**7.3**	<0.50	**2.3**	**63.1**	<0.50	**2,610**	**0.051**	**267,000**	<0.50	**0.113**	**2.05**	**87**	<0.30	**96**	**729,000**	**5,890**	**2.8**	<0.50	<2.0	**5,770,000**	<0.050	<5.0	**0.900**	<0.50	**3.3**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	8-Sep-14	D	<5.0	<0.50	<2.0	**113**	<0.50	**1,290**	<0.050	**249,000**	<0.50	**0.067**	<0.50	**138**	<0.30	**32**	**450,000**	**16,000**	<2.0	**0.66**	<2.0	**2,680,000**	**0.051**	<5.0	**0.396**	<0.50	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	4-Dec-14	D	<5.0	<0.50	<2.0	**78.5**	<0.50	**1,180**	<0.050	**246,000**	<0.50	<0.050	<0.50	<10	<0.30	**32**	**477,000**	**2,950**	**2.3**	**1.33**	<2.0	**2,860,000**	<0.050	<5.0	**1.78**	<0.50	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	11-Mar-15	D	**5.2**	<0.50	<2.0	**89.9**	<0.50	**770**	<0.050	**234,000**	<0.50	**0.154**	**0.89**	**32**	<0.30	**<20**	**400,000**	**4,230**	**28.3**	**0.96**	<2.0	**2,060,000**	<0.050	<5.0	**3.25**	<0.50	**7.70**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	18-Jun-15	D	<5.0	<0.50	<2.0	**88.3**	<0.50	**1,360**	<0.050	**268,000**	<0.50	**0.086**	**0.51**	**37**	<0.30	**42**	**548,000**	**3,400**	**6.2**	**0.93**	<2.0	**3,720,000**	<0.050	<5.0	**2.89**	<0.50	**9.7**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	9-Sep-15	D	<5.0	<0.50	<2.0	**151**	<0.50	**890**	<0.050	**253,000**	<0.50	**0.076**	<0.50	**50.0**	<0.30	**21**	**448,000**	**18,200**	<2.0	<0.50	<2.0	**1,960,000**	<0.050	<5.0	**1.02**	<0.50	**9.5**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	10-Dec-15	D	<5.0	<0.50	<2.0	**87.9**	<0.50	**880**	<0.050	**271,000**	<0.50	**0.128**	<0.50	**34**	<0.30	**35**	**435,000**	**7,970**	**13.0**	**0.73**	<2.0	**2,330,000**	<0.050	<5.0	**4.02**	<0.50	**8.1**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	1-Mar-16	D	<5.0	<0.50	<2.0	**66.4**	<0.50	**720**	<0.050	**285,000**	<0.50	<0.050	**1.15**	<10	<0.30	**<20**	**460,000**	**24.2**	<2.0	<0.50	<2.0	**2,010,000**	<0.050	<5.0	**2.32**	<0.50	**4.7**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	16-May-16	D	<5.0	<0.50	<2.0	**66.0**	<0.50	**1,170**	<0.050	**301,000**	<0.50	**0.076**	<0.50	**39**	<0.30	**38**	**536,000**	**6,160**	**4.4**	<0.50	<2.0	**3,010,000**	<0.050	<5.0	**1.27**	<0.50	**5.0**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	17-Aug-16	D	<5.0	<0.50	**2.0**	**177**	<0.50	**850**	<0.050	**326,000**	<0.50	**0.288**	<0.50	**562**	<0.30	**<20**	**518,000**	**14,800**	**57.1**	**0.57**	<2.0	**2,250,000**	<0.050	<5.0	**9.24**	<0.50	<3.0
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	22-Nov-16	D	**5.9**	<0.50	<2.0	**73.1**	<0.50	**850**	<0.050	**310,000**	<0.50	<0.050	<0.50	**32**	<0.30	**29**	**531,000**	**13,100**	**3.0**	<0.50	<2.0	**2,630,000**	<0.050	<5.0	**1.38**	<0.50	**3.3**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	13-Mar-17	D	<5.0	<0.50	<2.0	**127**	<0.50	**1,870**	<0.050	**331,000**	<0.50	<0.050	**0.94**	<10	<0.30	**86**	**686,000**	**295**	<2.0	<0.50	<2.0	**4,740,000**	<0.050	<5.0	**3.02**	<0.50	**5.5**
P3-5-71	Porewater	P3-5-7	CS	WB	1.5-1.7	1.5	1.7	Weathered Colluvium	---	5-Jun-17	D	<5.0	<0.50	<2.0	**90.0**	<0.50	**1,190**	<0.050	**344,000**	<0.50	<0.050	**0.52**	<10	<0.30	**38**	**637,000**	**1,830**	<2.0	<0.50	<2.0	**3,200,000**	<0.050	<5.0	**1.59**	<0.50	**3.1**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	6-Oct-11	D	<5.0	<0.50	<2.0	**170**	<0.50	**560**	<0.050	**150,000**	<0.50	**0.495**	**0.56**	<10	<0.30	**<20**	**206,000**	**1,010**	**4.7**	**1.6**	<2.0	**1,360,000**	<0.050	<5.0	**2.7**	<0.50	**112**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	8-Dec-11	D	<5.0	<0.50	<2.0	**173** J	<0.50	**560**	**0.057**	**152,000**	**1.57** J	**0.074** J	**1.32** J	<10	<0.30	**<20**	**221,000**	**130** J	**3.3**	**1.72** J	<2.0	**1,410,000**	<0.050	<5.0	**2.27**	<0.50	**58.3**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Mar-12	D	<5.0	<0.50	<2.0	**192**	<0.50	**710**	<0.050	**178,000**	<0.50	<0.050	**0.59**	<10	<0.30	**<20**	**273,000**	**11.0**	**2.7**	<0.50	<2.0	**1,670,000**	<0.050	<5.0	**2.45**	**0.53**	**16.8**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	6-Jun-12	D	<5.0	<0.50	<2.0	**181**	<0.50	**560**	**0.060**	**170,000**	<0.50	**0.259**	**1.05**	**15**	<0.30	**<20**	**252,000**	**455**	**2.7**	**0.59**	<2.0	**1,390,000**	<0.050	<5.0	**2.16**	<0.50	**28.6**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	13-Sep-12	D	<5.0	<0.50	<2.0	**192**	<0.50	**600**	<0.050	**195,000**	<0.50	**0.274**	<0.50	<10	<0.30	**<20**	**274,000**	**400**	<2.0	**1.33**	<2.0	**1,400,000**	<0.050	<5.0	**2.19**	<0.50	**21.5**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	12-Dec-12	D	<5.0	<0.50	<2.0	**223**	<0.50	**570**	<0.050	**196,000**	<0.50	**2.31**	**2.98**	**30**	<0.30	**<20**	**282,000**	**4,850**	**2.9**	**1.95**	<2.0	**1,390,000**	<0.050	<5.0	**1.44**	<0.50	**34.1**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	14-Mar-13	D	**16.5**	<0.50	<2.0	**165**	<0.50	**530**	<0.050 UJ	**174,000**	<0.50	**0.733** J	<0.50	**52** J	<0.30	**<20**	**260,000**	**1,210** J	<2.0	**3.13** J	<2.0	**1,410,000**	<0.050	<5.0	**1.48**	<0.50	**18.3**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	14-Jun-13	D	<5.0	<0.50	<2.0	**164**	<0.50	**510**	<0.050	**190,000**	<0.50	**0.282**	**0.90**	**19**	<0.30	**<20**	**280,000**	**1,040**	<2.0	**1.40**	<2.0	**1,720,000**	<0.050	<5.0	**1.41**	<0.50	**24.9**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	17-Sep-13	D	<5.0	<0.50	<2.0	**166**	<0.50	**620**	<0.050	**182,000**	<0.50	**0.316**	**1.34**	**19**	<0.30	**<20**	**271,000**	**707**	<2.0	**1.84**	<2.0	**1,420,000**	<0.050	<5.0	**1.34**	<0.50	**33.8**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	16-Dec-13	D	<5.0	<0.50	<2.0	**183**	<0.50	**690**	<0.050	**216,000**	<0.50	**0.114**	**0.52**	<10	<0.30	**<20**	**316,000**	**1,010**	<2.0	**1.12**	<2.0	**1,600,000**	<0.050	<5.0	**1.66**	<0.50	**11.6**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	12-Mar-14	D	<5.0	<0.50	<2.0	**170**	<0.50	**550**	<0.050	**203,000**	**65.5**	**0.429**	**0.92**	**498**	<0.30	**<20**	**306,000**	**636**	<2.0	**6.05**	<2.0	**1,450,000**	<0.050	<5.0	**1.43**	<0.50	**8.3**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	11-Jun-14	D	<5.0	<0.50	<2.0	**167**	<0.50	**570**	<0.050	**208,000**	<0.50	**1.08**	**1.46**	**163**	<0.30	**<20**	**308,000**	**2,590**	<2.0	**2.41**	<2.0	**1,640,000**	<0.050	<5.0	**1.39**	<0.50	**10.2**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	8-Sep-14	D	<5.0	<0.50	<2.0	**172**	<0.50	**490**	<0.050	**213,000**	<0.50	**0.178**	**1.35**	**44**	<0.30	**<20**	**314,000**	**444**	<2.0	**1.13**	<2.0	**1,650,000**	<0.050	<5.0	**1.67**	<0.50	**9.9**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	1-Dec-14	D	<5.0	<0.50	<2.0	**141**	<0.50	**690**	<0.050	**199,000**	<0.50	**0.259**	**2.69**	**44**	<0.30	**<20**	**280,000**	**764**	<2.0	**2.25**	<2.0	**1,370,000**	<0.050	<5.0	**1.52**	<0.50	**7.8**
P3-5-7D	Porewater	P3-5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	---	11-Mar-15	D	<5.0	<0.50	<2.0	**145**	<0.50	**520**	<0.050	**196,000**	<0.50	**0.180**	**2.33**	**26

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	10	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	12-Mar-14	T	**8.120**	<0.50	**4.7**	**40.6**	<0.50	**1,870**	**0.253**	**117,000**	**4.99**	**3.50**	**16.5**	**9.060**	**3.04**	**67**	**310,000**	**156**	**5.8**	**3.66**	<2.0	**3,080,000**	<0.050	**348**	**5.33**	**30.0**	**18.9**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	11-Jun-14	D	<0.0	<0.50	**2.3**	**22.4**	<0.50	**2,100**	**0.260**	**128,000**	<0.50	**0.508**	**1.89**	**42**	<0.30	**54**	**334,000**	**89.5**	**5.4**	**0.98**	<2.0	**3,620,000**	<0.050	<5.0	**3.55**	**3.11**	**3.7**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	11-Jun-14	T	**4.030**	<0.50	**4.1**	**32.1**	<0.50	**2,180**	**0.265**	**130,000**	**2.85**	**2.29**	**8.72**	**4.420**	**1.16**	**65**	**339,000**	**141**	**5.3**	**2.53**	<2.0	**3,670,000**	<0.050	**174**	**4.40**	**17.1**	**8.4**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	9-Sep-14	D	<5.0	<0.50	<2.0	**46.9**	<0.50	**2,280**	**0.221**	**269,000**	<0.50	**1.24**	**1.56**	**140**	<0.30	**86**	**763,000**	**152**	**4.7**	**1.10**	<2.0	**5,570,000**	<0.050	<5.0	**4.17**	**1.63**	**3.1**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	9-Sep-14	T	**32,200**	<0.50	**16.5**	**134**	**0.75**	**2,260**	**0.869**	**295,000**	**19.3**	**15.9**	**58.3**	**35,600**	**9.91**	**242**	**769,000**	**586**	**4.7**	**12.7**	<2.0	**6,030,000**	**0.145**	**1,830**	**11.7**	**194**	**63.7**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	1-Dec-14	D	<5.0	<0.50	<2.0	**42.2**	<0.50	**2,090**	**0.221**	**286,000**	<0.50	**1.36**	**1.07**	**26**	<0.30	**61**	**709,000**	**151**	**4.1**	**0.82**	<2.0	**5,340,000**	<0.050	<5.0	**3.23**	**1.21**	<3.0
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	1-Dec-14	T	**28,900**	<0.50	**23.2**	**124**	**0.87**	**2,120**	**0.781**	**284,000**	**26.6**	**15.5**	**66.3**	**43,200**	**8.94**	**222**	**716,000**	**610**	**4.8**	**15.6**	<2.0	**5,500,000**	**0.109**	**1,140**	**11.2**	**124**	**64.2**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	11-Mar-15	D	**17.7**	<0.50	<2.0	**22.1**	<0.50	**1,910**	**0.182**	**153,000**	<0.50	**0.346**	**1.57**	**32**	<0.30	**35**	**418,000**	**34.0**	**4.9**	**0.66**	<2.0	**3,810,000**	<0.050	<5.0	**3.14**	**1.62**	**8.3**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	11-Mar-15	T	**2,630**	<0.50	**3.5**	**30.0**	<0.50	**1,900**	**0.213**	**153,000**	**2.28**	**1.36**	**5.82**	**3,660**	**1.05**	**41**	**419,000**	**72.2**	**5.0**	**1.49**	<2.0	**3,810,000**	<0.050	**133**	**3.82**	**11.5**	**7.2**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Jun-15	D	**20.1**	<0.50	<2.0	**27.1**	<0.50	**2,080**	**0.273**	**190,000**	<0.50	**0.358**	**1.22**	**31**	<0.30	**49**	**470,000**	**38.5**	**5.0**	<0.50	<2.0	**4,440,000**	<0.050	<5.0	**2.58**	**1.58**	**3.6**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Jun-15	T	**16,400**	<0.50	**14.4**	**74.8**	<0.50	**2,070**	**0.545**	**200,000**	**11.1**	**7.61**	**27.1**	**22,700**	**5.51**	**100**	**467,000**	**293**	**4.6**	**6.71**	<2.0	**4,490,000**	<0.050	**631**	**6.72**	**58.7**	**32.4**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	9-Sep-15	D	<5.0	<0.50	<2.0	**50.1**	<0.50	**2,090**	**0.321**	**303,000**	<0.50	**1.02**	**2.14**	**59**	<0.30	**72**	**795,000**	**102**	**4.1**	**2.62**	<2.0	**5,450,000**	<0.050	<5.0	**2.43**	**1.46**	**8.5**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	9-Sep-15	T	**3,970**	<0.50	**4.9**	**64.2**	<0.50	**2,190**	**0.320**	**312,000**	**3.24**	**2.57**	**9.88**	**6,500**	**1.59**	**86**	**776,000**	**151**	**4.5**	**4.58**	<2.0	**5,960,000**	<0.050	**182**	**3.77**	**16.9**	**12.8**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	8-Dec-15	D	<5.0	<0.50	<2.0	**52.3**	<0.50	**2,080**	**0.349**	**304,000**	<0.50	**0.738**	**1.17**	**20.0**	<0.30	**49**	**754,000**	**101**	**4.5**	**0.69**	<2.0	**5,600,000**	<0.050	<5.0	**2.04**	**1.84**	<3.0
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	8-Dec-15	T	**1,340**	<0.50	<2.0	**61.4**	<0.50	**2,120**	**0.387**	**320,000**	**0.91**	**1.54**	**2.92**	**2,020**	**0.33**	**54**	**789,000**	**151**	**4.2**	**1.13**	<2.0	**5,850,000**	<0.050	**59.0**	**2.34**	**5.76**	**4.4**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	31-Mar-16	D	<5.0	<0.50	<2.0	**31.4**	<0.50	**2,040**	**0.383**	**167,000**	<0.50	**0.636**	**0.97**	**103**	<0.30	**50.0**	**451,000**	**52.3**	**4.6**	<0.50	<2.0	**3,980,000**	<0.050	<5.0	**2.35**	**1.37**	**13.4**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	1-Mar-16	T	**4,710**	<0.50	**8.9**	**49.4**	<0.50	**1,990**	**0.442**	**156,000**	**4.92**	**3.52**	**11.7**	**8,660**	**2.37**	**70.0**	**417,000**	**121**	**4.6**	**3.34**	<2.0	**3,720,000**	<0.050	**240**	**3.81**	**22.7**	**15.5**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-May-16	D	<5.0	<0.50	<2.0	**24.1**	<0.50	**2,190**	**0.270**	**162,000**	<0.50	**0.604**	**1.84**	**106**	<0.30	**58**	**436,000**	**30.7**	**4.9**	**1.16**	<2.0	**4,310,000**	<0.050	<5.0	**2.41**	**2.01**	**6.0**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-May-16	T	**2,930**	<0.50	**3.8**	**29.8**	<0.50	**2,160**	**0.222**	**189,000**	**1.62**	**1.98**	**5.89**	**4,030**	**0.97**	**67**	**432,000**	**92.9**	**5.1**	**2.03**	<2.0	**4,260,000**	<0.050	**117**	**3.12**	**11.1**	**8.0**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	17-Aug-16	D	<5.0	<0.50	<2.0	**40.2**	<0.50	**2,260**	**0.300**	**253,000**	<0.50	**1.02**	**2.13**	**157**	<0.30	**70.0**	**697,000**	**74.3**	**4.8**	**0.72**	<2.0	**5,420,000**	<0.050	<5.0	**2.64**	**1.25**	**3.4**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	17-Aug-16	T	**40,700**	<0.50	**44.8**	**193**	**1.33**	**2,310**	**1.04**	**244,000**	**37.0**	**27.0**	**98.3**	**72,100**	**20.0**	**253**	**680,000**	**1,080**	**5.8**	**23.2**	<2.0	**5,080,000**	**0.215**	**1,380**	**14.7**	**179**	**112.0**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	21-Nov-16	D	<5.0	<0.50	<2.0	**46.9**	<0.50	**2,110**	**0.256**	**290,000**	<0.50	**0.668**	**1.00**	**97**	<0.30	**68**	**727,000**	**44.7**	**4.5**	<0.50	<2.0	**5,600,000**	<0.050	<5.0	**3.00**	**1.32**	**7.0**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	21-Nov-16	T	**859**	<0.50	**2.3**	**47.8**	<0.50	**2,020**	**0.280**	**284,000**	**0.63**	**1.06**	**2.36**	**1,900**	**0.46**	**66**	**700,000**	**50.7**	**4.5**	**1.00**	<2.0	**5,730,000**	<0.050	**36.3**	**3.33**	**4.90**	**5.2**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	13-Mar-17	D	<5.0	<0.50	<2.0	**24.1**	<0.50	**1,750**	**0.215**	**141,000**	<0.50	**0.422**	**1.02**	**35**	<0.30	**50**	**399,000**	**30.8**	**4.9**	<0.50	<2.0	**4,050,000**	<0.050	<5.0	**3.23**	**2.14**	<3.0
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	13-Mar-17	T	**3,920**	<0.50	**5.4**	**32.6**	<0.50	**1,740**	**0.194**	**149,000**	**3.40**	**2.71**	**8.50**	**6,600**	**1.92**	**65**	**393,000**	**123**	**5.2**	**2.21**	<2.0	**3,950,000**	<0.050	**175**	**4.41**	**17.9**	**10**
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	6-Jun-17	D	<5.0	<0.50	<2.0	**16.5**	<0.50	**1,840**	**0.144**	**156,000**	**0.64**	**0.130**	**0.84**	<10	<0.30	**52**	**303,000**	**5.09**	**5.1**	<0.50	<2.0	**3,140,000**	<0.050	<5.0	**2.89**	**3.38**	<3.0
P3.8-3S	Porewater EAZ	P3.8-3	CS	WB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	6-Jun-17	T	**1,170**	<0.50	**2.1**	**21.2**	<0.50	**2,270**	**0.183**	**111,000**	**2.99**	**1.04**	**3.44**	**1,980**	**0.98**	**68**	**302,000**	**36.2**	**5.9**	**1.09**	<2.0	**3,470,000**	<0.050	**53.7**	**3.69**	**7.92**	**3.1**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	15-Mar-13	D	<5.0	<0.50	**2.0**	**298**	<0.50	**530**	**0.84**	**222,000**	<0.50	**15.0**	**0.84**	<10	<0.30	<20	**294,000**	**1,630**	**4.6**	**11.2**	<2.0	**1,690,000**	**0.132**	<5.0	**2.34**	<0.50	**8.2**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	14-Jun-13	D	<5.0	<0.50	<2.0	**176**	<0.50	**780**	**0.697**	**249,000**	<0.50	**5.33**	**0.66**	**285**	<0.30	<20	**235,000**	**1,820**	**2.3**	**4.31**	<2.0	**1,860,000**	<0.050	<5.0	**0.774**	<0.50	**4.3**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	16-Sep-13	D	<5.0	<0.50	<2.0	**244**	<0.50	**1,620**	**1.60**	**297,000**	<0.50	**5.72**	**1.14**	**109**	**0.37**	<20	**629,000**	**1,800**	<2.0	**3.87**	<2.0	**4,360,000**	<0.050	<5.0	**0.672**	<0.50	**10.7**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	12-Dec-13	D	<5.0	<0.50	<2.0	**129**	<0.50	**1,290**	**1.49**	**305,000**	<0.50	**3.35**	**0.60**	**37**	<0.30	<20	**609,000**	**851**	**2.2**	**2.67**	<2.0	**3,960,000**	<0.050	<5.0	**0.360**	<0.50	**8.1**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	12-Mar-14	D	<5.0	<0.50	<2.0	**103**	<0.50	**770**	**1.64**	**174,000**	<0.50	**2.61**	**1.16**	**80.0**	<0.30	<20	**302,000**	**552**	<2.0	**2.68**	<2.0	**2,060,000**	<0.050	<5.0	**0.580**	<0.50	**10.9**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	11-Jun-14	D	<5.0	<0.50	<2.0	**69.7**	<0.50	**880**	**0.963**	**154,000**	<0.50	**1.14**	**0.73**	**64**	<0.30	<20	**264,000**	**405**	<2.0	**1.89**	<2.0	**1,990,000**	<0.050	<5.0	**0.490**	<0.50	**7.4**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	9-Sep-14	D	<5.0	<0.50	<2.0	**56**	<0.50	**1,590**	**1.07**	**279,000**	<0.50	**1.90**	**0.93**	**310**	<0.30	<20	**635,000**	**605**	<2.0	**2.49**	<2.0	**4,590,000**	**0.052**	<5.0	**0.321**	<0.50	**6.9**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	1-Dec-14	D	<5.0	<0.50	<2.0	**123**	<0.50	**1,450**	**1.11**	**296,000**	<0.50	**1.11**	**0.85**	**77**	<0.30	<20	**645,000**	**595**	<2.0	**2.24**	<2.0	**4,130,000**	<0.050	<5.0	**0.323**	<0.50	**5.9**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	11-Mar-15	D	<5.0	<0.50	<2.0	**82.0**	<0.50	**850**	**1.70**	**186,000**	<0.50	**0.822**	**1.81**	**125**	<0.30	<20	**330,000**	**355**	<2.0	**1.66**	<2.0	**2,370,000**	<0.050	<5.0	**0.452**	<0.50	**9.4**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	16-Jun-15	D	<5.0	<0.50	<2.0	**73.2**	<0.50	**1,110**	**0.391**	**186,000**	<0.50	**1.02**	**0.56**	**1,080**	<0.30	<20	**325,000**	**582**	<2.0	**1.11**	<2.0	**2,770,000**	<0.050	<5.0	**0.371**	<0.50	**3.8**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	9-Sep-15	D	<5.0	<0.50	<2.0	**146**	<0.50	**1,530**	**1.19**	**332,000**	<0.50	**1.48**	**1.13**	**336**	<0.30	<20	**775,000**	**528**	<2.0	**3.29**	<2.0	**4,730,000**	<0.050	<5.0	**0.326**	<0.50	**16.0**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	8-Dec-15	D	<5.0	<0.50	<2.0	**102**	<0.50	**1,480**	**0.867**	**327,000**	<0.50	**0.652**	**0.72**	**16**	<0.30	<20	**660,000**	**315**	<2.0	**1.85**	<2.0	**4,120,000**	<0.050	<5.0	**0.313**	<0.50	**18.2**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	1-Mar-16	D	<5.0	<0.50	<2.0	**70.6**	<0.50	**1,810**	**0.615**	**287,000**	<0.50	**0.215**	**1.18**	<10	<0.30	<20	**371,000**	**151**	<2.0	**2.28**	<2.0	**2,270,000**	**0.063**	<5.0	**0.436**	<0.50	**17.7**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	16-May-16	D	<5.0	<0.50	<2.0	**61.0**	<0.50	**950**	**0.846**	**228,000**	<0.50	**0.593**	**0.80**	**20.0**	<0.30	<20	**370,000**	**334**	<2.0	**1.61**	<2.0	**2,410,000**	<0.050	<5.0	**0.438**	<0.50	**8.5**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	17-Aug-16	D	<5.0	<0.50	<2.0	**89.8**	<0.50	**1,550**	**0.813**	**254,000**	<0.50	**0.476**	**0.80**	**19**	<0.30	<20	**548,000**	**312**	<2.0	**1.63**	<2.0	**3,590,000**	<0.050	<5.0	**0.364**	<0.50	**6.5**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	21-Nov-16	D	<5.0	<0.50	<2.0	**87.1**	<0.50	**1,290**	**0.475**	**295,000**	<0.50	**0.240**	**0.74**	<10	<0.30	<20	**594,000**	**366**	<2.0	**1.54**	<2.0	**3,630,000**	<0.050	<5.0	**0.398**	<0.50	**8.8**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	13-Mar-17	D	**227**	<0.50	<2.0	**53.8**	<0.50	**680**	**0.614**	**205,000**	<0.50	**0.531**	**0.41**	**0.44**	<20	**350,000**	**105**	<2.0	**2.49**	<2.0	**2,360,000**	<0.050	**5.3**	**0.376**	**1.13**	**15.1**
P3.8-3I	Porewater	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	6-Jun-17	D	<5.0	<0.50	<2.0	**44.4**	<0.50	**850**	**0.189**	**155,000**	<0.50	**0.068**	**2.35**	<10	<0.30	<20	**237,000**	**15**	<2.0	**0.56**	<2.0	**1,860,000**	<0.050	<5.0	**0.443**	<0.50	**4.2**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	15-Mar-13	D	**2.0**	**0.310**	**0.56**	**278**	<0.010	**425**	**0.123**	**161,000**	<1.0	**2.86**	<0.40	<60	<0.10	**13.3**	**166,000**	**1,340**	**6.75**	**2.93**	**1.39**	**1,070,000**	**0.0392**	<0.40	**2.05**	**0.41**	**4.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	14-Jun-13	D	<5.0	<0.50	<2.0	**100**	<0.50	**970**	**0.112**	**115,000**	<0.50	**1.46**	**0.80**	<10	<0.30	<20	**208,000**	**827**	**2.7**	**1.21**	<2.0	**1,830,000**	<0.050	<5.0	**0.792**	**0.80**	**3.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	16-Sep-13	D	<5.0	<0.50	<2.0	**187**	<0.50	**1,400**	**0.417**	**279,000**	<0.50	**2.57**	**0.87**	**19**	<0.30	<20	**564,000**	**1,390**	<2.0	**1.93**	<2.0	**4,500,000**	<0.050	<5.0	**0.610**	<0.50	**8.5**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	12-Dec-13	D	<5.0	<0.50	<2.0	**98.0**	<0.50	**1,080**	**0.248**	**259,000**	<0.50	**1.74** J	**0.81**	<10 UJ	<0.30	<20	**483,000**	**950**	**3.9**	**1.58**	<2.0	**3,070,000**	<0.050	<5.0	**0.542**	<0.50	**5.2** J
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	12-Mar-14	D	<5.0	<0.50	<2.0	**86.6**	<0.50	**830**	**0.126**	**142,000**	<0.50	**0.844**	**0.80**	<10	<0.30	<20	**290,000**	**472.00**	**2.6**	**1.41**	<2.0	**1,830,000**	<0.050	<5.0	**0.62**	<0.50	**4.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	11-Jun-14	D	<5.0	<0.50	<2.0	**54.1**	<0.50	**1,070**	**0.102**	**139,000**	<0.50	**0.472**	**2.17**	<10	<0.30	<20	**254,000**	**256**	<2.0	**1.61**	<2.0	**2,120,000**	<0.050	<5.0	**0.715**	<0.50	**4.5**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	9-Sep-14	D	<5.0	<0.50	<2.0	**145**	<0.50	**1,610**	**0.328**	**297,000**	<0.50	**1.09**	**0.99**	<10	<0.30	<20	**595,000**	**835**	<2.0	**1.89**	<2.0	**4,290,000**	**0.079**	<5.0	**0.495**	<0.50	**3.1**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	1-Dec-14	D	<5.0	<0.50	<2.0	**88.3**	<0.50	**1,180**	**0.157**	**230,000**	<0.50	**0.546**	**0.76**	<10	<0.30	<20	**438,000**	**739**	<2.0	**1.43**	<2.0	**2,840,000**	<0.050	<5.0	**0.473**	<0.50	**4.3**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	11-Mar-15	D	<5.0	<0.50	<2.0	**70.3**	<0.50	**990**	**0.129**	**163,000**	<0.50	**0.142**	**1.35**	<10	<0.30	<20	**291,000**	**170**	<2.0	**1.04**	<2.0	**2,390,000**	<0.050	<5.0	**0.479**	<0.50	**6.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	16-Jun-15	D	<5.0	<0.50	<2.0	**66.7**	<0.50	**1,260**	**0.136**	**183,000**	<0.50	**0.132**	**0.67**	<10	<0.30	<20	**323,000**	**176**	<2.0	**0.78**	<2.0	**2,800,000**	<0.050	<5.0	**0.415**	<0.50	**3.2**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	9-Sep-15	D	<5.0	<0.50	<2.0	**102**	<0.50	**1,300**	**0.205**	**250,000**	<0.50	**0.255**	**1.35**	<10	<0.30	<20	**542,000**	**400**	<2.0	**1.57**	<2.0	**3,340,000**	<0.050	<5.0	**0.429**	<0.50	**10.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	8-Dec-15	D	<5.0	<0.50	<2.0	**77.2**	<0.50	**990**	**0.164**	**243,000**	<0.50	**0.064**	**0.67**	<10	<0.30	<20	**452,000**	**112**	<2.0	**1.06**	<2.0	**3,210,000**	<0.050	<5.0	**0.46**	<0.50	**5.1**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	1-Mar-16	D	<5.0	<0.50	<2.0	**57.9**	<0.50	**880**	**0.124**	**215,000**	<0.50	**0.096**	**0.63**	<10	<0.30	<20	**335,000**	**106**	<2.0	**1.11**	<2.0	**2,090,000**	<0.050	<5.0	**0.556**	<0.50	**10.5**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	16-May-16	D	<5.0	<0.50	<2.0	**83.6**	<0.50	**940**	**0.089**	**186,000**	<0.50	**0.105**	**0.74**	<10	<0.30	<20	**307,000**	**165**	<2.0	**0.93**	<2.0	**2,090,000**	<0.050	<5.0	**0.463**	<0.50	**5.6**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	17-Aug-16	D	<5.0	<0.50	<2.0	**83.8**	<0.50	**1,240**	**0.246**	**239,000**	<0.50	**0.254**	**0.68**	<10	<0.30	<20	**468,000**	**716**	<2.0	**1.72**	<2.0	**3,020,000**	<0.050	<5.0	**0.417**	<0.50	**4.5**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	21-Nov-16	D	<5.0	<0.50	<2.0	**85.2**	<0.50	**1,200**	**0.229**	**287,000**	<0.50	**0.295**	**0.53**	**22**	<0.30	<20	**507,000**	**609**	<2.0	**1.45**	<2.0	**3,220,000**	<0.050	<5.0	**0.412**	<0.50	**6.7**
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	13-Mar-17	D	<5.0	<0.50	<2.0	**61.5**	<0.50	**700**	**0.114**	**215,000**	<0.50	**0.145**	**0.54**	<10	<0.30	<20	**342,000**	**187**	<2.0	**0.88**	<2.0	**2,270,000**	<0.050	<5.0	**0.405**	<0.50	<3.0
P3.8-3D	Porewater	P3.8-3	CS	WB	4.6-5.0	4.6	5.0	Colluvium	—	6-Jun-17	D	<5.0	<0.50	<2.0	**45.6**	<0.50	**880**	**0.06**	**137,000**	<0.50	<0.050	**0.84**	<10	<0.30	<20	**199,000**	**8.82**	<2.0	<0.50	<2.0	**1,650,000**	<0.050	<5.0	**0.447**	<0.50	<3.0
Eastern IRA Barrier																																			
P4.2-3S	Porewater EAZ	P4.2-3	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Mar-13	D	<5.0	<0.50	<2.0	**70.4**	<0.50	**660**	**0.504**	**128,000**	<0.50	**3.13**	**1.53**	**18**	<0.30	<20	**203,000**	**395**	**3.1**	**29.9**	<2.0	**1,670,000**	**0.050**	<5.0	**1.64**	**0.53**	**10.3**
P4.2-3S	Porewater EAZ	P4.2-3	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	20-Mar-13	D	<5.0	<0.50	<2.0	**75.3**	<0.50	**580**	**0.430**	**114,000**	<0.50	**1.93**	**0.61**	<10	<0.30	<20	**203,000**	**263**	<2.0	**4.10**	<2.0	**1,540,000**	**0.085**	<5.0	**0.874**	<0.50	**3.3**
P4.2-3S	Porewater EAZ	P4.2-3	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	14-Jun-13	D	<5.0	<0.50	<2.0	**47.9**	<0.50	**730**	<0.050	**96,900**	<0.50	**0.744**	**1.24**	**224**	<0.30	<20	**131,000**	**183**	<2.0	**7.96**	<2.0	**1,200,000**	<0.050	<5.0	**0.391**	**1.25**	**3.4**
P4.2-3S	Porewater EAZ	P4.2-3	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	14-Jun-13	T	**14,100**	<0.50	**9.0**	**109**	<0.50	**720**	**0.178**	**99,400**	**13.9**	**5.29**	**17.9**	**21,900**	**8.67**	**38**	**144,000**	**401**	**2.6**	**5.19**	<2.0	**1,190,000**	**0.061**	**914**	**2.86**	**65.5**	**26.6**
P4.2-3S	Porewater EAZ	P4.2-3	CS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Sep-13

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	8-Dec-15	T	**498**	<0.50	<2.0	**167**	<0.50	**1,910**	<0.050	**332,000**	**0.88**	**1.31**	**1.90**	**1,420**	<0.30	**29**	**712,000**	**12,600**	**4.3**	**1.01**	<2.0	**5,620,000**	<0.050	**24.1**	**3.85**	**1.99**	**16.8**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	1-Mar-16	D	<5.0	<0.50	<2.0	**155**	<0.50	**2,090**	<0.050	**249,000**	<0.50	**0.447**	<0.50	**163**	<0.30	**49**	**599,000**	**8,520**	<2.0	<0.50	<2.0	**4,570,000**	<0.050	<5.0	**2.45**	<0.50	**3.2**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	1-Mar-16	T	**319**	<0.50	<2.0	**113**	<0.50	**2,070**	**0.067**	**255,000**	**0.72**	**0.572**	**1.66**	**660**	**0.46**	**57**	**601,000**	**1,630**	**2.2**	**0.59**	<2.0	**4,380,000**	<0.050	**19.0**	**2.98**	**1.46**	**9.7**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	16-May-16	D	<5.0	<0.50	<2.0	**103**	<0.50	**1,930**	<0.050	**237,000**	<0.50	**1.31**	<0.50	**493**	<0.30	**33**	**529,000**	**6,280**	**5.5**	**1.29**	<2.0	**4,600,000**	<0.050	<5.0	**5.37**	**1.37**	**27.9**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	16-May-16	T	**11,900**	**0.79**	**8.2**	**208**	<0.50	**1,990**	**0.079**	**270,000**	**13.6**	**19.2**	**46.4**	**25,000**	**11.0**	**49**	**538,000**	**14,000**	**35.2**	**14.0**	<2.0	**4,650,000**	**0.073**	**503**	**16.5**	**46.2**	**266**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	17-Aug-16	D	<5.0	<0.50	**3.3**	**161**	<0.50	**2,920**	<0.050	**316,000**	<0.50	**2.42**	<0.50	**703**	<0.30	**57**	**759,000**	**7,630**	**8.1**	**1.67**	<2.0	**6,110,000**	<0.050	<5.0	**8.89**	**1.17**	**4.6**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	17-Aug-16	T	**2,240**	<0.50	**4.8**	**172**	<0.50	**2,930**	**0.106**	**339,000**	**1.78**	**4.46**	**8.33**	**5,220**	**2.07**	**65**	**766,000**	**10,800**	**9.4**	**3.34**	<2.0	**6,050,000**	<0.050	**178**	**7.64**	**13.2**	**33.4**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	22-Nov-16	D	<5.0	<0.50	<2.0	**123**	<0.50	**2,450**	<0.050	**256,000**	<0.50	**3.43**	<0.50	**696**	<0.30	**49**	**620,000**	**6,640**	**16.0**	**1.49**	<2.0	**5,440,000**	<0.050	<5.0	**8.77**	**0.60**	<3.0
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	23-Nov-16	T	**549**	<0.50	<2.0	**137**	<0.50	**2,430**	<0.050	**426,000**	**0.82**	**3.73**	**4.79**	**2,740**	**1.04**	**51**	**699,000**	**6,880**	**10.5**	**18.7**	<2.0	**5,780,000**	<0.050	**39.5**	**6.84**	**3.83**	**10.2**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	16-Mar-17	D	<5.0	<0.50	<2.0	**88.8**	<0.50	**2,150**	<0.050	**295,000**	<0.50	**1.14**	**0.51**	**138**	<0.30	**38**	**518,000**	**2,900**	**7.4**	**1.09**	<2.0	**4,380,000**	<0.050	<5.0	**6.7**	<0.50	**3.1**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	16-Mar-17	T	**1,490**	<0.50	**2.1**	**116**	<0.50	**2,150**	<0.050	**306,000**	**1.29**	**2.98**	**6.43**	**4,050**	**1.16**	**44**	**509,000**	**4,670**	**8.8**	**3.05**	<2.0	**4,490,000**	<0.050	**70.1**	**7.29**	**7.52**	**17.6**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	8-Jun-17	D	**11.0**	<0.50	<2.0	**104**	<0.50	**2,310**	<0.050	**217,000**	<0.50	**2.44**	**3.14**	**420**	**0.71**	**44**	**561,000**	**7,040**	**8.4**	**8.08**	<2.0	**4,850,000**	<0.050	<5.0	**6.03**	**0.91**	**22.9**
PA8-8S	Porewater EAZ	PA8-8	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	8-Jun-17	T	**38,400**	<0.50	**12.4**	**248**	<0.50	**2,350**	**0.51**	**264,000**	**43.1**	**31.9**	**76.2**	**62,500**	**25.1**	**189**	**614,000**	**10,900**	**13.3**	**22.7**	<2.0	**5,220,000**	**0.289**	**1,410**	**13.2**	**166**	**142**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	6-Dec-15	D	**12.3**	<0.50	**2.0**	**45.9**	<0.50	**880**	<0.050	**73,700**	**1.00**	**3.6**	**1.08**	**16**	<0.30	**24**	**132,000**	**3,290**	**9.2**	**1.72**	<2.0	**1,470,000**	<0.050	<5.0	**4.73**	**2.25**	**8.9**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jan-12	D	**27.8**	<0.50	<2.0	**67.6**	<0.10	**1,380**	**0.06**	**122,000**	<0.50	**2.71**	**0.66**	**34**	<0.30	**32**	**253,000**	**2,320**	**11.9**	**1.8**	<2.0	**2,230,000**	<0.050	<5.0	**7.49**	**2.59**	**37.6**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	1-Feb-12	D	<60	<0.20	<1.0	**61.5**	<0.10	**1,080**	<0.10	**138,000**	<10	<1.0	**<10**	<90	<1.0	**21.5**	**290,000**	**2,360**	**9.8**	<4.0	<4.0	**2,490,000**	<0.040	<4.0	**6.57**	**1.6**	**114**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Mar-12	D	**6.9**	<0.50	<2.0	**67.3**	<0.50	**1,060**	<0.050	**146,000**	<0.50	**0.811**	**0.84**	<10	<0.30	**24**	**282,000**	**2,070**	**6.8**	**4.59**	<2.0	**2,240,000**	<0.050	<5.0	**4.71**	**1.34**	**85.1**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Apr-12	D	<5.0	<0.50	<2.0	**70.2**	<0.50	**1,300**	<0.050	**171,000**	<0.50	**8.88**	<0.50	**391**	<0.30	**27**	**334,000**	**5,350**	**10.9**	**6.60**	<2.0	**2,460,000**	<0.050	<5.0	**6.94**	**0.69**	**90.9**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	8-May-12	D	<5.0	<0.50	<2.0	**56.8**	<0.50	**2,320**	**0.097**	**208,000**	<0.50	**1.30**	**0.94**	<10	<0.30	**114**	**524,000**	**2,780**	**21.2**	**11.0**	<4.0	**4,620,000**	**0.085**	<5.0	**10.3**	**0.96**	**181**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jun-12	D	<5.0	<0.50	<2.0	**69.8**	<0.50	**1,420**	**0.101**	**226,000**	<0.50	**1.15**	**2.45**	**24**	**0.31**	**145**	**420,000**	**4,440**	**41.1**	**7.10**	<8.0	**4,410,000**	**0.185**	<5.0	**31.7**	**1.33**	**110**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jul-12	D	<5.0	<0.50	<2.0	**66.7**	<0.50	**1,400**	**0.192**	**202,000**	<0.50	**1.14**	**1.60**	**25**	<0.30	**107**	**363,000**	**4,050**	**41.4**	**2.64**	<5.0	**3,160,000**	**0.097**	<5.0	**29.3**	**1.72**	**80.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	2-Aug-12	D	<5.0	<0.50	<2.0	**55.0**	<0.50	**1,630**	<0.20	**174,000**	<0.50	**0.278**	**1.45**	<10	**0.52**	**78**	**350,000**	**2,220**	**25.9**	**5.29**	<2.0	**3,530,000**	<0.050	<5.0	**19.3**	**1.38**	**181**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Sep-12	D	<5.0	<0.50	<2.0	**58.2**	<0.50	**1,970**	<0.050	**203,000**	<0.50	**0.387**	**0.84**	**18**	<0.30	**77**	**449,000**	**144**	**15.7**	**1.30**	<2.0	**4,150,000**	**0.228**	<5.0	**15.6**	**1.47**	**63.8**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Oct-12	D	<5.0	<0.50	<2.0	**66.1**	<0.50	**1,640**	<0.050	**219,000**	<0.50	**0.191**	**1.62**	**11**	<0.30	**69**	**382,000**	**105**	**14.0**	**2.22**	<2.0	**3,470,000**	**0.063**	<5.0	**18.5**	**0.87**	**63.4**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Nov-12	D	**47.4**	<0.50	<2.0	**69.9**	<0.50	**1,540**	<0.050	**267,000**	<0.50	**0.165**	**1.11**	**63**	<0.30	**80**	**502,000**	**48.1**	**9.8**	**1.60**	<2.0	**3,960,000**	<0.050	<5.0	**18.0**	**0.77**	**50.6**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	12-Dec-12	D	**6.6**	<0.50	<2.0	**79.8**	<0.50	**1,370**	<0.050	**271,000**	<0.50	**0.150**	**6.77**	**12**	<0.30	**48**	**488,000**	**413**	**7.4**	**3.29**	<2.0	**3,260,000**	<0.050	<5.0	**19.2**	<0.50	**75.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Jan-13	D	<5.0	<0.50	<2.0	**85.6**	<0.50	**1,280**	**0.063**	**299,000**	<0.50	**0.139**	**0.84**	<10	<0.30	**54**	**523,000**	**423**	**6.5**	**1.00**	<2.0	**3,660,000**	<0.050	<5.0	**22.0**	<0.50	**24.6**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	14-Mar-13	D	<5.0	<0.50	<2.0	**82.3**	<0.50	**1,720**	<0.050	**312,000**	<0.50	**0.074**	**0.50**	<10	<0.30	**66**	**615,000**	**8.28**	**4.5**	**1.21**	<2.0	**4,580,000**	<0.050	<5.0	**15.8**	<0.50	**56.6**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Jun-13	D	<5.0	<0.50	<2.0	**64.8**	<0.50	**1,360**	**0.099**	**236,000**	<0.50	**1.62**	**2.67**	**60**	<0.30	**38**	**416,000**	**2,710**	**11.4**	**2.95**	<2.0	**2,940,000**	<0.050	<5.0	**14**	**0.70**	**105**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Jun-13	T	**33,900**	**0.68**	**8.7**	**245**	**1.49**	**1,480**	**0.425**	**271,000**	**28.3**	**23.3**	**61.0**	**41,300**	**23.9**	**138**	**437,000**	**11,200**	**16.9**	**24.0**	<2.0	**2,770,000**	**0.238**	**939**	**21.5**	**127**	**560**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-Sep-13	D	**5.6**	<0.50	<2.0	**71.9**	<0.50	**1,390**	**0.118**	**218,000**	<0.50	**2.09**	**2.89**	**20**	<0.30	**46**	**374,000**	**669**	**8.1**	**0.89**	<2.0	**3,140,000**	<0.050	<5.0	**14.6**	**0.87**	**21.7**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-Sep-13	T	**27,300**	**1.00**	**8.2**	**254**	**1.08**	**1,440**	**0.158**	**231,000**	**25.5**	**16.5**	**39.2**	**32,200**	**14.0**	**149**	**393,000**	**7,830**	**17.8**	**14.6**	<2.0	**3,170,000**	**0.154**	**946**	**19.3**	**104**	**182**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Dec-13	D	**7.9**	<0.50	<2.0	**134**	<0.50	**2,360**	<0.050	**323,000**	<0.50	**0.770**	**0.50**	**69**	<0.30	**76**	**722,000**	**18,200**	**6.8**	**1.12**	<2.0	**5,730,000**	<0.050	<5.0	**13.7**	**1.71**	**3.7**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Dec-13	T	**9,140**	**0.73**	**6.3**	**174**	<0.50	**2,320**	<0.050	**325,000**	**9.87**	**7.87**	**15.0**	**11,300**	**8.53**	**98**	**710,000**	**21,000**	**26.7**	**8.26**	<2.0	**5,750,000**	**0.086**	**398**	**14.2**	**34.6**	**86.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Mar-14	D	<5.0	<0.50	<2.0	**80.8**	<0.50	**1,360**	<0.050	**251,000**	<0.50	**0.22**	**0.59**	**210**	<0.30	**31**	**446,000**	**9,070**	**14.5**	**1.42**	<2.0	**3,160,000**	<0.050	<5.0	**11.9**	**0.58**	**10.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Mar-14	T	**1,400**	<0.50	<2.0	**87.2**	<0.50	**1,320**	<0.050	**256,000**	**1.15**	**6.38**	**3.07**	**2,140**	**1.28**	**34**	**453,000**	**19,750**	**14.4**	**2.61**	<2.0	**3,190,000**	**0.067**	**86**	**12.4**	**4.58**	**25.4**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Jun-14	D	<5.0	<0.50	<2.0	**57.6**	<0.50	**1,340**	<0.050	**198,000**	<0.50	**0.406**	**1.21**	**70**	<0.30	**26**	**279,000**	**6,220**	**14.0**	**2.86**	<2.0	**2,420,000**	<0.050	<5.0	**10.2**	**0.60**	**9.3**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Jun-14	T	**1,150**	<0.50	**2.4**	**63.3**	<0.50	**1,250**	<0.050	**182,000**	**1.15**	**4.00**	**3.44**	**1,880**	**1.04**	**28**	**266,000**	**6,450**	**13.7**	**3.16**	<2.0	**2,280,000**	<0.050	<5.0	**56.6**	**10.0**	**4.67**	**17.8**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Sep-14	D	<5.0	<0.50	<2.0	**42.5**	<0.50	**1,420**	<0.050	**187,000**	<0.50	**1.95**	**1.06**	**26**	<0.30	**35**	**315,000**	**739**	**7.3**	**4.98**	<2.0	**2,690,000**	<0.050	<5.0	**12.0**	**0.55**	**12.7**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Sep-14	T	**1,320**	<0.50	<2.0	**70.7**	<0.50	**1,850**	<0.050	**258,000**	**1.20**	**4.03**	**3.40**	**1,900**	**1.28**	**51**	**430,000**	**2,510**	**10.9**	**7.27**	<2.0	**3,910,000**	<0.050	**58.5**	**17.1**	**4.79**	**24.9**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	2-Dec-14	D	**6.4**	<0.50	**6.5**	**86.7**	<0.50	**2,890**	**0.118**	**298,000**	<0.50	**0.358**	<0.50	**17**	<0.30	**101**	**875,000**	**13,500**	**2.5**	**1.99**	**5.4**	**7,140,000**	<0.050	<5.0	**5.65**	**2.50**	<3.0
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	2-Dec-14	T	**847**	**0.76**	**8.5**	**108**	<0.50	**2,960**	<0.050	**302,000**	**1.74**	**2.46**	**2.62**	**1,490**	**0.97**	**103**	**896,000**	**18,000**	**7.9**	**3.16**	<2.0	**7,070,000**	<0.050	**47.5**	**5.81**	**6.80**	**16.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	9-Mar-15	D	**6.8**	<0.50	<2.0	**99.9**	<0.50	**1,420**	**0.057**	**273,000**	<0.50	**2.44**	<0.50	**687**	<0.30	**50.0**	**517,000**	**8,560**	**13.9**	**1.15**	<2.0	**4,380,000**	<0.050	**20.6**	**20.6**	**0.90**	**7.9**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	9-Mar-15	T	**32,900**	**0.87**	**15.1**	**349**	**1.00**	**1,590**	**1.65**	**361,000**	**35.6**	**29.8**	**81**	**57,300**	**48.5**	**99**	**577,000**	**18,700**	**36.2**	**26.7**	<2.0	**4,260,000**	**0.286**	**1,230**	**29.5**	**171**	**240**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Jun-15	D	<5.0	<0.50	<2.0	**106**	<0.50	**1,630**	<0.050	**321,000**	<0.50	**1.11**	<0.50	**73**	<0.30	**50.0**	**554,000**	**5,320**	**5.3**	**0.84**	<2.0	**4,850,000**	<0.050	<5.0	**14.4**	<0.50	**9.2**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Jun-15	T	**514**	<0.50	<2.0	**118**	<0.50	**1,550**	**0.066**	**314,000**	**0.82**	**2.38**	**2.21**	**1,710**	**0.86**	**51**	**561,000**	**4,530**	**6.8**	**1.28**	<2.0	**4,500,000**	<0.050	**28.5**	**15.1**	**2.38**	**8.3**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	8-Sep-15	D	<5.0	<0.50	<2.0	**164**	<0.50	**1,990**	<0.050	**393,000**	<0.50	**1.84**	<0.50	**401**	<0.30	**58**	**758,000**	**6,870**	**9.1**	**1.04**	<2.0	**6,030,000**	<0.050	<5.0	**10.5**	**1.78**	**7.8**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	8-Sep-15	T	**3,320**	**0.72**	**2.6**	**182**	<0.50	**2,020**	**0.218**	**379,000**	**4.24**	**4.66**	**12.7**	**7,310**	**3.97**	**62**	**721,000**	**7,950**	**13.8**	**3.67**	<2.0	**5,670,000**	**0.052**	**175**	**11.9**	**15.4**	**32.3**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	8-Dec-15	D	<5.0	<0.50	<2.0	**107**	<0.50	**3,110**	<0.050	**312,000**	<0.50	**0.094**	<0.50	**49**	<0.30	**61**	**821,000**	**3,310**	<2.0	<0.50	**20**	**7,330,000**	<0.050	<5.0	**3.59**	**1.57**	<3.0
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	8-Dec-15	T	**294**	<0.50	**2.3**	**96.3**	<0.50	**3,160**	<0.050	**304,000**	<0.50	**0.415**	**0.72**	**611**	<0.30	**59**	**789,000**	**3,090**	**2.3**	**0.70**	<2.0	**7,140,000**	<0.050	**18.6**	**3.26**	**2.68**	**3.4**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	1-Mar-16	D	<5.0	<0.50	<2.0	**99.0**	<0.50	**1,750**	<0.050	**224,000**	<0.50	**0.933**	<0.50	**97**	<0.30	**43**	**486,000**	**3,790**	**5.8**	**0.95**	<2.0	**3,840,000**	<0.050	<5.0	**6.48**	<0.50	<3.0
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	1-Mar-16	T	**569**	<0.50	<2.0	**88.8**	<0.50	**1,720**	<0.050	**201,000**	**0.88**	**1.69**	**1.84**	**1,390**	**0.83**	**43**	**443,000**	**3,230**	**7.2**	**1.39**	<2.0	**3,640,000**	<0.050	**13.1**	**6.25**	**2.46**	**7.7**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-May-16	D	<5.0	<0.50	<2.0	**90.1**	<0.50	**1,900**	<0.050	**240,000**	<0.50	**1.39**	<0.50	**176**	<0.30	**37**	**607,000**	**5,320**	**6.3**	**0.53**	<2.0	**4,370,000**	<0.050	<5.0	**6.90**	**0.57**	**6.0**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-May-16	T	**2,810**	**0.95**	**2.6**	**105**	<0.50	**1,850**	**0.206**	**207,000**	**2.85**	**7.96**	**8.89**	**6,470**	**2.98**	**42**	**438,000**	**5,690**	**10.8**	**2.86**	<2.0	**3,830,000**	<0.050	**134**	**7.70**	**10.5**	**29.0**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Aug-16	D	<5.0	<0.50	<2.0	**93.4**	<0.50	**1,750**	<0.050	**241,000**	<0.50	**0.705**	<0.50	**74**	<0.30	**29**	**448,000**	**1,880**	**3.9**	**0.95**	<2.0	**3,910,000**	<0.050	<5.0	**8.75**	<0.50	**3.3**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Aug-16	T	**5,010**	<0.50	**2.7**	**133**	<0.50	**1,850**	**0.165**	**242,000**	**4.71**	**8.18**	**12.1**	**10,200**	**4.95**	**47**	**447,000**	**5,100**	**10.5**	**4.33**	<2.0	**3,780,000**	<0.050	**223**	**10.4**	**19.5**	**40.5**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	21-Nov-16	D	<5.0	<0.50	<2.0	**127**	<0.50	**1,720**	<0.050	**320,000**	<0.50	**0.825**	<0.50	**48**	<0.30	**33**	**623,000**	**4,640**	**4.2**	**0.71**	<2.0	**4,860,000**	<0.050	<5.0	**8.54**	<0.50	**6.1**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	21-Nov-16	T	**95.4**	<0.50	<2.0	**126**	<0.50	**1,790**	<0.050	**287,000**	<0.50	**1.34**	<0.50	**526**	<0.30	**34**	**502,000**	**3,860**	**4.8**	**0.56**	<2.0	**4,340,000**	<0.050	<5.0	**9.77**	<0.50	<3.0
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	13-Mar-17	D	<5.0	<0.50	<2.0	**144**	<0.50	**1,610**	**0.455**	**333,000**	**1.25**	**0.61**	**0.48**	**33**	<0.30	**33**	**624,000**	**3,000**	**4.6**	**0.7**	<2.0	**5,160,000**	<0.050	<5.0	**10.7**	<0.50	**22.8**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	13-Mar-17	T	**3,860**	<0.50	<2.0	**189**	<0.50	**1,750**	**0.369**	**403,000**	**3.30**	**6.07**	**6.12**	**7,510**	**3.76**	**38**	**783,000**	**9,390**	**10.3**	**3.29**	<2.0	**5,750,000**	<0.050	**160**	**12.6**	**16.1**	**38.9**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jun-17	D	<5.0	<0.50	<2.0	**123**	<0.50	**1,740**	<0.050	**279,000**	<0.50	**2.65**	**0.79**	**153**	<0.30	**27**	**609,000**	**10,100**	**10.8**	<0.50	<2.0	**4,840,000**	<0.050	<5.0	**9.53**	<0.50	**3.7**
PA8-8I	Porewater EAZ	PA8-8	DS	OB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jun-17	T	**178**	<0.50	<2.0	**133**	<0.50	**1,820**	<0.050	**305,000**	<0.50	**3.37**	**0.51**	**709**	**5.42**	**28**	**592,000**	**11,160**	**12.3**	**6.71**	<2.0	**5,050,000**	<0.050	**9.2**	**10.2**	**5.42**	**6.0**
PA8-8D	Porewater EAZ	PA8-8	DS	IB	1.3-1.5	1.3	1.5	Weathered Colluvium	—	7-Dec-11	D	**10.9**	<0.50	<2.0	**60**	<0.50	**1,180**	**0.06**	**99,000**	<0.50	**0.811**	<2.0	<10	<0.30	**28**	**230,000**	**558**	**9.8**	**1.01**	<2.0	**2,060,000**	<0.050	<5.0	**4.6**	**2.28**	**9.2**
PA8-8D	Porewater EAZ	PA8-8	DS	IB	1.3-1.5	1.3	1.5	Weathered Colluvium	—	5-Jan-12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Well Not Sampled - Insufficient Water for Analysis										
PA8-8D	Porewater EAZ	PA8-8	DS	IB	1.3-1.5	1.3	1.5	Weathered Colluvium	—	2-Feb-12	D	<30	**0.20**	**0.68**	**25.3**	<0.050	**958**	<0.050	**50,500**	<5.0	**1.21**	<5.0	<60	<0.50	**12.0**	**95,300**	**1,390**	**20.3**	<2.0	<2.0	**1,240,000**	<0.020	<2.0	**7.2**	**3.34**	<30
PA8-8D	Porewater EAZ	PA8-8	DS	IB	1.3-1.5	1.3	1.5	Weathered Colluvium	—	26-Mar-12	D	**11.0**	<0.50	<2.0	**21.4**	<0.50	**1,030**	<0.050	**59,100**	<0.50	**0.666**	**1.16**	**8.8**	<0.30	**52**	**94,900**	**1,490**	**18.0**	**1.17**	<2.0	**1,010,000**	<0.050	**7.8**	**5.97**	**2.63**	**27.8**
PA8-8D	Porewater EAZ	PA8-8	DS	IB	1.3-1.5	1.3	1.5	Weathered Colluvium	—	10-Apr-12	D	**6.1**	<0.50	<2.0	**35.0**	<0.50	**1,890**	<0.050	**105,000**	**0.75**	**0.554**	**1.81**	**38**	<0.30	**52**	**412,000**	**1,180**	**14.3**	**4.11**	<2.0	**3,110,000**	**0.050**	<5.0	**5.64**	**2.49**	**125**
PA8-8D	Por

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
QA/QC RPD										Duplicates	T	65%	—	22%	1%	—	7%	20%	3%	—	13%	54%	11%	31%	12%	1%	22%	13%	15%	—	6%	—	54%	22%	33%	46%
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	17-May-16	D	<5.0	<0.50	<2.0	83.7	<0.50	390	0.060	406,000	<0.50	50.6	<0.50	5,950	<0.30	<20	504,000	7,970	<2.0	5.25	<2.0	1,580,000	<0.050	<5.0	0.349	<0.50	19.6
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	17-May-16	T	475	<0.50	4.4	93.8	<0.50	410	0.011	393,000	0.93	63.7	3.62	11,300	0.81	<20	484,000	7,110	3.0	7.06	<2.0	1,580,000	<0.050	21.4	0.483	5.06	25.8
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Aug-16	D	74.0	<0.50	2.6	68.6	<0.50	430	0.201	261,000	<0.50	15.1	1.23	4,290	0.62	<20	326,000	2,870	<2.0	6.16	<2.0	1,520,000	<0.050	<5.0	0.183	3.41	18.8
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	16-Aug-16	T	<5.0	<0.50	<2.0	78.6	<0.50	380	0.131	281,000	<0.50	15.7	<0.50	1,340	<0.30	<20	340,000	2,880	<2.0	5.34	<2.0	1,500,000	<0.050	<5.0	0.141	1.12	13.2
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	23-Nov-16	D	<5.0	<0.50	<2.0	73.3	<0.50	350	<0.050	327,000	<0.50	22.2	<0.50	1,780	<0.30	<20	392,000	3,370	<2.0	6.28	<2.0	1,570,000	<0.050	<5.0	0.078	<0.50	6.7
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	23-Nov-16	T	440	<0.50	3.0	86.6	<0.50	330	0.225	324,000	0.53	38.2	2.56	4,750	0.85	<20	388,000	4,520	<2.0	8.44	<2.0	1,540,000	<0.050	23.0	0.182	3.43	25.7
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	15-Mar-17	D	35.1	<0.50	<2.0	80.0	<0.50	170	0.057	389,000	<0.50	32.2	<0.50	1,740	<0.30	<20	453,000	6,280	<2.0	5.3	<2.0	1,420,000	<0.050	<5.0	<0.050	<0.50	14.9
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	15-Mar-17	T	2,400	<0.50	8.4	91.5	<0.50	170	1.08	406,000	3.06	105	13.8	14,200	4.16	<20	470,000	6,830	4.2	20.5	<2.0	1,290,000	0.073	110	0.591	15.1	132
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	5-Jun-17	D	<5.0	<0.50	<2.0	64.3	<0.50	330	<0.050	234,000	<0.50	13.4	1.70	964	<0.30	<20	306,000	2,990	<2.0	3.68	<2.0	1,450,000	<0.050	<5.0	<0.050	<0.50	9.5
P4.9-12S	Porewater EAZ	P4.9-12	DS	EB	0.6-1.0	0.6	1.0	Weathered Colluvium	—	5-Jun-17	T	181	<0.50	4.4	73.9	<0.50	380	0.094	220,000	<0.50	25.9	2.15	9,050	0.53	<20	296,000	3,170	<2.0	4.56	<2.0	1,570,000	<0.050	9.2	0.167	6.47	16.4
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	20-Mar-13	D	<1.0	0.048	0.098	74.6	<0.050	59.1	0.0575	65,300	<0.50	1.02	0.40	35	<0.050	0.89	22,200	1,250	0.401	1.28	<0.20	21,400	0.0090	<0.20	0.237	0.111	3.3
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	10-Jun-13	D	<1.0	0.022	0.080	82.5	<0.050	64.1	0.0102	85,400	<0.50	0.830	0.30	104	<0.050	0.68	31,400	1,880	0.168	0.48	<0.20	27,100	0.0038	<0.20	0.146	0.062	2.2
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	16-Sep-13	D	<1.0	0.035	0.111	148	<0.050	62.4	0.0444	134,000	<0.50	1.50	0.52	145	<0.050	0.78	49,300	3,230	0.162	0.72	<0.20	36,200	0.0071	<0.20	0.177	0.101	3.6
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	11-Dec-13	D	<1.0	0.480	0.114	133	<0.0050	67.5	0.0805	145,000	<0.50	2.11	0.51	54	<0.050	0.85	52,500	3,200	0.175	1.13	<0.20	39,300	0.0064	<0.20	0.179	0.116	4.5
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	10-Mar-14	D	<1.0	0.220	0.113	151	<0.0050	58.4	0.0469	190,000	<0.50	3.17	0.53	300	0.187	1.06	71,600	4,480	0.144	1.01	<0.20	46,600	0.0024	<0.20	0.190	0.090	4.2
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	11-Jun-14	D	<1.0	0.112	0.176	267	<0.0050	67.8	0.0523	266,000	<0.50	4.58	0.70	997	<0.050	1.35	98,900	5,320	0.153	1.13	<0.20	69,100	<0.0020	<0.20	0.266	0.170	4.0
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	10-Sep-14	D	<5.0	<0.50	3.5	187	<0.50	1,540	<0.050	630,000	<0.50	9.98	6.42	1,640	<0.30	33	480,000	14,900	<2.0	2.56	<2.0	2,070,000	<0.050	<5.0	1.40	<0.50	6.4
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	2-Dec-14	D	1.4	0.050	4.51	171	<0.0050	282	<0.0050	261,000	<0.50	0.533	<0.20	684	<0.050	0.85	138,000	7,170	0.104	0.37	4.71	455,000	<0.0020	<0.20	0.208	0.191	1.6
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	10-Mar-15	D	<5.0	<0.50	<2.0	163	<0.50	<100	<0.050	306,000	<0.50	0.975	<0.50	967	<0.30	<20	124,000	7,780	<2.0	<0.50	5.5	144,000	<0.050	<5.0	0.163	<0.50	<3.0
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	15-Jun-15	D	<1.0	0.033	0.049	160	<0.050	77.8	<0.050	290,000	<0.50	1.75	<0.20	1,440	<0.050	2.89	113,000	6,740	<0.050	<0.20	1.13	115,000	<0.0020	<0.20	0.220	<0.050	2.0
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	8-Sep-15	D	1.3	0.028	0.072	151	<0.050	71.6	0.0215	325,000	<0.50	2.23	0.21	1,540	<0.050	2.29	121,000	7,290	0.070	0.44	<0.20	131,000	<0.0020	<0.20	0.225	<0.050	5.2
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	8-Dec-15	D	<1.0	0.068	0.176	145	<0.050	77.4	0.0147	285,000	0.90	3.63	0.43	483	<0.050	1.86	108,000	6,930	0.099	0.42	<0.20	112,000	<0.0020	<0.20	0.108	<0.050	11.1
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	29-Feb-16	D	1.3	0.020	0.217	151	<0.050	68.4	0.0073	289,000	<0.50	3.14	0.28	1,400	<0.050	1.79	101,000	5,600	<0.050	0.21	0.66	108,000	<0.0020	<0.20	0.303	<0.050	24.1
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	17-May-16	D	<1.0	0.032	0.250	114	<0.050	61.1	<0.0050	273,000	<0.50	2.57	<0.20	1,170	<0.050	1.88	104,000	6,100	<0.050	0.26	0.22	111,000	<0.0020	<0.20	0.300	<0.050	4.1
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	16-Aug-16	D	<1.0	0.029	0.311	118	<0.050	77.7	0.0056	322,000	<0.50	3.03	<0.20	1,280	<0.050	1.88	128,000	6,250	0.109	0.41	<0.20	152,000	<0.0020	<0.20	0.243	<0.050	1.6
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	23-Nov-16	D	24.2	0.078	1.42	106	0.0052	78.0	0.0095	286,000	<0.50	3.16	0.31	1,300	0.093	2.20	106,000	5,990	0.739	1.52	<0.20	134,000	<0.0020	1.25	0.325	0.461	1.6
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	15-Mar-17	D	<1.0	0.020	0.341	108	<0.050	53.6	0.0129	261,000	<0.50	2.70	<0.20	1,520	0.051	1.7	99,800	5,700	0.102	0.4	<0.20	132,000	<0.0020	<0.20	0.334	<0.050	1.5
P4.9-12I	Porewater	P4.9-12	DS	EB	2.6-3.0	2.6	3.0	Weathered Colluvium	—	5-Jun-17	D	<0.2	<0.050	0.34	102	<0.010	59	<0.0110	240,000	<1.0	2.43	<0.40	—	<0.10	1.32	93,000	5,480	0.13	<0.40	0.41	123,000	<0.0040	<0.40	0.355	—	<2.0
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	27-Mar-13	D	1.3	0.094	0.207	50.6	<0.050	59.0	0.0490	53,800	<0.50	1.65	0.39	<30	<0.050	1.12	18,600	784	0.437	1.92	<0.20	20,400	0.0153	<0.20	0.376	0.196	5.2
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Jun-13	D	<1.0	0.052	0.257	190	<0.050	161	0.0551	140,000	<0.50	6.66	0.26	152	<0.050	4.32	101,000	2,840	0.204	2.38	<0.20	272,000	0.0152	<0.20	0.201	0.094	5.4
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Sep-13	D	<1.0	0.044	0.313	136	<0.050	69.0	0.0453	138,000	<0.50	5.45	0.55	214	<0.050	1.66	79,600	2,630	0.144	1.52	<0.20	85,700	0.0082	<0.20	0.134	0.054	4.8
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Dec-13	D	<1.0	0.074	0.228	133	<0.050	69.8	0.152	187,000	<0.50	9.82	0.27	284	<0.050	2.06	130,000	3,490	0.083	1.88	<0.20	131,000	0.0107	<0.20	0.074	<0.050	5.6
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Mar-14	D	<1.0	0.030	0.357	150	0.0056	62.7	0.197	244,000	<0.50	10.3	0.31	1,100	<0.050	2.17	162,000	4,160	0.099	1.45	<0.20	168,000	0.0083	<0.20	0.073	<0.050	5.5
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	11-Jun-14	D	1.1	0.033	0.425	194	0.0061	67.4	0.204	282,000	<0.50	10.9	0.65	2,050	0.064	2.74	187,000	4,950	0.089	1.81	<0.20	203,000	0.0080	<0.20	0.0890	<0.050	5.2
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Sep-14	D	<2.0	0.049	0.26	197	<0.010	320	0.054	232,000	<1.0	2.21	0.53	1,670	<0.10	1.76	141,000	3,640	0.61	0.93	<0.40	141,000	<0.0040	<0.40	0.214	<0.050	2.8
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	2-Dec-14	D	<1.0	0.039	0.252	133	<0.0050	84.2	0.103	259,000	<0.50	11.0	0.42	1,550	<0.050	3.36	176,000	4,640	0.156	2.12	<0.20	252,000	0.0037	<0.20	0.0715	<0.050	5.5
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Mar-15	D	<5.0	<0.50	<2.0	152	<0.50	<100	0.247	263,000	<0.50	9.04	<0.30	963	<0.30	<20	164,000	5,080	<2.0	1.36	<2.0	187,000	<0.050	<5.0	0.061	<0.50	4.1
DUP-A (P4.9-12D)	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	10-Mar-15	D	<5.0	<0.50	<2.0	154	<0.50	<100	0.242	262,000	<0.50	8.93	0.9	956	<0.30	<20	161,000	4,960	<2.0	1.6	<2.0	186,000	<0.050	<5.0	0.068	<0.50	8.4
QA/QC RPD										Duplicates	D	0%	—	1%	1%	1%	1%	2%	—	1%	—	2%	2%	—	—	2%	2%	—	16%	—	1%	—	—	11%	1%	—
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Jun-15	D	<1.0	0.039	0.517	186	0.0069	72.3	0.139	272,000	<0.50	9.13	0.35	1,380	<0.050	2.57	168,000	4,610	0.103	1.48	<0.20	250,000	0.0042	<0.20	0.0719	<0.050	4.1
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Sep-15	D	1.8	0.033	0.146	124	<0.050	117	0.210	248,000	<0.50	6.75	0.52	414	<0.050	4.20	147,000	4,260	0.156	1.35	<0.20	331,000	0.0060	<0.20	0.0768	<0.050	5.5
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	8-Dec-15	D	<1.0	0.034	0.160	131	<0.050	77.4	0.344	217,000	<0.50	5.15	0.54	325	<0.050	3.82	114,000	3,170	0.130	1.08	<0.20	172,000	0.0048	<0.20	0.0741	<0.050	5.3
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	29-Feb-16	D	<1.0	0.024	0.168	122	<0.050	68.2	0.101	190,000	<0.50	3.38	0.55	984	<0.050	1.84	85,500	2,760	0.119	0.79	<0.20	110,000	0.0139	<0.20	0.0896	<0.050	12.3
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	17-May-16	D	<1.0	0.045	0.589	146	<0.050	64.8	0.0901	228,000	<0.50	4.91	0.52	6,040	<0.050	2.07	112,000	3,800	0.101	1.02	<0.20	161,000	0.0022	<0.20	0.0939	<0.050	6.8
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	16-Aug-16	D	1.5	0.023	0.506	147	<0.050	76.1	0.0454	235,000	<0.50	5.54	0.21	4,250	<0.050	1.98	129,000	3,430	0.102	1.18	<0.20	240,000	0.0058	<0.20	0.0919	<0.050	3.1
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	23-Nov-16	D	<1.0	0.053	0.441	122	<0.050	79.6	0.219	195,000	<0.50	3.99	0.25	2,920	<0.050	2.04	90,800	3,000	0.124	0.80	<0.20	149,000	0.0047	<0.20	0.0914	<0.050	3.0
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	15-Mar-17	D	12.5	0.024	0.470	136	<0.050	66.8	0.148	204,000	<0.50	7.35	0.25	3,660	0.114	2.61	115,000	3,590	0.11	1.17	<0.20	232,000	0.0045	0.3	0.099	0.056	3.9
P4.9-12D	Porewater	P4.9-12	DS	EB	4.6-5.0	4.6	5.0	Colluvium	Weathered Colluvium	5-Jun-17	D	Sediment in sample - not analyzed																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	28-Sep-11	—	Well Not Sampled - Insufficient Water for Analysis																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	4-Nov-11	D	6.7	<0.50	<2.0	102	<0.50	930	<0.050	99,400	<0.50	12.4	0.6	190	<0.30	<20	215,000	1,010	3.2	18.5	<2.0	2,010,000	<0.050	<5.0	0.425	2.31	7.0
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	6-Dec-11	D	19.4	<0.50	<2.0	83.1	<0.50	320	<0.050	10,400	<0.50	1.49	1.81	22	<0.30	<20	17,700	211	<2.0	4.56	<2.0	390,000	<0.050	<5.0	0.225	1.7	4.0
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	4-Jan-12	D	103	<0.50	<2.0	10	<0.50	600	<0.050	9,690	<0.50	0.705	2.58	45	<0.30	<20	16,500	97.5	2.3	0.78	<2.0	433,000	<0.050	<5.0	0.364	1.11	26.7
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	1-Feb-12	D	203	0.174	0.88	6.90	<0.025	343	<0.025	4,110	<2.5	<0.25	254	0.30	4.3	7.180	7.6	1.95	<1.0	<1.0	233,000	<0.010	7.5	0.355	1.94	<15
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	15-Mar-12	D	8.3	<0.50	<2.0	18.5	<0.50	630	<0.050	39,400	<0.50	0.154	3.80	70	<0.30	<20	78,000	51.5	<2.0	1.42	<2.0	962,000	<0.050	<5.0	0.388	0.63	5.4
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	10-Apr-12	D	<5.0	<0.50	<2.0	125	<0.50	300	0.222	63,700	<0.50	10.8	1.56	68	<0.30	<20	80,300	2,650	<2.0	15.2	<2.0	746,000	0.076	<5.0	0.069	<0.50	68.6
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	9-May-12	D	5.5	<0.50	<2.0	70.8	<0.50	1,130	0.073	148,000	<0.50	0.090	1.71	<10	<0.30	32	291,000	22.3	2.2	1.58	<2.0	234,000	<0.050	<5.0	1.60	0.09	12.8
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	5-Jun-12	D	7.5	<0.50	<2.0	138	<0.50	1,260	0.138	178,000	1.41	1.23	2.84	63	<0.30	32	370,000	214	3.4	1.84	<2.0	2,940,000	<0.050	<5.0	1.54	0.81	8.1
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	4-Jul-12	D	6.5	<0.50	<2.0	114	<0.50	1,390	0.125	143,000	<0.50	1.05	5.10	11	<0.30	30	283,000	117	2.0	3.88	<2.0	2,590,000	0.057	<5.0	1.10	0.56	8.2
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	1-Aug-12	D	10.8	<0.50	<2.0	192	<0.50	1,880	0.302	285,000	0.69	0.158	7.72	<10	<0.30	48	642,000	32.1	2.1	4.17	<2.0	4,910,000	0.077	<5.0	1.56	0.53	16.5
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	10-Sep-12	—	Well Not Sampled - Insufficient Water for Analysis																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	11-Oct-12	—	Well Not Sampled - Dry																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	8-Nov-12	D	23.7	0.394	1.25	5.95	<0.010	877	<0.010	13,900	<1.0	<0.10	6.05	<30	<0.10	16.9	23,800	1.28	4.21	1.40	<0.40	591,000	0.0100	0.97	1.15	1.60	14.4
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	23-Nov-12	D	5.9	<0.50	<2.0	35.6	<0.50	890	0.056	84,800	<0.50	<0.050	4.24	<10	<0.30	<20	162,000	1.71	<2.0	1.03	<2.0	1,450,000	<0.050	<5.0	0.797	0.56	17.6
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	7-Jan-13	D	6.5	<0.50	<2.0	94.0	<0.50	1,020	<0.050	87,800	<0.50	0.228	1.61	<10	<0.30	<20	184,000	74.5	<2.0	0.52	<2.0	1,860,000	<0.050	<5.0	0.576	0.64	11.9
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	25-Feb-13	—	Well Not Sampled																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	14-Mar-13	D	18.4	0.201	0.766	2.85	<0.0050	287	0.0925	2,280	<0.50	0.201	2.48	<30	<0.050	2.44	3,490	7.69	1.67	0.71	0.27	148,000	0.0034	0.62	0.0836	1.23	7.3
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	13-Jun-13	D	<5.0	<0.50	<2.0	201	<0.50	1,440	0.305	214,000	<0.50	0.071	2.65	<10	<0.30	30	401,000	31.7	<2.0	2.38	<2.0	2,800,000	0.051	<5.0	0.731	<0.50	12.0
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	13-Jun-13	T	13.9	<0.50	<2.0	190	<0.50	1,370	0.272	203,000	0.70	0.124	2.57	18	<0.30	27	377,000	44.2	<2.0	2.29	<2.0	2,630,000	<0.050	<5.0	0.678	0.80	12.7
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	20-Sep-13	—	Well Not Sampled - Insufficient Water for Analysis																								
P5-3S	Porewater EAZ	P5-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
Updated Screening Level (T)[7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
RBMT[6]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	90
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	6-Nov-12	D	<5.0	<0.50	<2.0	117	<0.50	1,150	0.381	336,000	<0.50	13.3	1.04	64	<0.30	<20	521,000	10,300	<2.0	12.7	<2.0	3,680,000	<0.050	<5.0	0.232	<0.50	886
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-12	D	<5.0	<0.50	<2.0	47.9	<0.50	650	0.085	137,000	<0.50	13.5	3.17	117	<0.30	<20	181,000	6,670	<2.0	5.01	<2.0	1,390,000	<0.050	<5.0	0.187	<0.50	17.7
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Jan-13	D	3.5	0.066	0.20	85.8	0.016	337	0.100	92,800	<1.0	15.7	0.50	265	<0.30	1.89	115,000	2,180	0.530	3.15	<0.40	859,000	0.0257	<0.40	0.0651	0.16	137
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	25-Feb-13	---	Well Not Sampled																							
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	13-Mar-13	D	2.3	0.113	0.27	30.4	<0.010	329	0.130	43,300	<1.0	3.35	1.56	<30	<0.10	1.66	52,700	1,770	0.93	2.84	<0.40	629,000	0.0079	<0.40	0.0467	0.17	47.9
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-13	D	1.5	0.119	0.305	55.2	<0.0050	320	0.0283	39,400	<0.50	4.34	0.98	281	<0.050	1.44	44,500	1,440	0.750	1.95	<0.20	515,000	0.0073	<0.20	0.0372	0.173	26.7
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Sep-13	D	<5.0	<0.50	<2.0	265	<0.50	700	0.366	292,000	<0.50	43.2	1.10	130	<0.30	<20	372,000	10,300	<2.0	9.53	<2.0	1,870,000	<0.050	<5.0	0.067	<0.50	18.9
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Dec-13	D	5.4	<0.50	<2.0	98.7	<0.50	400	0.094	205,000	<0.50	32.3	0.52	1,040	<0.30	<20	226,000	7,750	<2.0	5.75	<2.0	1,530,000	<0.050	<5.0	<0.050	<0.50	9.2
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	11-Mar-14	D	<5.0	<0.50	<2.0	57.4	<0.50	390	0.215	102,000	<0.50	13.6	1.44	26	<0.30	<20	108,000	4,420	<2.0	4.66	<2.0	921,000	<0.050	<5.0	<0.050	<0.50	30.4
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Jun-14	D	<5.0	<0.50	<2.0	69.4	<0.50	710	0.160	77,300	<0.50	4.37	1.30	<10	<0.30	<20	141,000	2,270	<2.0	2.78	<2.0	1,350,000	0.053	<5.0	0.125	<0.50	48.2
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-Sep-14	D	5.2	<0.50	<2.0	226	<0.50	1,310	0.296	294,000	<0.50	22.5	2.99	<10	<0.30	<20	434,000	12,900	<2.0	16.8	<2.0	2,710,000	0.071	<5.0	0.260	<0.50	49.2
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Dec-14	D	<5.0	<0.50	<2.0	95.1	<0.50	1,060	0.113	207,000	<0.50	8.70	1.04	<10	<0.30	21	324,000	5,670	<2.0	3.02	<2.0	2,650,000	<0.050	<5.0	0.327	<0.50	15.7
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	12-Mar-15	D	4.9	0.135	0.41	34.3	<0.010	702	0.036	74,600	<1.0	0.52	1.32	<60	<0.10	11.4	148,000	347	0.63	0.93	<0.40	1,440,000	0.0123	<0.40	0.294	0.27	8.3
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	16-Jun-15	D	17.2	<0.50	<2.0	103	<0.50	1,090	<0.050	128,000	<0.50	3.35	0.71	<10	<0.30	23	267,000	1,160	<2.0	0.74	<2.0	2,550,000	<0.050	<5.0	0.339	<0.50	8.7
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	10-Sep-15	D	10.5	<0.50	<2.0	132	<0.50	1,240	2.39	569,000	<0.50	42.8	0.74	<10	<0.30	24	750,000	14,900	<2.0	8.68	<2.0	4,300,000	0.078	<5.0	0.315	<0.50	46.8
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	7-Dec-15	D	<5.0	<0.50	<2.0	26.2	<0.50	1,160	0.081	91,600	<0.50	0.576	1.35	<10	<0.30	<20	197,000	217	<2.0	0.95	<2.0	1,890,000	<0.050	<5.0	0.250	0.57	13.3
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	3-Mar-16	---	Well Not Sampled - Infilled																							
P5-3D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Colluvium	---	18-May-16	---	Well Destroyed																							
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Dec-11	D	6.8	<0.50	<2.0	72.8	<0.50	1,110	0.112	91,900	<0.50	15.6	0.83	<10	<0.30	22	138,000	2,010	4.3	21.3	<2.0	2,090,000	0.332	<5.0	7.74	<0.50	10.3
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jan-12	D	<5.0	<0.50	<2.0	108	<0.50	970	0.101	89,700	<0.50	26.3	<0.50	10	<0.30	20	153,000	3,150	3.1	23.3	<2.0	1,610,000	0.188	<5.0	3.06	<0.50	41.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	2-Feb-12	D	<60	<0.20	<1.0	76.9	<0.10	1,470	0.33	150,000	<10	8.7	<50	210	<1.0	37.3	346,000	1,060	3.1	8.1	<40.0	3,000,000	0.201	<4.0	1.8	1.1	<50
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	26-Mar-12	D	<5.0	<0.50	<2.0	98.3	<0.50	1,260	0.112	142,000	<0.50	6.30	<0.50	17	<0.30	32	311,000	974	2.3	8.08	<2.0	2,550,000	0.072	<5.0	1.80	<0.50	91.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	10-Apr-12	D	6.2	<0.50	8.4	112	<0.50	2,040	<0.050	236,000	<0.50	7.41	0.59	16,300	<0.30	55	514,000	2,180	7.2	8.13	<2.0	4,390,000	<0.050	<5.0	6.06	1.13	289
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	7-May-12	D	8.6	<0.50	<3.0	67.3	<0.50	1,850	<0.050	208,000	<0.50	0.971	0.56	1,070	<0.30	65	496,000	478	5.7	2.85	<2.0	4,450,000	<0.050	<5.0	4.81	0.96	18.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jun-12	D	7.1	<0.50	4.3	82.5	<0.50	1,800	<0.050	255,000	<0.50	4.18	<0.50	6,580	<0.30	50	464,000	1,110	5.9	3.16	<2.0	4,330,000	<0.050	<5.0	5.38	0.99	18.0 J
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	5-Jul-12	D	8.6	<0.50	3.2	84.5	<0.50	1,640	0.073	211,000	<0.50	2.14	<0.50	5,330	<0.30	39	387,000	1,060	3.1	1.66	<2.0	3,180,000	<0.050	<5.0	3.10	0.98	6.6
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	3-Aug-12	D	12.0	<0.50	<3.0	119	<0.50	1,880	<0.050	240,000	<0.50	3.31	<0.50	1,660	<0.30	44	446,000	1,120	3.6	4.27	<2.0	4,100,000	0.135	<5.0	4.35	<0.50	11.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Sep-12	D	6.4	<0.50	<4.0	160	<0.50	2,160	<0.050	330,000	<0.50	2.23	<0.50	3,500	<0.30	50	657,000	1,520	4.9	3.29	<2.0	5,090,000	<0.050	<5.0	5.06	1.65	8.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	12-Oct-12	---	Well Not Sampled - Insufficient Water for Analysis																							
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	6-Nov-12	D	<5.0	<0.50	<2.0	123	<0.50	1,780	0.058	209,000	<0.50	2.59	0.51	1,970	<0.30	44	589,000	616	2.1	63.2	<2.0	4,650,000	<0.050	<5.0	3.18	0.61	40.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Dec-12	D	<5.0	<0.50	2.0	128	<0.50	1,740	<0.050	248,000	<0.50	4.13	<0.50	7,430	<0.30	36	487,000	943	2.9	3.90	<2.0	3,210,000	<0.050	<5.0	2.86	<0.50	10.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	9-Jan-13	D	<5.0	<0.50	<2.0	104	<0.50	1,450	<0.050	223,000	<0.50	2.54	<0.50	4,370	<0.30	32	451,000	748	2.0	2.69	<2.0	2,950,000	<0.050	<5.0	2.31	<0.50	6.5
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	14-Mar-13	D	<5.0	<0.50	<2.0	69.8	<0.50	1,060	0.076	111,000	<0.50	0.65	0.83	33	<0.30	23	231,000	163	1.2	21.4	<2.0	1,890,000	<0.050	<5.0	3.02	<0.50	58.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Jun-13	D	6.5	0.68	<2.0	86.9	<0.50	1,750	<0.050	208,000	<0.50	2.98	1.93	1,490	<0.30	35	381,000	682	4.7	51.8	<2.0	2,690,000	<0.050	<5.0	3.26	0.74	71.3
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Jun-13	T	43,000	1.04	22.3	304	1.38	1,780	1.46	592,000	37.2	29.0	59.8	95,600	66.5	118	388,000	1,330	8.6	57.5	<2.0	2,630,000	0.383	1,130	14.4	194	545
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Sep-13	D	8.5	<0.50	2.2	148	<0.50	2,340	<0.050	326,000	<0.50	2.54	1.93	5,460	<0.30	52	597,000	836	5.4	2.84	<2.0	4,090,000	<0.050	<5.0	2.85	0.42	6.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Dec-13	D	<5.0	<0.50	<2.0	78.3	<0.50	2,140	0.096	305,000	<0.50	1.30	<0.50	349	<0.30	65	709,000	345	3.7	2.38	<2.0	5,470,000	<0.050	<5.0	2.48	<0.50	5.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Dec-13	T	1,790	0.52	2.2	174	<0.50	2,490	0.118	381,000	1.72	5.25	4.79	7.19	6.600	1.82	58	734,000	1,240	4.6	8.69	<2.0	5,170,000	<0.050	98.9	3.39	8.89	36.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	17-Dec-13	T	3,950	<0.50	<5.0	133	<0.50	1,550	0.267	297,000	4.78	4.47	9.84	10,600	3.59	45	599,000	527	3.2	8.36	<3.0	4,100,000	0.052	242	3.17	17.3	50.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Mar-14	D	6.0	<0.50	2.4	102	<0.50	1,440	<0.050	272,000	<0.50	3.82	<0.50	12,000	<0.30	36	561,000	1,100	4.2	5.32	<2.0	3,520,000	<0.050	<5.0	2.44	1.08	8.4
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	11-Mar-14	T	8,210	<0.50	6.1	140	<0.50	1,390	0.603	352,000	8.99	7.61	11.3	28,700	11.7	47	567,000	841	3.8	15.1	<2.0	3,550,000	0.090	244	4.04	34.8	85.2
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	---	13-Jun-14	D	<5.0	<0.50	<2.0	99.0	<0.50	1,310	0.085	208,000	<0.50	1.85	0.56	7,190	<0.30	40.0	414,000	772	2.1	2.04	<2.0	2,660,000	<0.050	<5.0	1.35	<0.50	5.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.5	Weathered Colluvium	---	13-Jun-14	T	Well Not Sampled - Insufficient Water for Analysis																							
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.5	Weathered Colluvium	---	18-Sep-14	D	<5.0	<0.50	5.2	83.3	<0.50	2,700	<0.050	378,000	<0.50	2.66	<0.50	4,160	<0.30	62	937,000	1,260	<2.0	2.46	<2.0	7,270,000	<0.050	<5.0	1.38	0.61	3.7
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.5	Weathered Colluvium	---	18-Sep-14	T	11,200	1.68	20.6	126	<0.50	2,440	0.755	384,000	14.8	10.9	35.4	44,200	19.7	152	894,000	2,110	4.8	20.8	<2.0	6,890,000	0.093	524	3.75	54.2	88.8
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	4-Dec-14	D	<5.0	<0.50	2.4	137	<0.50	1,390	<0.050	288,000	<0.50	3.25	<0.50	13,500	<0.30	31	620,000	2,050	<2.0	13.7	<2.0	3,680,000	<0.050	<5.0	3.29	0.60	5.4
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	2-Dec-14	T	2,500	<0.50	8.3	127	<0.50	1,480	0.293	251,000	3.99	5.12	18.5	54,600	2.74	35	622,000	1,600	4.2	7.84	<2.0	3,600,000	<0.050	93.0	1.51	11.3	28.7
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	9-Mar-15	D	5.0	<0.50	<2.0	120	<0.50	1,150	<0.050	263,000	<0.50	0.692	<0.50	6,120	<0.30	29	522,000	1,330	<2.0	0.92	<2.0	3,450,000	<0.050	<5.0	0.631	<0.50	4.2
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	13-Mar-15	T	4,430	0.54	9.2	161	<0.50	1,150	0.432	311,000	6.86	6.67	16.3	56,800	5.03	37	577,000	1,370	4.4	9.97	<2.0	3,690,000	0.071	188	2.54	21.3	37.5
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	18-Jun-15	D	<5.0	<0.50	<2.0	121	<0.50	1,370	<0.050	221,000	<0.50	1.39	<0.50	11,500	<0.30	28	451,000	907	3.7	7.25	<2.0	3,600,000	<0.050	<5.0	1.33	<0.50	<3.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	15-Jun-15	T	1,870	<0.50	13.1	190	<0.50	1,590	0.212	228,000	2.88	4.05	7.76	61,100	2.80	43	457,000	727	3.8	6.23	<2.0	3,730,000	<0.050	90.0	1.95	10.7	23.4
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	9-Sep-15	D	<5.0	<0.50	<2.0	138	<0.50	1,430	<0.050	258,000	<0.50	2.61	0.65	4,640	<0.30	35	563,000	1,380	<2.0	3.69	<2.0	3,890,000	<0.050	<5.0	1.41	<0.50	7.8
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	9-Sep-15	T	10,700	0.72	9.4	203	<0.50	1,460	0.558	333,000	18.8	11.8	36.2	79,800	22.3	51	550,000	1,740	5.9	26.1	<2.0	3,800,000	0.092	336	6.69	66.1	101
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	9-Dec-15	D	<5.0	<0.50	<2.0	172	<0.50	1,610	<0.050	389,000	<0.50	2.85	<0.50	47,100	<0.30	20	763,000	2,780	<2.0	4.44	<2.0	3,010,000	<0.050	<5.0	0.992	<0.50	10.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	10-Dec-15	T	1,170	<0.50	<2.0	194	<0.50	1,060	0.076	392,000	1.68	2.93	4.49	59,300	0.78	26	748,000	2,630	<2.0	5.56	<2.0	3,440,000	0.061	56.1	0.777	4.84	54.4
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	1-Mar-16	T	7,060	0.67	6.1	170	<0.50	870	0.533	306,000	10.7	5.63	20.2	58,100	36.9	34	437,000	1,590	3.6	15.2	<2.0	2,850,000	0.107	317	3.28	36.8	88.9
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	2-Mar-16	D	<5.0	<0.50	<2.0	170	<0.50	980	<0.050	259,000	<0.50	1.77	<0.50	34,000	<0.30	23	505,000	1,870	<2.0	2.07	<2.0	3,000,000	<0.050	<5.0	0.826	<0.50	4.7
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	19-May-16	D	<5.0	<0.50	2.8	133	<0.50	1,220	<0.050	228,000	<0.50	1.88	0.72	19,800	<0.30	31	475,000	1,370	3.4	2.22	<2.0	3,300,000	<0.050	<5.0	1.35	0.66	<3.0
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	19-May-16	T	15,200	0.83	19.6	270	<0.50	1,340	1.54	356,000	22.7	24.7	66.1	188,000	28.9	58	477,000	1,890	11.3	39.6	<2.0	3,320,000	0.290	464	10.9	85.4	206
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	17-Aug-16	T	2,930	<0.50	3.5	132	<0.50	2,710	0.151	332,000	2.39	2.78	7.01	28,200	4.50	86	815,000	706	5.3	19.6	<2.0	6,100,000	<0.050	125	2.12	10.6	73.6
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	19-Aug-16	D	<5.0	<0.50	<2.0	142	<0.50	2,360	<0.050	316,000	<0.50	0.604	<0.50	2,350	<0.30	67	734,000	513	<2.0	3.09	<2.0	5,500,000	<0.050	<5.0	0.993	<0.50	3.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	21-Nov-16	D	<5.0	<0.50	<2.0	168	<0.50	1,220	<0.050	342,000	<0.50	2.93	<0.50	23,800	<0.30	24	607,000	2,790	<2.0	2.12	<2.0	3,970,000	<0.050	<5.0	0.452	<0.50	3.7
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	21-Nov-16	T	14,700	<0.50	10.2	338	0.97	1,260	0.583	496,000	10.6	17.2	36.6	135,000	28.4	45	610,000	5,290	6.7	17.3	<2.0	4,050,000	0.151	234	6.49	50.5	185
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	13-Mar-17	D	50.0	<0.50	2.6	95.1	<0.50	1,410	<0.050	221,000	<0.50	2.34	1.07	12,600	<0.30	43	514,000	1,630	4.6	2.32	<2.0	4,190,000	<0.050	<5.0	2.09	0.95	3
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	13-Mar-17	T	17,100	1.46	13.8	176	0.65	1,540	0.425	301,000	13.9	9.43	33.4	53,900	22.1	65	600,000	1,850	5.1	15.4	<2.0	4,390,000	0.112	404	4.25	43.6	138
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	7-Jun-17	D	<5.0	<0.50	<2.0	74.1	<0.50	1,280	<0.050	181,000	<0.50	0.826	<0.50	6,260	<0.30	21	287,000	1,310	<2.0	0.50	<2.0	2,630,000	<0.050	<5.0	0.923	<0.50	4.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	6-Jun-17	T	8,270	<0.50	6.9	126	<0.50	1,570	0.206	203,000	7.75	4.99	19.9	34,900	14.1	43	303,000	1,720	4.2	9.87	<2.0	2,930,000	0.076	262	1.91	22.9	44.1
P5-7S	Porewater EAZ	P5-7	DS	EB	0.2-0.5	0.2	0.4	Weathered Colluvium	---	26-Mar-12	D	<5.0	<0.50	<2.0	79	<0.50	390	0.078	50,800	1.39	4.31	<0.50	115	<0.30	<20	131,000	446	<2.0	3.99	<2.0	835,000	<0.050	<5.0	0.243	0.96	8.7
P5-7S	Porewater EAZ	P5-7	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	5-Apr-12	D	<60	0.038	0.19	55.5	<0.010	272	0.046	45,100	<1.0	7.84	<1.0	2,000	<0.10	8.01	113,000	787	<0.10	8.02	<0.40	674,000	0.0423	<0.40	0.01	<0.10	39.2
P5-7S	Porewater EAZ	P5-7	DS	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	---	2-Feb-12	D	<15	<0.050	0.35	56.9	<0.025	235	0.121	45,700	<2.5	6.91	<2.5	7,340	<0.25	6.1	120,

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	90
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Jun-14	T	21.1	0.167	1.72	90.6	0.013	306	0.185	142,000	<1.0	0.40	<1.0	6,890	0.21	14.6	109,000	4,580	0.37	0.76	<0.40	704,000	<0.0040	1.56	0.0214	2.95	<6.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Sep-14	D	11.7 J	<0.50	<2.0	737	<0.50	2,000	<0.050	552,000	<0.50	0.100	<0.50	714	<0.30	40.0	889,000	4,880	<2.0	<0.50	<2.0	7,180,000	<0.050	<5.0	0.149	4.22	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Sep-14	T	183 J	<0.50 UJ	2.3 J	720	<0.50	1,910	0.489 J	521,000	0.83 J	0.511 J	8.45 J	4,150 J	0.66 J	38	840,000	4,420	<2.0 UJ	1.22 J	<2.0	6,390,000	<0.050	14.7	0.234 J	5.36 J	16.3 J
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	D	13.6	0.049	0.647	20.4	0.0084	222	0.0092	57,600	<0.50	<0.050	0.20	252	<0.050	8.59	49,600	1,810	<0.050	0.87	0.61	356,000	<0.0020	1.06	0.0106	2.83	2.8
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	T	32.8	0.143	0.689	29.2	0.0095	257	0.107	64,800	<0.50	0.083	0.79	561	0.105	8.72	55,300	1,890	0.193	0.61	0.21	426,000	<0.0020	2.40	0.0206	3.18	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	D	9.8	0.086	0.742	60.2	0.0144	161	0.195	165,000	<0.50	<0.050	<0.20	9,340	<0.050	7.82	122,000	6,400	0.105	0.26	0.87	476,000	<0.0020	0.61	0.0171	2.47	2.50
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-15	T	19.3	0.140	0.816	69.6	0.0154	166	0.585	165,000	<0.50	<0.050	<0.50	10,000	0.093	8.19	119,000	6,050	0.245	0.27	0.25	476,000	<0.0020	2.17	0.0203	2.63	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	D	6.7	<0.50	<2.0	700	<0.50	1,610	<0.050	672,000	<0.50	<0.050	<0.50	2,090	<0.30	30.0	779,000	7,550	<2.0	<0.50	<2.0	5,490,000	<0.050	<5.0	0.093	2.98	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	T	7.5	<0.50	<2.0	707	<0.50	1,620	<0.050	657,000	<0.50	0.061	<0.50	2,080	<0.30	31	773,000	7,570	<2.0	<0.50	<2.0	5,450,000	<0.050	<5.0	0.094	3.07	<3.0
QA/QC RPD											**Duplicates**	D 15%	—	—	1%	—	1%	—	2%	—	—	6%	—	3%	1%	1%	0%	—	—	1%	1%	3%	—	—	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	T	9.9	<0.50	<2.0	725	<0.50	1,670	0.201	682,000	<0.50	0.063	<0.50	2,350	<0.30	32	785,000	8,460	<2.0	<0.50	<2.0	5,550,000	<0.050	<5.0	0.101	3.50	<3.0
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-Jun-15	D	9.7	<0.50	<2.0	721	<0.50	1,640	0.195	695,000	<0.50	0.062	<0.50	2,370	<0.30	30.0	794,000	7,950	<2.0	<0.50	<2.0	5,640,000	<0.050	<5.0	0.096	3.27	<3.0
QA/QC RPD											**Duplicates**	T 1%	—	—	1%	—	2%	3%	2%	—	—	6%	—	6%	1%	1%	6%	—	—	2%	1%	5%	7%	—	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	D	12.4	<0.50	<2.0	370	<0.50	2,350	<0.050	424,000	<0.50	0.162	<0.50	196	<0.30	39	696,000	2,840	<2.0	<0.50	0.94	5,400,000	<0.050	<5.0	0.050	3.36	<3.0
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	D	12.0	<0.50	<2.0	379	<0.50	2,290	<0.050	432,000	<0.50	0.129	<0.50	192	<0.30	37	710,000	2,910	<2.0	<0.50	0.67	<2.0	5,580,000	<0.050	<5.0	<0.050	3.63	<3.0
QA/QC RPD											**Duplicates**	D 3%	—	—	2%	—	3%	—	2%	—	—	2%	—	5%	2%	2%	2%	—	—	3%	—	—	8%	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	T	19.4	<0.50	<2.0	388	<0.50	2,320	<0.050	393,000	0.59	0.133	0.94	436	<0.30	39	643,000	2,840	<2.0	1.69	<2.0	4,960,000	<0.050	<5.0	<0.050	3.80	<3.0
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Sep-15	T	17.5	<0.50	<2.0	362	<0.50	2,290	<0.050	385,000	0.64	0.160	1.00	415	<0.30	36	619,000	2,740	<2.0	1.85	<2.0	4,880,000	<0.050	<5.0	<0.050	3.65	<3.0
QA/QC RPD											**Duplicates**	T —	—	—	7%	—	1%	—	2%	—	—	5%	—	6%	4%	4%	4%	9%	—	2%	—	—	4%	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	D	10.3	<0.50	<2.0	84.0	<0.50	770	<0.050	204,000	<0.50	0.071	<0.50	133	<0.30	<20	212,000	5,050	<2.0	<0.50	<2.0	1,760,000	<0.050	<5.0	<0.050	3.04	4.30
DUP-7 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	D	10.4	<0.50	<2.0	81.1	<0.50	610	<0.050	222,000	<0.50	0.059	<0.50	90.0	<0.30	<20	223,000	5,200	<2.0	<0.50	<2.0	1,750,000	<0.050	<5.0	<0.050	3.25	<3.0
QA/QC RPD											**Duplicates**	D 1%	—	—	4%	—	23%	—	8%	—	—	39%	—	6%	5%	3%	2%	—	—	7%	—	—	7%	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	T	11.0	<0.50	<2.0	211	<0.50	1,550	0.059	369,000	<0.50	0.109	0.59	291	<0.30	<20	477,000	3,960	<2.0	<0.50	<2.0	4,130,000	<0.050	<5.0	<0.050	3.00	3.90
DUP-7 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	T	12.6	<0.50	<2.0	242	<0.50	1,410	0.085	381,000	<0.50	0.099	<0.50	215	<0.30	<20	480,000	4,600	<2.0	<0.50	<2.0	4,020,000	<0.050	<5.0	<0.050	2.88	<3.0
QA/QC RPD											**Duplicates**	T —	—	—	14%	—	9%	35%	3%	—	29%	—	30%	—	1%	15%	—	—	—	3%	—	—	1%	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	D	17.5	0.031	0.332	13.8	0.0091	130	0.0254	45,700	<0.50	<0.050	0.49	1,240	<0.050	8.80	43,700	1,690	<0.050	0.21	0.26	230,000	<0.0020	0.91	0.0108	2.94	3.90
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	T	32.9	0.061	0.343	12.5	0.0094	126	0.246	43,700	<0.50	<0.050	0.61	1,440	0.406	7.68	41,100	1,450	0.123	<0.20	<0.20	213,000	<0.0020	1.66	0.0159	2.76	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	D	12.0	<0.50	<2.0	335	<0.50	740	<0.050	541,000	<0.50	0.067	0.94	26,600	<0.30	33	491,000	16,200	<2.0	0.70	<2.0	3,020,000	<0.050	<5.0	0.059	2.70	11.8
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	T	11.5	<0.50	<2.0	326	<0.50	710	<0.050	538,000	<0.50	<0.050	0.58	26,300	<0.30	32	476,000	16,000	<2.0	0.55	<2.0	3,000,000	<0.050	<5.0	0.060	2.58	3.4
QA/QC RPD											**Duplicates**	D 4%	—	—	3%	—	4%	—	1%	—	—	1%	—	3%	1%	1%	2%	—	—	3%	—	—	2%	9%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	T	25.3	<0.50	<2.0	319	<0.50	840	0.409	527,000	<0.50	0.103	0.84	27,200	<0.30	34	462,000	15,400	<2.0	0.81	<2.0	2,900,000	<0.050	<5.0	0.057	2.47	7.4
DUP-8 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	T	22.9	<0.50	<2.0	325	<0.50	840	0.389	539,000	<0.50	0.092	0.86	24,900	<0.30	35	469,000	15,400	<2.0	0.75	<2.0	2,920,000	<0.050	<5.0	0.067	2.69	5.3
QA/QC RPD											**Duplicates**	T —	—	—	8%	—	8%	5%	2%	—	8%	—	3%	2%	6%	6%	—	—	6%	—	—	16%	8%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	D	8.3	<0.50	<2.0	428	<0.50	1,940	<0.050	495,000	<0.50	0.060	<0.50	45	<0.30	36	650,000	3,490	<2.0	<0.50	<2.0	4,820,000	<0.050	<5.0	0.161	3.13	<3.0
DUP-1 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	D	9.1	<0.50	<2.0	412	<0.50	1,950	<0.050	486,000	<0.50	0.088	<0.50	44	<0.30	35	646,000	3,570	<2.0	<0.50	<2.0	4,870,000	<0.050	<5.0	0.164	3.18	<3.0
QA/QC RPD											**Duplicates**	D 9%	—	—	4%	—	1%	—	2%	—	—	—	—	3%	1%	2%	2%	—	—	1%	—	—	2%	2%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	T	22.3	<0.50	<2.0	457	<0.50	2,090	0.083	498,000	<0.50	0.083	<0.50	1,860	<0.30	34	664,000	3,490	<2.0	<0.50	<2.0	4,880,000	<0.050	<5.0	0.177	3.46	3.1
DUP-1 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-Aug-16	T	25.3	<0.50	<2.0	450	<0.50	2,150	<0.050	509,000	<0.50	0.099	<0.50	373	<0.30	34	667,000	3,560	<2.0	<0.50	<2.0	5,000,000	<0.050	<5.0	0.174	3.54	3.1
QA/QC RPD											**Duplicates**	T —	—	—	2%	—	3%	—	2%	—	—	133%	—	0%	2%	2%	—	—	—	3%	—	—	2%	2%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	23-Nov-16	D	13.5	<0.50	<2.0	114	<0.50	1,010	<0.050	192,000	<0.50	<0.050	<0.50	170	<0.30	<20	282,000	1,140	<2.0	<0.50	<2.0	2,230,000	<0.050	<5.0	<0.050	2.69	<3.0
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	23-Nov-16	T	24.8	<0.50	<2.0	116	<0.50	1,050	0.340	184,000	<0.50	0.068	<0.50	367	<0.30	22	269,000	1,080	<2.0	<0.50	<2.0	2,090,000	<0.050	<5.0	0.054	3.06	3.2
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	D	13.9	0.066	0.27	59.4	0.013	371	0.035	89,200	<1.0	<0.10	<0.40	1,880	<0.10	12.2	127,000	1,680	0.1	<0.40	<0.40	790,000	<0.0040	0.58	0.0144	2.14	2.6
DUP-4 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	D	18.0	0.059	0.21	49.6	<0.010	299	0.033	83,600	<1.0	<0.10	<0.40	1,620	<0.10	9.61	117,000	1,560	<0.10	<0.40	<0.40	690,000	<0.0040	0.60	0.0121	2.16	3.0
QA/QC RPD											**Duplicates**	D 8%	11%	—	18%	—	21%	6%	6%	—	—	3%	—	24%	5%	7%	7%	—	—	2%	—	—	17%	1%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	T	38.6	0.165	0.248	22.4	0.0097	201	0.520	41,900	<0.50	0.054	<0.50	1,490	0.145	7.93	52,200	1,060	0.129	0.42	<0.20	347,000	<0.0050	2.5	0.016	3.05	9.8
DUP-4 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	T	33.5	0.161	0.256	21.1	0.0101	200	0.527	42,500	<0.50	<0.050	<0.50	1,460	0.140	7.78	55,300	1,010	0.114	0.37	<0.20	347,000	<0.0050	1.94	0.0158	2.85	9.5
QA/QC RPD											**Duplicates**	T 14%	3%	—	6%	—	1%	—	1%	—	—	2%	—	2%	6%	5%	—	—	—	5%	—	25%	1%
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	D	8.5	<0.50	<2.0	275	<0.50	540	<0.050	457,000	<0.50	<0.050	<0.50	21,400	<0.30	25	373,000	11,200	<2.0	<0.50	<2.0	2,600,000	<0.050	<5.0	<0.050	1.54	<3.0
DUP-6 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	D	8.2	<0.50	<2.0	288	<0.50	550	<0.050	465,000	<0.50	<0.050	<0.50	21,400	<0.30	26	378,000	11,400	<2.0	<0.50	<2.0	2,610,000	<0.050	<5.0	<0.050	1.47	<3.0
QA/QC RPD											**Duplicates**	D 4%	—	—	5%	—	2%	—	2%	—	—	0%	—	4%	1%	2%	2%	—	—	0%	—	—	5%	—
P5.25-3	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	T	11.4	<0.50	<2.0	325	<0.50	570	0.054	531,000	<0.50	0.075	<0.50	23,900	<0.30	28	447,000	12,400	<2.0	<0.50	<2.0	2,750,000	<0.050	<5.0	<0.050	1.46	<3.0
DUP-6 (P5.25-3)	Porewater EAZ	P5.25-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	T	10.5	<0.50	<2.0	327	<0.50	640	0.051	547,000	<0.50	0.064	<0.50	23,900	<0.30	29	457,000	12,400	<2.0	<0.50	<2.0	2,810,000	<0.050	<5.0	<0.050	1.49	<3.0
QA/QC RPD											**Duplicates**	T —	—	—	1%	—	12%	6%	3%	—	—	0%	—	4%	2%	0%	—	—	—	4%	—	—	2%	2%
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	5-Jun-12	D	<5.0	0.84	3.4	138	<0.50	2,060	0.075	265,000	<0.50	14.1	0.55	294	<0.30	<20	484,000	10,900	9.2	14.5	<2.0	4,540,000	<0.050	8.17	<0.50	8.4
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Sep-12	D	<5.0	<5.0	<50	<4.0	92.5	3,430	<0.050	320,000	<0.50	7.57	6.81	1,120	<0.30	33	863,000	2,770	7.1	7.44	<2.0	6,930,000	0.114	<5.0	8.2	<0.50	5.1
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	10-Dec-12	D	<5.0	<0.50	4.1	163	<0.50	650	0.256	98,500	<0.50	4.50	<0.50	161	<0.30	<20	109,000	2,150	<2.0	5.38	<2.0	982,000	<0.050	<5.0	1.23	<0.50	7.9
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	25-Feb-13	---	—	—	—	—	—	—	—	—	—	—	—	Well Not Sampled												
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	12-Mar-13	D	<5.0	<0.50	2.2	349	<0.50	630	0.087	164,000	<0.50	10.3	0.50	242	<0.30	<20	279,000	4,330	<2.0	8.73	<2.0	1,700,000	<0.050	2.05	<0.50	8.3
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Jun-13	D	<5.0	<0.50	3.3	195	<0.50	1,650	0.122	182,000	<0.50	12.5	<0.50	1,230	<0.30	40	372,000	2,830	<2.0	12.1	<2.0	3,130,000	0.056	1.41	<0.50	11.1
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Jun-13	T	10.6	<0.50	3.6	189	<0.50	1,600	0.248	182,000	<0.50	11.8	<0.50	1,290	<0.30	39	372,000	2,420	<2.0	11.8	<2.0	3,140,000	0.057	<5.0	1.34	<0.50	9.1
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Sep-13	D	<5.0	<0.50	<2.0	92.9	<0.50	3,390	<0.050	301,000	<0.50	4.05	0.62	7,000	<0.30	72	872,000	1,880	<2.0	9.22	<2.0	7,600,000	<0.050	0.56	<0.50	6.5
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	16-Sep-13	T	186	<0.50	<2.0	135	<0.50	3,620	0.072	321,000	<0.50	4.62	1.14	11,200	0.49	79	918,000	2,110	<2.0	10.5	<2.0	8,050,000	0.052	8.5	1.12	5.89	<10 U
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-13	D	<5.0	<0.50	<2.0	246	<0.50	1,490	<0.050	201,000	<0.50	2.35	<0.50	3,780	<0.30	39	451,000	1,490	5.2	3.69	<2.0	3,380,000	<0.050	<5.0	2.29	<0.50	5.5
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Dec-13	T	75.2	<0.50	<2.0	231	<0.50	1,270	0.170	172,000	<0.50	2.10	<0.50	4,710	1.61	30	352,000	1,760	8.1	3.21	<2.0	2,550,000	0.273	5.4	2.35	0.57	5.4
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Mar-14	D	<5.0	<0.50	<2.0	255	<0.50	520	<0.050	66,400	<0.50	1.30	<0.50	3,700	<0.30	<20	80,500	916	<2.0	1.60	<2.0	764,000	<0.050	<5.0	0.349	<0.50	4.2
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	11-Mar-14	T	120	<0.50	2.5	268	<0.50	530	0.062	63,300	<0.50	1.39	1.18	4,100	0.37	<20	74,300	874	<2.0	1.98	<2.0	742,000	0.054	5.1	0.334	0.52	4.9
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Jun-14	D	<5.0	<0.50	<2.0	344	<0.50	1,190	<0.050	270,000	<0.50	1.94	<0.50	6,980	<0.30	66	370,000	1,640	3.0	3.10	<2.0	2,940,000	<0.050	<5.0	3.02	<0.50	5.9
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Jun-14	T	15.6	<0.50	2.6	237	<0.50	880	<0.050	164,000	0.55	1.17	1.58	4,260	<0.30	43	190,000	2,460	2.6	2.07	<2.0	1,770,000	<0.050	<5.0	2.14	<0.50	3.1
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Sep-14	D	<5.0	<0.50	<2.0	126	<0.50	3,050	0.274	315,000	<0.50	0.402	<0.50	9,100	<0.30	97	919,000	1,000	<2.0	3.33	<2.0	7,920,000	<0.050	<5.0	0.720	<0.50	4.6
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	18-Sep-14	T	823	0.70	3.0	559	<0.50	2,790	1.47	300,000	1.37	1.77	6.79	10,700	2.70	91	874,000	1,730	3.1	7.12	<2.0	7,500,000	0.075	41.0	1.01	2.94	27.4
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	4-Dec-14	D	<5.0	<0.50	<2.0	333	<0.50	480	<0.050	63,100	<0.50	0.438	<0.50	3,130	<0.30	<20	146,000	797	<2.0	1.81	<2.0	1,040,000	<0.050	<5.0	0.515	<0.50	4.0
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	4-Dec-14	T	6.4	<0.50	<2.0	355	<0.50	490	<0.050	65,800	<0.50	0.446	<0.50	3,480	<0.30	<20	150,000	804	<2.0	1.38	<2.0	1,060,000	<0.050	<5.0	0.555	<0.50	<3.0
P5.25-5	Porewater EAZ	P5.25-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	---	13-Mar-15	D	<5.0	<0.50	<2.0	203	<0.50	1,350

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Jun-13	D	3.4	0.061	1.11	89.1	<0.010	314	0.057	136,000	<1.0	0.64	<0.40	558	<0.10	10.8	114,000	9,730	<0.10	2.38	0.59	735,000	<0.0040	0.67	0.0409	0.38	3.6
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Jun-13	T	639	2.10	2.38	100	0.018	312	0.164	138,000	1.1	2.35	2.5	2,620	14.1	11.6	117,000	9,650	0.39	3.65	<0.40	740,000	0.0067	29.6	0.273	3.57	76.1
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-Sep-13	D	2.2	0.116	1.60	180	<0.010	237	<0.010	169,000	<1.0	2.17	<0.40	566	<0.10	9.51	157,000	11,760	<0.10	0.83	1.90	816,000	<0.0040	<0.40	0.0876	0.31	2.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-Sep-13	T	733	0.535	2.14	197	0.025	231	0.126	164,000	1.3	5.63	2.4	3,170	16.7	10.7	156,000	11,100	0.62	<2.0 U	<0.40	789,000	0.0058	38.1	0.350	4.00	26.6 J+
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Dec-13	D	2.0	0.070	1.16	227	<0.010	217	<0.010	179,000	<1.0	20.6	<0.40	2,420	<0.10	5.74	166,000	12,900	0.24	1.17	<0.50	854,000	<0.0040	<0.40	0.142	0.17	3.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Dec-13	T	1,030	0.359	2.97 J+	250	0.041	216	0.254	174,000	1.6	27.3	4.3	5,770	1.98	7.31	163,000	12,600	1.12	3.21	<0.50	823,000	0.0081	46.9	0.7	6.49	34.3
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	D	<5.0	<0.50	<2.0	130	<0.50	190	<0.050	186,000	<0.50	12.6	<0.50	1,600	<0.30	<20	164,000	9,600	<2.0	0.64	<2.0	649,000	<0.050	<5.0	0.105	<0.50	<3.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Mar-14	T	39.0	<0.50	<2.0	137	<0.50	220	<0.050	108,000	<0.50	13.5	<0.50	1,660	<0.30	<20	104,000	9,750	<2.0	0.67	<2.0	684,000	<0.050	<5.0	0.123	<0.50	<3.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Jun-14	D	2.5	0.052	1.10	154	<0.010	232	<0.010	133,000	<1.0	0.38	<0.40	118	<0.10	8.94	85,800	7,460	<0.10	0.94	<0.40	679,000	<0.0040	<0.40	0.0378	0.16	2.2
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	12-Jun-14	T	1,140	0.215	1.86	166	0.033	239	0.156	129,000	1.6	6.95	3.6	3,400	4.57	7.94	80,300	6,670	0.54	3.28	<0.40	615,000	0.0092	49.3	0.352	5.88	24.9
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-14	D	<2.0	0.079	0.84	216	<0.010	223	0.021	163,000	<1.0	2.12	<0.40	1,230	<0.10	6.81	130,000	11,700	0.31	1.27	0.41	753,000	<0.0040	<0.40	0.250	0.52	2.4
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	10-Sep-14	T	3,790	0.469	3.10	293	0.142	244	0.491	205,000	4.5	24.6	8.9	12,900	9.23	15.4	122,000	15,600	1.97	9.79	<0.40	702,000	0.0114	196	1.82	21.3	79.7
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Dec-14	D	<2.0	0.076	0.57	412	<0.010	199	<0.010	241,000	<1.0	6.40	<0.40	4,260	<0.10	5.05	224,000	20,400	0.15	1.46	0.92	974,000	<0.0040	<0.40	0.0875	0.12	2.1
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	2-Dec-14	T	174	0.165	0.92	393	<0.010	208	0.033	235,000	<1.0	0.57	<1.0	4,560	0.25 J+	4.80	209,000	19,400	0.38	1.52	0.87	916,000	<0.0040	0.18	0.186	0.93	<0.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	D	<2.0	0.083	0.65	216	<0.010	174	0.056	148,000	<1.0	7.96	<0.40	2,350	<0.10	3.04	124,000	12,600	0.31	0.49	1.07	840,000	<0.0040	<0.40	0.0746	0.17	3.70
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Mar-15	T	2,240	0.368	4.01	266	0.104	185	0.544	161,000	3.8	34.7	8.2	11,000	7.49	6.58	121,000	11,700	2.67	5.98	<0.40	850,000	0.017	130	1.66	20.1	87.50
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Jun-15	D	<2.0	<0.10	0.119	1.14	170	<0.010	213	213,000	<1.0	3.28	<0.40	371	<0.10	3.96	94,100	8,600	0.44	0.40	0.40	726,000	<0.0040	<0.40	0.284	0.95	3.4
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Jun-15	T	219	0.138	1.05	176	0.010	213	0.045	128,000	<1.0	5.14	<1.0	1,050	0.43	4.09	92,800	9,700	0.48	0.70	<0.40	722,000	<0.010	9.86	0.242	1.56	7.2
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-15	D	<5.0	<0.50	<2.0	682	<0.50	360	<0.050	463,000	<0.50	8.58	<0.50	6,630	<0.30	<20	426,000	36,100	<2.0	1.06	<2.0	1,660,000	<0.050	<5.0	0.156	<0.50	8.2
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-15	T	645	<0.50	<2.0	669	<0.50	400	0.120	452,000	1.02	15.1	1.92	8,040	1.32	<20	411,000	36,600	<2.0	1.95	<2.0	1,620,000	<0.050	29.8	0.339	3.55	16.9
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Dec-15	D	<5.0	<0.50	<2.0	448	<0.50	290	<0.050	371,000	<0.50	25.8	<0.50	2,270	<0.30	<20	354,000	29,800	<2.0	1.63	<2.0	1,710,000	<0.050	<5.0	0.131	<0.50	10.1
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	7-Dec-15	T	611	<0.50	<2.0	476	<0.50	340	0.190	368,000	0.88	35.0	2.86	4,880	0.84	<20	348,000	30,100	<2.0	3.23	<2.0	1,680,000	<0.050	29.6	0.303	4.40	25.6
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	D	<5.0	<0.50	<2.0	423	<0.50	260	0.114	356,000	<0.50	8.78	0.99	301	<0.30	<20	318,000	25,600	<2.0	1.32	<2.0	1,480,000	<0.050	<5.0	0.262	<0.50	16.5
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	T	139	139	<0.50	<2.0	456	<0.50	240	0.074	343,000	<0.50	10.6	1.23	1,610	0.49	<20	310,000	24,400	<2.0	1.18	<2.0	1,450,000	<0.050	8.4	0.300	1.11	12.0
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-May-16	D	<5.0	<0.50	<2.0	241	<0.50	360	<0.050	221,000	<0.50	11.5	<0.50	1,560	<0.30	<20	203,000	17,900	<2.0	0.51	<2.0	1,390,000	<0.050	<5.0	0.153	<0.50	4.9
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	16-May-16	T	506	<0.50	<2.0	258	<0.50	320	0.107	220,000	0.52	28.3	1.81	5,030	1.03	<20	192,000	17,600	<2.0	2.33	<2.0	1,270,000	<0.050	26.1	0.225	2.46	12.8
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Aug-16	D	<5.0	<0.50	<2.0	264	<0.50	480	<0.050	254,000	<0.50	6.55	1.06	1,030	<0.30	<20	230,000	15,000	<2.0	1.11	<2.0	1,620,000	<0.050	<5.0	0.169	0.63	5.4
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Aug-16	T	9,240	1.11	11.9	443	<0.50	440	1.96	346,000	12.1	177	34.7	40,400	24.2	<20	238,000	15,800	7.0	25.8	<2.0	1,530,000	0.077	317	6.06	77.2	315
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	21-Nov-16	D	<5.0	<0.50	<2.0	389	<0.50	440	<0.050	293,000	<0.50	2.18	<0.50	2,170	<0.30	<20	280,000	18,900	<2.0	0.74	<2.0	1,950,000	<0.050	<5.0	0.154	<0.50	5.4
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	21-Nov-16	T	7,130	0.62	8.7	447	<0.50	470	0.895	342,000	12.0	113	26.4	29,800	23.9	21	293,000	18,400	5.9	16.8	<2.0	1,920,000	0.052	231	3.48	38.0	175
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-17	D	<2.0	0.051	0.38	83.1	<0.010	285	0.022	171,000	<1.0	0.44	0.40	144	0.12	3.82	113,000	849	0.17	<0.40	<0.40	969,000	<0.0040	<0.40	0.176	0.11	7
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	14-Mar-17	T	3,030	0.204	2.08	133	0.137	304	0.306	189,000	3.3	27.3	4.8	9,970	12.5	10.4	111,000	2,790	1.44	5.18	<0.40	936,000	0.012	67.1	1.18	17.8	92
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	D	<2.0	0.042	0.53	83.7	<0.010	334	<0.010	85,900	<1.0	1.11	<0.40	471	<0.10	2.80	58,200	5,340	0.09	<0.40	0.87	881,000	<0.0040	<0.40	0.0697	0.19	4.7
P6-8S	Porewater EAZ	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	T	138	0.097	0.72	90.7	<0.010	355	0.034	85,300	<1.0	3.84	1.2	1,040	0.41	3.40	57,600	5,230	0.64	0.78	<0.40	842,000	<0.010	8.09	0.118	1.40	8.9
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	26-Sep-11	D	3.1	0.102	0.444	69.2	<0.0050	60.4	0.0809	69,000	<0.50	0.54	0.71	<3.0	<0.050	3.27	26,900	808	3.07	1.74	<0.20	33,000	0.0107	<0.20	0.767	0.206	10.0
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	4-Nov-11	D	<5.0	<0.50	<2.0	79.7	<0.50	14	0.174	78,600	<0.50	0.663	0.76	<10	<0.30	<20	28,800	1,020	2.7	3.1	<2.0	32,100	<0.050	<5.0	0.919	0.50	45.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	5-Dec-11	D	<5.0	<0.50	<2.0	90.3	<0.50	<100	0.095	86,700	<0.50	0.918	0.51	<30	<0.30	<20	31,700	974	<2.0	2.74	<2.0	29,700	<0.050	<5.0	0.729	<0.50	41.0
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	5-Jan-12	T	3.8	0.089	0.289	85.7	<0.0050	56.5	0.0731	89,700	<0.50	1.31	0.66	<30	<0.050	<0.50	33,000	1,010	1.22	2.28	<0.20	29,300	0.0172	<0.20	0.659	0.274	39.9
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	1-Feb-12	D	<3.0	0.040	0.306	70.3	<0.0050	45.4	0.0326	86,700	<0.50	1.34	0.68	<30	0.102	1.85	31,300	905	0.802	1.90	<0.20	29,900	0.0122	<0.20	0.414	0.146	24.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	26-Mar-12	D	<3.0	0.035	0.198	79.9	<0.0050	52.3	0.0164	77,700	<0.50	0.851	<0.50	<30	<0.050	1.41	28,000	617	0.365	1.01	<0.20	26,500	0.0155	<0.20	0.194	<0.050	12.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	9-Apr-12	D	<3.0	0.023	0.394	90.8	<0.0050	49.1	0.0476	84,100	<0.50	0.473	0.65	802	0.068	3.08	44,600	559	0.367	1.30	<0.20	147,000	0.0095	<0.20	0.201	<0.050	8.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	7-May-12	D	4.3	0.019	0.475	76.9	<0.0050	53.5	0.0113	92,000	<0.50	0.539	<0.50	510	<0.050	1.61	32,600	550	0.336	0.79	<0.20	44,100	0.0099	0.25	0.170	<0.050	9.4
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	4-Jun-12	D	<1.0	0.025	0.393	82.3	<0.0050	71.6	0.0155	81,400	0.34 J	0.749	0.34 J	401	<0.050	2.37	35,500	685	0.449	1.09	<0.20	85,300	0.0130	<0.20	0.196	<0.050	32.2
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	4-Jul-12	D	<1.0	0.026	0.41	81.5	<0.0050	88.1	0.0167	79,900	<0.50	0.826	0.63	145	<0.050	2.82	41,300	554	0.498	1.07	<0.20	123,000	0.0119	<0.20	0.202	<0.050	7.3
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	1-Aug-12	D	<2.0	0.030	0.49	128	<0.010	275	0.020	86,300	<1.0	0.97	0.44	411	<0.10	8.98	88,700	669	0.66	1.20	<0.40	521,000	0.0196	<0.40	0.316	<0.10	6.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	11-Sep-12	D	<5.0	<0.50	<2.0	55.1	<0.50	1,590	<0.050	176,000	<0.50	0.801	<0.50	746	<0.30	59	409,000	436	4.6	2.86	<2.0	3,790,000	<0.050	<5.0	1.20	1.11	7.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	11-Dec-12	D	<5.0	<0.50	<2.0	49.2	<0.50	2,500	0.054	235,000	<0.50	0.072	0.76	48	<0.30	89	553,000	31.1	5.3	3.34	<2.0	5,050,000	<0.050	<5.0	1.51	0.79	4.1
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	7-Nov-12	D	<1.0	0.042	1.24	39.9	<0.050	131	<0.0050	53,600	<0.50	0.384	0.30	50	0.104	1.12	<0.050	6.06	31,900	678	0.986	0.79	<0.20	146,000	<0.0020	<0.20	0.287	0.299	3.1
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	10-Dec-12	D	<1.0	0.030	1.02	49.8	<0.0050	170	<0.0050	70,300	<0.50	0.531	<0.20	582	<0.050	4.73	49,300	406	0.536	0.59	<0.20	197,000	<0.0020	<0.20	0.220	0.157	2.6
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	7-Jan-13	D	<5.0	<0.50	<2.0	143	<0.50	1,370	0.112 J	208,000	<0.50	0.508	<0.30	137	<0.050	44	372,000	340	2.7	1.59 J	<2.0	3,050,000	<0.050	<5.0	1.04	1.04	4.2 J
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	25-Feb-13	---	Well Not Sampled																							
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	12-Mar-13	D	<1.0	0.019	0.350	81.0	<0.0050	66.6	0.0932	93,100	<0.50	0.435	0.60	391	<0.050	1.94	39,700	623	0.303	0.85	<0.20	76,900	<0.0020	<0.20	0.149	0.056	6.6
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	10-Jun-13	D	<1.0	0.018	1.13	76.3	<0.0050	77.9	0.0142	82,400	<0.50	0.521	0.44	1,890	<0.050	1.64	35,400	439	0.341	0.86	<0.20	57,300	0.0029	<0.20	0.154	<0.050	7.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	16-Sep-13	D	<1.0	0.036	1.10	99.3	<0.0050	76.4	0.0093	93,800	<0.50	0.798	0.41	3,280	0.076	1.55	34,100	623	0.359	1.06	<0.20	50,900	0.0021	<0.20	0.152	<0.050	5.2
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	9-Dec-13	D	<5.0	<0.50	<2.0	178	<0.50	560	<0.050	139,000	<0.50	0.649	<0.50	2,200	<0.30	<20	158,000	772	<2.0	1.24	<2.0	1,080,000	<0.050	<5.0	0.424	<0.50	4.2
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	10-Mar-14	D	<1.0	0.037	0.848	98.8	<0.0050	63.0	0.0073	86,100	<0.50	0.693	0.26	2,170	<0.050	1.16	35,900	642	0.268	0.94	<0.20	52,400	<0.0020	<0.20	0.134	<0.050	5.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	12-Jun-14	D	1.5	0.033	2.63	111	<0.0050	78.6	0.0067	83,900	<0.50	0.525	0.45	5,320	<0.050	1.58	32,100	576	0.365	0.93	<0.20	48,100	<0.0020	<0.20	0.136	0.119	2.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	10-Sep-14	D	<1.0	0.018	1.00	118	<0.0050	84.6	0.0054	88,800	<0.50	0.710	0.25 J	2,630	<0.050	1.20	35,100	720	0.288	1.11	<0.20	52,300	<0.0020	<0.20	0.148	0.055	1.8 J
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	2-Dec-14	D	<2.0	0.033	0.547	122	<0.0050	72.5	<0.0050	98,900	<0.50	0.687	0.50	1,020	<0.050	1.84	37,500	743	0.258	1.66	<0.20	53,400	0.0023	<0.20	0.123	0.169	3.1
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	9-Mar-15	D	9.9	0.061	6.64	66.7	<0.0050	204	0.0152	88,000	<0.50	0.299	0.59	10,300	0.057	4.21	57,500	701	0.829	0.45	<0.20	238,000	<0.0020	<0.20	0.382	1.68	8.9
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	15-Jun-15	D	1.8	0.029	1.28	94.5	<0.0050	77.9	0.0052	94,100	<0.50	0.234	<0.20	2,360	<0.050	1.17	35,700	637	0.152	0.21	<0.20	58,800	<0.0020	<0.20	0.112	0.208	2.4
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	8-Sep-15	D	2.1	0.049	0.836	124	<0.0050	89.4	0.0075	116,000	<0.50	0.234	0.74	863	0.052	1.80	45,500	757	0.099	0.63	<0.20	94,500	<0.0020	<0.20	0.0859	0.127	8.3
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	7-Dec-15	D	<1.0	0.048	0.263	140	<0.0050	116	0.0166	137,000	<0.50	0.218	0.41	110	<0.050	1.22	58,200	817	0.162	0.44	<0.20	115,000	<0.0020	<0.20	0.0756	0.070	5.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	29-Feb-16	D	<1.0	0.033	0.999	128	<0.0050	209	0.0459	117,000	<0.50	0.356	0.36	1,690	<0.050	0.88	79,000	593	0.487	0.42	<0.20	347,000	<0.0020	<0.20	0.315	0.053	3.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	16-May-16	D	1.0	0.031	0.639	112	<0.0050	79.5	0.0119	120,000	<0.50	0.225	0.47	1,310	<0.050	1.27	47,500	754	0.089	0.38	<0.20	87,200	<0.0020	<0.20	0.122	0.080	6.5
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	15-Aug-16	D	<2.0	0.064	0.71	157	<0.010	378	<0.010	189,000	<1.0	0.62	<0.40	772	<0.10	1.23	141,000	587	0.83	1.09	<0.40	551,000	<0.0040	<0.40	0.348	<0.10	3.2
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	21-Nov-16	D	1.3	0.049	1.24	126	<0.0050	69.0	0.0051	123,000	<0.50	0.236	0.36	3,650	<0.050	1.48	48,000	840	0.113	0.36	<0.20	73,200	<0.0020	<0.20	0.108	0.055	9.7
P6-8I	Porewater	P6-8	DS	2.0-2.4	2.0	2.4	2.4	Colluvium	---	14-Mar-17	D	9.2	0.017	0.720	127	<0.0050	68.4	0.0068	118,000	0.24 J	0.284	0.87	1,280	0.076	1.22	44,000	717	0.159	0.41	<0.20	62,400	<0.0020	<0.20	0.204	0.054	1.7
P6-8I	Porewater	P6

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												—	50	110	3	300	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	11-Jun-13	T	22,200	0.237	9.28	83.5	0.543	292	0.157	74,800	26.7	13.4	53.1	46,600	10.8	92.0	161,000	1,600	0.681	9.74	0.43	435,000	0.126	900	3.83	122	144
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	17-Sep-13	D	<2.0	0.047	1.31	17.7	<0.010	362	0.031	105,000	<1.0	2.92	0.54	8,300	<0.10	66.3	201,000	1,140	0.36	1.19	<0.40	685,000	<0.0040	<0.40	0.639	0.24	9.6
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	17-Sep-13	T	68,300	0.299	12.0	234	1.42	402	0.314	112,000	77.0	38.1	152	108,000	38.1	263	237,000	2,210	0.93	29.1	1.04	695,000	0.376	2,380	10.7	362	276
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	9-Dec-13	D	<5.0	<0.50	<2.0	20.8	<0.50	390	0.067	133,000	<0.50	3.47	<0.50	6,770	<0.30	62	272,000	1,800	<2.0	0.95	<2.0	988,000	<0.050	<5.0	0.486	<0.50	8.0
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	16-Dec-13	T	5,830	<0.50	<3.0	42.5	14.50	410	0.053	156,000	6.03	5.31	12.4	14,800	2.88	67	286,000	2,240	<2.0	3.37	<2.0	1,090,000	<0.050	305	1.23	27.4	21.2
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	10-Mar-14	D	<2.0	0.028	1.56	10.3	<0.010	231	0.018	79,900	<1.0	2.07	<0.40	9,230	<0.10	36.2	148,000	1,910	0.40	0.64	<0.40	542,000	<0.0040	<0.40	0.555	0.25	2.4
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	10-Mar-14	T	2,200	0.092	1.95	19.4	0.057	250	0.020	78,600	2.3	2.81	4.4	9,830	1.14	42.4	141,000	1,780	0.48	1.28	<0.40	528,000	<0.010	127	0.773	10.4	6.6 J
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	11-Jun-14	D	5.2	<0.50	2.3	18.4	<0.50	780	<0.050	105,000	<0.50	1.76	1.17	2,480	<0.30	51	216,000	994	<2.0	0.86	<2.0	1,530,000	<0.050	<5.0	1.22	<0.50	4.8
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	11-Jun-14	T	74,300	<0.50	21.8	235	1.47	860	0.318	113,000	78.8	37.7	192	147,000	32.7	180	248,000	2,180	2.9	32.5	<2.0	1,520,000	0.311	2,450	8.22	360	246
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	11-Sep-14	D	<5.0	<0.50	<2.0	17.2	<0.50	490	<0.050	90,400	11.8	1.65	0.70	4,110	<0.30	49	152,000	937	<2.0	0.99	<2.0	947,000	<0.050	<5.0	0.739	0.74	5.5
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	11-Sep-14	T	141,000	<0.50	30.7	493	3.11	620	0.667	136,000	149	79.9	306	272,000	88.0	401	318,000	3,590	2.0	61.4	<2.0	1,190,000	0.783	2,100	17.6	702	579
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	2-Dec-14	D	5.3	0.037	1.75	18.2	<0.010	231	0.016	131,000	<1.0	2.02	<0.40	8,500	<0.10	36.7	200,000	3,330	0.31	0.70	<0.40	626,000	<0.0040	<0.40	0.652	0.29	2.3
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	2-Dec-14	T	90,200	0.292	16.3	331	2.42	301	0.293	140,000	103	52.3	231	135,000	44.1	225	266,000	5,410	1.14	38.7	1.17	666,000	0.424	1,440	10.1	592	242
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	13-Mar-15	D	<2.0	0.061	1.06	11.6	<0.010	201	0.035	99,700	<1.0	1.90	0.74	3,140	<0.10	36.8	156,000	2,490	0.34	1.65	<0.40	551,000	<0.0040	<0.40	0.704	0.18	11.4
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	13-Mar-15	T	10,200	0.243	5.16	60.5	0.297	200	0.081	96,100	13.3	7.19	22.8	23,100	6.12	45.8	153,000	2,930	0.67	7.02	<0.40	513,000	0.046	619	2.08	66.8	42.4
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	15-Jun-15	D	2.2	0.123	2.05	9.78	<0.010	347	<0.010	89,700	<1.0	0.82	<0.40	2,520	0.11	37.6	138,000	1,660	0.92	<0.40	<0.40	847,000	<0.0040	<0.40	0.687	0.841	5.0
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	15-Jun-15	T	37,100	0.297	12.6	171	1.03	425	0.338	146,000	47.3	15.6	88.3	63,000	27.7	106	177,000	2,070	1.70	19.2	0.90	956,000	0.176	1,220	5.83	195	134
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	8-Sep-15	D	<5.0	<0.50	2.3	32.3	<0.50	490	<0.050	232,000	<0.50	2.80	<0.50	10,100	<0.30	53	337,000	4,970	<2.0	1.19	<2.0	1,430,000	<0.050	<5.0	0.733	0.53	6.8
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	8-Sep-15	T	1,850	1.56	2.4	38.9	<0.50	510	<0.050	223,000	1.75	3.46	3.16	12,700	1.06	87	323,000	4,940	<2.0	1.65	<2.0	1,390,000	<0.050	94.2	0.669	7.84	6.8
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	7-Dec-15	D	<2.0	0.054	1.58	28.5	0.011	363	0.097	273,000	<1.0	4.10	<0.40	14,400	<0.10	128	339,000	5,940	0.26	0.93	<0.40	838,000	<0.0040	<0.40	0.553	0.18	11.9
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	7-Dec-15	T	5,070	0.124	2.16	29.0	0.096	360	0.102	265,000	3.4	4.78	5.7	18,400	1.66	137	331,000	13,200	0.41	2.90	<0.40	814,000	<0.010	188	1.01	15.5	10.1
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	29-Feb-16	D	8.0	<0.50	2.3	21.4	<0.50	510	<0.050	178,000	<0.50	3.54	5.70	15,100	<0.30	30.0	214,000	6,690	<2.0	0.95	<2.0	632,000	<0.050	<5.0	0.815	<0.50	9.2
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	29-Feb-16	T	130,000	<0.50	51.3	584	4.09	220	2.20	102,000	156	102	367	333,000	112	305	237,000	9,390	3.3	82.7	<2.0	620,000	1.02	1,290	23.3	817	702
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	17-May-16	D	<2.0	0.074	1.74	15.9	<0.010	231	0.034	155,000	<1.0	2.87	<0.40	8,090	0.26	38.6	194,000	5,060	0.36	0.75	<0.40	773,000	<0.0040	<0.40	0.788	0.21	11.3
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	17-May-16	T	2,100	0.085	2.19	24.1	0.064	234	0.054	148,000	2.2	3.45	4.4	10,700	1.36	36.1	185,000	5,720	0.38	1.52	<0.40	727,000	<0.010	112	0.959	9.12	17.4
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	16-Aug-16	D	16,400	<0.50	8.6	93.0	0.53	660	0.123	196,000	13.4	6.89	26.7	32,600	14.2	67	253,000	4,400	2.4	6.96	<2.0	1,480,000	0.092	500	3.30	87.8	47.3
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	16-Aug-16	T	<5.0	<0.50	5.0	15.5	<0.50	620	<0.050	167,000	<0.50	1.72	<0.50	14,200	<0.30	48	250,000	4,270	2.0	0.97	<2.0	1,470,000	<0.050	<5.0	1.37	1.08	6.2
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	21-Nov-16	D	16.2	0.023	2.07	21.4	<0.010	145	<0.010	180,000	<1.0	3.07	<0.40	9,860	<0.10	30.2	196,000	7,280	0.44	0.65	<0.40	799,000	<0.0040	0.75	0.680	0.30	<2.0
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	21-Nov-16	T	299	<0.050	1.82	22.8	0.013	149	0.012	180,000	<1.0	3.15	<1.0	9,820	0.29	27.3	199,000	7,180	0.42	0.78	<0.40	736,000	<0.0040	17.6	0.738	1.43	<0.0
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	14-Mar-17	D	3.6	0.075	3.40	14.4	<0.010	135	0.012	114,000	<1.0	1.39	<0.40	6,370	<0.10	23.3	122,000	3,950	0.97	0.64	<0.40	553,000	<0.0040	<0.40	0.832	0.63	2.7
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	14-Mar-17	T	9,090	0.302	7.61	49.4	0.276	153	0.087	114,000	8.9	5.66	16.6	28,900	6.32	36.3	126,000	5,110	0.81	4.47	<0.40	540,000	0.037	380	1.91	40.8	32.6
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	5-Jun-17	D	<2.0	0.111	3.72	7.96	<0.010	147	<0.010	80,200	<1.0	0.79	<0.40	—	<0.10	24.0	83,100	2,720	1.56	0.44	<0.40	505,000	<0.0040	<0.40	1.17	1.80	<2.0
P6-12I	Porewater EAZ	P6-12	DS	EB	0.6-0.8	0.6	0.8	Beach sand	—	5-Jun-17	T	8,660	0.187	4.34	50.4	0.339	170	0.103	84,000	8.4	4.55	17.3	—	10.9	38.8	90,000	2,810	0.75	3.90	<0.40	518,000	0.053	271	2.27	38.3	26.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	26-Sep-11	D	<6.0	0.072	2.39	12	<0.010	411	0.019	14,500	<1.0	0.7	<1.0	<3.0	<0.10	12.6	18,800	121	3.09	1.31	0.59	468,000	0.0125	<0.40	1.89	1.36	18.7
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	27-Mar-12	D	<6.0	0.093	1.83	11.2	<0.010	339	0.230	15,700	<1.0	1.10	<1.0	<30	<0.10	17.3	50,300	522	2.71	1.30	<0.40	437,000	0.0051	<0.40	2.11	0.43	15.0
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	6-Jun-12	D	<2.0	0.065	1.09	15.4	<0.010	223	0.034	46,400	<1.0	1.77	0.77	308	<0.10	15.5	64,900	541	1.64	4.04	<0.40	294,000	<0.0040	<0.40	1.71	5.44	20.0
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	11-Sep-12	D	<2.0	0.036	1.40	23.7	<0.010	284	0.051	104,000	<1.0	1.74	0.41	1,270	<0.10	22.5	170,000	1,330	0.99	1.31	<0.40	446,000	0.0104	<0.40	2.56	0.47	11.4
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	11-Dec-12	D	<2.0	0.071	0.81	17.7	<0.010	212	0.051	101,000	<1.0	1.78	<0.40	229	<0.10	15.1	160,000	2,030	0.95	9.03	<0.40	429,000	0.0048	<0.40	3.37	<0.10	50.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	13-Mar-13	D	<1.0	0.033	0.366	12.3	<0.0050	161	0.0283	93,000	<0.50	0.293	0.63	117	<0.050	15.2	131,000	851	0.618	1.20	0.22	400,000	0.0038	<0.20	3.04	0.150	13.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	11-Jun-13	D	<1.0	0.045	0.751	7.71	<0.0050	164	0.0175	73,900	<0.50	0.277	0.56	326	<0.050	12.1	84,200	1,290	0.893	0.86	12.2	304,000	<0.0020	<0.20	3.79	0.181	6.6
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	16-Sep-13	D	11.8	0.044	1.10	21.6	<0.010	286	0.046	119,000	<1.0	1.54	0.86	1,610	<0.10	17.1	139,000	3,660	0.77	1.07	<0.40	433,000	0.0056	88	4.46	0.33	11.0
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	9-Dec-13	D	<2.0	0.051	0.34	16.5	<0.010	287	0.050	117,000	<1.0	1.10	0.72	<30	0.14	17.3	157,000	3,260	0.94	0.70	<0.40	725,000	0.0041	<0.40	5.19	0.15	11.5
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	10-Mar-14	D	<5.0	<0.50	<2.0	10.4	<0.50	320	<0.050	78,700	<0.50	0.668	0.68	49	<0.30	<20	124,000	2,220	<2.0	0.51	<2.0	719,000	<0.050	<5.0	4.30	<0.50	4.8
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	11-Jun-14	D	1.2	0.033	0.628	7.16	<0.0050	196	0.0197	60,900	<0.50	0.496	1.01	<30	<0.050	10.8	70,900	1,670	1.07	0.66	<0.20	324,000	0.0028	<0.20	4.76	0.347	5.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	11-Sep-14	D	<5.0	<0.50	<2.0	19.0	<0.50	1,070	0.113	157,000	<0.50	0.632	0.84	24	<0.30	41	302,000	2,500	<2.0	1.17	<2.0	2,040,000	<0.050	<5.0	3.87	<0.50	8.7
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	2-Dec-14	D	<1.0	0.044	0.495	9.61	<0.0050	230	0.0533	112,000	<0.50	0.419	0.55	33	<0.050	14.3	126,000	3,180	0.753	0.69	<0.20	504,000	0.0035	<0.20	4.93	0.220	10.1
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	10-Mar-15	D	<5.0	<0.50	<2.0	6.2	<0.50	190	<0.050	95,400	<0.50	0.489	0.64	141	<0.30	<20	100,000	3,440	<2.0	0.52	<2.0	335,000	<0.050	<5.0	5.25	<0.50	7.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	15-Jun-15	D	<1.0	0.046	0.774	8.05	<0.0050	179	0.0271	87,700	<0.50	0.540	0.58	227	0.102	10.9	83,200	3,620	0.901	0.40	<0.20	334,000	<0.0020	<0.20	4.81	0.307	5.1
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	8-Sep-15	D	1.4	0.06	1.02	12.7	<0.0050	187	0.0775	123,000	<0.50	0.993	0.90	504	0.086	11.5	116,000	5,300	0.987	0.78	<0.20	451,000	0.0022	<0.20	4.85	0.708	14.3
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	7-Dec-15	D	<2.0	0.082	0.36	19.3	<0.010	209	0.224	192,000	<1.0	1.30	0.54	31	<0.10	11.2	189,000	5,140	0.87	0.87	<0.40	694,000	0.0102	<0.40	7.31	0.15	19.0
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	29-Feb-16	D	<1.0	0.053	0.317	12.2	<0.0050	129	0.0559	136,000	<0.50	1.09	0.69	103	<0.050	11.7	134,000	5,130	0.786	0.92	<0.20	460,000	0.0024	<0.20	4.89	0.091	12.3
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	17-May-16	D	<1.0	0.121	0.877	12.3	<0.0050	159	0.0458	126,000	<0.50	1.04	0.66	173	<0.050	11.1	119,000	5,180	0.796	0.65	<0.20	454,000	0.0027	<0.20	5.82	0.189	17.4
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	15-Aug-16	D	3.1	0.135	0.99	17.1	<0.010	197	0.035	179,000	<1.0	1.57	0.46	1,220	<0.10	15.0	164,000	8,090	0.94	0.57	<0.40	582,000	0.0080	<0.40	7.53	0.24	9.9
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	21-Nov-16	D	4.9	0.251	0.38	16.5	<0.010	158	0.115	178,000	<1.0	1.61	1.05	215	<0.10	14.0	152,000	8,180	0.92	0.74	<0.40	620,000	0.0072	<0.40	8.63	0.24	15.8
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	14-Mar-17	D	<1.0	0.051	0.282	12.2	<0.0050	139	0.0529	104,000	<0.50	0.724	0.60	40	<0.050	9.60	87,900	4,200	0.785	0.60	<0.20	413,000	0.0038	<0.20	7.02	0.311	13.6
P6-12D	Porewater	P6-12	DS	EB	1.1-1.3	1.1	1.3	Beach sand	—	5-Jun-17	D	<5.0	<0.50	<2.0	6.5	<0.50	160	0.088	95,200	<0.50	0.491	1.13	<10	<0.30	<20	74,000	3,750	<2.0	<0.50	<2.0	373,000	0.098	<5.0	6.38	<0.50	9.1
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Jun-12	D	21.9	0.167	3.70	61.0	<0.010	289	0.013	105,000	<1.0	1.12	0.47 J	11,400	<0.10	26.4	60,100	1,040	0.63	1.62	<0.40	407,000	<0.0040	0.88	0.756	2.32	7.6
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-12	D	18.8	<0.50	<9.0	489	<0.50	1,450	<0.050	501,000	<0.50	4.38	<0.50	30,000	<0.30	40	627,000	12,200	<2.0	2.10	<2.0	4,560,000	<0.050	<5.0	1.42	3.31	<3.0
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Dec-12	D	28.1	0.215	2.57	16.6	0.0171	203	<0.0050	66,800	<0.50	0.147	0.24	8,130	<0.050	12.9	43,800	1,870	0.109	0.68	0.43	217,000	<0.0020	0.95	0.0926	2.00	2.2
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	25-Feb-13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Well Not Sampled	—	—	—	—	—	—	—	—	—	—
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-13	D	27.9	0.094	0.898	10.6	0.0123	52.6	<0.0050	79,200	<0.50	0.060	<0.20	13,900	<0.050	7.55	20,100	4,350	<0.050	0.39	0.22	64,800	<0.0020	0.78	0.0264	2.22	1.6
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	D	24.9	0.131	1.37	38.0	0.017	186	<0.010	117,000	<1.0	<0.10	<0.40	10,500	<0.10	12.6	67,100	5,100	<0.10	0.50	0.42	408,000	<0.0040	1.58	0.0291	3.93	2.5
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	T	34.6	0.188	1.56	60.2	0.022	248	0.071	161,000	<1.0	<0.10	<1.0	16,600	0.22	15.6	87,800	7,650	0.20	0.49	<0.40	569,000	<0.0040	1.77	0.0414	4.54	<6.0
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Sep-13	D	27.2	<0.50	<7.0	443	<0.50	2,340	<0.050	475,000	<0.50	0.224	5.77	340	<0.30	46	646,000	11,770	<2.0	0.57	<2.0	5,620,000	<0.050	<5.0	0.608	7.96	4.6
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	16-Sep-13	T	36.1	0.61	<8.0	461	<0.50	2,380	0.291	503,000	0.61	0.187	0.85	568	0.30	48	663,000	5,840	<2.0	0.63 J+	<2.0	5,760,000	<0.050	<5.0	0.554	8.70	<5.0 UJ
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Dec-13	D	29.2	0.083	1.16	49.4	0.015	316	0.015	109,000	<1.0	<0.10	<0.40	911	<0.10	16.8	82,000	2,960	<0.10	<0.40	0.56	616,000	<0.0040	1.50	0.0749	6.07	<2.0
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	11-Dec-13	T	42.9	0.138	J+ 1.66	67.0	0.019	412	0.078	125,000	<1.0	<0.10	<1.0	1,610	0.21	19.9	96,000	3,710	0.15	0.48	<0.40	709,000	<0.0040	2.34	0.0975	7.15	<6.0
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	D	31.4	0.113	0.842	16.3	0.0134	188	0.0129	52,300	<0.50	0.092	0.35	2,600	<0.050	9.74	36,300	1,390	<0.050	0.28	0.20	239,000	<0.0020	1.02	0.0515	2.49	11.9
P6-25-3	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Mar-14	T

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	D	9.4	<0.50	<2.0	57.4	<0.50	830	<0.050	168,000	<0.50	<0.050	<0.50	49	<0.30	24	192,000	2,980	<2.0	<0.50	<2.0	1,690,000	<0.050	<5.0	0.158	2.64	<3.0
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	D	8.8	<0.50	<2.0	55.0	<0.50	810	<0.050	176,000	<0.50	<0.050	<0.50	46	<0.30	24	184,000	2,710	<2.0	<0.50	<3.0	1,650,000	<0.050	<5.0	0.161	2.52	<3.0
QA/QC RPD										Duplicates	D	7%	—	—	4%	—	2%	—	8%	—	—	—	8%	—	0%	4%	9%	5%	—	—	4%	—	—	2%	5%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	T	47.0	<0.50	<2.0	64.9	<0.50	860	<0.050	183,000	<0.50	0.061	<0.50	649	<0.30	26	215,000	3,240	<2.0	<0.50	<2.0	1,750,000	<0.050	<5.0	0.169	3.00	8.5
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	T	47.6	<0.50	<2.0	66.5	<0.50	850	<0.050	184,000	<0.50	0.076	<0.50	572	<0.30	25	209,000	3,080	<2.0	<0.50	<2.0	1,800,000	<0.050	<5.0	0.174	3.21	8.90
QA/QC RPD										Duplicates	T	1%	—	—	2%	—	1%	—	8%	—	—	—	13%	—	4%	5%	5%	—	—	—	3%	—	—	3%	7%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	D	21.3	0.038	0.368	11.4	0.0090	230	0.0072	39,900	<0.50	<0.050	<0.20	49	<0.050	7.62	44,500	671	<0.050	<0.20	0.23	326,000	<0.0020	1.15	0.0257	3.35	1.8
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	T	70.3	0.083	0.495	11.1	0.0101	226	0.0302	37,000	<0.50	0.061	<0.50	579	0.343	7.48	42,500	625	0.286	0.23	<0.20	314,000	<0.0050	3.23	0.0372	3.87	11.8
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	D	20.8	0.85	<2.0	36.1	<0.50	620	<0.050	301,000	<0.50	<0.050	<0.50	178	<0.30	42	271,000	7,390	<2.0	<0.50	3.2	1,810,000	<0.050	<5.0	0.234	2.82	<3.0
DUP-4 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	D	21.9	0.89	<2.0	36.6	<0.50	620	<0.050	302,000	<0.50	<0.050	0.68	192	<0.30	41	272,000	7,270	<2.0	0.51	<2.0	1,820,000	<0.050	<5.0	0.234	2.69	<3.0
QA/QC RPD										Duplicates	D	5%	8%	—	1%	—	0%	—	0%	—	—	—	8%	—	2%	0%	2%	—	—	—	1%	—	—	0%	5%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	T	58.7	1.02	<2.0	41.2	<0.50	520	<0.050	296,000	<0.50	0.064	<0.50	1,770	<0.30	40.0	241,000	7,810	<2.0	<0.50	<2.0	1,580,000	<0.050	<5.0	0.228	3.71	4.4
DUP-4 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	18-May-16	T	53.6	1.05	<2.0	35.8	<0.50	540	<0.050	291,000	<0.50	0.055	<0.50	1,540	<0.30	39	240,000	7,640	<2.0	<0.50	<2.0	1,590,000	<0.050	<5.0	0.223	3.54	6.8
QA/QC RPD										Duplicates	T	8%	3%	—	14%	—	4%	—	2%	—	—	—	14%	—	3%	0%	2%	—	—	—	1%	—	—	2%	8%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	D	12.9	<0.50	<2.0	191	<0.50	1,580	0.080	484,000	<0.50	0.065	<0.50	35	<0.30	52	621,000	6,410	<2.0	<0.50	5.5	4,040,000	<0.050	<5.0	0.280	1.96	<3.0
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	D	14.3	<0.50	<2.0	200	<0.50	1,620	0.077	500,000	<0.50	<0.050	<0.50	41	<0.30	53	616,000	6,450	<2.0	<0.50	3.7	4,140,000	<0.050	<5.0	0.293	1.89	<3.0
QA/QC RPD										Duplicates	D	10%	—	—	5%	—	3%	4%	3%	—	—	—	—	—	2%	1%	1%	—	—	39%	2%	—	—	5%	4%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	T	41.4	<0.50	<2.0	203	<0.50	1,600	0.074	491,000	<0.50	0.069	<0.50	447	<0.30	51	612,000	6,330	<2.0	0.58	<2.0	3,950,000	<0.050	<5.0	0.301	2.33	3.3
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	T	39.8	<0.50	<2.0	206	<0.50	1,600	0.066	486,000	<0.50	0.055	<0.50	397	<0.30	48	603,000	6,920	<2.0	<0.50	<2.0	4,010,000	<0.050	<5.0	0.315	2.38	3.4
QA/QC RPD										Duplicates	T	4%	—	—	1%	—	0%	11%	1%	—	—	—	12%	—	6%	1%	7%	—	—	—	2%	—	—	5%	2%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	D	16.3	<0.50	<2.0	29.7	<0.50	490	<0.050	78,200	<0.50	<0.050	<0.50	30	<0.30	<20	74,700	753	<2.0	<0.50	<2.0	821,000	<0.050	<5.0	0.105	3.54	<3.0
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	D	16.1	<0.50	<2.0	33.8	<0.50	510	<0.050	84,100	<0.50	0.055	<0.50	30	<0.30	<20	82,900	773	<2.0	<0.50	<2.0	900,000	<0.050	<5.0	0.110	3.56	<3.0
QA/QC RPD										Duplicates	D	1%	—	—	13%	—	4%	—	7%	—	—	—	—	—	—	10%	3%	—	—	—	9%	—	—	5%	1%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	T	178	<0.50	<2.0	54.9	<0.50	600	0.094	113,000	<0.50	0.119	0.96	880	0.36	<20	126,000	976	<2.0	0.57	<2.0	1,180,000	<0.050	8.3	0.133	4.66	11.9
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	D	16.2	0.049	0.63	31.7	0.012	589	<0.010	88,900	<1.0	<0.10	<0.40	678	<0.10	18.7	123,000	1,620	0.10	<0.40	1.39	898,000	<0.0040	0.54	0.0918	3.26	<2.0
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	D	14.2	0.044	0.58	33.0	<0.010	503	<0.010	92,600	<1.0	<0.10	<0.40	634	<0.10	18.6	126,000	1,330	<0.10	<0.40	0.99	925,000	<0.0040	0.53	0.0793	2.25	<2.0
QA/QC RPD										Duplicates	D	13%	—	—	8%	4%	—	16%	—	—	—	—	7%	—	16%	2%	21%	13%	—	—	3%	—	—	15%	5%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	T	221	0.094	0.59	27.9	0.019	496	0.237	75,700	<1.0	0.15	<1.0	3,590	0.46	16.5	101,000	1,330	0.41	0.42	<0.40	824,000	<0.010	8.09	0.104	3.66	16.6
DUP-7 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	16-Mar-17	T	291	0.097	0.76	24.8	0.020	421	0.234	77,000	<1.0	0.17	<1.0	4,400	0.94	14.1	103,000	1,050	0.48	0.48	<0.40	832,000	<0.010	10.8	0.111	3.16	13.9
QA/QC RPD										Duplicates	T	27%	—	17%	12%	—	—	17%	1%	2%	—	—	—	20%	69%	16%	5%	24%	16%	—	—	1%	—	—	29%	7%	15%
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	D	14.4	<0.020	0.26	57.7	<0.010	409	<0.010	228,000	<1.0	<0.10	<0.40	2,780	<0.10	32.7	126,000	6,670	<0.10	<0.40	3.65	835,000	<0.0040	0.63	0.0202	1.91	<2.0
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	D	14.9	<0.020	0.27	58.0	0.012	406	<0.010	221,000	<1.0	<0.10	<0.40	2,660	<0.10	33.0	123,000	6,380	<0.10	<0.40	3.18	817,000	<0.0040	0.71	0.0202	1.97	<2.0
QA/QC RPD										Duplicates	D	3%	—	4%	1%	—	1%	—	3%	—	—	—	4%	—	1%	3%	4%	—	—	14%	2%	—	—	0%	3%	—
P6.5-3	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	T	18.5	<0.060	0.34	74.7	<0.010	438	0.016	289,000	<1.0	<0.10	<1.0	4,860	<0.10	38.4	166,000	8,710	<0.10	<0.40	<0.40	914,000	<0.010	1.08	0.0247	1.87	<6.0
DUP-3 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	T	17.9	<0.060	0.31	75.3	<0.010	479	0.019	293,000	<1.0	<0.10	<1.0	5,020	<0.10	38.7	165,000	8,490	<0.10	<0.40	<0.40	930,000	<0.010	1.08	0.0237	1.87	<6.0
QA/QC RPD										Duplicates	T	3%	—	9%	8%	—	9%	—	8%	—	—	—	3%	—	0%	0%	3%	—	—	—	2%	—	—	4%	0%	—
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Jun-12	D	39.6	<0.50	4.8	102	<0.50	670	<0.050	161,000	<0.50	1.97	<0.50	5,540	<0.30	30	167,000	3,500	<2.0	2.68	<2.0	1,570,000	<0.050	<5.0	0.673	4.06	7.3
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Dec-12	D	17.9	<0.50	<8.0	344	<0.50	2,760	<0.050	459,000	<0.50	2.14	<0.50	16,700	0.30	92	894,000	4,460	<2.0	2.16	<2.0	7,380,000	<0.050	<5.0	2.40	3.1	<3.0
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	10-Dec-12	D	50.0	0.174	1.75	16.9	0.0262	232	0.0096	70,000	<0.50	0.060	0.24	4,200	<0.050	12.2	50,100	2,690	0.051	0.33	0.22	349,000	<0.0020	1.82	0.0350	4.55	1.8
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	25-Feb-13	—	Well Not Sampled																								
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Mar-13	D	1.67	0.176	1.05	7.49	<0.010	402	0.113	63,500	<1.0	0.25	0.85	2,000	0.34	23.4	95,700	1,280	1.30	0.52	<0.40	768,000	<0.0040	0.75	0.344	1.11	3.4
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	D	<5.0	<0.50	<4.0	25.2	<0.50	3,490	<0.050	235,000	<0.50	0.132	0.62	614	<0.30	127	808,000	212	7.3	0.97	<2.0	6,070,000	<0.050	<5.0	1.79	0.56	3.9
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Jun-13	T	3,760	<0.50	<4.0	41.7	0.51	3,060	0.076	219,000	0.54	0.288	1.85	2,210	0.57	106	740,000	272	5.9	1.46	<2.0	5,690,000	<0.050	<5.0	2.48	1.73	11.9
P6.75-3	Porewater EAZ	P6.75-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	18-Sep-13	—	Well Destroyed																								
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	6-Dec-11	D	13.5	<0.50	<2.0	15.5	<0.50	280	<0.050	65,700	<0.50	0.603	<0.50	1,960	<0.30	<20	59,800	2,130	<2.0	0.87	<2.0	332,000	<0.050	<5.0	0.339	0.7	5.3
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	4-Jan-12	D	16.3	<0.50	<2.0	16.9	<0.50	380	<0.050	65,300	<0.50	0.287	<0.50	421	<0.30	<20	40,600	1,790	<2.0	0.72	<2.0	432,000	<0.050	<5.0	0.277	0.54	10.7
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	1-Feb-12	D	32.0	0.158	1.78	11.1	<0.025	330	<0.025	44,400	<2.5	<0.25	<2.5	1,270	<0.25	10.4	27,000	1,020	0.86	1.8	<1.0	300,000	<0.010	1.4	0.228	1.63	<15
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	13-Mar-12	D	8.5	<0.50	<2.0	96.2	<0.50	380	<0.050	309,000	<0.50	0.610	<0.50	12,900	<0.30	32	153,000	5,980	<2.0	0.76	<2.0	955,000	<0.050	<5.0	0.415	<0.50	13.1
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Apr-12	D	25.8	<0.50	4.1	147	<0.50	350	0.069	321,000	<0.50	0.596	<0.50	23,400	<0.30	26	200,000	8,280	<2.0	1.33	<2.0	1,050,000	<0.050	<5.0	0.681	3.74	3.2
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	9-Mar-12	D	22.8	0.192	2.01	66.7	<0.010	298	<0.010	221,000	<1.0	0.39	<1.0	11,400	<0.10	32.7	124,000	5,560	0.26	0.75	<1.0	664,000	<0.0040	1.27	0.634	2.42	11.2
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	5-Jun-12	D	29.7	<0.50	2.2	100	<0.50	920	<0.050	210,000	<0.50	0.246	0.51	9,640	<0.30	45	213,000	2,860	<2.0	0.78	<2.0	2,010,000	<0.050	<5.0	0.832	3.74	10.6
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	4-Jul-12	D	25.1	<0.50	<3.0	119	<0.50	1,060	<0.050	206,000	<0.50	0.158	<0.50	6,030	0.38	48	212,000	3,670	<2.0	1.25	<2.0	1,910,000	<0.050	<5.0	0.459	3.44	4.4
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	1-Aug-12	D	26.9	<0.50	<8.0	265	<0.50	1,580	<0.050	312,000	<0.50	0.076	<0.50	1,600	<0.30	54	467,000	4,070	<2.0	1.59	<2.0	4,440,000	<0.050	<5.0	0.888	5.75	5.1
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	13-Sep-12	D	14.6	<0.50	<4.0	236	<0.50	2,330	<0.050	392,000	<0.50	0.364	1.21	3,830	<0.30	79	699,000	2,920	2.3	0.92	<2.0	5,730,000	<0.050	<5.0	2.50	4.53	5.4
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Oct-12	D	16.0	<0.50	<5.0	334	<0.50	1,950	0.055	441,000	<0.50	0.266	<0.50	27,600	<0.30	69	687,000	4,880	2.6	5.33	<2.0	5,660,000	<0.050	<5.0	4.77	4.79	12.8
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	8-Nov-12	D	29.4	0.166	1.88	5.25	0.0083	178	0.0090	74,200	<0.50	0.332	0.34	3,720	0.097	17.5	30,000	3,530	0.139	2.36	0.37	147,000	<0.0020	2.27	0.0787	4.20	6.1
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Dec-12	D	24.3	0.173	1.90	9.93	0.0102	337	<0.0050	62,500	<0.50	0.121	0.21	1,130	<0.050	14.9	43,400	1,190	0.050	1.15	0.61	247,000	<0.0020	2.32	0.0738	3.72	3.9
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	8-Jan-13	D	19.9	0.152	2.27	24.5	0.113	725	<0.010	66,200	<1.0	<0.10	<0.40	74	0.38	13.4	63,000	680	0.11	0.70	0.55	716,000	0.385	2.22	0.339	3.44	<2.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	25-Feb-13	—	Well Not Sampled																								
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Mar-13	D	24.3	0.078	0.990	22.3	0.0071	190	0.0136	125,000	<0.50	<0.050	<0.20	603	<0.30	15.8	64,900	2,220	<0.050	0.50	0.32	316,000	<0.0020	1.95	0.0812	3.61	<1.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Jun-13	D	16.4	<0.50	<2.0	167	<0.50	770	<0.050	278,000	<0.50	0.090	<0.50	378	<0.30	37	275,000	3,580	<2.0	1.56	<2.0	1,820,000	<0.050	<5.0	0.482	3.89	3.2
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Jun-13	T	5,450	0.73	5.6	248	<0.50	890	0.328	286,000	5.64	3.83	16.0	18,100	7.52	46	263,000	3,810	3.1	7.54	<2.0	1,850,000	<0.050	180	1.40	22.3	96.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	18-Sep-13	D	18.9	<0.50	<7.0	361	<0.50	3,080	<0.050	430,000	0.78	0.195	0.54	76	<0.30	84	770,000	1,960	<2.0	1.10	<2.0	7,050,000	<0.050	<5.0	0.794	4.12	<3.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	16-Dec-13	T	798	0.69	<3.0	360	<0.50	3,050	<0.050	434,000	1.08	0.761	3.73	3,830	1.44	83	756,000	1,930	2.5	2.61 J+	<2.0	7,000,000	<0.050	35.7	0.928	6.83	<15 U
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Dec-13	D	16.9	<0.50	<2.0	119	<0.50	780	0.059	300,000	<0.50	0.108	<0.50	132	<0.30	23	265,000	4,270	<2.0	0.56	<2.0	2,280,000	<0.050	<5.0	0.337	3.14	<3.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Dec-13	T	108	<0.50	<2.0	118	<0.50	740	0.072	277,000	0.83	0.203	0.92	2,100	0.47	21	248,000	3,910	<2.0	2.21	<2.0	2,140,000	<0.050	6.9	0.366	3.47	8.8
P7-3A ^	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Dec-13	T	56.6	<0.50	<2.0	126	<0.50	730	0.060	324,000	<0.50	0.140	0.64	1,180	0.48	22	280,000	4,560	<2.0	0.75	<2.0	2,390,000	<0.050	<5.0	0.409	3.59	3.6
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Mar-14	D	50.5	0.112	1.09	10.7	<0.010	282	0.034	24,800	<1.0	0.13	<0.40	43	<0.10	6.53	18,200	495	0.15	<0.40	<0.40	287,000	<0.0040	3.67	0.0730	6.14	<2.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	10-Mar-14	T	59.3	0.161	1.32	10.5	0.011	289	0.018	24,900	<1.0	<0.10	<1.0	89	0.45	6.83	18,100	497	0.32	<0.40	<0.40	303,000	<0.0040	4.02	0.0908	6.38	<6.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	13-Jun-14	D	18.4	0.064	0.737	28.3	0.0091	173	<0.0050	165,000	<0.50	0.052	0.22	938	<0.050	23.9	76,600	2,470	0.073	0.52	0.21	284,000	<0.0020	1.42	0.0787	2.98	2.3
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	13-Jun-14	T	421	0.176	1.08	36.0	0.0227	209	0.0243	167,000	1.19	0.374	1.57	2,400	0.833	29.0	76,600	2,530	0.413	0.87	0.23	287,000	0.0054	18.9	0.142	4.44	8.9
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Sep-14	D	21.7	<0.50	3.9	554	<0.50	2,150	<0.050	641,000	<0.50	0.194	0.58	44	<0.30	56	796,000	6,050	<2.0	0.51	<2.0	6,300,000	<0.050	<5.0	0.224	3.67	<3.0
P7-3	Porewater EAZ	P7-3	OB	EB	0.2-0.8	0.2	0.8	Beach sand/OC	—	12-Sep-14	T	87.9	<0.50	4.8	532	<0.50	2,050	<0.050	607,000	0.61	0.258	0.80	792	0.45	54	738

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	13-Jun-14	T	44.7	0.265	5.36	12.6	0.0189	203	0.0162 J	54,700	0.67	0.053	<0.50	4,510	0.186	13.3	66,100	2,850	0.558	0.31	<0.20	316,000	<0.0020	2.64	0.209	5.25	<3.0
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	12-Sep-14	D	18.5	<0.50	<2.0	211	<0.50	1,930	<0.050	558,000	<0.50	0.076 J	<0.50	5,500	<0.30	27	724,000	23,800	<2.0	<0.50	<2.0	5,630,000	<0.050	<5.0	<0.050	3.61	<3.0
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	12-Sep-14	T	24.0	<0.50	<2.0	789	<0.50	1,950	<0.050	554,000	<0.50	0.081 J	0.98	6,380	<0.30	31	698,000	22,700	<2.0	<0.50	<2.0	5,540,000	<0.050	<5.0	<0.050	3.76	<3.0
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	D	37.0	0.028	0.427	12.9	0.0125	169	<0.0050 J	55,600	<0.50	<0.050	<0.20	1,140	<0.050	6.75	44,100	4,260	<0.050	0.69	0.42	292,000	<0.0020	1.72	0.0229	4.79	1.3 J
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	T	51.7	0.059	0.401	13.3	0.0174	171	0.0082	52,600	<0.50	<0.050	<0.20	1,430	0.119	6.31	39,500	3,810	0.100 J	0.48	<0.20	270,000	<0.0020	2.67	0.0231	5.65	<3.0
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	13-Mar-15	D	24.4	0.039	0.312	9.18	0.0138	144	0.0143	66,000	<0.50	<0.050	<0.20	3,750	<0.050	8.51	68,700	3,640	<0.050	<0.20	<0.20	286,000	<0.0020	0.87	0.0658	2.99	2.50
P7-5-3 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	13-Mar-15	T	29.3	0.037	0.308	10.5	0.0122	145	0.0187	64,800	<0.50	0.36	0.36	3,410	<0.050	8.6	70,400	3,480	<0.050	0.45	<0.20	291,000	<0.0020	0.98	0.0663	2.99	7.20
QA/QC RPD								**Duplicates**		**D**		**4%**	—	**1%**	**12%**	—	**1%**	—	—	—	—	—	**9%**	—	**1%**	**2%**	**4%**	—	—	—	**2%**	—	—	—	**0%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	13-Mar-15	T	**42.7**	<0.090	**0.346**	**10.5**	**0.0125**	**148**	**0.249**	**65,400**	<0.50	<0.050	<0.50	**3,770**	**0.102**	**11.4**	**65,700**	**4,630**	**0.109**	**0.26**	<0.20	**255,000**	<0.0050	**2.11**	**0.0653**	**4.00**	**3.90**
(P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	13-Mar-15	T	**35.2**	<0.090	**0.336**	**10.4**	**0.0143**	**141**	**0.255**	**67,300**	<0.50	<0.050	<0.50	**3,740**	**0.104**	**9.1**	**68,300**	**3,730**	**0.117**	**0.21**	<0.20	**262,000**	<0.0050	**1.61**	**0.0658**	**3.28**	**4.00**
QA/QC RPD								**Duplicates**		**T**		**19%**	—	**3%**	**1%**	—	**5%**	**2%**	—	—	—	—	**1%**	—	**22%**	**4%**	**22%**	—	—	—	**3%**	—	**27%**	**1%**	**29%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	17-Jun-15	D	**25.7**	<0.50	<2.0	**419**	<0.50	**1,090**	<0.050	**379,000**	<0.50	<0.050	<0.50	**178**	<0.30	<20	**459,000**	**15,000**	<2.0	<0.50	**6**	**3,460,000**	<0.050	<5.0	**0.061**	**5.21**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	17-Jun-15	D	**27.8**	<0.50	<2.0	**385**	<0.50	**1,070**	<0.050	**370,000**	<0.50	<0.050	<0.50	**203**	<0.30	<20	**447,000**	**15,200**	<2.0	<0.50	**11.1**	**3,170,000**	<0.050	<5.0	**0.065**	**5.82**	<3.0
QA/QC RPD								**Duplicates**		**D**		**8%**	—	—	**8%**	—	**2%**	—	**2%**	—	—	—	**13%**	—	—	**3%**	**1%**	—	—	**60%**	**8%**	—	—	**6%**	**11%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	17-Jun-15	T	**23.0**	<0.50	<2.0	**520**	<0.50	**1,500**	**0.122**	**374,000**	<0.50	<0.050	<0.50	**306**	<0.30	<20	**507,000**	**14,400**	<2.0	<0.50	<2.0	**4,330,000**	<0.050	<5.0	<0.050	**4.25**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	17-Jun-15	T	**22.5**	<0.50	<2.0	**534**	<0.50	**1,330**	**0.115**	**364,000**	<0.50	<0.050	<0.50	**330**	<0.30	<20	**501,000**	**14,700**	<2.0	<0.50	<2.0	**4,210,000**	<0.050	<5.0	<0.050	**4.55**	<3.0
QA/QC RPD								**Duplicates**		**T**		**3%**	—	—	**7%**	—	**12%**	**8%**	**3%**	—	—	—	**8%**	—	**8%**	**1%**	**2%**	—	—	—	**3%**	—	—	—	**7%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	11-Sep-15	D	**14.8**	<0.50	<2.0	**239**	<0.50	**1,370**	<0.050	**365,000**	<0.50	<0.050	<0.50	**8,590**	<0.30	**33**	**424,000**	**27,800**	<2.0	**9.23**	<2.0	**3,230,000**	<0.050	<5.0	<0.050	**2.42**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	11-Sep-15	D	**15.0**	<0.50	<2.0	**220**	<0.50	**1,330**	<0.050	**380,000**	<0.50	<0.050	<0.50	**8,560**	<0.30	**30.8**	**447,000**	**27,300**	<2.0	**8.91**	<2.0	**3,340,000**	<0.050	<5.0	<0.050	**2.38**	**5.40**
QA/QC RPD								**Duplicates**		**D**		**1%**	—	—	**8%**	—	**3%**	—	**4%**	—	—	—	**0%**	—	**10%**	**8%**	**2%**	—	**4%**	—	**4%**	—	—	—	**3%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	11-Sep-15	T	**29.3**	<0.50	<2.0	**209**	<0.50	**1,270**	**0.118**	**352,000**	**0.60**	**0.042**	**1.02**	**9,360**	<0.30	**32**	**389,000**	**26,700**	<2.0	**7.88**	<2.0	**2,930,000**	<0.050	<5.0	<0.050	**2.49**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	11-Sep-15	T	**29.1**	<0.50	<2.0	**197**	<0.50	**1,250**	**0.149**	**357,000**	**0.52**	<0.050	**1.04**	**9,600**	<0.30	**31**	**389,000**	**26,700**	<2.0	**7.52**	<2.0	**2,980,000**	<0.050	<5.0	<0.050	**2.56**	**3.60**
QA/QC RPD								**Duplicates**		**T**		**1%**	—	—	**6%**	—	**2%**	**23%**	**1%**	—	—	—	**3%**	—	**3%**	**9%**	**4%**	—	**4%**	—	**2%**	—	—	—	**3%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	9-Dec-15	D	**20.1**	<0.50	**2.7**	**11.4**	<0.50	**780**	<0.050	**107,000**	<0.50	<0.050	<0.50	**2,640**	<0.30	**28**	**143,000**	**4,700**	<2.0	**0.52**	<2.0	**1,500,000**	<0.050	<5.0	**0.626**	**3.47**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	9-Dec-15	D	**19.3**	<0.50	**3.0**	**12.7**	<0.50	**800**	<0.050	**116,000**	<0.50	**0.051**	<0.50	**2,830**	<0.30	**34**	**163,000**	**4,750**	<2.0	**1.07**	<2.0	**1,650,000**	<0.050	<5.0	**0.647**	**3.45**	**6.0**
QA/QC RPD								**Duplicates**		**D**		**4%**	—	**11%**	**11%**	—	**6%**	—	**8%**	—	—	—	**6%**	—	**18%**	**13%**	**1%**	—	—	—	**10%**	—	—	—	**3%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	9-Dec-15	T	**56.1**	<0.50	**3.9**	**13.0**	<0.50	**790**	**0.220**	**118,000**	**7.34**	**0.063**	**0.95**	**3,590**	<0.30	**34**	**160,000**	**5,280**	<2.0	**1.21**	<2.0	**1,670,000**	<0.050	<5.0	**0.690**	**4.14**	**6.40**
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	9-Dec-15	T	**53.5**	<0.50	**4.2**	**12.5**	<0.50	**750**	**0.173**	**116,000**	**0.56**	**0.058**	**0.66**	**3,310**	<0.30	**30**	**160,000**	**4,820**	<2.0	**0.84**	<2.0	**1,600,000**	<0.050	<5.0	**0.654**	**4.29**	**4.5**
QA/QC RPD								**Duplicates**		**T**		**8%**	—	**7%**	**4%**	**9%**	**4%**	**2%**	—	—	—	—	**8%**	—	**13%**	**6%**	**9%**	—	—	—	**6%**	—	—	—	**6%**	**4%**
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	2-Mar-16	D	**54.9**	**0.056**	**0.906**	**2.81**	**0.0092**	**273**	**0.0076**	**24,700**	**0.57**	<0.050	**0.23**	**809**	<0.050	**12.3**	**57,400**	**498**	**0.150**	**0.31**	<0.20	**497,000**	<0.0020	**2.15**	**0.226**	**5.03**	**3.0**
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	2-Mar-16	D	**53.8**	**0.053**	**0.896**	**2.53**	**0.0093**	**268**	**0.0089**	**24,300**	<0.50	<0.050	<0.20	**816**	<0.050	**11.7**	**58,600**	**482**	**0.154**	**0.24**	<0.20	**498,000**	<0.0020	**2.13**	**0.229**	**4.82**	**1.20**
QA/QC RPD								**Duplicates**		**D**		**2%**	**8%**	**1%**	**10%**	—	**2%**	—	—	—	—	—	**1%**	—	**5%**	**2%**	**3%**	—	—	—	**0%**	—	**1%**	**1%**	**4%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	2-Mar-16	T	**137**	**0.115**	**1.16**	**3.33**	**0.0120**	**253**	**0.0096**	**22,700**	**0.67**	**0.080**	**0.91**	**1,230**	**0.390**	**11.0**	**54,400**	**483**	**0.358**	**0.40**	**0.22**	**460,000**	**0.0050**	**2.14**	**0.243**	**5.78**	**3.90**
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	2-Mar-16	T	**146**	**0.114**	**1.14**	**3.41**	**0.0122**	**249**	**0.0086**	**22,600**	**0.70**	**0.084**	**1.01**	**1,220**	**0.406**	**11.4**	**53,900**	**489**	**0.355**	**0.42**	**0.20**	**454,000**	<0.0050	**6.47**	**0.251**	**6.12**	**4.40**
QA/QC RPD								**Duplicates**		**T**		**6%**	—	**2%**	**2%**	—	**2%**	**22%**	**0%**	—	—	—	**1%**	**4%**	**4%**	**1%**	**1%**	**1%**	—	—	**1%**	—	**2%**	**3%**	**8%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	19-May-16	D	**33.4**	<0.50	<2.0	**70.5**	<0.50	**800**	<0.050	**149,000**	<0.50	<0.050	<0.50	**1,090**	<0.30	**28**	**242,000**	**5,420**	<2.0	<0.50	**2.5**	**1,910,000**	<0.050	<5.0	**0.114**	**3.68**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	19-May-16	D	**32.1**	<0.50	<2.0	**67.0**	<0.50	**730**	<0.050	**153,000**	<0.50	<0.050	<0.50	**1,010**	<0.30	**21**	**245,000**	**5,160**	<2.0	<0.50	<2.0	**1,930,000**	<0.050	<5.0	**0.118**	**3.54**	<3.0
QA/QC RPD								**Duplicates**		**D**		**4%**	—	—	**5%**	**8%**	**9%**	—	**3%**	—	—	—	**8%**	—	**17%**	**1%**	**5%**	**4%**	—	—	**1%**	—	—	—	**3%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	19-May-16	T	**198**	<0.50	**2.3**	**79.2**	<0.50	**890**	**0.055**	**176,000**	**0.61**	**0.121**	**0.89**	**4,250**	**0.39**	**29**	**292,000**	**5,950**	<2.0	<0.50	<2.0	**2,190,000**	<0.050	**7.5**	**0.151**	**3.94**	<3.0
DUP-5 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	19-May-16	T	**168**	<0.50	**2.6**	**87.4**	<0.50	**970**	**0.064**	**187,000**	**0.62**	**0.100**	**0.82**	**4,100**	**0.32**	**32**	**317,000**	**6,040**	<2.0	<0.50	<2.0	**2,380,000**	<0.050	**7.2**	**0.160**	**3.92**	<3.0
QA/QC RPD								**Duplicates**		**T**		**16%**	—	**12%**	**10%**	—	**9%**	**15%**	**6%**	—	—	—	**4%**	**20%**	**10%**	**8%**	**2%**	—	—	—	**8%**	—	**4%**	**6%**	**1%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	22-Aug-16	D	**41.6**	<0.50	<2.0	**244**	<0.50	**1,470**	**0.077**	**254,000**	<0.50	<0.050	<0.50	**3,740**	<0.30	**29**	**500,000**	**6,790**	<2.0	<0.50	**2.9**	**3,420,000**	<0.050	<5.0	<0.050	**3.28**	<3.0
DUP-4 (P7-5-3)	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	22-Aug-16	D	**43.1**	<0.50	<2.0	**268**	<0.50	**1,460**	**0.078**	**250,000**	<0.50	<0.050	<0.50	**3,810**	<0.30	**30.0**	**490,000**	**6,990**	<2.0	<0.50	<2.0	**3,420,000**	<0.050	<5.0	<0.050	**3.44**	<3.0
QA/QC RPD								**Duplicates**		**D**		**4%**	—	—	**9%**	—	**1%**	**1%**	**2%**	—	—	—	**2%**	—	**3%**	**0%**	**3%**	—	—	—	**0%**	—	—	—	**5%**	—
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	22-Aug-16	T	**258**	<0.50	<2.0	**351**	<0.50	**1,500**	**0.191**	**263,000**	<0.50	**0.138**	**0.95**	**9,410**	**0.47**	**30.0**	**520,000**	**7,370**	<2.0	**0.62**	<2.0	**3,520,000**	<0.050	**9.0**	**0.064**	**4.62**	**5.4**
P7-5-3	Porewater EAZ	P7-5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	22-Aug-16	T	**384**	<0.50	<2.0	**308**	<0.50	**1,420**	**0.192**	**257,000**	**0.72**	**0.154**	**1.35**	**9,370**	**0.63**	**28**	**512,000**	**7,060**	<2.0	**0.62**	<2.0	**3,390,000**	<0.050	**14.9**	**0.066**	**4.62**	**6.20**
QA/QC RPD								**Duplicates**		**T**		**52%**	—	—	**13%**	—	**5%**	**1%**	**2%**	—	—	—	**1%**	**0%**	**28%**	**7%**	**3%**	—	—	—	**3%**	—	**49%**	**3%**	**2%**	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	24-Nov-16	D	**36.2**	<0.50	<2.0	**93.8**	<0.50	**470**	<0.050	**109,000**	<0.50	<0.050	<0.50	**515**	<0.30	<20	**187,000**	**4,350**	<2.0	<0.50	<2.0	**1,230,000**	<0.050	<5.0	<0.050	**4.39**	<3.0
DUP-2 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	24-Nov-16	D	**31.0**	<0.50	<2.0	**91.9**	<0.50	**480**	<0.050	**109,000**	<0.50	<0.050	<0.50	**547**	<0.30	<20	**182,000**	**4,240**	<2.0	<0.50	<2.0	**1,200,000**	<0.050	<5.0	<0.050	**4.70**	<3.0
QA/QC RPD								**Duplicates**		**D**		**3%**	—	—	**2%**	—	**2%**	—	**0%**	—	—	—	**6%**	—	**0%**	**3%**	**3%**	—	—	—	**3%**	—	—	—	**7%**	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	24-Nov-16	T	**263**	<0.50	<2.0	**112**	<0.50	**510**	**0.054**	**122,000**	**1.90**	**0.102**	**0.97**	**2,030**	**0.48**	<20	**201,000**	**4,660**	<2.0	**0.85**	<2.0	**1,320,000**	<0.050	**11.2**	<0.050	**5.13**	**4.0**
DUP-2 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	24-Nov-16	T	**209**	<0.50	<2.0	**108**	<0.50	**490**	**0.057**	**120,000**	**0.87**	**0.091**	**0.93**	**1,840**	**0.37**	<20	**194,000**	**4,600**	<2.0	**0.55**	<2.0	**1,300,000**	<0.050	**10.1**	<0.050	**5.31**	**3.1**
QA/QC RPD								**Duplicates**		**T**		**23%**	—	—	**4%**	—	**4%**	**5%**	**2%**	**11%**	—	—	**10%**	**26%**	—	**4%**	**1%**	—	—	—	**3%**	—	**10%**	**3%**	—	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	16-Mar-17	D	**49.0**	**0.035**	**0.31**	**22.1**	**0.013**	**371**	**0.026**	**41,100**	<1.0	<0.10	<0.40	**89**	<0.10	**9.30**	**71,800**	**1,340**	**0.16**	**0.55**	**0.60**	**565,000**	<0.0040	**2.13**	**0.0851**	**7.18**	<2.0
DUP-8 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	16-Mar-17	D	**44.3**	**0.029**	**0.27**	**21.1**	<0.010	**327**	**0.020**	**38,800**	<1.0	<0.10	<0.40	**76**	<0.10	**7.89**	**70,600**	**1,140**	**0.16**	<0.40	<0.40	**549,000**	<0.0040	**1.91**	**0.0737**	**6.57**	<2.0
QA/QC RPD								**Duplicates**		**D**		**10%**	—	—	**14%**	**5%**	—	**13%**	—	—	—	—	**5%**	—	**16%**	**2%**	**16%**	—	—	—	**3%**	—	**11%**	**14%**	**9%**	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	16-Mar-17	T	**151**	**0.092**	**0.288**	**16.0**	**0.0135**	**312**	**0.149**	**32,100**	**0.58**	**0.073**	**0.77**	**897**	**0.353**	**8.18**	**61,500**	**1,010**	**0.283**	**0.34**	<0.20	**464,000**	<0.0040	**6.02**	**0.0843**	**9.74**	<3.0
DUP-8 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	16-Mar-17	T	**145**	**0.098**	**0.301**	**16.5**	**0.0149**	**318**	**0.154**	**30,900**	**0.68**	**0.083**	**0.82**	**813**	**0.341**	**8.37**	**67,900**	**1,010**	**0.310**	**0.35**	<0.20	**465,000**	**0.0062**	**5.87**	**0.0891**	**9.90**	<3.0
QA/QC RPD								**Duplicates**		**T**		**4%**	—	**4%**	**3%**	—	**2%**	**10%**	**4%**	—	—	—	**10%**	**3%**	**2%**	**0%**	**0%**	—	—	—	**0%**	—	**3%**	**6%**	**2%**	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	7-Jun-17	D	**19.4**	**0.109**	**1.00**	**21.4**	<0.010	**238**	**0.018**	**92,300**	<1.0	<0.10	<0.40	**2,340**	<0.10	**22.2**	**82,200**	**6,070**	**0.53**	**0.91**	<0.40	**578,000**	<0.0040	**0.70**	**0.442**	**2.61**	**2.1**
DUP-2 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	7-Jun-17	D	**17.1**	**0.113**	**1.00**	**22.5**	<0.010	**244**	**0.020**	**93,400**	<1.0	<0.10	<0.40	**2,990**	<0.10	**22.3**	**82,300**	**6,290**	**0.56**	**1.01**	<0.40	**585,000**	<0.0040	**0.66**	**0.469**	**2.68**	**3.1**
QA/QC RPD								**Duplicates**		**T**		**13%**	**4%**	**0%**	**5%**	—	**2%**	**1%**	—	—	—	—	**24%**	—	**0%**	**0%**	**4%**	**6%**	—	—	**1%**	—	—	—	**3%**	—
P7-5-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	7-Jun-17	T	**55.7**	**0.147**	**1.28**	**23.4**	**0.013**	**234**	**0.049**	**104,000**	<1.0	<0.10	<1.0	**5,020**	**0.19**	**23.9**	**92,200**	**6,520**	**0.66**	**0.98**	<0.40	**617,000**	<0.010	**2.86**	**0.511**	**6.06**	<6.0
DUP-2 (P7-5-3)	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	7-Jun-17	T	**50.8**	**0.154**	**1.36**	**23.8**	**0.012**	**227**	**0.050**	**107,000**	<1.0	<0.10	<1.0	**5,130**	**0.20**	**25.0**	**95,900**	**6,870**	**0.68**	**1.03**	**0.66**	**633,000**	<0.010	**2.80**	**0.541**	**6.33**	<6.0
QA/QC RPD								**Duplicates**		**T**		**5%**	—	**5%**	**2%**	—	**3%**	**2%**	**3%**	—	—	—	**2%**	—	**4%**	**4%**	**1%**	**3%**	—	—	**3%**	—	**2%**	**6%**	**4%**	—
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	12-Sep-12	D	**8.8**	<0.50	<2.0	**940**	<0.50	**1,230**	<0.050	**485,000**	<0.50	**0.855**	<0.50	**12,200**	<0.30	**28**	**644,000**	**15,400**	<2.0	**1.56**	<2.0	**4,530,000**	<0.050	<5.0	**1.70**	**1.78**	<3.0
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	10-Dec-12	D	**6.2**	<0.50	<2.0	**107**	<0.50	**580**	<0.050	**67,700**	<0.50	**0.226**	<0.50	**2,970**	<0.30	<20	**112,000**	**1,200**	<2.0	**0.52**	<2.0	**837,000**	<0.050	<5.0	**0.739**	**1.62**	**4.5**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	25-Feb-13	—	Well Not Sampled																								
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	12-Mar-13	D	**7.5**	**0.100**	**1.60**	**76.5**	<0.0050	**254**	**0.0114**	**36,900**	<0.50	**0.161**	<0.20	**3,920**	<0.050	**14.8**	**33,400**	**1,050**	**0.466**	**0.74**	**0.22**	**302,000**	<0.0020	**0.55**	**1.10**	**0.988**	**2.4**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	10-Jun-13	D	**8.8**	<0.50	<2.0	**156**	<0.50	**250**	<0.050	**61,900**	<0.50	**0.339**	<0.50	**2,970**	<0.30	<20	**38,600**	**1,900**	<2.0	**0.54**	<2.0	**402,000**	<0.050	<5.0	**0.195**	**1.70**	<3.0
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	10-Jun-13	T	**10.3**	<0.50	<2.0	**655**	<0.50	**570**	<0.050	**219,000**	<0.50	**0.756**	<0.50	**6,630**	<0.30	**28**	**169,000**	**5,300**	<2.0	**1.86**	<2.0	**1,230,000**	<0.050	<5.0	**0.965**	**1.63**	**4.7**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	17-Sep-13	D	**7.8**	<0.50	<2.0	**674**	<0.50	**1,710**	<0.050	**348,000**	<0.50	**0.525**	<0.50	**7,450**	<0.30	**48**	**515,000**	**8,380**	<2.0	**0.65**	<2.0	**4,490,000**	<0.050	<5.0	**1.16**	**1.76**	**5.0**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	17-Sep-13	T	**14.8**	<0.50	<2.0	**647**	<0.50	**1,680**	<0.050	**360,000**	<0.50	**0.490**	<0.50	**7,820**	<0.30	**47**	**528,000**	**8,140**	<2.0	<0.50	<2.0	**4,640,000**	<0.050	<5.0	**1.09**	**1.74**	**6.3**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	10-Dec-13	D	<5.0	<0.50	<2.0	**129**	<0.50	**360**	**0.063**	**152,000**	<0.50	**0.137**	<0.50	**4,370**	<0.30	<20	**132,000**	**8,110**	<2.0	<0.50	<2.0	**792,000**	<0.050	<5.0	**1.010**	**1.50**	<3.0
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	10-Dec-13	T	**14.7**	<0.50	<2.0	**205**	<0.50	**850**	**0.076**	**123,000**	<0.50	**0.146**	**0.51**	**4,250**	<0.30	**24**	**196,000**	**2,790**	<2.0	**0.78**	<2.0	**1,710,000**	<0.050	<5.0	**1.02**	**1.69**	**8.6**
P8-3	Porewater EAZ	P8-3-0	OB	EB	0.3-0.7	0

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												1,500	60	15	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	10-Mar-14	D	<2.0	0.068	0.93	589	<0.010	121	0.020	541,000	<1.0	0.21	<0.40	2,610	<0.10	9.61	196,000	4,420	0.43	0.96	<0.40	433,000	<0.0040	<0.40	2.15	0.20	3.3
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	10-Mar-14	T	1,340	0.244	3.09	640	0.048	134	0.069	530,000	2.7	0.74	8.3	7,650	7.60	10.4	190,000	4,620	0.62	4.83	<0.40	416,000	<0.0040	50.4	2.28	6.93	16.8
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	11-Jun-14	D	4.1	0.149	1.70	577	<0.0050	148	0.0101	547,000	<0.50	0.148	0.35	1,360	<0.050	14.0	188,000	3,050	0.416	0.54	<0.20	398,000	<0.0020	0.28	1.35	0.7444	4.6
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	11-Jun-14	T	10,300	0.434	6.30	790	0.332	157	0.319	648,000	11.9	3.82	13.4	21,600	24.6	46.5	181,000	3,260	1.91	13.4	<0.20	387,000	0.0341	171	3.35	34.2	114
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	11-Sep-14	D	<2.0	0.087	1.46	664	0.010	204	<0.010	463,000	<1.0	<0.10	<0.40	2,790	<0.10	13.0	161,000	3,930	0.40	1.69	<0.40	587,000	<0.0040	<0.40	1.69	0.26	<2.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	11-Sep-14	T	2,500	0.264	3.14	715	0.071	214	0.085	492,000	3.2	1.20	5.1	9,550	4.85	22.3	161,000	4,010	1.05	9.59	<0.40	544,000	0.0139	89.0	1.97	10.8	29.5
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	4-Dec-14	D	<2.0	0.056	0.98	694	<0.010	163	<0.010	525,000	<1.0	<0.10	<0.40	3,000	<0.10	7.33	193,000	5,440	0.41	0.60	<0.40	555,000	<0.0040	<0.40	2.25	0.14	2.8
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	2-Dec-14	T	2,100	0.278	4.42	562	0.140	174	0.0767	581,000	3.62	0.826	3.19	13,300	9.31	13.1	174,000	4,510	1.08	6.60	<0.20	506,000	<0.010	43.6	3.30	13.6	35.2
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	12-Mar-15	D	1.3	0.137	1.45	654	<0.0050	132	<0.0050	515,000	<0.50	0.065	0.36	3,110	<0.050	5.73	167,000	3,550	2.57	0.77	<0.20	519,000	<0.0020	0.24	2.48	0.370	5.6
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	12-Mar-15	T	15,000	0.387	6.97	863	0.709	152	0.521	1,020,000	17.8	6.32	11.4	59,600	49.9	53.0	174,000	4,460	1.69	20.7	2.05	505,000	0.0689	203	5.55	89.7	249
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	15-Jun-15	D	3.3	0.142	2.50	678	<0.010	206	<0.010	419,000	<1.0	<0.10	<0.40	2,350	<0.10	8.43	140,000	3,640	0.56	<0.40	<0.40	609,000	<0.0040	0.46	1.90	0.96	<2.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	15-Jun-15	T	5,290	0.281	5.17	761	0.227	209	0.205	491,000	10.6	2.74	12.1	14,700	25.6	21.5	137,000	3,580	1.14	8.50	<0.40	574,000	0.022	143	3.18	26.3	65.8
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	8-Sep-15	D	2.6	0.068	1.92	661	<0.010	214	0.017	513,000	<1.0	0.10	<0.40	2,890	<0.10	7.67	191,000	6,420	0.53	1.10	<0.40	808,000	<0.0040	0.41	1.94	0.37	7.1
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	8-Sep-15	T	1,020	0.285	3.45	633	0.043	197	0.079	506,000	4.5	0.86	7.4	5,900	4.92	8.05	183,000	5,900	1.24	3.86	<0.40	740,000	<0.010	56.5	2.08	6.97	26.5
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	7-Dec-15	D	<2.0	0.174	1.89	719	<0.010	219	<0.010	575,000	<1.0	0.16	<0.40	1,890	<0.10	4.65	209,000	6,440	1.23	0.98	0.41	722,000	<0.0040	<0.40	2.66	0.60	20.1
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	7-Dec-15	T	7,790	0.494	6.62	872	0.340	213	0.442	710,000	13.3	3.75	16.5	23,600	13.1	12.7	226,000	5,180	3.17	12.1	0.43	803,000	0.024	180	2.56	46.1	140
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	29-Feb-16	D	<2.0	0.041	0.92	658	<0.010	174	0.028	615,000	<1.0	0.28	<0.40	2,310	<0.10	6.97	224,000	6,450	0.41	0.59	<0.40	727,000	<0.0040	<0.40	1.81	0.17	4.6
DUP-2 (PB-7.5S)	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	29-Feb-16	D	<2.0	0.035	1.04	679	<0.010	189	<0.010	619,000	<1.0	0.25	<0.40	2,370	<0.10	6.40	225,000	6,560	0.41	0.46	<0.40	719,000	<0.0040	<0.40	1.73	0.15	<2.0
QA/QC RPD										**Duplicates**	D	—	—	12%	3%	—	8%	—	—	—	—	3%	—	9%	8%	2%	2%	6%	—	1%	—	—	—	8%	—	—
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	29-Feb-16	T	303	0.113	1.52	569	<0.010	170	0.019	537,000	2.0	0.43	2.6	2,680	1.11	7.59	201,000	6,200	0.81	2.00	<0.40	696,000	<0.010	15.4	1.52	1.50	7.2
DUP-2 (PB-7.5S)	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	29-Feb-16	T	326	0.128	1.77	642	0.025	212	0.029	576,000	2.3	0.58	2.8	3,410	4.40	8.15	212,000	5,610	0.97	2.42	<0.40	716,000	<0.010	22.0	1.63	2.62	9.5
QA/QC RPD										**Duplicates**	T	54%	—	15%	12%	—	22%	—	7%	7%	35%	7%	24%	31%	19%	8%	8%	18%	18%	3%	—	35%	7%	54%	—
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	17-May-16	D	<2.0	0.323	5.78	879	<0.010	202	<0.010	656,000	<1.0	0.33	0.57	2,260	<0.10	8.91	237,000	6,640	5.64	2.80	<0.40	837,000	<0.0040	0.41	3.10	2.13	9.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	17-May-16	T	49.3	0.356	4.31	859	<0.010	205	<0.010	664,000	<1.0	0.36	<0.40	2,210	0.12	8.91	239,000	6,560	4.45	3.18	<0.40	828,000	<0.010	2.53	2.84	1.85	7.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	15-Aug-16	D	<5.0	<0.50	2.4	1,010	<0.50	380	<0.050	712,000	<0.50	0.144	1.00	3,930	<0.30	<20	272,000	6,640	<2.0	0.76	<2.0	1,360,000	<0.050	<5.0	2.01	0.73	<3.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	15-Aug-16	T	5,830	0.92	11.0	1,150	<0.50	440	0.294	732,000	33.7	6.86	61.0	22,700	16.6	<20	288,000	7,230	6.7	28.5	<2.0	1,180,000	<0.050	154	3.23	33.4	152.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	23-Nov-16	D	<2.0	0.032	1.13	631	<0.010	182	0.015	631,000	<1.0	0.10	<0.40	3,150	<0.10	6.92	213,000	5,390	0.70	0.50	<0.40	845,000	<0.0040	<0.40	1.68	0.16	<2.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	23-Nov-16	T	228	0.090	1.62	620	<0.010	192	0.020	560,000	<1.0	0.10	1.6	3,440	0.94	7.03	199,000	5,470	0.97	1.28	<0.40	817,000	<0.010	9.24	1.92	1.19	6.1
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	14-Mar-17	D	8.8	0.074	1.21	562	<0.010	191	0.019	658,000	<1.0	0.20	<0.40	1,970	0.14	4.69	167,000	4,230	6.7	2.65	<0.40	757,000	<0.0040	<0.40	1.57	0.24	2.0
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	14-Mar-17	T	26,200	1.56	29.9	1,980	1.47	170	0.876	1,130,000	65.1	23.8	143	84,400	83.2	40.0	206,000	9,220	8.4	70.0	<2.0	724,000	0.240	764	4.45	151	479
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	6-Jun-17	D	<2.0	0.078	1.65	476	<0.010	176	0.010	482,000	<1.0	0.11	<0.40	2,030	<0.10	5.22	150,000	4,220	0.59	0.43	0.44	766,000	<0.0040	<0.40	1.52	0.25	3.3
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	0.8-1.0	0.8	1.0	Colluvium	—	6-Jun-17	T	1,550	0.253	4.13	480	0.069	173	0.097	481,000	4.6	1.58	9.4	8,970	4.77	7.43	146,000	3,640	1.18	4.46	<0.40	750,000	0.015	67.4	1.59	7.06	34.9
PB-7.5S	Porewater EAZ	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	27-Sep-11	D	5.0 J	0.216	1.43	75.7	<0.010	96.900	0.096	25,100	<0.50	0.996	<0.50	<3.0	<0.050	37.3	28.50	687	10	1.98	0.73	139.00	0.0447	<0.20	3.85	0.289	9.6
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	3-Nov-11	D	5.8	<0.50	<2.0	97.9	<0.50	<10	0.108	121,000	<0.50	0.422	0.73	<10	<0.30	29	35,100	730	10.9	4.05 J+	<2.0	125,000	<0.050	<5.0	3.62	<0.50	36.5
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	5-Dec-11	D	<5.0	<0.50	<2.0	146	<0.50	<100	<0.050	174,000	<0.50	0.888	<0.50	<30	<0.30	25	50,200	1,150	4.8	1.34	<2.0	104,000	<0.050	<5.0	1.95	<0.50	24.6
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	4-Jan-12	D	<5.0	<0.50	<2.0	168	<0.50	<100	<0.050	199,000	<0.50	0.581	<0.50	<10	<0.30	26	61,200	1,170	4.5	1.22	<2.0	107,000	<0.050	<5.0	1.67	<0.50	42.9
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	1-Feb-12	D	<15	0.085	0.59	196	<0.025	75	0.031	220,000	<2.5	0.52	<2.5	<30	<0.25	19.7	64,700	1,360	3.96	1.6	<1.0	104,000	0.020	<1.0	1.74	<0.25	59
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	26-Mar-12	D	<8.0	0.042	0.51	259	<0.010	75	<0.010	296,000	<1.0	0.94	<1.0	<30	<0.10	20.5	89,900	2,050	2.43	1.31	<0.40	89,600	0.0142	<0.40	1.51	<0.10	21.0
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	9-Apr-12	D	<8.0	0.071	0.40	247	<0.010	72	0.013	292,000	<1.0	0.99	<1.0	91	<0.10	18.3	88,200	1,860	2.64	1.77	<0.40	99,500	0.0194	<0.40	1.56	<0.10	42.4
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	7-May-12	D	<8.0	0.045	0.90	292	<0.010	67	0.014	336,000	<1.0	1.05	<1.0	887	<0.10	18.6	102,000	2,030	2.23	1.35	0.49	99,600	0.0115	<0.40	1.45	<0.10	16.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	4-Jun-12	D	1.5	0.032	0.707	346	<0.0050	126	0.0073	390,000	<0.50	1.53	<0.050	193	<0.050	19.1	133,000	2,500	1.76	1.52	<0.20	258,000	0.0197	<0.20	1.39	<0.050	6.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	4-Jul-12	D	<5.0	<0.50	<2.0	264	<0.50	1,330	0.219	346,000	<0.50	1.46	0.85	40	<0.30	62	375,000	1,850	4.6	2.13	<2.0	2,780,000	0.057	<5.0	1.78	<0.50	6.3
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	1-Aug-12	D	2.6	0.046	0.64	261	<0.010	422	0.055	354,000	<1.0	1.65	0.45	65	<0.10	30.4	198,000	2,080	2.69	2.00	<0.40	1,010,000	0.0167	<0.40	1.35	<0.10	6.9
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	11-Sep-12	D	<5.0	<0.50	<2.0	381	<0.50	420	<0.050	400,000	<0.50	1.76	0.65	195	<0.30	30	190,000	2,800	2.5	2.50	<2.0	813,000	<0.050	<5.0	1.55	<0.50	6.5
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	11-Dec-12	D	<2.0	0.050	0.88	359	<0.010	227	0.033	423,000	<1.0	1.73	<0.40	554	<0.10	19.4	164,000	2,870	1.88	2.89	<0.40	844,000	0.0568	<0.40	1.20	0.15	9.8
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	7-Nov-12	D	1.1	0.044	0.543	275	<0.0050	116	0.0271	363,000	<0.50	1.02	0.31	232	<0.050	23.8	121,000	2,350	1.70	1.79	<0.20	230,000	0.0089	<0.20	1.27	0.126	7.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	10-Dec-12	D	<2.0	0.040	0.81	251	<0.010	119	<0.010	347,000	<1.0	0.62	<1.0	112	<0.10	21.1	109,000	2,130	1.68	1.13	<0.40	143,000	0.0068	<0.40	1.47	<0.10	7.7
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	8-Jan-13	D	<1.0	0.051	0.627	306	<0.0050	163	0.0050	372,000	0.80	0.536	0.47	132	<0.050	21.6	114,000	2,180	1.47	4.95	<0.20	135,000	0.0055	<0.20	1.72	<0.050	7.0
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	25-Feb-13	—	Well Not Sampled																								
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	12-Mar-13	D	<1.0	0.051	0.778	269	<0.0050	90.4	0.0064	372,000	<0.50	0.508	0.40	1,210	<0.050	19.8	102,000	2,910	1.65	5.61	<0.20	149,000	0.0032	0.20	1.46	<0.050	6.3
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	10-Jun-13	D	1.7	0.059	1.91	483	<0.0050	99.2	0.0097	534,000	<0.50	0.846	<0.20	3,240	<0.050	18.9	165,000	3,530	0.925	1.02	<0.20	151,000	<0.0020	<0.20	1.55	0.072	2.2
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	16-Sep-13	D	2.2	0.047	1.19	626	<0.050	109	0.0123	544,000	<0.50	0.850	<0.20	2,960	<0.050	17.9	163,000	3,170	0.738	0.94	<0.20	180,000	<0.0020	<0.20	1.32	0.099	2.2
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	9-Dec-13	D	3.2	0.200	1.09	504	<0.0050	123	0.0706	480,000	<0.50	0.794	0.66	229	0.086	25.7	153,000	2,620	1.08	7.92	<0.20	176,000	0.0112	<0.20	1.48	0.159	39.6
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	10-Mar-14	D	1.0	0.113	0.572	563	<0.0050	81.9	0.0255	542,000	<0.50	0.535	0.61	1,340	<0.050	13.8	178,000	3,920	0.649	1.41	<0.20	210,000	0.0061	<0.20	1.27	0.168	6.3
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	11-Jun-14	D	2.4	0.050	0.953	659	<0.010	164	0.0053	588,000	<0.50	0.564	0.36	2,830	<0.050	16.8	184,000	3,740	0.689	0.88	<0.20	268,000	0.0028	<0.20	1.41	<0.050	2.5
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	11-Sep-14	D	<2.0	0.055	1.26	700	<0.010	112	<0.010 UJ	554,000	<1.0	0.73	<0.40	3,220	<0.10	13.6	173,000	3,550	0.52	1.42	<0.40	273,000	<0.0040	<0.40	1.21	<0.10	<2.0
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	2-Dec-14	D	<1.0	0.040	0.441	562	<0.0050	113	<0.0050	473,000	<0.50	0.346	0.21	397	<0.050	16.0	144,000	3,270	0.525	1.41	<0.20	246,000	0.0028	<0.20	1.54	<0.050	2.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	9-Mar-15	D	2.7	0.068	0.27	524	<0.010	121	0.057	475,000	<1.0	0.42	1.00	97	<0.10	10.5	141,000	4,010	0.43	1.07	<0.40	283,000	<0.0040	<0.40	1.16	<0.10	7.4
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	15-Jun-15	D	<2.0	0.070	1.20	655	<0.010	117	0.012	488,000	<1.0	0.45	<0.40	3,040	<0.10	8.49	142,000	3,850	0.37	0.81	<0.40	312,000	<0.0040	<0.40	1.01	<0.10	7.2
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	8-Sep-15	D	2.5	0.033	1.42	564	0.0052	111	0.0129	479,000	<0.50	0.463	0.23	3,550	<0.050	11.4	142,000	3,420	0.455	0.86	<0.20	330,000	<0.0020	<0.20	1.11	0.061	2.2
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	7-Dec-15	D	1.4	0.070	0.642	626	<0.010	112	0.0080	554,000	<0.50	0.354	0.32	1,210	<0.050	6.37	169,000	4,360	0.465	0.79	0.22	385,000	0.0029	0.21	1.25	0.079	4.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	29-Feb-16	D	<2.0	0.263	0.41	556	<0.010	106	0.049	498,000	<1.0	0.43	0.78	140	<0.10	11.5	156,000	2,780	0.69	1.29	<0.40	331,000	0.0108	<0.40	1.24	0.31	28.9
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	17-May-16	D	<2.0	0.073	0.74	1,020	<0.010	135	0.023	779,000	<1.0	0.52	<0.40	3,550	<0.10	9.39	247,000	6,570	0.34	1.00	<0.40	608,000	<0.0040	<0.40	1.01	<0.10	6.0
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	15-Aug-16	D	5.4	0.166	0.75	766	<0.010	137	0.017	751,000	<1.0	0.55	0.67	2,220	<0.10	9.73	217,000	4,910	0.41	1.17	<0.40	532,000	0.0116	<0.40	0.940	<0.10	6.1
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	22-Nov-16	D	<2.0	0.102	0.50	694	<0.010	140	<0.010	600,000	<1.0	0.39	<0.40	2,140	<0.10	11.2	189,000	4,070	0.38	0.85	<0.40	550,000	0.0063	<0.40	0.922	<0.10	4.0
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	14-Mar-17	D	<2.0	0.091	0.22	647	<0.010	111	0.023	567,000	<1.0	0.46	<0.40	417	<0.10	9.60	169,000	3,880	0.56	1.12	<0.40	513,000	0.0074	<0.40	1.15	0.10	4.5
PB-7.5I	Porewater	PB-7.5	DS	EB	2.0-2.4	2.0	2.4	Colluvium	—	6-Jun-17	D	<2.0	0.023	0.34	584	<0.010	136	<0.010	546,000	<1.0	0.35	2.38	220	<0.10	7.47	163,000	4,680	0.29	0.60	1.21	605,000	<0.0040	<0.40	0.888	<0.10	2.2
PB-7.5D	Porewater	PB-7.5	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	27-Sep-11	D	5.4 J	0.183	0.636	73.1	<0.0050	97.9	<0.010	97,600	<0.50	0.321	<0.50	<3.0	<0.050	5.68	32,000	976	17.1	1.19	<3.0	42,400	0.0041	<0.20	0.183	0.123	9.9
PB-7.5D	Porewater	PB-7.5	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	3-Nov-11	D	8.2	<0.50	<2.0	78.1	<0.50	110	<0.050	113,000	<0.50	0.371	<0.50	<10	<0.30	<20	35,700	1,380	10.4	<1.0	<2.0	37,200	<0.050	<5.0	0.208	<0.50	<3.0
PB-7.5D	Porewater	PB-7.5	DS	EB	3.6-4.0	3.6	4.0	Colluvium	Till	5-Dec-11	D	1.010

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	90
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	16-Sep-13	D	<2.0	0.087	1.38	31.1	<0.010	344	0.012	132,000	<1.0	0.15	<0.40	332	<0.10	19.8	201,000	262	0.68	0.47	<0.40	425,000	<0.0040	<0.40	2.29	0.85	5.3
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	9-Dec-13	D	<2.0	0.053	1.27	25.2	<0.010	358	<0.010	159,000	<1.0	<0.10	<0.40	829	<0.10	23.3	264,000	592	0.65	<0.40	<0.40	734,000	<0.0040	<0.40	2.65	0.38	<2.0
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	13-Mar-14	D	<1.0	0.041	0.545	27.9	<0.0050	236	0.0071	188,000	<0.50	0.073	0.33	347	<0.050	20.2	291,000	223	0.434	0.24	<0.20	451,000	<0.0020	<0.20	2.33	0.252	4.2
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	11-Jun-14	D	1.7	0.024	1.45	32.7	<0.0050	281	0.0059	147,000	<0.50	0.123	0.32	1,340	<0.050	20.2	214,000	849	0.437	0.27	<0.20	456,000	<0.0020	<0.20	2.13	0.238	2.0
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	11-Sep-14	D	1.0	0.060	0.917	23.2	<0.0050	325	0.0055	122,000	<0.50	<0.050	0.43	146	<0.050	23.4	178,000	222	0.670	0.33	<0.20	486,000	<0.0020	<0.20	2.47	0.732	2.9
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	2-Dec-14	D	<1.0	0.044	0.901	23.2	<0.0050	262	<0.0050	122,000	<0.50	<0.050	0.60	314	<0.050	15.1	174,000	237	0.400	0.33	<0.20	405,000	<0.0020	<0.20	2.47	0.481	5.7
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	12-Mar-15	D	1.3	0.043	1.19	33.7	<0.0050	294	<0.0050	156,000	<0.50	0.055	0.31	1,190	<0.050	10.6	212,000	764	0.376	0.24	<0.20	445,000	<0.0020	<0.20	2.33	0.269	2.3
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	15-Jun-15	D	<1.0	0.053	1.81	31.7	<0.0050	248	0.0133	141,000	<0.50	0.057	0.28	1,580	<0.050	16.4	179,000	1,140	0.425	0.21	<0.20	415,000	<0.0020	<0.20	2.20	0.287	3.2
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	11-Sep-15	D	2.3	0.034	1.26	26.6	<0.0050	252	<0.0050	127,000	<0.50	0.088	0.28	900	<0.050	17.3	160,000	1,020	0.423	0.53	<0.20	438,000	<0.0020	<0.20	1.82	0.583	6.2
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	7-Dec-15	D	<1.0	0.093	0.576	24.7	<0.0050	233	0.0217	168,000	<0.50	0.055	0.60	215	<0.050	12.2	217,000	431	0.481	0.30	0.23	466,000	<0.0020	<0.20	1.33	0.401	13.4
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	29-Feb-16	D	<2.0	0.048	0.99	47.6	<0.010	194	0.027	248,000	<1.0	0.11	0.49	1,230	<0.10	17.5	303,000	2,090	0.43	<0.40	<0.40	527,000	<0.0040	<0.40	2.51	0.10	14.8
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	17-May-16	D	<1.0	0.115	0.786	34.6	<0.0050	207	0.0307	235,000	<0.50	0.078	0.54	885	<0.050	16.7	293,000	1,750	0.494	0.52	<0.20	561,000	<0.0020	<0.20	2.16	0.249	8.7
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	15-Aug-16	D	<2.0	0.149	1.21	37.8	<0.010	409	0.046	193,000	<1.0	0.21	<0.40	259	<0.10	21.9	248,000	1,430	0.86	0.45	<0.40	874,000	0.0048	<0.40	2.13	0.56	4.8
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	21-Nov-16	D	7.3	0.074	0.56	25.8	<0.010	234	0.268	181,000	<1.0	<0.10	0.48	240	<0.10	19.1	206,000	322	0.46	<0.40	<0.40	578,000	<0.0040	<0.40	2.01	0.43	3.1
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	14-Mar-17	D	9.0	0.083	0.39	35.1	<0.010	200	0.117	169,000	<1.0	<0.10	0.47	<30	0.12	14.1	187,000	386	0.41	<0.40	<0.40	503,000	<0.0040	<0.40	1.98	0.17	3.9
P8-12D	Porewater	P8-12	DS	EB	1.2-1.4	1.2	1.4	Beach sand	—	5-Jun-17	D	<5.0	<0.50	<2.0	28.3	<0.50	210	0.163	130,000	<0.50	0.070	1.05	26	<0.30	<20	147,000	1,520	<2.0	<0.50	<2.0	443,000	0.076	<5.0	1.73	<0.50	4.9
P3-3	Porewater EAZ	P3-3	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	6-Dec-11	D	<5.0	<0.50	<2.0	9.4	<0.50	<100	<0.050	63,600	<0.50	3.75	<0.50	2,130	<0.30	<20	19,400	4,230	<2.0	2.6	<2.0	50,900	<0.050	<5.0	0.18	<0.50	10.8
P3-3	Porewater EAZ	P3-3	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	4-Jan-12	D	5.5	<0.50	<2.0	6.6	<0.50	140	<0.050	48,000	<0.50	0.893	<0.50	399	<0.30	<20	19,900	2,070	<2.0	2.22	<2.0	126,000	<0.050	<5.0	0.171	<0.50	<3.0
P3-3	Porewater EAZ	P3-3	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	1-Feb-12	D	6.5	0.079	1.20	3.90	<0.010	101	<0.010	29,100	<1.0	0.27	<1.0	376	<0.10	6.91	15,400	811	0.68	0.63	<0.40	115,000	<0.0040	<0.40	0.165	0.37	<0.0
P3-3	Porewater EAZ	P3-3	OB	EB	0.2-0.6	0.2	0.6	Beach sand/OC	Weathered Colluvium	13-Mar-12	D	<5.0	<0.50	<2.0	55.6	<0.50	350	<0.050	162,000	<0.50	0.933	<0.50	716	<0.30	26	118,000	5,020	<2.0	0.65	<2.0	927,000	<0.050	<5.0	0.254	<0.50	5.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Apr-12	D	6.5	<0.50	3.7	282	<0.50	250	0.051	224,000	<0.50	2.00	0.80	24,400	<0.30	32	133,000	8,130	<2.0	2.21	<2.0	993,000	<0.050	<5.0	1.73	1.09	9.7
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-May-12	D	8.5	0.166	1.50	88.5	<0.0050	163	0.0091	83,800	<0.50	0.461	2.00	4,000	<0.050	16.9	51,000	1,790	0.802	0.88	0.20	247,000	0.0030	0.23	0.587	0.670	12.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	5-Jun-12	D	8.1	<0.50	<2.0	261	<0.50	900	<0.050	190,000	<0.50	0.077	0.68	14,100	<0.30	37	194,000	3,410	<2.0	1.40	<2.0	2,110,000	<0.050	<5.0	1.68	1.18	8.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Jul-12	D	5.7	<0.50	<2.0	354	<0.50	810	0.058	228,000	<0.50	0.281	0.56	11,700	0.57	0.98	46	232,000	3,760	<2.0	1.94	<2.0	2,100,000	<0.050	<5.0	1.16	1.06	6.6
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Aug-12	D	6.3	<0.50	<3.0	574	<0.50	1,770	<0.050	410,000	<0.50	0.203	<0.50	16,100	<0.30	58	660,000	4,040	<2.0	2.29	<2.0	5,220,000	<0.050	<5.0	1.72	1.34	6.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Sep-12	—	Well Not Sampled																							
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Oct-12	—	Well Not Sampled - Insufficient Water for Analysis																							
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Nov-12	D	9.0 J	0.098	1.43	282	<0.0050	340	<0.0050	142,000	<0.50	0.239	<0.20	4,570	<0.050	22.4	105,000	2,100	0.139	0.28	0.24 J	349,000	<0.0020	0.72	0.149	1.35	1.4
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-12	D	6.0	0.065	1.33	132	<0.0050	270	<0.0050	107,000	<0.50	0.113	<0.20	3,200	<0.050	19.5	64,800	1,520	0.122	0.22	0.22	334,000	<0.0020	0.55	0.0971	1.25	1.3
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	8-Jan-13	D	4.7	0.078	0.91	139	<0.010	355	<0.010	123,000	<1.0	<0.10	<0.40	3,760	<0.10	22.4	80,300	1,850	<0.10	1.49	<0.40	572,000	<0.0040	<0.40	0.0874	0.86	3.7
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	25-Feb-13	—	Well Not Sampled																							
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Mar-13	D	5.9	0.044	0.535	41.9	<0.0050	104	<0.0050	62,700	<0.50	0.056	0.22	3,320	<0.050	14.0	29,600	1,260	0.084	1.40	<0.20	88,100	<0.0020	0.36	0.0343	0.702	3.6
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	D	9.0	<0.50	<2.0	390	<0.50	720	<0.050	278,000	<0.50	0.079	<0.50	3,330	<0.30	30	247,000	4,800	<2.0	1.40	<2.0	1,910,000	<0.050	<5.0	0.234	1.49	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	T	62.4	<0.50	<2.0	259	<0.50	560	<0.050	180,000	<0.50	0.185	2.85	3,310	0.78	22	157,000	3,110	<2.0	1.25	<2.0	1,290,000	<0.050	<5.0	0.228	2.15	10.8
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Sep-13	D	14.8	1.17	9.2	542	<0.50	2,820	<0.050	410,000	<0.50	0.105	<0.50	31	<0.30	52	730,000	2,660	<2.0	<0.50	<2.0	6,340,000	<0.050	<5.0	0.367	1.93	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Sep-13	T	202	1.31	15.4	616	<0.50	2,530	<0.050	403,000	0.89	0.254	1.31	1,010	0.75	47	683,000	3,130	<2.0	0.95 J+	<2.0	5,930,000	<0.050	0.19	0.438	3.17	7.4
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-13	D	<5.0	<0.50	<2.0	84.4	<0.50	270	<0.050	187,000	<0.50	0.111	<0.50	410	<0.30	<20	125,000	3,930	<2.0	<0.50	<2.0	796,000	<0.050	<5.0	0.050	1.26	3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Dec-13	T	9.8	<0.50	<2.0	86.1	<0.50	280	<0.050	189,000	<0.50	<0.050	<0.50	753	<0.30	<20	125,000	4,030	<2.0	<0.50	<2.0	809,000	<0.050	<5.0	<0.050	1.37	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	D	6.7	0.029	0.495	18.9	<0.0050	205	<0.0050	44,000	<0.50	0.115	<0.20	31	<0.050	9.50	25,000	914	0.054	0.23	<0.20	287,000	<0.0020	0.69	0.0339	1.61	1.2
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Mar-14	T	25.8	0.049	0.536	15.8	<0.0050	200	0.0062	33,900	<0.50	0.075	<0.20	130	0.229	8.97	19,000	725	0.145	<0.20	<0.20	235,000	<0.0020	1.82	0.0435	1.89	<2.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jan-14	D	7.9	0.033	0.622	26.5	0.0057	209	<0.0050	64,400	<0.50	0.055	<0.20	209	<0.050	13.3	30,100	1,500	0.121	0.24	<0.20	242,000	<0.0020	0.79	0.0288	1.63	1.2
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jan-14	T	849	0.125 J+	1.09	42.2	0.0414	226	0.0230	72,900	0.90	0.446	2.36	3,430	1.87	15.7	37,400	1,810	0.423	0.75	<0.20	279,000	0.0054	30.2	0.189	4.13	11.2
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	D	9.1	<0.50	5.9	689	<0.50	1,870	<0.050	467,000	<0.50	0.094	<0.50	32	<0.30	47	694,000	2,420	<2.0	1.61	<2.0	5,400,000	<0.050	<5.0	0.110	2.15	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	T	189	<0.50	6.7	625	<0.50	1,840	<0.050	445,000	<0.50	0.211	0.85	1,370	0.61	46	656,000	2,090	<2.0	0.75	<2.0	5,210,000	<0.050	<5.0	0.157	2.66	4.1
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	3-Dec-14	D	9.5	0.030	0.383	12.9	<0.0050	184	0.0058	33,900	<0.20	0.054	<0.20	59	<0.050	8.88	23,600	882	<0.050	0.56	0.21 J	228,000	<0.0020	0.76	0.0124	1.61	1.1
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	3-Dec-14	T	15,300	0.527	6.58	129	0.716	201	0.230	49,800	13.2	7.49	35.9	45,200	25.2	28.9	32,000	1,570	2.10	16.1	0.52	226,000	0.0895	602	3.83	72.6	147
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	D	6.8	0.088	0.238	6.30	0.0051	111	0.0081	87,000	<0.50	<0.050	0.89	0.339	1.61	7.49	20,800	1,670	0.114	0.37	<0.20	141,000	<0.0020	0.52	0.0179	1.27	6.5
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	13-Mar-15	T	12,600	0.425	4.63	116	0.724	247	0.470	13,800	3.94	1.76	5.64	17,900	7.32	41	270,000	4,780	1.12	3.75	<2.0	4,860,000	<0.050	38.4	0.740	4.25	136
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	D	5.9	<0.50	<2.0	602	<0.50	1,530	<0.050	495,000	<0.50	<0.050	<0.50	88	<0.30	26	648,000	3,350	<2.0	<0.50	10.6	4,870,000	<0.050	<5.0	0.088	1.37	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	17-Jun-15	T	575	<0.50	2.1	615	<0.50	1,500	<0.050	482,000	0.89	0.339	1.01	6,740	0.85	26	616,000	3,640	<2.0	1.12	<2.0	4,670,000	<0.050	21.0	0.146	2.95	8.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-15	D	7.3	0.75	8.2	482	<0.50	1,850	<0.050	371,000	<0.50	0.098	<0.50	33	<0.30	40.0	645,000	5,180	<2.0	0.87	<2.0	5,770,000	<0.050	<5.0	0.115	2.29	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	10-Sep-15	T	3,010	0.86	13.7	468	0.570	1,670	<0.050	372,000	3.94	1.76	5.64	17,900	7.32	41	570,000	4,780	3.75	<2.0	4.49	4,860,000	<0.050	38.1	0.663	13.0	33.4
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	D	10.3	0.024	0.43	49.7	<0.010	449	<0.010	83,300	<1.0	<0.10	<0.40	296	<0.10	13.5	81,100	2,170	<0.10	<0.40	0.95	798,000	<0.0040	0.77	0.0134	1.77	2.1
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	9-Dec-15	T	63.6	0.067	0.63	48.1	<0.010	449	0.013	83,300	<1.0	0.14	<1.0	2,640	0.16	12.3	65,200	1,730	0.14	<0.40	<0.40	647,000	<0.010	3.00	0.0156	2.17	10.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	D	14.7	0.030	0.190	5.46	<0.0050	81.5	<0.0050	18,900	0.26	0.061	<0.20	211	<0.050	4.79	13,500	463	<0.050	0.31	<0.20	74,700	<0.0020	0.63	0.0121	1.07	3.6
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	2-Mar-16	T	47.0	0.068	0.204	6.41	0.0060	89	0.0083	18,200	<0.50	0.085	0.64	734	0.334	4.80	13,300	491	0.085	0.39	<0.20	68,400	<0.0020	1.71	0.0169	1.67	4.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	19-May-16	D	9.0	<0.50	<2.0	175	<0.50	420	<0.050	310,000	<0.50	0.061	<0.50	72	<0.30	24	271,000	8,120	<2.0	<0.50	<2.0	1,790,000	<0.050	<5.0	0.125	2.13	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	20-May-16	T	93.8	<0.50	<2.0	147	<0.50	450	0.058	244,000	<0.50	0.186	0.79	2,900	0.35	23	218,000	6,280	<2.0	<0.50	<2.0	1,670,000	<0.050	<5.0	0.155	1.90	6.9
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	D	12.2	<0.50	<2.0	283	<0.50	1,030	0.067	240,000	<0.50	0.078	<0.50	45	<0.30	49	374,000	3,850	<2.0	<0.50	<2.0	2,790,000	<0.050	<5.0	0.644	2.72	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	D	36.6	<0.50	<2.0	257	<0.50	1,130	0.060	257,000	<0.50	0.122	<0.50	164	<0.30	51	411,000	3,440	<2.0	1.22	<2.0	3,010,000	<0.050	<5.0	0.687	2.54	<3.0
QA/QC RPD												Duplicates	D	100%	—	—	20%	—	9%	11%	7%	—	—	4%	4%	9%	3%	—	—	—	8%	—	23%	7%	—
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	T	1,140	<0.50	<2.0	240	<0.50	990	0.112	219,000	0.65	0.535	2.46	4,010	2.54	47	343,000	3,320	<2.0	0.94	<2.0	2,570,000	<0.050	35.4	0.740	4.25	15.2
DUP-8 (P3-3R)	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	22-Aug-16	T	23.2	<0.50	<2.0	230	<0.50	1,030	0.062	216,000	<0.50	0.090	<0.50	132	<0.30	45	341,000	3,140	<2.0	<0.50	<2.0	2,610,000	<0.050	<5.0	0.370	1.91	<3.0
QA/QC RPD												Duplicates	T	—	—	—	4%	87%	1%	—	—	—	187%	—	4%	1%	6%	—	—	—	2%	—	67%	76%	—
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	D	6.0	<0.50	<2.0	70.5	<0.50	450	<0.050	67,400	<0.50	0.176	<0.50	324	<0.30	<20	77,900	1,320	<2.0	<0.50	<2.0	928,000	<0.050	<5.0	<0.050	1.96	<3.0
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	24-Nov-16	T	518	<0.50	<2.0	39.9	<0.50	500	<0.050	27,300	0.58	0.489	2.12	2,310	1.41	<20	32,400	555	<2.0	1.49	<2.0	645,000	<0.050	13.2	0.172	3.73	8.7
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	15-Mar-17	D	5.7	0.055	0.201	19.7	<0.0050	290	0.0129	23,300	<0.50	0.179	<0.20	84	0.073	7.43	24,000	478	0.087	0.22	0.44	425,000	<0.0020	0.72	0.0202	1.79	3.3
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	15-Mar-17	T	751	0.262	0.661	28.3	0.0515	265	0.0376	24,400	0.54	0.626	1.87	2,420	2.05	6.96	24,000	429	0.424	0.92	<0.20	405,000	0.0087	14.4	0.237	2.77	9.3
P3-3R	Porewater EAZ	P3-3R	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	7-Jun-17	D	9.4	0.023	0.29	8.79	<0.010	609	<0.010	35,500	<1.0	0.23	<0.40	<30	<0.10	28.5	49,500	316

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	10	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	10	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-15	D	<1.0	0.055	0.196	87.7	<0.0050	183	0.0521	120,000	<0.50	<0.050	0.65	<30	<0.050	12.1	71,600	235	0.337	0.91	<0.20	393,000	0.0050	<0.20	0.230	<0.050	8.8
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	9-Dec-15	T	668	0.300	0.850	87.1	0.0791	224	0.128	87,000	<0.50	0.447	1.43	899	0.642	11.6	58,000	1,440	1.98	2.76	0.48	374,000	0.0093	13.8	0.388	1.97	11.6
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	D	3.4	0.192	0.197	91.2	<0.050	135	0.0298	55,300	<0.50	<0.050	1.21	<30	<0.050	12.0	75,700	42.2	0.388	0.48	<0.20	479,000	<0.0020	<0.20	0.0541	0.073	20.0
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	29-Feb-16	T	187	0.299	0.592	95.2	0.0225	129	0.0403	47,000	<0.50	0.325	1.59	584	0.544	11.7	63,400	321	0.811	1.03	<0.20	440,000	<0.0050	4.55	0.106	0.068	7.7
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-May-16	D	<5.0	<0.50	<2.0	260	<0.50	1,320	0.409	263,000	<0.50	0.070	2.00	<10	<0.30	49	570,000	175	<2.0	3.16	<2.0	4,140,000	<0.050	<5.0	0.385	<0.50	21.2
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	18-May-16	T	7,180	0.65	3.3	278	<0.50	1,220	0.469	257,000	6.76	3.58	13.2	14,400	3.55	46	555,000	1,070	<2.0	6.76	<2.0	4,040,000	0.056	232	0.693	26.8	45.5
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Aug-16	D	17.5	0.075	0.25	60.4	<0.010	331	0.039	100,000	<1.0	<0.10	1.70	50.0	<0.10	15.8	104,000	18.8	0.77	0.48	<0.40	828,000	0.0110	0.45	0.411	0.16	9.2
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	17-Aug-16	T	15,200	0.260	6.29	178	0.597	329	0.173	97,000	17.2	8.64	32.2	36,500	9.51	24.4	107,000	1,360	1.78	8.85	<0.40	778,000	0.094	489	1.08	77.9	78.3
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	23-Nov-16	D	24.1	0.093	0.20	65.5	<0.010	128	0.062	66,000	<1.0	0.17	0.98	84	0.19	11.7	45,700	252	0.56	2.15	<0.40	261,000	0.0073	0.66	0.128	0.19	13.3
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	23-Nov-16	T	54,500	0.394	17.9	446	1.81	187	0.722	75,100	50.1	35.9	130	103,000	27.3	41.3	65,800	6,880	3.27	35.2	0.51	254,000	0.264	568	1.93	232	311
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Mar-17	D	4.5	0.139	0.230	26.6	<0.0050	194	0.0089	21,200	<0.50	<0.050	0.75	<30	0.079	7.52	26,600	61.1	1.01	0.27	<0.40	249,000	0.0020	<0.20	0.0826	0.068	2.9
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	15-Mar-17	T	209,000	<0.50	30.3	1,110	7.54	380	5.49	93,000	239	140	694	407,000	125	132	145,000	7,820	2.9	127	<2.0	242,000	1.37	756	9.12	944	1,330
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	D	<5.0	<0.50	<2.0	421	<0.50	640	0.565	254,000	<0.50	0.512	6.08	<10	<0.30	40.0	456,000	834	<2.0	6.97	<2.0	2,670,000	0.062	<5.0	0.093	<0.50	26.3
P9-T5	Porewater EAZ	P9-7	DS	EB	0.8-1.0	0.8	1.0	Weathered Colluvium	---	6-Jun-17	T	119	0.51	0.594	90.2	0.0100	630	0.594	262,000	<0.50	1.10	2.72	401	0.31	46	471,000	1,190	<2.0	7.70	<2.0	2,830,000	<0.050	<5.0	0.139	<0.50	27.3
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	28-Sep-11	D	<3.0	0.02	0.361	72.9	<0.0050	51.4	<0.0050	89,600	<0.50	0.599	<0.50	1,350	<0.050	1.46	25,600	772	0.23	0.9	0.59	19,800	0.0103	<0.20	0.0606	<0.050	5.8
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Nov-15	D	<5.0	<0.50	<2.0	84.9	<0.50	<10	<0.050	108,000	<0.50	0.213	<0.50	<10	<0.30	<20	32,800	525	<2.0	<0.50	<2.0	30,500	<0.050	<5.0	<0.050	<0.50	10.5
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Dec-11	D	<3.0	0.012	0.182	0.186	86.8	<0.0050	75.8	0.0059	105,000	<0.50	0.142	<0.50	3,580	<0.050	2.46	33,900	539	0.233	0.42	<0.20	49,700	0.0039	<0.20	0.0454	<0.050	7.1
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	4-Jan-12	D	<5.0	<0.50	<2.0	86.5	<0.50	<100	<0.050	106,000	<0.50	0.112	<0.50	1,770	<0.30	<20	34,400	868	<2.0	<0.50	<2.0	72,200	<0.050	<5.0	<0.050	<0.50	4.7
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	1-Feb-12	D	<3.0	<0.010	0.141	83.5	<0.0050	59.4	<0.0050	100,000	<0.50	0.096	<0.50	1,550	<0.050	1.67	31,600	782	0.300	0.33	<0.20	61,800	0.002	<0.20	0.0262	<0.050	<3.0
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	27-Mar-12	D	<3.0	<0.010	0.163	63.7	<0.0050	52.7	<0.0050	86,500	<0.50	0.170	<0.50	315	<0.050	2.21	25,500	721	0.202	0.38	<0.20	27,500	0.0032	<0.20	0.0436	<0.050	<3.0
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Apr-12	D	6.6	0.013	0.330	63.6	<0.0050	48.2	<0.0050	82,300	<0.50	0.274	<0.50	1,860	<0.050	2.03	25,000	826	0.194	0.58	<0.20	36,600	0.0022	<0.20	0.0556	0.057	3.9
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	9-May-12	D	<3.0	0.011	0.301	68.0	<0.0050	49.0	0.0151	82,900	<0.50	0.222	<0.50	3,830	<0.050	2.82	24,900	696	0.278	0.56	<0.20	28,100	0.0028	<0.20	0.0553	<0.050	9.6
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jun-12	D	<1.0	0.021	0.290	62.3	<0.0050	45.4	0.0092	81,700	<0.50	0.308	0.32	2,150	<0.050	2.42	24,900	614	0.376	0.57	<0.20	35,500	<0.0020	<0.20	0.0675	<0.050	5.3
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	5-Jul-12	D	<1.0	0.011	0.255	66.4	<0.0050	69.4	0.0123	82,800	<0.50	0.333	0.44	1,670	<0.050	2.87	30,600	656	0.268	0.56	<0.20	82,800	0.0055	<0.20	0.0673	<0.050	3.2
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	2-Aug-12	D	<1.0	0.025	0.290	73.5	<0.0050	138	0.0411	90,100	<0.50	0.336	0.45	1,460	<0.050	4.72	51,600	648	0.341	0.66	<0.20	241,000	0.0060	<0.20	0.0939	<0.050	5.6
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-12	D	<2.0	0.036	0.34	161	<0.10	393	0.023	116,000	<1.0	0.54	0.46	1,530	<0.10	15.1	109,000	863	0.66	1.24	<0.40	797,000	0.0130	<0.40	0.215	<0.10	4.9
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Oct-12	D	79.6	<0.50	<2.0	158	<0.50	2,790	0.237	328,000	<0.50	1.38	0.76	733	<0.30	99	736,000	855	4.8	4.37	<2.0	5,980,000	0.059	<5.0	1.36	<0.50	5.5
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	7-Nov-12	D	<1.0	0.045	0.213	73.3	<0.0050	185	0.0259	130,000	<0.50	0.657	0.40	1,190	<0.050	10.9	66,300	1,080	0.831	1.06	<0.20	349,000	0.0076	<0.20	0.273	0.051	2.4
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	D	<1.0	0.029	0.329	75.7	<0.0050	110	0.0213	135,000	<0.50	0.489	0.28	3,250	<0.050	5.27	47,600	1,030	0.651	0.92	<0.20	124,000	0.0027	<0.20	0.147	<0.050	2.3
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Jan-13	D	<1.0	0.045	0.298	81.9	<0.0050	88.1	0.0652	139,000	<0.50	0.473	0.32	2,520	<0.050	4.72	46,700	1,060	0.529	1.07	<0.20	72,700	0.0039	<0.20	0.146	<0.050	2.9
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	25-Feb-13	---	Well Not Sampled																								
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	13-Mar-13	D	<1.0	0.018	0.195	78.0	<0.0050	52.0	0.0318	107,000	<0.50	0.335	0.43	2,500	<0.050	3.79	36,200	1,010	0.316	0.71	<0.20	42,900	0.0035	<0.20	0.0855	<0.050	4.6
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Jun-13	D	<1.0	0.014	0.300	65.8	<0.050	57.8	0.0097	87,300	<0.50	0.257	0.34	2,110	<0.050	2.72	29,800	680	0.193	0.64	<0.20	52,200	0.0029	<0.20	0.0534	<0.050	3.2
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-Sep-13	D	8.1	<0.50	<2.0	121	<0.50	900	0.052	201,000	<0.50	0.725	0.72	893	<0.30	29	241,000	964	<2.0	3.26	<2.0	1,760,000	<0.050	<5.0	0.427	<0.50	8.6
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Dec-13	D	<1.0	0.042	0.215	151	<0.050	144	<0.0050	268,000	<0.50	0.587	0.24	---	<0.050	7.89	93,000	1,900	0.858	1.15	<0.20	280,000	<0.0020	<0.20	0.317	<0.050	2.7
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Mar-14	D	<1.0	0.025	0.258	104	<0.050	58.6	0.0071	154,000	<0.50	0.263	<0.20	4,670	<0.050	2.81	34,400	880	0.262	0.53	<0.20	66,700	<0.0020	<0.20	0.0708	<0.050	3.5
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Jun-14	D	<1.0	0.030	0.331	66.5	<0.0050	67.8	<0.0050	72,700	<0.50	0.249	0.73	1,720	<0.050	4.50	23,900	562	0.389	0.65	<0.20	49,300	<0.0020	<0.20	0.104	<0.050	4.3
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	11-Sep-14	D	<1.0	0.031	0.255	106	<0.050	118	0.0063	88,000	<0.50	0.200	0.22	3,830	<0.050	3.71	43,500	649	0.239	0.68	<0.20	221,000	<0.0020	<0.20	0.0665	<0.050	1.4
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	3-Dec-14	D	<1.0	0.025	0.294	111	<0.0050	70.2	<0.0050	118,000	<0.50	0.192	0.29	2,310	<0.050	2.57	34,800	1,090	0.131	1.07	<0.20	72,700	<0.0020	<0.20	0.0559	<0.050	2.5
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	12-Mar-15	D	<1.0	0.021	0.257	79.1	<0.050	58.0	0.0138	89,000	<0.50	0.193	0.43	1,490	<0.050	1.92	25,700	748	0.156	0.44	<0.20	49,400	<0.0020	<0.20	0.0490	<0.050	4.1
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Jun-15	D	<1.0	0.031	0.288	76.2	<0.0050	67.6	0.0113	71,400	<0.50	0.178	0.40	2,030	<0.050	1.72	21,500	594	0.122	0.42	<0.20	66,500	<0.0020	<0.20	0.0411	<0.050	3.9
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	10-Sep-15	D	62.1	0.018	0.225	256	<0.0050	119	0.0133	265,000	<0.50	0.493	0.64	---	0.124	2.20	78,300	2,040	0.131	0.96	<0.20	225,000	<0.0020	3.44	0.0381	0.239	4.4
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	8-Dec-15	D	<1.0	0.021	0.211	220	<0.0050	85.9	0.0144	255,000	<0.50	0.219	0.99	2,850	<0.050	1.71	66,500	1,920	0.123	0.81	<0.20	139,000	<0.0020	<0.20	0.0284	<0.050	6.6
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	29-Feb-16	D	<1.0	0.020	0.264	122	<0.0050	57.2	0.0120	121,000	<0.50	0.132	0.38	5,520	<0.050	1.41	35,100	867	0.104	0.47	<0.20	86,300	<0.0020	<0.20	0.0329	<0.050	3.7
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	18-May-16	D	<1.0	0.034	0.239	99.4	<0.050	88.5	0.0088	181,000	<0.50	0.213	0.33	2,930	<0.050	2.11	31,300	944	0.193	0.47	<0.20	127,000	<0.0020	<0.20	0.0357	<0.050	11.1
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	17-Aug-16	D	<1.0	0.021	0.224	70.1	<0.050	83.7	<0.0050	71,300	<0.50	0.165	0.35	1,220	<0.050	1.73	24,500	549	0.137	0.38	<0.20	126,000	<0.0020	<0.20	0.0290	<0.050	1.2
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	23-Nov-16	D	77.5	0.036	0.442	119	0.0057	69.7	<0.0050	83,800	<0.50	0.133	0.20	13,500	0.103	2.37	25,600	518	0.074	0.24	<0.20	88,700	<0.0020	2.28	0.0751	0.442	<1.0
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	15-Mar-17	D	<1.0	0.024	0.199	60.6	<0.0050	0.065	87,200	<0.50	0.133	3.680	0.093	2.15	19,700	554	0.140	0.40	<0.20	44,000	<0.0020	<0.20	0.0435	0.050	1.7
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	6-Jun-17	D	2.1	0.012	0.267	54.1	<0.0050	54.2	<0.0050	67,100	<0.50	0.181	2.38	1,010	<0.050	1.62	18,400	497	0.168	0.36	<0.20	35,500	<0.0020	<0.20	0.0381	<0.050	1.7
P9-T1	Porewater	P9-7	DS	EB	2.0-2.4	2.0	2.4	Colluvium	---	28-Sep-11	D	<3.0	0.011	0.144	74.4	<0.0050	82.8	0.0083	91,100	<0.50	0.115	<0.50	679	<0.050	1.87	24,600	501	0.177	0.27	<0.20	21,500	0.0048	<0.20	0.0392	<0.050	<3.0
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	3-Nov-11	D	<5.0	<0.50	<2.0	66.9	<0.50	<10	<0.050	91,600	<0.50	0.106	<0.50	UJ	<0.30	<20	24,100	510	<2.0	<0.60	<2.0	21,200	<0.050	<5.0	<0.050	<0.50	5.3
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Dec-11	D	<3.0	0.012	0.116	67.6	<0.050	102	0.0057	92,400	<0.50	0.099	<0.50	879 J	0.168	1.65	26,700	549	0.144	0.75	<0.20	22,600	0.0037	<0.20	0.0281	<0.050	12.6
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	4-Jan-12	D	<5.0	<0.50	<2.0	64.4	<0.50	100	<0.050	99,300	<0.50	0.242	<0.50	25	<0.30	<20	37,900	592	<2.0	0.95	<2.0	110,000	<0.050	<5.0	0.065	<0.50	8.5
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	1-Feb-12	D	<3.0	0.026	0.110	65.6	<0.050	90.0	0.0126	97,400	<0.50	0.126	<0.50	1,910	<0.050	2.29	26,000	476	0.177	0.38	<0.20	36,700	<0.0020	<0.20	0.048	<0.050	9.8
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	27-Mar-12	D	<3.0	<0.010	0.127	66.2	<0.0050	85.1	<0.0050	89,100	<0.50	0.088	<0.50	93	<0.050	1.25	24,200	512	0.089	0.29	<0.20	18,000	0.0023	<0.20	0.0231	<0.050	<3.0
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	10-Apr-12	D	<3.0	0.024	0.159	68.4	<0.0050	89.3	0.0068	89,600	<0.50	0.095	<0.50	1,200	<0.050	1.23	24,500	513	0.108	0.7	<0.20	24,800	<0.0020	<0.20	0.0277	<0.050	4.8
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	9-May-12	D	<3.0	<0.010	0.179	69.7	<0.050	74.3	<0.0050	85,600	<0.50	0.148	<0.50	1,910	<0.050	1.53	23,400	512	0.126	0.34	<0.20	19,200	<0.0020	<0.20	0.0379	<0.050	<3.0
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Jun-12	D	1.5 J	0.015 J	0.284	63.7	<0.050	71.6	0.0093 J	85,500	<0.50	0.246	0.23	1,500	<0.050	1.15	23,100	472	0.169	0.41 J	<0.20	20,000	<0.0020	<0.20	0.0432	<0.050	3.3 J
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	5-Jul-12	D	1.6 J	0.051	0.314	66.5	<0.050	77.3	0.0094 J	95,200	<0.50	0.321	0.24	1,480	<0.050	0.63	24,900	484	0.163	0.83	<0.20	29,200	0.0023	<0.20	0.0393	<0.050	4.9
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	2-Aug-12	D	1.6 J	0.027	0.322	101	<0.050	166	0.0096 J	102,000	<0.50	0.245	<0.20	UJ 1,330	<0.050	2.86	49,700	537	0.267	0.47	<0.20	229,000	0.0025	<0.20	0.106	<0.050	1.0 J
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Sep-12	D	<2.0	0.033	0.31	175	<0.010	350	0.013	120,000	<1.0	0.37	<0.40	1,230	<0.10	7.18	87,200	603	0.47	0.74	<0.40	747,000	0.0071	<0.40	0.245	<0.10	3.2 J
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	12-Oct-12	D	<5.0	UJ <0.50	<2.0	132	<0.50	740	<0.050	142,000	<0.50	0.364	<0.50	445 J	<0.30	20	187,000	484	<2.0	1.08 J	<2.0	1,470,000	<0.050	<5.0	0.831	<0.50	<3.0
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	7-Nov-12	D	<1.0	0.040	0.318	67.4	<0.0050	223	0.0098	48,200	<0.50	0.177	0.25	405	<0.050	4.56	43,900	222	0.602	0.54	<0.20	351,000	0.0028	<0.20	0.231	<0.050	2.1
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	8-Jan-13	D	<1.0	0.031	0.429	34.5	<0.050	116	0.0276	60,700	<0.50	0.209	0.36	482	<0.050	1.32	26,700	291	0.240	0.49	<0.20	60,900	0.0024	<0.20	0.114	0.089	3.1 J
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	8-Jan-13	D	<1.0	0.032	0.311	33.8	<0.050	106	0.0136	66,900	<0.50	0.195	0.24	440	<0.050	1.16	25,100	345	0.187	0.42	<0.20	36,000	0.0021	<0.20	0.0863	0.053	2.0 J
P9-T1	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	25-Feb-13	---	Well Not Sampled																								
P9-T1D	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	13-Mar-13	D	<1.0	0.027 J	0.231	42.6	<0.0050	81.6	0.0346	74,500	<0.50	0.226	0.33	408	<0.050	0.91	23,900	438	0.159	0.46	<0.20	28,300	<0.0020	<0.20	0.0604	<0.050	13.4 J
P9-T1D	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	11-Jun-13	D	<1.0	0.018 J	0.248	62.2	<0.050	134	0.0279	84,200	<0.50	0.235	0.30 J	807	<0.050	1.70	34,200	445	0.141	0.50	<0.20	109,000	0.0029	<0.20	0.0416	<0.050	3.5 J
P9-T1D	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	---	17-Sep-13	D	<2.0	0.045	0.25	63.7	<0.010	379	0.021	61,300	<1.0	0.22	0.41	420	<0.10	8.09	72,700	288	0.43	0.83 J	<0.40	665,000	0.0061	<0.40	0.101	<0.10	3.8 J
P9-T1D	Por

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D) [7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BWQG
Updated Screening Level (T) [7]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BWQG
RBMT* [6]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	90
P10-3S	Porewater EAZ	P10-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	14-Mar-17	T	**2,030**	**0.112**	**1.32**	**9.21**	**0.148**	**198**	**0.0127**	**8.970**	**1.17**	**0.535**	**3.23**	**1.280**	**1.60**	**7.87**	**25,900**	**66.3**	**0.767**	**0.53**	<0.20	**283,000**	**0.0092**	**31.3**	**0.690**	<0.50	**32.6**
P10-3S	Porewater EAZ	P10-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	6-Jun-17	D	**9.5**	<0.50	<2.0	**129**	<0.50	**500**	**0.170**	**99,800**	<0.50	<0.050	**3.23**	<10	<0.30	<20	**190,000**	**9.92**	<2.0	**1.76**	<2.0	**1,450,000**	<0.050	<5.0	<0.050	<0.50	**28.8**
P10-3S	Porewater EAZ	P10-3	USAT	EB	0.2-0.4	0.2	0.4	Weathered Colluvium	—	6-Jun-17	T	**507**	<0.50	<2.0	**139**	<0.50	**510**	**0.194**	**97,400**	**4.09**	**0.316**	**5.11**	**1,150**	**1.04**	<20	**200,000**	**113**	<2.0	**1.04**	**2.46**	<2.0	**1,640,000**	<0.050	**18.5**	**0.167**	**1.20**	**38.9**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	28-Sep-11	D	<5.0	<0.50	<2.0	**200**	<0.50	**600**	**1.09**	**409,000**	<0.50	**12.5**	**0.8**	**33**	<0.30	<2.0	**497,000**	**12,000**	<2.0	**7.72**	**4.2**	**2,470,000**	**0.091**	<5.0	**0.064**	<0.50	**81.1**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Oct-11	D	**3,030**	<0.50	<2.0	**181**	<0.50	**670**	**0.98**	**383,000**	**4.67**	**8.87**	**5.38**	**3,210**	**1.27**	<20	**451,000**	**9,690**	<2.0	**11.7**	<2.0	**2,480,000**	**0.094**	**93.2**	**0.206**	**9.31**	**1,110**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Dec-11	D	**13.0**	<0.50	<2.0	**77.6**	<0.50	**500**	**0.296**	**132,000**	<0.50	**2.84**	<2.0	<10	<0.30	<20	**164,000**	**3,290**	<2.0	**4.43**	<2.0	**1,370,000**	<0.050	<5.0	**0.06**	**0.5**	**159**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	29-Mar-12	D	**6.3**	<0.50	<2.0	**88.6**	<0.50	**730**	**0.130**	**128,000**	<0.50	**0.179**	**1.48**	**16**	<0.30	<20	**224,000**	**347**	<2.0	**3.58**	<2.0	**1,820,000**	**0.073**	<5.0	**0.115**	<0.50	**207**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	5-Jun-12	D	<5.0	<0.50	<2.0	**165**	<0.50	**680**	**0.115**	**119,000**	<0.50	**0.456**	**1.57**	**46**	<0.30	<20	**246,000**	**359**	<2.0	**1.54**	<2.0	**1,840,000**	<0.050	<5.0	**0.059**	<0.50	**22.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Sep-12	D	<5.0	<0.50	<2.0	**140**	<0.50	**1,590**	**0.645**	**339,000**	<0.50	**0.599**	**1.57**	**227**	<0.30	**30**	**654,000**	**1,870**	<2.0	**1.89**	<2.0	**4,670,000**	**0.075**	<5.0	**0.115**	<0.50	**59.4**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Dec-12	D	**6.2**	<0.50	<2.0	**17.7**	<0.50	**570**	<0.050	**53,700**	<0.50	**0.063**	**1.36**	**12**	<0.30	<20	**84,300**	**36.4**	<2.0	<0.50	<2.0	**845,000**	<0.050	<5.0	**0.179**	**0.58**	**11.9**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	13-Mar-13	D	**7.7**	**0.117**	**0.47**	**31.6**	<0.010	**281**	**0.017**	**44,100**	<1.0	<0.10	**1.22**	<30	<0.10	**12.6**	**94,700**	**3.32**	**0.59**	<0.40	<0.40	**726,000**	<0.0040	<0.40	**0.0547**	**0.50**	**12.4**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Jun-13	D	<5.0	<0.50	<2.0	**170**	<0.50	**980**	**0.095**	**154,000**	<0.50	**0.367**	**1.09**	**130**	<0.30	**24**	**307,000**	**722**	<2.0	**0.81**	<2.0	**2,270,000**	<0.050	<5.0	**0.059**	**0.61**	**21.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Jun-13	T	**6,070**	<0.50	<2.0	**172**	<0.50	**920**	**0.250**	**152,000**	**12.7**	**4.30**	**12.1**	**6,780**	**2.98**	**28**	**290,000**	**1,190**	**2.7**	**4.43**	<2.0	**2,190,000**	<0.050	**197**	**0.296**	**23.0**	**75.6**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	17-Sep-13	D	**47.2**	<0.50	<2.0	**204**	<0.50	**2,570**	**0.484**	**334,000**	**0.71**	**0.214**	**2.39**	**63**	**0.59**	**39**	**765,000**	**33.1**	<2.0	**3.35**	<2.0	**5,610,000**	**0.087**	<5.0	**0.072**	**0.56**	**25.8**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	17-Sep-13	T	**3,920**	<0.50	<2.0	**231**	<0.50	**2,620**	**0.497**	**349,000**	**4.73**	**1.93**	**6.80**	**3,570**	**1.33**	**43**	**795,000**	**729**	**2.6**	**2.96** J+	<2.0	**5,820,000**	**0.072**	**155**	**0.246**	**15.3**	**36.6**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-Dec-13	D	<5.0	<0.50	<2.0	**36.7**	<0.50	**810**	<0.050	**104,000**	<0.50	**0.087**	**0.88**	<10	<0.30	<20	**230,000**	**21.9**	<2.0	<0.50	<2.0	**1,850,000**	<0.050	<5.0	**0.102**	<0.50	**21.7**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	16-Dec-13	T	**1,280**	<0.50	<2.0	**39.3**	<0.50	**800**	**0.065**	**87,000**	**2.08**	**0.523**	**3.30**	**1,400**	**0.5**	<20	**188,000**	**490**	**2.1**	**1.41**	<2.0	**1,670,000**	<0.050	**55.6**	**0.132**	**5.21**	**23.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Mar-14	D	**10.3**	**0.209**	**0.31**	**2.78**	<0.010	**229**	<0.010	**5,020**	<1.0	**0.12**	**1.48**	<30	<0.10	**3.59**	**10,400**	**1.10**	**1.04**	<0.40	<0.40	**248,000**	**0.0064**	<0.40	**0.0383**	**0.69**	**4.4**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Mar-14	T	**42,300**	**0.289**	**7.59**	**116**	**1.19**	**286**	**0.122**	**9,690**	**56.7**	**20.1**	**47.600**	**17.1**	**36.8**	**26,100**	**1,760**	**2.60**	**15.7**	**0.51**	**275,000**	**0.102**	**803**	**1.46**	**156**	**164**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	12-Jun-14	D	**5.1**	**0.122**	**0.51**	**34.7**	<0.010	**523**	<0.010	**42,100**	<1.0	<0.10	**1.32**	<30	<0.10	**14.5**	**91,800**	**11.4**	**1.07**	**0.47**	<0.40	**898,000**	**0.0072**	<0.40	**0.0359**	**0.66**	**9.0**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	12-Jun-14	T	**3,820**	**0.169** J+	**1.01**	**54.2**	**0.101**	**552**	**0.034**	**47,800**	**5.5**	**1.68**	**5.5**	**3,580**	**1.07**	**18.5**	**106,000**	**317**	**1.59**	**1.97**	<0.40	**952,000**	**0.0172**	**147**	**0.153**	**13.8**	**33.3**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Sep-14	D	<5.0	<0.50	<2.0	**259**	<0.50	**1,920**	**0.511**	**317,000**	<0.50	**0.212**	**1.55**	<10	<0.30	**32**	**676,000**	**371**	<2.0	**2.08**	<2.0	**5,040,000**	<0.050	<5.0	**0.094**	<0.50	**29.9**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	11-Sep-14	T	**6,300**	<0.50	<2.0	**278**	<0.50	**2,95**	**0.646**	**324,000**	**9.28**	**2.95**	**8.6**	**6,170**	**1.93**	**35**	**699,000**	**793**	<2.0	**3.84**	<2.0	**5,160,000**	<0.050	**210**	**0.279**	**21.3**	**49.4**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	3-Dec-14	D	**7.8**	**0.132**	**0.388**	**8.27**	<0.0050	**311**	**0.0107**	**20,700**	<0.50	<0.050	**0.84**	<30	<0.050	**8.06**	**41,800**	**1.04**	**0.913**	**0.32**	<0.20	**512,000**	**0.0026**	<0.20	**0.0536**	**0.484**	**27.6**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	3-Dec-14	T	**2,440**	**0.160**	**0.918**	**19.0**	**0.100**	**323**	**0.0155**	**18,900**	**3.44**	**0.990**	**3.22**	**3,450**	**1.00**	**8.87**	**39,400**	**176**	**1.27**	**1.04**	<0.20	**502,000**	**0.0099**	**104**	**0.177**	**9.99**	**23.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	12-Mar-15	D	**2.6**	**0.129**	**0.269**	**10.8**	<0.0050	**245**	<0.0050	**19,400**	<0.50	<0.050	**0.669**	**47**	**0.489**	**4.07**	**43,900**	**0.44**	**0.667**	**0.45**	<0.20	**499,000**	<0.0020	<0.20	**0.0244**	**0.315**	**8.7**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	12-Mar-15	T	**2,080**	**0.187**	**0.677**	**21.5**	**0.0750**	**269**	<0.0050	**19,800**	**3.10**	**0.862**	**3.39**	**2,890**	**0.815**	**5.86**	**43,100**	**156**	**1.20**	**0.98**	<0.20	**509,000**	**0.0090**	**83.9**	**0.129**	**7.77**	**12.8**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Jun-15	D	<5.0	<0.50	<2.0	**399**	<0.50	**1,790**	**0.436**	**309,000**	<0.50	<0.050	**1.28**	<10	<0.30	**33**	**666,000**	**42.5**	<2.0	**1.40**	<2.0	**5,130,000**	<0.050	<5.0	<0.050	<0.50	**26.6**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	15-Jun-15	T	**3,260**	<0.50	<2.0	**366**	<0.50	**1,760**	**0.426**	**266,000**	**5.23**	**3.760**	**5.18**	**36**	**616,000**	**690**	**1.28**	**1.28**	<2.0	**1.28**	<2.0	**4,780,000**	<0.050	**131**	**0.229**	**12.1**	**47.7**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Sep-15	D	<5.0	<0.50	<2.0	**147**	<0.50	**1,680**	**0.444**	**299,000**	<0.50	**0.266**	**1.32**	<10	<0.30	**33**	**624,000**	**892**	**2.3**	**1.53**	<2.0	**4,740,000**	**0.056**	<5.0	**0.448**	<0.50	**44.5**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	10-Sep-15	T	**7,900**	<0.50	<2.0	**168**	<0.50	**1,850**	**0.478**	**303,000**	**13.3**	**4.04**	**12.6**	**9,550**	**3.90**	**39**	**625,000**	**1,290**	**4.2**	**5.12**	<2.0	**5,050,000**	**0.088**	**288**	**0.933**	**29.6**	**66.6**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Dec-15	D	<5.0	<0.50	<2.0	**28.7**	<0.50	**550**	**0.063**	**77,200**	<0.50	**0.079**	**1.14**	<10	<0.30	**20**	**147,000**	**71.1**	<2.0	**0.62**	<2.0	**1,450,000**	<0.050	<5.0	<0.050	<0.50	**32.8**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	7-Dec-15	T	**2,810**	<0.50	<2.0	**39.3**	<0.50	**550**	**0.117**	**72,600**	**4.38**	**1.51**	**3.700**	**0.99**	<20	<20	**139,000**	**290**	<2.0	**1.97**	<2.0	**1,400,000**	<0.050	**114**	**0.147**	**10.7**	**32.5**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	29-Feb-16	D	**7.2**	<0.50	<2.0	**24.1**	<0.50	**1,570**	**0.129**	**158,000**	<0.50	**0.065**	**1.95**	<10	<0.30	**46**	**415,000**	**37.1**	**3.4**	**15.5**	<2.0	**3,620,000**	<0.050	<5.0	**0.931**	**0.62**	**39.8**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	29-Feb-16	T	**29,000**	<0.50	**6.8**	**149**	**1.25**	**920**	**0.330**	**143,000**	**58.3**	**21.4**	**58.7**	**39,800**	**19.4**	**57**	**350,000**	**2,290**	**5.2**	**20.3**	<2.0	**2,550,000**	**0.152**	**622**	**2.86**	**131**	**177**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	18-Mar-16	D	<5.0	<0.50	<2.0	**108**	<0.50	**1,600**	**0.206**	**214,000**	<0.50	<0.050	**1.57**	<10	<0.30	**39**	**522,000**	**1.52**	<2.0	**0.82**	<2.0	**3,890,000**	<0.050	<5.0	**0.231**	<0.50	**45.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	18-May-16	T	**45,100**	<0.50	**7.1**	**213**	**1.21**	**1,420**	**0.562**	**208,000**	**60.9**	**24.7**	**66.8**	**47,700**	**23.5**	**77**	**514,000**	**3,860**	**7.1**	**23.0**	<2.0	**3,720,000**	**0.166**	**893**	**2.60**	**136**	**322**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	19-Aug-16	D	<5.0	<0.50	<2.0	**151**	<0.50	**2,090**	**0.477**	**223,000**	<0.50	<0.050	**1.81**	<10	<0.30	**48**	**562,000**	**15.8**	**2.2**	**1.72**	<2.0	**4,030,000**	**0.078**	<5.0	**0.351**	**0.58**	**38.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	19-Aug-16	T	**29,400**	<0.50	**5.0**	**240**	**0.98**	**2,220**	**0.721**	**219,000**	**43.7**	**15.1**	**44.0**	**30,600**	**15.9**	**64**	**554,000**	**2,430**	**5.5**	**22.2**	<2.0	**4,420,000**	**0.172**	**700**	**2.06**	**89.6**	**191**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	22-Nov-16	D	<5.0	<0.50	<2.0	**33.9**	<0.50	**640**	**0.440**	**78,200**	<0.50	**0.093**	**1.73**	<10	<0.30	<20	**180,000**	**322**	<2.0	**3.66**	<2.0	**1,580,000**	<0.050	<5.0	**0.113**	<0.50	**36.1**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	22-Nov-16	T	**25,600**	<0.50	**5.0**	**104**	**0.89**	**870**	**0.857**	**88,700**	**54.9**	**16.8**	**52.0**	**26,900**	**13.5**	**41**	**214,000**	**2,970**	**4.0**	**16.2**	<2.0	**1,870,000**	**0.112**	**499**	**2.36**	**93.6**	**232**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	14-Mar-17	D	**42.7**	**0.120**	**0.36**	**12.4**	<0.010	**301**	**0.025**	**16,200**	<1.0	<0.10	**1.20**	<30	**0.14**	**8.05**	**41,200**	**46.2**	**1.25**	**0.77**	<0.40	**517,000**	**0.0127**	**1.32**	**0.0696**	**0.57**	**5.5**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	14-Mar-17	T	**3,000**	**0.188**	**0.89**	**20.5**	**0.099**	**304**	**0.045**	**15,000**	**7.5**	**1.28**	**5.4**	**3,270**	**1.50**	**9.0**	**37,700**	**235**	**1.68**	**2.15**	<0.40	**490,000**	**0.023**	**107**	**0.276**	**10.9**	**16.2**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	6-Jun-17	D	<5.0	<0.50	<2.0	**65.5**	<0.50	**720**	**0.185**	**123,000**	<0.50	<0.050	**1.74**	<10	<0.30	**27**	**258,000**	**58.7**	<2.0	**2.31**	<2.0	**1,860,000**	<0.050	<5.0	**0.166**	**0.54**	**21.1**
P10-3I	Porewater EAZ	P10-3	USAT	EB	0.6-0.8	0.6	0.8	Weathered Colluvium	—	6-Jun-17	T	**3,220**	<0.50	<2.0	**92.0**	**0.50**	**700**	**0.267**	**125,000**	**8.90**	**1.99**	**7.6**	**4,110**	**1.79**	**31**	**265,000**	**503**	**2.1**	**2.74**	<2.0	**1,900,000**	**0.059**	**132**	**0.302**	**12.9**	**34.2**
P10-3D	Porewater	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	28-Sep-11	—	Well Not Sampled																							
P10-3D	Porewater	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	6-Dec-11	D	<5.0	<0.50	<2.0	**27.9**	<0.50	**410**	<0.050	**35,100**	<0.50	**0.499**	**0.75**	<10	<0.30	<20	**15,400**	**1,410**	**6.9**	**0.46**	<2.0	**103,000**	<0.050	<5.0	<0.050	<0.50	**194**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	27-Mar-12	D	**8.5**	<0.50	<2.0	**116**	<0.50	**510**	**0.208**	**215,000**	**0.62**	**2.92**	**1.74**	**17**	**1.92**	**36**	**329,000**	**1,030**	**5.350**	**2.8**	**1.71**	<2.0	**2,010,000**	**0.082**	<5.0	**0.709**	<0.50	**501**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	6-Jun-12	D	**3.6**	**0.026**	**0.232**	**17.6**	<0.0050	**118**	**0.0217**	**34,900**	<0.50	**0.368**	**0.71**	<30	<0.050	**3.65**	**23,700**	**605**	**2.61**	**1.31**	<0.20	**216,000**	<0.0020	<0.20	**0.214**	**0.345**	**33.4**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	12-Sep-12	D	**5.0**	**0.019**	**0.212**	**21.2**	<0.0050	**109**	<0.0050	**36,200**	<0.50	**0.140**	**0.70**	<30	<0.050	**6.52**	**25,600**	**335**	**2.65**	**0.77**	<0.20	**199,000**	**0.0035**	<0.20	**0.23**	**0.341**	**13.2**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	11-Dec-12	D	<1.0	**0.059**	**0.207**	**27.3**	<0.0050	**148**	<0.0050	**46,700**	<0.50	<0.050	**0.72**	<30	<0.050	**9.98**	**42,100**	**15.6**	**0.700**	**1.05**	<0.20	**251,000**	**0.0039**	<0.20	**0.173**	**0.139**	**75.1**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	13-Mar-13	D	**1.5**	**0.024**	**0.172**	**17.8**	<0.0050	**124**	<0.010	**43,000**	<0.50	**0.114**	**1.07**	<30	<0.050	**5.69**	**37,200**	**24.2**	**0.681**	**0.62**	<0.20	**226,000**	**0.0020**	<0.20	**0.178**	**0.165**	**30.2**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	11-Jun-13	D	<1.0	**0.023**	**0.193**	**9.85**	<0.0050	**64.3**	<0.0050	**32,900**	<0.50	**0.074**	**0.56**	<30	<0.050	**1.59**	**14,600**	**320**	**1.70**	**0.81**	<0.20	**52,700**	**0.0024**	<0.20	**0.132**	**0.216**	**21.8**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	17-Sep-13	D	**14.2**	**0.024**	**0.186**	**22.2**	<0.0050	**92.4**	**0.0086**	**39,400**	<0.50	**0.163**	**0.84**	<30	**0.081**	**3.90**	**23,700**	**203**	**1.78**	**1.04**	<0.20	**142,000**	**0.0024**	**0.32**	**0.147**	**0.343**	**34.5**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	16-Dec-13	D	**1.2**	**0.023**	**0.23**	**38.2**	<0.0050	**160**	**0.0148**	**53,100**	<0.50	**0.152**	**0.59**	<30	<0.050	**6.71**	**48,000**	**186**	**0.704**	**0.85**	<0.20	**323,000**	**0.0022**	<0.20	**0.193**	**0.211**	**74.2**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	11-Mar-14	D	<2.0	**0.051**	**0.16**	**38.7**	<0.010	**209**	**0.029**	**48,700**	<1.0	**0.15**	**1.05**	<30	<0.10	**7.86**	**50,800**	**529.00**	**1.11**	**1.24**	<0.40	**403,000**	<0.0040	<0.40	**0.204**	**0.23**	**284**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	12-Jun-14	D	**2.9**	**0.015**	**0.253**	**20.1**	<0.0050	**134**	<0.0050	**39,700**	<0.50	**0.071**	**0.74**	<30	<0.050	**4.08**	**25,900**	**286**	**1.14**	**0.51**	<0.20	**206,000**	**0.0020**	**0.23**	**0.189**	**0.218**	**78.7**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	11-Sep-14	D	**3.3**	**0.039**	**0.16**	**111**	<0.010	**206**	**0.086**	**93,300**	<1.0	**0.16**	**1.07**	<30	<0.10	**10.6**	**87,500**	**905**	**1.58**	**2.14**	<0.40	**590,000**	**0.0102**	<0.40	**0.457**	**0.29**	**194**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	3-Dec-14	D	<1.0	**0.017**	**0.152**	**31.8**	<0.0050	**93.2**	**0.0092**	**42,000**	<0.50	<0.050	**0.60**	<30	<0.050	**2.85**	**26,600**	**107**	**0.674**	**0.67**	<0.20	**181,000**	**0.0041**	<0.20	**0.303**	**0.285**	**28.6**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	12-Mar-15	D	**1.6**	**0.029**	**0.133**	**14.2**	<0.0050	**55.7**	<0.0050	**33,900**	<0.50	<0.050	**0.87**	<30	<0.050	**0.83**	**14,900**	**48.5**	**0.689**	**0.38**	<0.20	**65,300**	**0.0026**	<0.20	**0.212**	**0.239**	**22.6**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	15-Jun-15	D	<2.0	**0.048**	**0.17**	**133**	<0.010	**155**	**0.104**	**102,000**	<1.0	<0.10	**0.54**	<30	<0.10	**6.25**	**78,700**	**874**	**1.50**	**1.98**	<0.40	**509,000**	**0.0109**	<0.40	**0.506**	**0.22**	**57.9**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	10-Sep-15	D	<1.0	**0.033**	**0.136**	**206**	<0.0050	**245**	**0.131**	**163,000**	<0.50	**0.449**	**0.51**	<30	<0.050	**7.79**	**133,000**	**2,420**	**1.85**	**3.79**	<0.20	**509,000**	**0.0157**	<0.20	**0.686**	**0.318**	**47.2**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	7-Dec-15	D	**2.3**	**0.096**	**0.918**	**30.1**	<0.0050	**180**	**0.0235**	**38,500**	<0.50	<0.050	**1.09**	<30	<0.050	**7.18**	**31,300**	**130**	**0.897**	**0.84**	<0.20	**261,000**	**0.0054**	<0.20	**0.322**	**1.44**	**12.5**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	29-Feb-16	D	**2.6**	**0.089**	**0.197**	**14.9**	<0.0050	**90.7**	**0.0206**	**29,200**	<0.50	<0.050	**0.47**	<30	<0.050	**2.30**	**26,700**	**29.6**	**0.641**	**0.27**	<0.20	**149,000**	<0.0020	<0.20	**0.204**	**0.321**	**30.4**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	18-May-16	D	**1.1**	**0.079**	**0.171**	**14.8**	<0.0050	**118**	**0.0129**	**36,100**	<0.50	<0.050	**0.89**	<30	<0.050	**3.73**	**26,200**	**29.5**	**0.646**	**0.30**	<0.20	**180,000**	**0.0035**	<0.20	**0.278**	**0.332**	**27.3**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	19-Aug-16	D	**2.8**	**0.059**	**0.228**	**40.7**	<0.0050	**139**	**0.0222**	**54,900**	<0.50	<0.050	**0.80**	<30	<0.050	**4.75**	**49,700**	**90.5**	**1.06**	**0.49**	<0.20	**323,000**	**0.0055**	<0.20	**0.457**	**0.370**	**24.5**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	22-Nov-16	D	**16.6**	**0.134**	**0.211**	**26.4**	<0.0050	**139**	**0.0201**	**42,000**	<0.50	**0.055**	**0.85**	<30	**0.18**	**4.33**	**37,900**	**33.9**	**0.704**	**0.25**	<0.20	**282,000**	**0.0034**	**0.61**	**0.437**	**0.456**	**24.2**
P10-3D	Porewater EAZ	P10-3	USAT	EB	1.1-1.3	1.1	1.3	Weathered Colluvium	—	14-Mar-17	D	**19.5**	**0.027**	**0.206**	**25**	<0.0050	**135**	**0.0177**	**43,400**	<0.50	<0.050	**0.54**	<30	**0.13**	**4.16**	**36,000**	**19.1**	**0.6

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]													100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	100	95
Source													CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]													100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source													BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[6]													—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	15-Mar-13	D	<5.0	<0.50	<2.0	32.0	<0.50	1,030	<0.050	99,100	<2.5	<0.25	<1.0	<50	<0.30	33	237,000	4.1	4.0	<1.0	<2.0	2,060,000	<0.050	<5.0	0.680	0.79	<5.0
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	13-Jun-13	D	<5.0	<0.50	<2.0	62.4	<0.50	1,930	0.148	179,000	<0.50	0.090	1.23	<10	<0.30	59	438,000	2.24	3.9	0.96	<2.0	3,000,000	<0.050	<5.0	0.713	1.05	5.3
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	17-Sep-13	D	<5.0	<0.50	<2.0	85.9	<0.50	2,190	0.167	285,000	<0.50	0.071	1.03	<10	<0.30	68	748,000	1.27	3.9	0.87	<2.0	5,790,000	<0.050	<5.0	1.50	0.99	6.1
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	16-Dec-13	D	<5.0	<0.50	<2.0	54.0	<0.50	1,760	0.133	206,000	<0.50	0.073	0.92	<10	<0.30	47	557,000	1.16	3.9	1.21	<2.0	4,270,000	<0.050	<5.0	1.65	0.96	4.1
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	12-Mar-14	D	<5.0	<0.50	<2.0	22.9	<0.50	1,100	<0.050	81,900	<0.50	0.057	0.89	<10	<0.30	30.0	218,000	0.51	4.2	<0.50	<2.0	1,980,000	<0.050	<5.0	1.02	0.89	<3.0
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	10-Jun-14	D	<5.0	<0.50	<2.0	31.0	<0.50	1,050	<0.050	102,000	<0.50	0.086	1.17	<10	<0.30	41	266,000	2.92	3.1	0.58	<2.0	2,120,000	<0.050	<5.0	0.483	1.18	4.1
P14R-12D	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	8-Sep-14	D	<5.0	<0.50	<2.0	95.2	<0.50	2,060	0.203	287,000	<0.50	<0.050	1.28	<10	<0.30	81	737,000	1.35	3.4	0.83	<2.0	5,340,000	0.055	<5.0	0.724	1.08	4.2
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	14-Mar-12	D	9.4	<0.50	<2.0	28.0	<0.50	1,770	<0.050	100,000	<0.50	0.391	1.02	<10	<0.30	40	262,000	45.6	7.2	1.14	<2.0	3,350,000	<0.050	<5.0	1.99	1.32	3.4
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	8-Jun-12	D	9.8	<0.50	<2.0	76.5	<0.50	1,990	0.445	302,000	0.60	<0.050	3.60	28	<0.30	69	697,000	2.22	5.7	1.39	<2.0	5,890,000	<0.050	<5.0	2.27	1.60	11.2
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	13-Sep-12	D	<5.0	<0.50	<2.0	92.8	<0.50	2,650	0.289	309,000	<0.50	0.076	1.76	<10	<0.30	79	736,000	2.72	6.9	1.22	<2.0	5,620,000	0.093	<5.0	2.64	1.50	8.5
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	7-Nov-12	—	Well Not Sampled - tide too high																								
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	12-Dec-12	D	<5.0	<0.50	<2.0	63.2	<0.50	2,330	0.102	205,000	<0.50	<0.050	0.97	<10	<0.30	54	564,000	3.32	5.5	0.75	<2.0	5,100,000	<0.050	<5.0	1.81	1.26	7.7
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	9-Jan-13	D	<5.0	<0.50	<2.0	55.7	<0.50	2,470	0.093	189,000	<0.50	0.126	1.12	24	<0.30	61	509,000	5.17	5.8	4.27	<2.0	4,980,000	<0.050	<5.0	1.41	1.24	22.6
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	14-Mar-13	D	<5.0	<0.50	<2.0	67.8	<0.50	2,420	0.238	191,000	<0.50	0.101	1.31	<10	<0.30	63	552,000	0.65	6.4	1.54	<2.0	5,280,000	<0.050	<5.0	1.24	1.34	7.3
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	13-Jun-13	D	<5.0	<0.50	<2.0	60.3	<0.50	3,200	0.176	176,000	<0.50	0.059	1.36	<10	<0.30	79	533,000	3.00	7.6	2.19	<2.0	4,420,000	<0.050	<5.0	1.00	1.71	8.6
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	13-Jun-13	T	2.710	<0.50	<2.0	70.2	<0.50	3,180	0.214	179,000	3.60	1.21	5.10	3,340	1.03	84	530,000	60.6	7.4	3.51	<2.0	4,330,000	<0.050	104	1.10	10.4	17.1
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	17-Sep-13	D	7.3	<0.50	<2.0	105	<0.50	2,930	0.340	328,000	<0.50	0.188	1.62	10	<0.30	89	827,000	1.78	6.8	3.44	<2.0	6,180,000	<0.050	<5.0	1.51	1.88	14.8
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	17-Sep-13	T	42,000	0.59	11.1	290	1.26	2,920	0.533	345,000	60.6	20.4	77.9	56,400	17.2	144	855,000	1,010	6.8	44.4	<2.0	6,160,000	0.161	1,210	3.50	163	142
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	16-Dec-13	D	6.7	<0.50	<2.0	90.6	<0.50	2,530	0.370	319,000	<0.50	0.061	0.91	<10	<0.30	75	898,000	0.34	5.8	1.65	<2.0	6,810,000	<0.050	<5.0	1.29	1.33	6.6
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	16-Dec-13	T	18,600	0.56	5.0	167	<0.50	2,410	0.470	339,000	23.1	9.56	36.6	25,400	8.57	92	903,000	470	5.5	20.1	<2.0	6,070,000	0.108	644	1.94	63.4	68.6
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	12-Mar-14	D	<5.0	<0.50	<2.0	44.4	<0.50	2,620	0.107	169,000	<0.50	0.072	0.64	<10	<0.30	60.0	496,000	0.95	7.0	1.33	<2.0	4,790,000	<0.050	<5.0	0.928	1.27	5.1
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	12-Mar-14	T	2,990	0.11	2.6	52.2	<0.50	2,440	0.093	158,000	3.24	1.23	4.88	3,380	1.05	60.0	463,000	60.7	6.8	1.38	<2.0	4,530,000	0.111	111	1.00	10.5	10.7
P14-17S-A *	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	16-Dec-13	T	9,620	0.55	2.6	123	<0.50	2,380	0.397	311,000	11.0	4.69	18.8	12,900	4.14	82	895,000	238	5.4	11.2	<2.0	6,580,000	0.071	354	1.63	31.7	34.0
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	9-Jun-14	D	<5.0	<0.50	<2.0	39.9	<0.50	2,250	<0.050	154,000	<0.50	<0.050	1.30	<10	<0.30	62	420,000	0.98	7.2	1.23	<2.0	3,430,000	<0.050	<5.0	0.606	1.68	3.8
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	9-Jun-14	T	1,840	<0.50	<2.0	61.5	<0.50	2,100	0.096	195,000	2.50	0.969	4.43	2,380	0.85	72	525,000	53.2	6.0	2.67	<2.0	3,900,000	<0.050	75.3	1.04	7.90	7.9
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	8-Sep-14	D	<5.0	<0.50	<2.0	84.0	<0.50	2,520	0.320	319,000	<0.50	<0.050	1.45	<10	<0.30	94	836,000	0.72	5.1	1.55	<2.0	6,020,000	0.078	<5.0	1.13	1.57	6.7
P14-17S	Porewater EAZ	P14-17	NA	CL	0.8-1.0	0.8	1.0	Colluvium	—	8-Sep-14	T	2,410	<0.50	<2.0	103	<0.50	2,410	0.341	321,000	2.15	0.987	4.32	2,710	1.12	98	834,000	50.4	4.9	2.96	<2.0	6,180,000	0.080	82.6	1.24	7.97	10.5
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	14-Mar-12	D	17.0	<1.5	<7.0	17.6	<1.5	3,780	<0.15	314,000	<1.5	0.35	<1.5	<50	<0.30	142	871,000	220	<8.0	1.8	<8.0	7,440,000	<0.15	<15	1.05	2.1	<9.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	7-Jun-12	D	5.4 J	<0.50	<1.0	87.8	0.279	2,650	<0.050	246,000	<0.50	UJ 0.340	<0.50	11 J	<0.30	190	638,000	671	<2.0	2.12	<8.0	4,710,000	<0.050	<5.0	0.329	1.15	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	13-Sep-12	D	12.8	<0.50	<4.0	142	<0.50	1,410	<0.050	219,000	<0.50	0.156	<0.50	48	<0.30	85	491,000	1,180	<2.0	0.84	<9.0	3,030,000	<0.050	<5.0	0.256	1.13	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	7-Nov-12	—	Well Not Sampled - tide too high																								
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	12-Dec-12	D	10.3	<0.50	<3.0	131	<0.50	1,160	<0.050	204,000	<0.50	0.133	2.29	58	<0.30	68	436,000	1,270	<2.0	2.47	<2.0	2,800,000	<0.050	<5.0	0.158	0.72	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	14-Mar-13	D	<5.0	<0.50	<2.0	133	<0.50	1,020	<0.050	202,000	<0.50	0.120	<0.50	287	<0.30	70	414,000	994	<2.0	1.31	<2.0	2,730,000	<0.050	<5.0	0.147	<0.50	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	13-Jun-13	D	<5.0	<0.50	<2.0	177	<0.50	1,030	0.067	178,000	<0.50	0.179	<0.50	138	<0.30	66	392,000	1,100	<2.0	0.64	<2.0	2,100,000	<0.050	<5.0	0.165	<0.50	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	17-Sep-13	D	6.6	<0.50	<2.0	136	<0.50	890	<0.050	172,000	<0.50	0.270	<0.50	90	<0.30	51	391,000	292	<2.0	0.71	<2.0	2,320,000	<0.050	<5.0	0.142	0.54	4.7
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	16-Dec-13	D	<5.0	<0.50	<2.0	131	<0.50	740	<0.050	185,000	<0.50	0.147	<0.50	204	<0.30	51	376,000	380	<2.0	<0.50	<2.0	2,270,000	<0.050	<5.0	0.175	<0.50	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	12-Mar-14	D	<5.0	<0.50	<2.0	116	<0.50	700	<0.050	162,000	<0.50	0.142	<0.50	167	<0.30	49	342,000	313	<2.0	<0.50	<2.0	2,100,000	<0.050	<5.0	0.229	0.62	<3.0
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	10-Jun-14	D	<5.0	<0.50	<2.0	103	<0.50	590	<0.050	163,000	<0.50	0.135	<0.50	113	<0.30	51	341,000	88.2	<2.0	0.76	<2.0	2,110,000	<0.050	<5.0	0.157	<0.50	3.5
P14-17I	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	8-Sep-14	D	<5.0	<0.50	<2.0	125	<0.50	610	<0.050	130,000	<0.50	0.080	0.65	22	<0.30	57	284,000	91.7	<2.0	0.72	<2.0	1,800,000	<0.050	<5.0	0.155	<0.50	3.5
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	14-Mar-12	D	12.4	<0.50	<2.0	4.0	<0.50	510	<0.050	34,700	<0.50	0.076	<0.50	80	<0.30	<20	48,600	88.8	<2.0	<0.50	<2.0	823,000	<0.050	<5.0	0.089	0.68	5.5
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	7-Jun-12	D	11.1	0.029	0.96	4.88	<0.010	402	0.013	41,900	<1.0	<0.10	9.89	57,000	<1.0	120	0.12	0.57	0.48	544,000	<0.0040	0.80	0.0568	0.48	6.4
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	13-Sep-12	D	11.5	0.026	0.787	3.98	<0.0050	285	<0.0050	19,200	<0.50	<0.050	<0.20	<30	<0.050	4.35	33,500	33.2	1.91	0.26	0.77	294,000	<0.0020	0.43	0.0725	0.307	1.4
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	12-Dec-12	D	8.4	0.039	1.56	3.20	<0.0050	307	<0.0050	20,400	<0.50	<0.050	0.33	<30	<0.050	4.13	37,000	5.59	2.69	0.69	<2.0	348,000	<0.0020	0.23	0.107	0.923	5.8
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	14-Mar-13	D	15.2	0.017	1.04	2.62	<0.0050	206	0.0916	10,800	<0.50	0.104	0.64	<30	<0.050	2.43	18,800	0.79	1.65	0.40	<2.0	164,000	<0.0020	0.20	0.0714	0.375	2.8
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	13-Jun-13	D	9.8	0.035 J	0.93	7.14	<0.010	448	<0.010	33,900	<1.0	<0.10	8.68	<30	<0.10	9.13	74,600	4.27	2.27	<0.40	<2.0	548,000	<0.0040	<0.40	0.168	0.29	4.2
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	17-Sep-13	D	8.9	0.015	1.21	4.98	<0.0050	283	0.0530 J	18,800	<0.50	0.127 J	<0.20	<30	<0.050	4.75	34,400	101	1.26	0.42 J	0.74	322,000	<0.0020	1.10	0.0702	0.286	2.9 J
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	16-Dec-13	D	17.7	0.080	1.04	2.72	<0.0050	284	<0.0050	16,100	<0.50	0.058	0.26	<30	<0.050	3.26	37,700	2.84	1.47	0.20	<0.50	288,000	<0.0020	<0.20	0.0877	0.235	3.7
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	12-Mar-14	D	18.4	0.020	0.906	1.50	<0.0050	248	<0.0050	16,700	<0.50	0.059	0.23	<30	<0.050	3.44	23,600	7.54	1.43	<0.20	<2.0	220,000	<0.0020	<0.20	0.0897	0.185	2.2
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	9-Jun-14	D	14.8	0.010	0.400	1.51	<0.0050	171	<0.0050	4,970	<0.50	<0.050	0.38	<30	<0.050	1.52	6,540	23.2	0.796	0.26	<0.20	81,200	<0.0020	<0.20	0.0382	<0.050	2.0
P14-17D	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	8-Sep-14	D	15.1	0.016	0.808	1.62	<0.0050	177	<0.0050	5,610	<0.50	0.061	0.31	<30	<0.050	1.46	6,850	22.1	0.760	0.20	<0.20	80,600	<0.0020	<0.20	0.0368	0.063	1.9
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Mar-12	D	8.4	0.372	1.35	3.09	<0.0050	197	<0.0050	18,000	<0.50	0.122	1.25	<30	<0.30	21.0	9,39	23,600	0.40	1.19	0.53	<0.20	215,000	<0.0020	<0.20	0.241	6.52	<3.0
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	13-Sep-12	—	Well Not Sampled - Dry																								
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Dec-12	—	Well Not Sampled - Insufficient Water for Analysis																								
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	15-Mar-13	D	20.4	1.05	2.73	1.99	<0.0050	396	<0.0050	4,550	<0.50	0.098	2.78	<30	0.090	8.06	7,550	0.91	2.75	0.44	<0.20	284,000	0.0121	<0.20	0.188	15.2	3.1
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Jun-13	D	<5.0	<0.50	<2.0	123	<0.50	1,150	0.196	262,000	<0.50	0.124	2.13	<10	<0.30	61	515,000	0.34	3.6	1.19	<2.0	3,630,000	<0.050	<5.0	0.730	2.73	12.5
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	14-Jun-13	T	208	0.62	<2.0	132	<0.50	1,210	0.197	269,000	<0.50	0.219	2.48	391	1.22	64	506,000	18.7	<2.0	1.20	<2.0	3,640,000	<0.050	9.6	0.767	4.02	11.7
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	18-Sep-13	D	<5.0	<0.50	<2.0	177	<0.50	2,860	0.347	328,000	<0.50	0.255	437.0	24	<0.30	85	549,000	9.03	<2.0	1.19	<2.0	5,270,000	<0.050	<5.0	0.902	1.82	16.1
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	18-Sep-13	T	16,600	1.02	13.0	276	0.69	2,970	0.585	361,000	15.3	15.9	74.9	31,700	9.8	116	862,000	1,520	2.7	17.7	<2.0	7,250,000	0.115	482	2.62	82.8	199
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	16-Dec-13	D	<5.0	<0.50	0.83	2.60	<0.050	460	<0.050	64,500	<0.50	0.100	1.40	<10	<0.30	25	151,000	1.03	3.4	0.60	<2.0	1,460,000	<0.050	<5.0	0.228	2.41	4.8
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	16-Dec-13	T	22,400	1.58	24.4	177	1.14	940	0.424	80,100	26.6	20.4	109	50,200	138	58	177,000	1,800	3.9	24.3	<3.0	1,480,000	0.174	640	3.36	122	176
P14-5.12S-A *	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	16-Dec-13	T	9,950	1.61	9.3	82.3	<0.50	970	0.208	75,900	10.8	7.10	40.6	19,800	3.61	41	149,000	591	3.6	9.84	<2.0	1,430,000	0.055	355	1.19	50.6	73.1
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Mar-14	D	14.6	0.018	2.89	8.69	<0.0050	184	<0.0050	3,070	<0.50	0.151	2.88	<30	0.080	4.72	5,070	0.24	1.40	0.46	<2.0	93,600	<0.0020	<0.20	0.120	12.1	4.1
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	12-Mar-14	T	247	0.676	2.31	1.62	0.0166	173	<0.0050	2,720	<0.50	0.233	4.13	423	1.16	5.09	4,970	11.7	1.34	0.49	<2.0	90,500	0.0020	8.05	0.134	9.98	<3.0
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	10-Jun-14	D	12.1	0.319	1.71	1.55	<0.0050	148	<0.0050	10,700	<0.50	0.144	2.62	<30	0.064	10.0	12,500	0.27	1.695	0.71	<2.0	119,000	<0.0020	<0.20	0.108	3.75	4.0
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	10-Jun-14	T	38.0	0.313	1.49	1.45	<0.0050	141	<0.0050	10,200	<0.50	0.134	1.93	65	0.310	10.8	12,100	2.85	0.952	0.55	<2.0	115,000	<0.0020	<0.20	0.118	3.94	<3.0
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	11-Sep-14	D	<5.0	<0.50	<2.0	159	<0.50	1,970	0.230	331,000	<0.50	0.094	1.79	<10	<0.30	76	729,000	10.4	<2.0	0.89	<2.0	6,110,000	<0.050	<5.0	0.861	1.40	10.4
P14-5.12S	Porewater EAZ	P14-5.12	NA	CL	0.8-1.0	0.8	1.0	Beach sand	Weathered Colluvium	11-Sep-14	T	1,340	<0.50	<2.0	158	<0.50	2,050	0.311	333,000	1.12	1.65	7.8	1,940	0.40	76	718,000	107	<2.0	1.87	<2.0	6,000,000	<0.050	<5.0	0.872	1.01	6.92
P14-5.12I	Porewater	P14-5.12	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	—	7-Oct-11	D	<5.0	<0.50	4.8	210	<0.50	1,330	0.140	475,000	<0.50	1.31	<0.50	<10	<0.30	159	423,000	3,770	5.7	0.92	<2.0	4,400,000	<0.050	<5.0	2.18	<0.50	13.1
P14-5.12I	Porewater	P14-5.12	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	—	9-Dec-11	D	5.5	<0.50	<2.0	125	<0.50	850	<0.050	364,000	<0.50	1.17	0.50	<10	<0.30	144	275,000	3,140	5.5	2.08 J+	<2.0	3,150,000	<0.050	<5.0	1.7	<0.50	25.1
P14-5.12I	Porewater	P14-5.12	NA	CL	3.0-3.4	3.0	3.4	Weathered Colluvium	—	12-Mar-12	D	<30	<0.10	0.65	86.4	<0.050	741	<0.050	219,000	<5.0	0.78	<5.0	<90	<0.50	111	157,000

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	27-Mar-13	D	**2.8**	**0.376** J	**6.57** J	**16.8**	**0.0063**	**61.9** J	<0.0050	**48.900**	<0.50	**1.46**	<0.20	**7.360**	<0.050	**3.74** J	**20.400**	**1.480** J	**13.2** J	**3.05**	<0.20	**41.800** J	<0.0020	<0.20	**0.779** J	**0.366**	**8.6** J
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	18-Jun-13	D	**2.1**	**0.077**	**1.58**	**33.1**	**0.0052**	**37.1**	<0.0050	**55.700**	<0.50	**1.34**	**0.61**	**1.910**	<0.050	**2.59**	**19.800**	**1.280**	**3.56**	**2.77**	<0.20	**25.000**	**0.0025**	<0.20	**0.200**	**0.107**	**139**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	18-Jun-13	T	**8.420**	**0.236**	**4.63**	**56.1**	**0.262**	**48.9**	**0.263**	**57.200**	**10.1**	**4.73**	**14.7**	**23.600**	**3.10**	**7.68**	**22.800**	**1.730**	**5.88**	**15.9**	<0.20	**26.100**	**0.0393**	**261**	**0.704**	**23.4**	**1.140**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	18-Sep-13	D	<1.0	**0.082**	**1.53**	**32.9**	<0.0050	**45.6**	<0.0050	**56.500**	<0.50	**0.479**	**0.55**	**7.010**	<0.050	**3.67**	**20.900**	**1.750**	**4.30**	**2.17**	<0.20	**31.700**	<0.0020	<0.20	**0.231**	**0.198**	**511**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	19-Sep-13	T	**450**	<0.080	20 U	**1.67**	**37.7**	**0.0166**	**46.7**	<0.0050	**57.300**	**0.76**	**0.572**	**29.400**	**0.76**	**3.23**	**20.200**	**1.560**	**4.65**	**1.22**	<0.20	**29.400**	**0.0033**	**17.8**	**0.246**	**1.32**	**372**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	13-Dec-13	D	<1.0	**0.078**	**0.493**	**32.7**	<0.0050	**23.9**	**0.0097**	**58.000**	<0.50	**0.956**	**0.43**	**2.250**	<0.050	**1.79**	**19.300**	**790**	**1.40**	**2.24**	<0.20	**23.900**	<0.0020	<0.20	**0.0677**	<0.050	**660**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	13-Dec-13	T	**5.310**	**0.369**	**7.81**	**90.4**	**0.137**	**37.6**	**0.0635**	**56.800**	**7.11**	**3.04**	**8.46**	**50.800**	**1.81**	**4.54**	**20.500**	**806**	**4.03**	**5.44**	<0.20	**24.600**	**0.0213**	**291**	**0.283**	**16.9**	**1.500**
P18-4.5S-A *	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	13-Dec-13	T	**602**	<0.080	**1.77**	**42.6**	**0.0186**	**34.2**	<0.0050	**57.300**	**0.95**	**1.82**	**1.03**	**4.540**	**0.194**	**2.09** J+	**19.400**	**672**	**1.44**	**2.79**	<0.20	**23.200**	**0.0038**	**22.7**	**0.0885**	**1.70**	**459**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	12-Mar-14	D	<1.0	**0.029**	**0.598**	**38.4**	<0.0050	**22.2**	<0.0050	**57.300**	<0.50	**0.693**	**0.50**	**4.510**	<0.050	**1.46**	**19.300**	**499**	**1.20**	**1.69**	<0.20	**22.900**	<0.0020	<0.20	**0.0653**	<0.050	**649**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	12-Mar-14	T	**2.660**	**0.161**	**5.19**	**79.6**	**0.113**	**31.5**	**0.119**	**55.900**	**3.84**	**1.82**	**4.87**	**36.600**	**1.21**	**3.03**	**19.500**	**680**	**3.07**	**3.72**	<0.20	**22.500**	—	**198**	**0.325**	**8.92**	**1.150**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Jun-14	D	<1.0	**0.035**	**0.265**	**50.8**	<0.0050	**30.5**	<0.0050	**57.000**	<0.50	**0.985**	**0.98**	**384**	**0.094**	**1.78**	**20.200**	**482**	**1.60**	**3.43**	<0.20	**31.400**	<0.0020	<0.20	**0.0662**	<0.050	**664**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Jun-14	T	**225**	**0.080** J+	**3.10**	**62.6**	**0.0265**	**32.2**	**0.0333**	**52.000**	**0.64**	**1.14**	**1.02**	**17.100**	**0.255**	**1.88**	**18.800**	**440**	**2.42**	**3.27**	<0.20	**26.700**	**0.0028**	**8.36**	**0.143**	**1.78**	**742**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	8-Sep-14	D	**1.5**	**0.049**	**0.355**	**48.4**	<0.0050	**53.8**	<0.0050	**57.500**	<0.50	**0.631**	**0.82**	**870**	**0.061**	**3.70**	**22.700**	**737**	**1.88**	**2.97**	<0.20	**62.000**	**0.0063**	<0.20	**0.0919**	**0.052**	**875**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	8-Sep-14	T	**645**	**0.129**	**7.08**	**80.5**	**0.0491**	**59.9**	**0.0602**	**56.400**	**1.12**	**0.914**	**1.58**	**42.100**	**0.392**	**4.12**	**22.500**	**688**	**4.98**	**3.60**	<0.20	**60.500**	<0.0060	**24.6**	**0.271**	**3.44**	**1.120**
P18-4.5S-A	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	1-Dec-14	D	<1.0	**0.027**	**0.277**	**37.1**	<0.0050	**51.5**	**0.0080**	**57.100**	<0.50	**0.579**	**0.66**	**345**	**0.050**	**2.10**	**21.300**	**408**	**0.878**	**2.60**	<0.20	**48.700**	<0.0020	<0.20	**0.0287**	<0.050	**808**
P18-4.5S-A	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	1-Dec-14	T	**371**	**0.097** J+	**5.32**	**53.6**	**0.0348** J+	**51.7**	**0.0440**	**54.600**	**1.22**	**0.833**	**1.27**	**26.200**	**0.287**	**3.04**	**20.300**	**435**	**2.97**	**3.54**	<0.20	**51.900**	**0.0033**	**16.3**	**0.134**	**2.22**	**1.150**
P18-4.5S-B	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	4-Dec-14	D	**11**	**0.076**	**0.450**	**41.9**	<0.0050	**36.8**	**0.0054**	**51.300**	<0.50	**0.775**	**0.74**	**620**	<0.050	**1.14**	**19.500**	**410**	**1.07**	**5.40**	<0.20	**30.100**	<0.0020	<0.20	**0.0581**	<0.050	**496**
P18-4.5S-B	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	4-Dec-14	T	**871**	**0.333**	**0.903**	**51.8**	**0.0275**	**38.2**	**0.0246**	**49.100**	**1.16**	**1.03**	**1.56**	**2.450**	**0.419**	**1.86**	**18.800**	**412**	**1.27**	**6.75**	<0.20	**29.100**	**0.0049**	**34.5**	**0.0966**	**2.38**	**424**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Mar-15	D	<1.0	**0.072**	**0.159**	**52.5**	<0.0050	**39.8**	**0.0206**	**54.800**	<0.50	**0.611**	**0.84**	<30	<0.050	**1.15**	**20.500**	**332**	**0.819**	**1.99**	<0.20	**43.700**	<0.0020	<0.20	**0.0449**	<0.050	**902**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Mar-15	T	**845**	**0.307**	**3.47**	**70.0**	**0.0371**	**44**	**0.0411**	**53.400**	**1.87**	**0.933**	**2.04**	**14.200**	**0.479**	**1.49**	**20.400**	**322**	**1.75**	**2.54**	<0.20	**42.400**	**0.0067**	**36.1**	**0.121**	**3.06**	**834**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	17-Jun-15	D	<1.0	**0.038**	**0.140**	**55.3**	<0.0050	**45.3**	**0.0443**	**53.400**	<0.50	**0.535**	**0.69**	<30	**0.114**	**1.51**	**21.100**	**299**	**0.925**	**1.88**	<0.20	**61.000**	<0.0020	<0.20	**0.0414**	<0.050	**797**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	17-Jun-15	T	**92.9**	**0.044**	**1.61**	**69.6**	**0.0075**	**50.0**	**0.0372**	**52.800**	<0.50	**0.559**	**0.38**	**4.540**	**0.151**	**1.46**	**21.100**	**295**	**1.23**	**1.74**	<0.20	**60.100**	<0.0020	**3.38**	**0.0610**	**0.463**	**917**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Sep-15	D	<1.0	**0.108**	**0.139**	**78.0**	<0.0050	**74.4**	**0.135**	**53.300**	<0.50	**1.56**	**0.43**	<30	<0.050	**3.81**	**38.400**	**486**	**0.881**	**2.01**	<0.20	**126.000**	**0.0114**	<0.20	**0.0841**	<0.050	**2.130**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	11-Sep-15	T	**338**	**0.536**	**1.84**	**81.9**	**0.0262**	**74**	**0.146**	**77.700**	**0.73**	**1.71**	**1.29**	**5.120**	**0.315**	**3.93**	**37.000**	**468**	**2.20**	**8.74**	<0.20	**119.000**	**0.0124**	**15.2**	**0.188**	**1.41**	**1.880**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Dec-15	D	<1.0	**0.036**	**0.181**	**253**	<0.0050	**75.1**	**0.357**	**274.000**	<0.50	**1.74**	**0.41**	**269**	<0.050	**2.45**	**85.900**	**1.640**	**0.279**	**7.18**	<0.20	**77.900**	**0.0036**	<0.20	**0.0306**	<0.050	**2.750**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	9-Dec-15	T	**135**	**0.194**	**2.30**	**268**	**0.0217**	**74**	**0.446**	**259.000**	**0.57**	**1.83**	**0.70**	**17.600**	**0.087**	**3.07**	**84.700**	**1.670**	**1.42**	**7.09**	**0.39**	**75.200**	<0.0050	**5.31**	**0.113**	**1.620**	**2.840**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	3-Mar-16	D	<1.0	**0.097**	**0.111**	**101**	<0.0050	**44.5**	**0.105**	**112.000**	<0.50	**1.40**	**0.81**	<30	<0.050	**2.50**	**43.500**	**638**	**0.545**	**3.78**	<0.20	**82.900**	**0.0042**	<0.20	**0.0548**	<0.050	**3.190**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	3-Mar-16	T	**66.0**	**0.146**	**0.773**	**105**	**0.0058**	**44**	**0.108**	**110.000**	<0.50	**1.42**	**0.61**	**3.530**	**0.122**	**2.57**	**44.400**	**643**	**0.791**	**3.79**	<0.20	**85.300**	<0.0050	**2.49**	**0.0731**	**0.280**	**3.100**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	20-May-16	D	**1.1**	**0.337**	**0.167**	**72.0**	**0.0076**	**0.0696**	**21.900**	<0.50	**1.24**	**0.16**	**0.113**	**1.760**	**0.114**	**1.76**	**24.300**	**386**	**1.62**	**4.94**	<0.20	**47.100**	**0.0033**	<0.20	**0.0616**	<0.050	**1.710**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	20-May-16	T	**844**	**0.736**	**2.77**	**82.7**	**0.0318**	**28**	**0.188**	**71.100**	**1.23**	**1.58**	**2.32**	**11.800**	**0.510**	**2.11**	**24.500**	**369**	**1.95**	**5.26**	<0.20	**46.700**	**0.0105**	**34.4**	**0.141**	**2.83**	**2.800**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	22-Aug-16	D	<1.0	**0.038**	**0.242**	**59.1**	<0.0050	**38.9**	**0.0211**	**53.300**	<0.50	**0.768**	**0.38**	**334**	<0.050	**2.23**	**20.500**	**344**	**1.93**	**2.02**	<0.20	**56.600**	<0.0020	<0.20	**0.0493**	<0.050	**2.330**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	22-Aug-16	T	**1.400**	**0.220**	**3.44**	**70.5**	**0.0593**	**37**	**0.190**	**53.000**	**2.35**	**3.97**	**3.57**	**16.100**	**1.16**	**2.92**	**20.800**	**332**	**3.19**	**6.30**	<0.20	**56.300**	**0.0130**	**53.1**	**0.254**	**5.86**	**9.300**
P18-4.5S	Porewater EAZ	P18-4.5	NA	FS	0.6-1.0	0.6	1.0	Beach sand	---	22-Nov-16	D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**2.800**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-13	D	**1.1**	**0.337**	**0.325**	**76.6**	<0.0050	**140**	<0.010	**94.000**	<0.50	**5.22**	**0.54**	<30	**0.090**	**4.75**	**42.100**	**1.660**	**8.31**	**3.90**	<0.20	**137.000**	<0.0020	<0.20	**0.662**	**0.397**	**32.5**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	14-Jun-13	D	<1.0	**0.045**	**0.290**	**95.5**	<0.0050	**38.9**	**0.0632**	**105.000**	<0.50	**0.864**	**0.85**	<30	<0.050	**0.90**	**31.200**	**568**	**0.731**	**1.17**	<0.20	**25.800**	<0.0020	<0.20	**1.10**	**0.814**	**12.3**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	18-Sep-13	D	<1.0	**0.028**	**0.273**	**89.5**	<0.0050	**43.3**	**0.0458**	**97.400**	<0.50	**0.895**	**0.74**	<30	<0.050	**1.15**	**29.100**	**570**	**0.987**	**1.21**	<0.20	**27.500**	<0.0020	<0.20	**0.982**	**0.937**	**22.1**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	13-Dec-13	D	<1.0	**0.147**	**0.230**	**83.0**	<0.0050	**40.0**	**0.0324**	**103.000**	<0.50	**0.693**	**0.55**	<30	<0.050	**0.98**	**26.600**	**492**	**0.743**	**1.00**	<0.20	**24.700**	<0.0020	<0.20	**0.913**	**0.866**	**82.6**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	12-Mar-14	D	<1.0	**0.027**	**0.209**	**88.1**	<0.0050	**35.7**	**0.0453**	**110.000**	<0.50	**0.65**	**0.56**	<30	<0.050	**0.88**	**29.700**	**483**	**0.577**	**0.88**	<0.20	**24.300**	<0.0020	<0.20	**1.01**	**0.683**	**19.8**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	9-Jun-14	D	**1.2**	**0.032**	**0.185**	**78.3**	<0.0050	**38.7**	**0.0253**	**104.000**	<0.50	**0.807**	**1.16**	**34**	<0.050	**1.41**	**29.900**	**577**	**1.63**	**1.22**	<0.20	**23.400**	<0.0020	<0.20	**1.04**	**0.589**	**23.3**
P18-4.5I	Porewater	P18-4.5	NA	FS	2.2-2.6	2.2	2.6	Weathered Colluvium	---	8-Sep-14	D	<1.0	**0.033**	**0.287**	**84.7**	<0.0050	**46.3**	<0.0050	**112.000**	<0.50	**1.04**	**0.41**	**85**	<0.050	**1.59**	**31.097**	**779**	**1.68**	**1.10**	<0.20	**24.900**	<0.0020	<0.20	**1.21**	**0.639**	**8.3**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-13	D	**1.6** J	**0.034**	**0.229**	**60.7**	<0.0050	**14.8**	**0.0113**	**99.800**	<0.50	**3.51**	**0.25** J	<30	<0.050	**0.57**	**18.800**	**3.680**	**0.344**	**2.39**	<0.20	**20.900**	**0.0163**	<0.20	**1.20**	**0.471**	**7.3**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Jun-13	D	<1.0	**0.023**	**0.200**	**42.1**	<0.0050	**34.8**	**0.113**	**85.200**	<0.50	**2.60**	**0.53** J	<30	<0.050	**0.57**	**18.500**	**3.360**	**0.273**	**1.55**	<0.20	**21.900**	**0.0025**	<0.20	**0.769**	**0.672**	**2.2**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	18-Sep-13	D	<1.0	**0.022**	**0.196**	**43.9**	<0.0050	**41.6**	**0.0864**	**76.500**	<0.50	**2.49**	**0.38**	<30	<0.050	**0.70**	**17.000**	**3.680**	**0.214**	**1.27** J	**0.20**	**21.400**	**0.0030**	<0.20	**0.598**	**0.619**	**2.0** J
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-13	D	<1.0	**0.047**	**0.197**	**44.6**	<0.0050	**41.9**	**0.0980**	**83.500**	<0.50	**2.62**	**0.49**	<30	<0.050	**0.69**	**19.200**	**3.440**	**0.197**	**1.42**	<0.20	**20.700**	**0.0024**	<0.20	**0.713**	**0.581**	**4.0**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-14	D	<1.0	**0.018**	**0.179**	**48.6**	<0.0050	**38.5**	**0.105**	**93.100**	<0.50	**2.72**	**0.84**	<30	<0.050	**0.76**	**19.800**	**3.480**	**0.234**	**1.38**	<0.20	**20.600**	**0.0021**	<0.20	**0.812**	**0.543**	**3.5**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	9-Jun-14	D	<1.0	**0.018**	**0.174**	**46.3**	<0.0050	**37.5**	**0.0907**	**90.700**	<0.50	**2.77**	**0.85**	<30	<0.050	**0.93**	**20.300**	**3.550**	**0.213**	**1.45**	<0.20	**20.600**	**0.0028**	<0.20	**0.898**	**0.557**	**5.1**
P18-4.5D	Porewater	P18-4.5	NA	FS	4.6-5.0	4.6	5.0	Colluvium	---	8-Sep-14	D	<1.0	**0.023**	**0.205**	**48.9**	<0.0050	**41.7**	**0.0995**	**79.900**	<0.50	**2.54**	**0.50**	<30	<0.050	**0.81**	**17.600**	**4.040**	**0.172**	**1.43**	<0.20	**20.100**	**0.0031**	<0.20	**0.535**	**0.514**	**4.7**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	14-Mar-13	D	**2.4**	**0.346**	**0.434**	**42.0**	<0.0050	**15.8**	**0.0315**	**56.500**	<0.50	**1.37**	**0.66**	<30	<0.050	**5.23**	**13.400**	**987**	**4.53**	**3.14**	**1.04**	**77.900**	**0.0121**	<0.20	**2.05**	**0.347**	**4.6**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	18-Jun-13	D	<1.0	**0.124**	**0.439**	**51.6**	<0.0050	**51.8**	**0.0621**	**62.500**	<0.50	**0.875**	**0.33**	<30	<0.050	**1.41**	**15.600**	**4.490**	**2.00**	**5.16**	<0.20	**27.400**	**0.0111**	<0.20	**0.555**	**0.446**	**7.8**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	18-Jun-13	T	**257**	**0.141**	**0.441**	**58.8**	**0.0154**	**53.4**	**0.0682**	**61.300**	<0.50	**1.40**	**1.22**	**352**	**0.219**	**1.62**	**15.500**	**4.380**	**2.26**	**5.16**	<0.20	**28.600**	**0.0135**	**8.23**	**0.074**	**0.376**	**6.6**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	19-Sep-13	D	**2.6**	**0.092**	**0.503**	**50.0**	<0.0050	**57.5**	<0.020	**58.400**	<0.50	**0.942**	**0.88**	**63**	<0.050	**1.29**	**14.000**	**2.230**	**4.55**	**30.5**	<0.20	**40.200**	**0.0110**	<0.20	**0.711**	**0.171**	**10.1**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	19-Sep-13	T	**637**	**0.220**	<0.13 U	**0.526**	**63.2**	**0.0177**	**64.6**	**59.300**	**0.63**	**1.46**	**1.21**	**357**	**0.194**	**1.71**	**14.900**	**2.890**	**4.01**	**12.5**	<0.20	**41.200**	**0.0105**	**3.9**	**0.793**	**2.11**	**7.4**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Dec-13	D	**1.3**	**0.307**	**0.261**	**47.2**	<0.0050	**46.3**	**0.0382**	**70.600**	<0.50	**1.61**	**0.82**	**33**	**0.074**	**1.53**	**16.700**	**1.870**	**2.62**	**16.6**	<0.20	**49.600**	**0.0082**	<0.20	**0.661**	**0.090**	**10.6**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Dec-13	T	**10.400**	**0.609**	**3.88**	**237**	**0.299**	**59.4**	**0.177**	**71.300**	**9.37**	**8.08**	**19.6**	**15.600**	**3.78**	**5.48**	**20.100**	**2.230**	**2.66**	**18.4**	<0.20	**49.700**	**0.0709**	**334**	**1.04**	**40.4**	**47.9**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Mar-14	D	<1.0	**0.027**	**0.233**	**52.3**	<0.0050	**37.0**	**0.0139**	**62.200**	<0.50	**1.09**	**0.44**	**53**	<0.050	**1.25**	**14.500**	**1.160**	**1.55**	**1.50**	<0.20	**39.700**	**0.0066**	<0.20	**0.539**	**0.118**	**6.3**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	13-Mar-14	T	**2.560**	**0.129**	**0.671**	**104**	**0.0830**	**41.6**	**0.0560**	**58.900**	**2.16**	**2.58**	**4.61**	**4.270**	**1.02**	**2.25**	**15.400**	**1.080**	**1.43**	**3.01**	<0.20	**42.500**	**0.0226**	**95.2**	**0.626**	**8.91**	**14.3**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	19-Jun-13	D	**1.5**	**0.036**	**0.682**	**60.8**	<0.0050	**50.3**	<0.0050	**62.900**	<0.50	**0.885**	**0.94**	**188**	**0.072**	**1.89**	**14.600**	**1.220**	**2.03**	**1.23**	<0.20	**44.700**	**0.0076**	<0.20	**0.669**	**0.237**	**9.5**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	19-Jun-13	T	**14.500**	**0.454**	**3.72**	**373**	**0.513**	**54.8**	**0.412**	**68.500**	**15.1**	**15.2**	**38.6**	**24.700**	**5.08**	**5.88**	**20.600**	**1.910**	**12.7**	**17.0**	<0.20	**40.500**	**0.116**	**420**	**1.32**	**61**	**80.1**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-14	D	**1.4**	**0.062**	**0.534**	**66.8**	<0.0050	**56.3**	**0.0763**	**62.500**	<0.50	**0.638**	**0.63**	**180**	<0.050	**1.79**	**14.600**	**1.200**	**1.99**	**4.46**	<0.20	**45.700**	**0.0033**	<0.20	**0.741**	**0.426**	**4.7**
P18-5.3S	Porewater EAZ	P18-5.3	NA	FS	0.6-1.0	0.6	1.0	Weathered Colluvium	---	8-Sep-14	T	**833**	**0.101**	**0.477**	**73.3**	**0.0294**	**67.3**	**0.0213**	**60.200**	**0.67**	**1.17**	**1.80**	**1.260**	**0.344**	**2.32**	**14.600**	**1.060**	**1.95**	**6.93**	<0.20	**46.200**	<0.012	**31.8**	**0.732**	**2.87**	**6.3**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	14-Mar-13	D	**1.6**	**0.169**	**0.227**	**43.9**	<0.0050	**48.6**	**0.0928**	**60.000**	<0.50	**2.53**	**0.59**	<30	<0.050	**1.52**	**15.300**	**3.720**	**1.52**	**3.87**	**0.26**	**21.900**	**0.0122**	<0.20	**0.736**	**0.216**	**5.1**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	18-Jun-13	D	**1.7**	**0.086**	**0.350**	**44.9**	<0.0050	**52.9**	**0.0150**	**58.100**	<0.50	**2.18**	**0.24**	<30	<0.050	**0.69**	**15.700**	**5.270**	**1.19**	**3.22**	<0.20	**20.600**	**0.0122**	<0.20	**0.423**	**0.205**	**9.5**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	19-Sep-13	D	**4.0**	**0.060**	**0.405**	**45.5**	**0.0058**	**56.1**	<0.0050	**53.400**	<0.50	**1.53**	**0.42**	**72**	<0.050	**0.95**	**14.000**	**4.400**	**2.78**	**2.52**	<0.20	**26.900**	**0.0130**	<0.20	**0.531**	**0.118**	**5.6**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	13-Dec-13	D	<1.0	**0.226**	**0.189**	**33.8**	<0.0050	**54.6**	**0.0295**	**57.400**	<0.50	**1.000**	**0.33**	<30	<0.050	**0.57**	**15.000**	**2.890**	**0.600**	**1.95**	<0.20	**21.800**	**0.0101**	<0.20	**0.238**	**0.125**	**7.6**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	13-Mar-14	D	<1.0	**0.036**	**0.197**	**37.7**	<0.0050	**50.1**	**0.0471**	**56.500**	<0.50	**1.08**	**0.48**	<30	<0.050	**0.48**	**14.900**	**5.170**	**0.604**	**1.93**	<0.20	**20.400**	**0.0096**	<0.20	**0.240**	**0.145**	**4.4**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	9-Jun-14	D	**1.2**	**0.027**	**0.202**	**38.3**	<0.0050	**50.6**	**0.0274**	**53.900**	<0.50	**1.01**	**0.80**	<30	<0.050	**0.88**	**15.100**	**5.180**	**0.624**	**2.21**	<0.20	**20.900**	**0.0114**	<0.20	**0.246**	**0.153**	**6.0**
P18-5.3I	Porewater	P18-5.3	NA	FS	2.6-3.0	2.6	3.0	Colluvium	--	8-Sep-14	D	<1.0	**0.028**	**0.

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
PEC-5S	Porewater EAZ	PEC-5	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-14	D	**1.0**	**0.129**	**1.29**	**55.5**	<0.0050	**108**	<0.0050	**23,100**	<0.50	**0.704**	**0.58**	**581**	<0.050	**15.3**	**17,700**	**188**	**0.753**	**6.16**	<0.20	**178,000**	<0.0020	<0.20	**0.0396**	**0.658**	**4.9**
PEC-5S	Porewater EAZ	PEC-5	NA	RL	0.8-1.0	0.8	1.0	Weathered Colluvium	---	8-Sep-14	T	**17,400**	**0.173**	**4.29**	**169**	**0.456**	**125**	**0.105**	**26,200**	**17.5**	**9.00**	**31.9**	**23,500**	**6.91**	**28.9**	**25,100**	**557**	**1.38**	**15.3**	**0.23**	**175,000**	**0.0659**	**508**	**0.691**	**65**	**49.3**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	12-Mar-12	D	<30	0.13	<0.50	**74.4**	<0.050	**1,040**	**0.230**	**238,000**	<5.0	**21.1**	<5.0	<90	<0.50	**26.0**	**237,000**	**17,000**	**2.61**	**10.5**	<2.0	**1,890,000**	**0.035**	<2.0	**1.76**	<0.50	<30
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	8-Jun-12	D	**3.4**	**0.082**	**1.35**	**57.7**	<0.010	**439**	**0.029**	**63,900**	<1.0	**6.91**	**0.46**	**991**	<0.10	**12.9**	**56,800**	**4,880**	**3.28**	**3.18**	<0.40	**645,000**	**0.0062**	<0.40	**0.718**	**0.54**	**8.6**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	14-Sep-12	D	<5.0	<0.50	<2.0	**9.3**	<0.50	**470**	<0.050	**69,100**	<0.50	**4.30**	<0.50	**2,160**	<0.30	<20	**80,500**	**5,190**	<2.0	**2.41**	<2.0	**878,000**	<0.050	<5.0	**0.222**	<0.50	<3.0
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	11-Mar-13	D	<2.0 UJ	**0.091**	**1.09**	**57.6**	<0.010	**373**	**0.023** J	**63,000**	<1.0	**2.23**	<0.40 UJ	**664**	<0.10	**10.6**	**28,300**	**1,460**	**2.94**	**5.02**	<0.40	**405,000**	**0.0062**	<0.40	**0.403**	**0.20**	**5.9**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	11-May-13	D	**1.4**	**0.078**	**0.624**	**30.4**	<0.0050	**123**	**0.0061**	**13,200**	<0.50	**0.950**	**0.32**	**101**	<0.050	**6.49**	**10,400**	**421**	**1.74**	**2.97**	<0.20	**184,000**	**0.0030**	<0.20	**0.180**	**0.305**	**6.3**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	19-Jun-13	D	**2.1** J	**0.065**	**0.392**	**36.8**	<0.0050	**59.7**	**0.0476**	**15,300**	<0.50	**2.28**	**0.45**	**122**	**0.091**	**4.78**	**11,500**	**909**	**0.829**	**10.3**	<0.20	**132,000**	**0.0076**	<0.20	**0.0499**	**0.125**	**9.7**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	19-Sep-13	D	**2.1**	**0.054**	**0.915**	**50.9**	<0.0050	**53.7**	**0.0119**	**21,100**	<0.50	**4.46**	**0.24**	**676**	<0.050	**4.74**	**14,000**	**1,630**	**0.824**	**3.10**	<0.20	**91,400**	<0.0020	<0.20	**0.0418**	**0.185**	**6.0**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-13	D	**1.0**	**0.173**	**0.454**	**37.4**	<0.0050	**63.8**	**0.0427**	**23,300**	<0.50	**1.28**	**0.62**	**47**	**0.080**	**5.43**	**15,900**	**472**	**0.594**	**3.48**	<0.20	**108,000**	<0.0020	<0.20	**0.0744**	**0.309**	**14.0**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	14-Mar-14	D	**9.8**	<0.50	<2.0	**69.0**	<0.50	**1,640**	**0.219**	**215,000**	<0.50	**10.6**	**0.91**	**323**	<0.30	**55**	**435,000**	**5,660**	**2.5**	**7.87**	<2.0	**3,070,000**	<0.050	<5.0	**0.579**	**0.74**	**12.2**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	9-Jun-14	D	**1.2**	**0.082**	**0.299**	**51.8**	<0.0050	**298**	**0.0479**	**37,300**	<0.50	**0.454**	**0.76**	<30	<0.050	**13.6**	**44,200**	**11,060**	**0.567**	**3.77**	<0.20	**494,000**	**0.0067**	<0.20	**0.0978**	**0.238**	**7.8**
PEC-5I	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	8-Sep-14	D	<1.0	**0.044**	**0.229**	**47.3**	<0.0050	**72.0**	**0.0272**	**34,500**	<0.50	**0.162**	**0.68**	<30	<0.050	**6.59**	**26,300**	**188**	**0.098**	**1.31**	<0.20	**117,000**	**0.0033**	<0.20	**0.0492**	**0.144**	**4.0**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	12-Mar-12	D	<3.0	**0.022**	**1.14**	**165**	<0.050	**22.9**	**0.0123**	**70,200**	<0.50	**1.08**	<0.50	**6,950**	<0.050	**1.56**	**22,400**	**797**	**0.130**	**0.69**	<0.20	**27,200**	**0.0066**	<0.20	**0.0179**	<0.050	**8.5**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	8-Jun-12	D	**1.3**	<0.010	**1.86**	**168**	**0.0075**	**16.8**	**0.0147**	**67,000**	<0.50	**1.04**	**0.33** J	**8,890**	**1.40**	**20,300**	**752**	**0.137**	**0.67**	<0.20	**22,800**	<0.0020	<0.20	**0.0129**	<0.050	**3.3**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	14-Sep-12	D	**1.0**	<0.010	**2.23**	**186**	**0.0062**	**22.4**	<0.0050	**73,100**	<0.50	**1.14**	<0.20	**9,170**	<0.050	**1.55**	**22,200**	**824**	**0.115**	**0.79**	<0.20	**25,900**	**0.0028**	<0.20	**0.0244**	<0.050	**3.2**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	13-Dec-12	D	<1.0	<0.010	**3.05**	**190**	**0.0074**	**32.3**	<0.050	**74,000**	<0.50	**0.947**	<0.20	**8,900**	<0.050	**1.18**	**23,600**	**780**	**0.093**	**0.65**	<0.20	**26,400**	<0.0020	<0.20	**0.0185**	**0.068**	**2.3**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	11-Mar-13	D	<1.0	<0.010	**2.26**	**180**	**0.0080**	**29.8** J	<0.050	**71,000**	<0.50	**1.28**	<0.20	**9,720**	<0.050	**1.41**	**22,400**	**750**	**0.147**	**0.74**	<0.20	**25,200**	<0.0020	<0.20	**0.0227**	<0.050	**1.9** J
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	19-Jun-13	D	<1.0	<0.010	**2.53**	**175**	**0.0050**	**21.3**	<0.0050	**72,000**	<0.50	**1.24**	<0.20	**10,100**	<0.050	**0.98**	**22,700**	**804**	**0.126**	**0.77**	<0.20	**26,300**	<0.0020	<0.20	**0.0183**	<0.050	**1.4**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5.0	Colluvium	---	19-Sep-13	D	<1.0	**0.014** J	**2.61**	**181**	**0.0066**	**22.7**	**0.0982** J	**69,000**	<0.50	**1.24**	**0.21**	**9,390**	<0.050	**1.07**	**21,500**	**743**	**0.188** J	**1.11** J	<0.20	**25,100**	**0.0020**	<0.20	**0.0129**	<0.050	**5.6**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5	Colluvium	---	13-Dec-13	D	<1.0	**0.019**	**2.61**	**179**	**0.0056**	**24.2**	**0.0075**	**74,300**	<0.50	**1.13**	**0.21**	**9,890**	<0.050	**1.3**	**23,400**	**784**	**0.11**	**0.92**	<0.20	**27,000**	**0.0022**	<0.20	**0.0141**	<0.050	**3.8**
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5	Colluvium	---	14-Mar-14	D	<1.0	<0.010	**2.43**	**184**	**0.0059**	**19.8**	**0.0054** J	**76,800**	<0.50	**1.06**	<0.20	**10,200**	<0.050	**1.22**	**23,500**	**791.00**	**0.107**	**0.82**	<0.20	**26,900**	<0.0020	<0.20	**0.0119**	<0.050	**2.0** J
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5	Colluvium	---	9-Jun-14	D	**1.6** J	<0.010	**2.08**	**187**	**0.0054** J	**21.2**	<0.0050	**74,300**	<0.50	**1.17**	<0.20	**9,560**	<0.050	**1.51** J	**24,100**	**763**	**0.088**	**0.93** J	<0.20	**26,200**	**0.0029**	<0.20	**0.0110**	<0.050	**3.2** J
PEC-5D	Porewater	PEC-5	NA	RL	4.6-5.0	4.6	5	Colluvium	---	8-Sep-14	D	<1.0	<0.010	**2.76**	**204**	**0.0101**	**23.5**	**0.0061**	**74,900**	<0.50	**1.16**	<0.20	**9,870**	<0.050	**1.16**	**24,500**	**840**	**0.059**	**0.72**	<0.20	**27,500**	**0.0034**	<0.20	**0.0023**	<0.050	**4.4**
Seawater																																				
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	13-Mar-12	D	**9.5**	<0.50	<2.0	**9.2**	<0.50	**3,840**	**0.095**	**302,000**	<0.10	<0.050	**0.95**	<10	<0.30	**147**	**927,000**	**3.48**	**9.2**	**0.59**	<2.0	**7,630,000**	<0.050	<5.0	**2.47**	**1.28**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	6-Jun-12	D	**37.2**	<0.50	<2.0	**8.0**	<0.50	**2,820**	**0.083**	**249,000**	**0.55**	<0.050	**1.06**	<10	<0.30	**112**	**817,000**	**2.10**	**7.3**	<0.50	<2.0	**7,370,000**	<0.050	<5.0	**2.06**	**1.19**	**3.9**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	**9.6**	<0.50	**3,860**	**0.073**	**323,000**	<0.50	<0.050	**0.94**	<10	<0.30	**149**	**941,000**	**4.25**	**8.9**	<0.50	<2.0	**8,480,000**	<0.050	<5.0	**2.56**	**1.33**	**4.3**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	18-Sep-12	T	**59.5**	<0.50	<2.0	**9.8**	<0.50	**3,870**	**0.092**	**325,000**	<0.50	**0.067**	**0.99**	**84**	<0.30	**153**	**978,000**	**7.20**	**9.1**	**0.51**	<2.0	**8,870,000**	<0.050	<5.0	**2.57**	**1.63**	**3.6**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	13-Nov-12	D	**18.7**	<0.50	<2.0	**8.6**	<0.50	**3,070**	**0.104**	**239,000**	<0.50	<0.050	**0.8**	<10	<0.30	**122**	**782,000**	**4.64**	**7**	<0.50	<2.0	**5,980,000**	<0.050	<5.0	**1.87**	**1.11**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	13-Nov-12	T	**30.0**	<0.50	<2.0	**8.4**	<0.50	**3,040**	**0.106**	**238,000**	<0.50	<0.050	**1.50** J	**25**	<0.30	**125**	**804,000**	**4.84**	**7.3**	<0.50	<2.0	**5,950,000**	<0.050	<5.0	**1.89**	**1.17**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	10-Dec-12	D	**16.8**	<0.50	<2.0	**8.6**	<0.50	**3,310**	<0.050	**234,000**	<0.50	<0.050	**0.61**	<10	<0.30	**111**	**744,000**	**3.26**	**7.4**	<0.50	<2.0	**6,070,000**	<0.050	<5.0	**1.91**	**1.03**	**5.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	10-Dec-12	T	**48.2**	<0.50	<2.0	**8.7**	<0.50	**3,100**	<0.050	**229,000**	<0.50	**1.24**	<0.20	**10,100**	<0.050	**0.98**	**22,700**	**804**	**0.126**	**0.77**	<0.20	**26,300**	<0.0020	<0.20	**0.0183**	<0.050	**1.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Jan-13	D	<5.0	<0.50	<2.0	**9.1**	<0.50	**3,540**	<0.050	**254,000**	<0.50	**1.13**	**0.22**	**9,730**	<0.050	**1.07**	**21,400**	**743**	**0.172**	**0.52**	<0.20	**25,100**	**0.0022**	<0.20	**0.0172**	<0.050	**1.04**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Jan-13	T	**35.0**	<0.50	<2.0	**8.8**	<0.50	**3,550**	<0.050	**305,000**	<0.50	<0.050	**1.82**	**41**	<0.30	**128**	**929,000**	**3.87**	**8.2**	<0.50	<2.0	**7,940,000**	<0.050	<5.0	**2.19**	**1.18**	**7.2**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	11-Mar-13	D	**9.2**	<0.50	<2.0	**8.7**	<0.50	**3,460**	<0.050	**251,000**	<0.50	<0.050	**0.52** J	<10	<0.30	**124**	**760,000**	**3.98**	**7.8**	<0.50	<2.0	**6,780,000**	<0.050	<5.0	**1.96**	**1.07**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	11-Mar-13	T	**24.1**	<0.50	<2.0	**8.1**	<0.50	**3,450**	<0.050	**252,000**	<0.50	<0.050	**19**	<0.30	**124**	**765,000**	**4.44**	**7.8**	<0.50	<2.0	**6,820,000**	<0.050	<5.0	**1.97**	**1.23**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	24-Jun-13	D	**8.8**	<0.50	<2.0	**10.7**	<0.50	**2,790**	<0.050	**228,000**	<0.50	**0.066**	<10	<0.30	**123**	**755,000**	**4.23**	**7.2**	<0.50	<2.0	**6,520,000**	<0.050	<5.0	**2.01**	**1.28**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	24-Jun-13	T	**32.4**	<0.50	<2.0	**9.7**	<0.50	**2,780**	<0.050	**230,000**	<0.50	<0.050	**0.95**	**32**	<0.30	**127**	**767,000**	**4.90**	**7.0**	<0.50	<2.0	**6,650,000**	<0.050	<5.0	**1.90**	**1.30**	**3.8**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	**11.2**	<0.50	**3,690**	<0.050	**314,000**	<0.50	**0.134**	**0.74**	<10	<0.30	**139**	**964,000**	**3.06**	**8.7**	**0.64**	<2.0	**7,760,000**	<0.050	<5.0	**2.50**	**1.31**	**4.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	20-Sep-13	T	**17.1**	<0.50	<2.0	**10.3**	<0.50	**3,650**	<0.050	**308,000**	<0.50	**0.052**	**0.82**	**21**	<0.30	**137**	**979,000**	**3.31**	**8.5**	<0.50	<2.0	**7,680,000**	<0.050	<5.0	**2.34**	**1.46**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Dec-13	D	<5.0	<0.50	<2.0	**9.5**	<0.50	**3,580**	**0.051**	**299,000**	<0.50	**0.056**	<0.50	<10	<0.30	**137**	**890,000**	**3.16**	**8.7**	<0.50	<2.0	**7,730,000**	<0.050	<5.0	**2.37**	**1.26**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Dec-13	T	**30.8**	<0.50	<2.0	**9.4**	<0.50	**3,580**	**0.075**	**306,000**	<0.50	**0.052**	**2.93**	**51**	<0.30	**137**	**920,000**	**4.01**	**8.7**	**19.7**	<2.0	**7,880,000**	<0.050	<5.0	**2.43**	**1.49**	**3.8**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Mar-14	D	**18.8**	<0.50	<2.0	**8.9**	<0.50	**3,000**	<0.050	**214,000**	<0.50	**0.086**	**0.86**	<10	<0.30	**114**	**670,000**	**5.87**	**7.1**	<0.50	<2.0	**5,680,000**	<0.050	<5.0	**1.78**	**0.99**	**4.8**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Mar-14	T	**58.5**	<0.50	<2.0	**8.4**	<0.50	**2,840**	<0.050	**203,000**	<0.50	<0.050	**0.63**	**35**	<0.30	**105**	**641,000**	**7.34**	**6.5**	<0.50	<2.0	**5,340,000**	<0.050	<5.0	**1.65**	**1.00**	**3.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	13-Jun-14	D	**7.0**	<0.50	<2.0	**10.7**	<0.50	**3,400**	<0.050	**248,000**	<0.50	**0.067**	**1.06**	<10	<0.30	**133**	**765,000**	**3.36**	**7.7**	**0.74**	<2.0	**6,800,000**	<0.050	<5.0	**2.04**	**1.34**	**3.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	13-Jun-14	T	**24.3**	<0.50	<2.0	**10.9**	<0.50	**3,400**	<0.050	**248,000**	<0.50	**0.067**	**0.78**	**36**	<0.30	**135**	**778,000**	**6.27**	**7.5**	<0.50	<2.0	**6,830,000**	<0.050	<5.0	**2.00**	**1.33**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	**10.5**	<0.50	**3,810**	<0.050	**317,000**	<0.50	<0.050	**0.61**	<10	<0.30	**152**	**947,000**	**3.48**	**7.9**	<0.50	<2.0	**8,350,000**	<0.050	<5.0	**2.51**	**1.35**	**6.8**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	12-Sep-14	T	**28.6**	<0.50	<2.0	**9.5**	<0.50	**3,970**	<0.050	**317,000**	<0.50	<0.050	**0.58**	**29**	<0.30	**155**	**957,000**	**4.11**	**8.3**	<0.50	<2.0	**8,700,000**	<0.050	<5.0	**2.43**	**1.34**	**7.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	10-Mar-15	D	**24.1**	<0.50	<2.0	**10.6**	<0.50	**3,930**	<0.050	**299,000**	<0.50	**1.10**	<10	**41**	<0.30	**97**	**910,000**	**2.47**	**8.4**	<0.50	<2.0	**7,720,000**	<0.050	<5.0	**2.27**	**1.16**	**4.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	10-Mar-15	T	**14.2**	<0.50	<2.0	**9.7**	<0.50	**4,020**	<0.050	**304,000**	<0.50	<0.050	**0.62**	**22**	<0.30	**105**	**959,000**	**2.79**	**8.5**	<0.50	<2.0	**7,840,000**	<0.050	<5.0	**2.37**	**1.23**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	17-Jun-15	D	<5.0	<0.50	<2.0	**8.7**	<0.50	**3,260**	<0.050	**288,000**	<0.50	<0.050	**0.63**	<10	<0.30	**95**	**878,000**	**3.73**	**7.2**	<0.50	<2.0	**7,610,000**	<0.050	<5.0	**2.01**	**1.18**	**3.6**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	17-Jun-15	T	**33.0**	<0.50	<2.0	**8.7**	<0.50	**3,370**	<0.050	**309,000**	<0.50	<0.050	**0.65**	**46**	<0.30	**96**	**914,000**	**4.41**	**7.3**	<0.50	<2.0	**7,720,000**	<0.050	<5.0	**2.00**	**1.23**	**3.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Sep-15	D	<5.0	<0.50	<2.0	**9.0**	<0.50	**3,390**	<0.050	**319,000**	<0.50	**0.055**	**1.11**	<10	<0.30	**125**	**924,000**	**3.48**	**8.0**	**0.68**	<2.0	**8,170,000**	<0.050	<5.0	**2.29**	**1.26**	**6.6**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Sep-15	T	**12.2**	<0.50	<2.0	**10.0**	<0.50	**3,790**	<0.050	**324,000**	<0.50	**0.67**	**22**	<0.30	**136**	**960,000**	**4.24**	**9.1**	**0.53**	<2.0	**8,420,000**	<0.050	<5.0	**2.47**	**1.41**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Dec-15	D	**21.0**	<0.50	<2.0	**7.3**	<0.50	**2,670**	**0.088**	**218,000**	<0.50	<0.050	**0.69**	<10	<0.30	**104**	**704,000**	**3.26**	**5.4**	<0.50	<2.0	**5,580,000**	<0.050	<5.0	**1.49**	**0.89**	**6.4**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Dec-15	T	**88.9**	<0.50	<2.0	**6.7**	<0.50	**2,600**	<0.050	**217,000**	<0.50	<0.050	**0.60**	**73**	<0.30	**84**	**714,000**	**4.55**	**5.0**	<0.50	<2.0	**5,610,000**	<0.050	<5.0	**1.45**	**1.06**	**4.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	26-Feb-16	D	**8.7**	<0.50	<2.0	**9.9**	<0.50	**3,270**	<0.050	**295,000**	<0.50	<0.050	**1.04**	<10	<0.30	**137**	**911,000**	**3.26**	**8.5**	<0.50	<2.0	**8,090,000**	<0.050	<5.0	**2.33**	**1.28**	**16.7**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	26-Feb-16	T	**39.3**	<0.50	<2.0	**9.1**	<0.50	**3,310**	<0.050	**292,000**	<0.50	**0.06**	**38**	<0.30	**131**	**905,000**	**4.09**	**8.4**	<0.50	<2.0	**8,110,000**	<0.050	<5.0	**2.27**	**1.30**	**8.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-May-16	D	<5.0	<0.50	<2.0	**9.0**	<0.50	**3,070**	**0.075**	**306,000**	<0.50	<0.050	**0.92**	<10	<0.30	**127**	**901,000**	**3.12**	**8.1**	<0.50	<2.0	**7,470,000**	<0.050	<5.0	**2.46**	**1.21**	**5.9**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-May-16	T	**52.2**	<0.50	<2.0	**8.9**	<0.50	**3,150**	**0.064**	**298,000**	<0.50	**0.050**	**0.71**	**71**	<0.30	**127**	**882,000**	**4.61**	**8.2**	<0.50	<2.0	**7,790,000**	<0.050	<5.0	**2.40**	**1.51**	**4.1**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	18-Aug-16	D	<5.0	<0.50	<2.0	**9.3**	<0.50	**3,320**	<0.050	**301,000**	<0.50	<0.050	**1.47**	<10	<0.30	**127**	**916,000**	**3.21**	**8.1**	<0.50	<2.0	**8,060,000**	<0.050	<5.0	**2.63**	**1.29**	**4.6**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	18-Aug-16	T	**23.8**	<0.50	<2.0	**8.9**	<0.50	**3,240**	<0.050	**290,000**	<0.50	<0.050	**0.67**	**36**	<0.30	**126**	**892,000**	**3.92**	**8.1**	<0.50	<2.0	**7,720,000**	<0.050	<5.0	**2.50**	**1.35**	**9.3**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	24-Nov-16	D	**18.2**	<0.50	<2.0	**7.8**	<0.50	**3,040**	<0.050	**249,000**	<0.50	<0.050	**0.61**	<10	<0.30	**124**	**797,000**	**3.10**	**7.2**	<0.50	<2.0	**7,270,000**	<0.050	<5.0	**2.09**	**0.93**	**9.8**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	24-Nov-16	T	**41.4**	<0.50	<2.0	**8.2**	<0.50	**3,040**	**0.061**	**256,000**	<0.50	<0.050	**0.94**	**56**	<0.30	**119**	**801,000**	**4.26**	**7.4**	<0.50	<2.0	**6,840,000**	<0.050	<5.0	**2.16**	**1.16**	**23.6**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Mar-17	D	**10.3**	<0.50	<2.0	**12.2**	<0.50	**3,240**	<0.050	**312,000**	<0.50	<0.050	**0.57**	<10	<0.30	**119**	**972,000**	**2.34**	**7.7**	<0.50	<2.0	**7,990,000**	<0.050	<5.0	**2.44**	**1.09**	**3.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	14-Mar-17	T	**46.6**	<0.50	<2.0	**9.0**	<0.50	**3,090**	<0.050	**307,000**	<0.50	<0.050	**0.51**	**47**	<0.30	**139**	**913,000**	**3.45**	**8.6**	<0.50	<2.0	**8,040,000**	<0.050	<5.0	**2.65**	**1.38**	**5.5**
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Jun-17	D	**5.7**	<0.50	<2.0	**10.5**	<0.50	**2,450**	<0.050	**216,000**	<0.50	<0.050	**0.56**	<10	<0.30	**104**	**675,000**	**4.82**	**6.8**	<0.50	<2.0	**5,990,000**	<0.050	<5.0	**2.00**	**0.92**	<3.0
P3-3-O	Surface Water	P3-3	NA	WB	SW	SW	SW	---	---	9-Jun-17	T	**56.9**	<0.50	<2.0	**11.0**	<0.50	**2,380**	<0.050	**218,000**	<0.50	**0.060**	**0.60**	**95**	<0.30	**102**	**680,000**	**7.62**	**6.4**	<0.50	<2.0	**5,770,000**	<0.050	<5.0	**2.06**	**1.10**	<3.0
P3-3-NIBO	Surface Water	P3-3	NB	NIBO	NIBO	NIBO	NIBO	---	---	13-Mar-12	D	**11.1**	<0.50	<2.0	**10.5**	<0.50	**3,760**	**0.091**	**292,000**	<0.10	<0.050	**0.53**	<10	<0.30	**141**	**867,000**	**4.34**	**7.9**	**0.56**	<2.0	**7,210,000**	<0.050	<5.0	**2.40**	**1.20**	<3.0
P3-3-NIBO	Surface Water	P3-3	NA	WB	NIBO	NIBO	NIBO	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	**21.4**	<0.50	**3,870**	**0.136**	**322,000**	<0.50	**0.061**	**0.90**	<10	<0.30	**144**	**938,000**	**7.74**	**6.6**	<0.50	<2.0	**8,230,000**	<0.050	<5.0	**1.98**	**1.01**	**4.8**
P3-3-NIBO	Surface Water	P3-3	NA	WB	NIBO	NIBO	NIBO	---	---	18-Sep-12	T	**22.7**	<0.50	<2.0	**9.2**	<0.50	**3,930**	**0.103**	**342,000**	<0.50	**0.060**	**0.75**	**36**	<0.30	**146**	**951,000**	**7.74**	**7.1**	<0.50	<2.0	**9,050,000**	<0.050	<5.0	**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQO	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQO	—	—	BC WWQG	CSR/10	BWQO	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQO	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQO	—	—	BC WWQG	CSR/10	BWQO	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
QA/QC RPD										**Duplicates**	T	**2%**	—	—	**2%**	—	**5%**	**3%**	**8%**	—	—	—	**2%**	—	**7%**	**7%**	**17%**	**7%**	—	—	**8%**	—	**3%**	**6%**	**9%**	**16%**
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	18-Aug-16	D	<5.0	<0.50	<2.0	**8.2**	<0.50	**3,170**	<0.050	**265,000**	<0.50	<0.050	**0.60**	<10	<0.30	**130**	**871,000**	**3.66**	**7.6**	<0.50	<2.0	**7,630,000**	<0.050	<5.0	**2.42**	**1.24**	**3.3**
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	18-Aug-16	T	**11.9**	<0.50	<2.0	**8.6**	<0.50	**3,080**	<0.050	**256,000**	<0.50	<0.050	**0.58**	**18**	<0.30	**123**	**826,000**	**3.52**	**7.6**	<0.50	<2.0	**7,330,000**	<0.050	<5.0	**2.50**	**1.33**	<3.0
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	24-Nov-16	D	**14.6**	<0.50	<2.0	**8.2**	<0.50	**3,010**	**0.078**	**254,000**	<0.50	<0.050	**0.69**	<10	<0.30	**122**	**813,000**	**3.50**	**7.5**	<0.50	<2.0	**7,450,000**	<0.050	<5.0	**2.10**	**1.03**	**5.0**
DUP-3 (P3-12-O)	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	24-Nov-16	T	**15.5**	<0.50	<2.0	**7.8**	<0.50	**3,100**	**0.102**	**259,000**	<0.50	<0.050	<0.50	<10	<0.30	**131**	**830,000**	**3.55**	**7.3**	<0.50	<2.0	**7,570,000**	<0.050	<5.0	**2.13**	**1.19**	**4.6**
QA/QC RPD										**Duplicates**	D	**6%**	—	—	**5%**	—	**5%**	**27%**	**2%**	—	—	—	—	—	**7%**	**6%**	**1%**	**3%**	—	—	**1%**	—	**1%**	**14%**	—
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	24-Nov-16	T	**37.5**	<0.50	<2.0	**8.5**	<0.50	**3,270**	<0.050	**265,000**	<0.50	<0.050	**0.64**	**43**	<0.30	**131**	**821,000**	**4.19**	**7.6**	<0.50	<2.0	**7,040,000**	<0.050	<5.0	**2.21**	**1.03**	**47.8**
DUP-3 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	24-Nov-16	T	**48.7**	<0.50	<2.0	**8.3**	<0.50	**3,210**	**0.061**	**260,000**	**0.78**	**0.089**	**0.70**	**53**	<0.30	**137**	**812,000**	**4.54**	**8.7**	**0.60**	<2.0	**7,000,000**	<0.050	<5.0	**2.18**	**1.55**	**52.5**
QA/QC RPD										**Duplicates**	T	**26%**	—	—	**2%**	—	**2%**	—	**2%**	—	—	—	—	—	**4%**	**1%**	**8%**	**13%**	—	—	**1%**	—	—	**1%**	**40%**	**9%**
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	14-Mar-17	D	**13.9**	<0.50	<2.0	**12.8**	<0.50	**2,640**	<0.050	**251,000**	<0.50	<0.050	**0.55**	<10	<0.30	**114**	**812,000**	**2.89**	**7.2**	<0.50	<2.0	**6,450,000**	<0.050	<5.0	**2.14**	**1.06**	**4.0**
DUP-3 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	14-Mar-17	D	**16.0**	<0.50	<2.0	**8.4**	<0.50	**2,750**	<0.050	**246,000**	<0.50	<0.050	<0.50	<10	<0.30	**120**	**789,000**	**3.04**	**7.7**	<0.50	<2.0	**6,300,000**	<0.050	<5.0	**2.25**	**1.16**	**3.6**
QA/QC RPD										**Duplicates**	D	**14%**	—	—	**42%**	—	**8%**	—	**2%**	—	—	—	—	—	**8%**	**2%**	**6%**	**7%**	—	—	**2%**	—	—	**5%**	**8%**	—
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	14-Mar-17	T	**38.5**	<0.50	<2.0	**8.1**	<0.50	**2,750**	<0.050	**252,000**	<0.50	<0.050	**0.60**	**36**	<0.30	**120**	**802,000**	**4.03**	**7.6**	<0.50	<2.0	**7,010,000**	<0.050	<5.0	**2.23**	**1.10**	**10.2**
DUP-3 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	14-Mar-17	T	**39.7**	<0.50	<2.0	**8.3**	<0.50	**2,750**	<0.050	**249,000**	<0.50	<0.050	<0.50	**39**	<0.30	**120**	**805,000**	**4.01**	**7.6**	<0.50	<2.0	**7,000,000**	<0.050	<5.0	**2.21**	**1.10**	**10.4**
QA/QC RPD										**Duplicates**	T	**3%**	—	—	**2%**	—	**0%**	—	**1%**	—	—	—	**3%**	—	**0%**	**0%**	**5%**	**0%**	—	—	**0%**	—	—	**1%**	**5%**	—
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	9-Jun-17	D	**6.8**	<0.50	<2.0	**10.6**	<0.50	**2,450**	<0.050	**218,000**	<0.50	<0.050	**0.96**	<10	<0.30	**102**	**660,000**	**4.77**	**6.5**	<0.50	<2.0	**6,060,000**	<0.050	<5.0	**1.98**	**0.87**	<3.0
DUP-8 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	9-Jun-17	D	**6.5**	<0.50	<2.0	**9.7**	<0.50	**2,340**	<0.050	**210,000**	<0.50	<0.050	**0.81**	<10	<0.30	**96**	**653,000**	**4.38**	**5.9**	<0.50	<2.0	**5,820,000**	<0.050	<5.0	**1.88**	**0.83**	<3.0
QA/QC RPD										**Duplicates**	D	**5%**	—	—	**9%**	—	**5%**	—	**4%**	—	—	—	—	—	**6%**	**1%**	**9%**	**10%**	—	—	**4%**	—	—	**5%**	**5%**	—
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	9-Jun-17	T	**55.6**	<0.50	<2.0	**11.6**	<0.50	**2,430**	<0.050	**200,000**	<0.50	**0.050**	**0.70**	**80**	**1.03**	**98**	**628,000**	**7.61**	**6.5**	<0.50	<2.0	**5,200,000**	<0.050	<5.0	**1.93**	**0.98**	**3.1**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	8-Dec-11	D	**9.7** J	<0.50	<2.0	**9.0**	<0.50	**3,230**	**0.070** J	**300,000**	<0.50	<0.050	**0.86**	<10	<0.30	**131**	**875,000**	**3.00**	**7.6**	<0.50	<2.0	**7,650,000**	<0.050	<5.0	**2.13**	**1.31**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	8-Dec-11	T	**39.2**	<0.50	<2.0	**8.9**	<0.50	**3,200**	**0.066** J	**295,000**	<0.50	<0.050	**0.77**	**43**	<0.30	**129**	**875,000**	**4.50**	**7.5**	<0.50	<2.0	**7,560,000**	<0.050	<5.0	**2.02**	**1.37**	**3.4**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	13-Mar-12	D	**12.9**	<0.50	<2.0	**9.7**	<0.50	**3,770**	**0.145**	**299,000**	<0.50	<0.050	**1.48**	<10	<0.30	**143**	**886,000**	**3.31**	**8.0**	<0.50	<2.0	**7,740,000**	<0.050	<5.0	**2.38**	**1.31**	**3.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	11-Jun-12	D	**24.6**	<0.50	<2.0	**5.2**	<0.50	**2,140**	<0.050	**177,000**	<0.50	<0.050	**1.3**	<10	<0.30	**84**	**587,000**	**1.67**	**5.2**	<0.50	<2.0	**4,580,000**	<0.050	<5.0	**1.45**	**0.81**	**3.9**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	11-Jun-12	T	**66.1**	<0.50	<2.0	**5.9**	<0.50	**2,360**	**0.125**	**185,000**	**0.75**	**64**	<0.30	**89**	**620,000**	**6.14**	**5.3**	<0.50	<2.0	**4,770,000**	<0.050	<5.0	**1.48**	**0.94**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	18-Sep-12	D	<5.0	<0.50	<2.0	**10**	<0.50	**3,800**	**0.089**	**312,000**	<0.50	<0.050	**1.14**	<10	<0.30	**144**	**954,000**	**4.22**	**8.4**	<0.50	<2.0	**8,320,000**	<0.050	<5.0	**2.36**	**1.32**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	18-Sep-12	T	**221**	<0.50	<2.0	**10.8**	<0.50	**3,860**	**0.088**	**323,000**	**0.63**	**0.196**	**1.92**	**353**	**0.62**	**145**	**929,000**	**10.90**	**8.3**	**0.8**	<2.0	**8,500,000**	<0.050	**9.7**	**2.39**	**1.86**	**4.1**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	13-Nov-12	D	**19.4**	<0.50	<2.0	**8.6**	<0.50	**3,350**	**0.099**	**258,000**	<0.50	<0.050	**0.71**	<10	<0.30	**136**	**850,000**	**3.97**	**8.0**	<0.50	<2.0	**6,470,000**	<0.050	<5.0	**2.05**	**1.19**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	13-Nov-12	T	**28.2**	<0.50	<2.0	**8.3**	<0.50	**3,300**	**0.099**	**261,000**	<0.50	<0.050	**0.78**	**27**	<0.30	**133**	**861,000**	**4.54**	**7.6**	<0.50	<2.0	**7,010,000**	<0.050	<5.0	**2.01**	**1.27**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-12	D	**20.9**	<0.50	<2.0	**6.8**	<0.50	**1,990**	<0.050	**194,000**	<0.50	<0.050	**0.79**	<10	<0.30	**80**	**611,000**	**3.23**	**4.9**	<0.50	<2.0	**5,390,000**	<0.050	<5.0	**1.34**	**0.73**	**3.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-12	T	**65**	<0.50	<2.0	**7.3**	<0.50	**2,030**	<0.050	**201,000**	<0.50	<0.050	**1.04**	**68**	<0.30	**81**	**622,000**	**4.30**	**5.2**	<0.50	<2.0	**5,090,000**	<0.050	<5.0	**1.42**	**1**	**4.2**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	9-Jan-13	D	<5.0	<0.50	<2.0	**9.2**	<0.50	**3,470**	<0.050	**292,000**	<0.50	**0.215** J	**0.55**	<10	<0.30	**128**	**883,000**	**3.97** J	**8.3**	<0.50	<2.0	**7,240,000**	<0.050	<5.0	**2.08**	**1.05**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	9-Jan-13	T	**1,050**	<0.50	<2.0	**12.0**	<0.50	**2,880**	<0.050	**285,000**	**1.67**	**0.506**	**4.43**	**1,320**	**1.50** J	**110**	**854,000**	**27.4**	**6.9**	**1.53**	<2.0	**7,600,000**	<0.050	**57.3**	**1.93**	**4.00**	**9.0** J
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	11-Mar-13	D	**9.1**	<0.50	<2.0	**8.7**	<0.50	**3,610**	**0.067**	**296,000**	<0.50	**0.128**	**1.06**	<10	<0.30	**130**	**772,000**	**3.73**	**8.2**	**0.57**	<2.0	**6,900,000**	<0.050	<5.0	**2.07**	**1.24**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	11-Mar-13	T	**23.8**	<0.50	<2.0	**8.1**	<0.50	**3,520**	<0.050	**287,000**	<0.50	<0.050	**0.51** J	**30**	<0.30	**126**	**772,000**	**4.34**	**7.7**	<0.50	<2.0	**6,930,000**	<0.050	<5.0	**2.01**	**1.22**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	24-Jun-13	D	**5.1** J	<0.50	<2.0	**9.4**	<0.50	**2,780**	<0.050	**220,000**	<0.50	<0.050 UJ	**0.66** J	<10	<0.30	**143**	**746,000**	**8.87**	**7.0**	<0.50	<2.0	**6,120,000**	<0.050	<5.0	**1.95**	**1.09**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	24-Jun-13	T	**1,090**	<0.50	<2.0	**14.0**	<0.50	**2,820**	<0.050 UJ	**218,000**	**1.98**	**0.612**	**4.63**	**1,430**	**1.79**	**138**	**725,000**	**30.7**	**6.9**	**2.50**	<3.0	**5,950,000**	<0.050	**51.8**	**1.93**	**4.05**	**6.8** J
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	20-Sep-13	D	<5.0	<0.50	<2.0	**10.9**	<0.50	**3,540**	<0.050	**309,000**	<0.50	**0.191**	**0.81**	<10	<0.30	**128**	**949,000**	**3.18**	**8.2**	**0.55**	<2.0	**7,590,000**	<0.050	<5.0	**2.50**	**1.31**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	20-Sep-13	T	**13.8**	<0.50	<2.0	**10.4**	<0.50	**3,610**	<0.050	**313,000**	<0.50	<0.050	<0.50	**14**	<0.30	**134**	**996,000**	**3.18**	**8.5**	<0.50	<2.0	**7,670,000**	<0.050	<5.0	**2.29**	**1.33**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-13	D	<5.0	<0.50	<2.0	**10.2**	<0.50	**3,550**	<0.050	**312,000**	**0.65**	**0.057**	**0.65**	<10	<0.30	**135**	**958,000**	**3.13**	**11.7**	<0.50	<2.0	**7,930,000**	<0.050	<5.0	**2.65**	**1.44**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-13	T	**56.6**	<0.50	<2.0	**11.0**	<0.50	**3,740**	<0.050	**310,000**	<0.50	**0.055**	**0.97**	**87**	<0.30	**144**	**967,000**	**5.32**	**12.4**	<0.50	<2.0	**8,700,000**	<0.050	<5.0	**2.78**	**1.53**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Mar-14	D	**18.3**	<0.50	<2.0	**8.4**	<0.50	**3,680**	<0.050	**220,000**	<0.50	**0.074**	**0.78**	<10	<0.30	**115**	**688,000**	**5.39**	**7.4**	<0.50	<2.0	**5,920,000**	<0.050	<5.0	**1.83**	**1.07**	**3.5**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Mar-14	T	**48.9**	<0.50	<2.0	**8.1**	<0.50	**3,000**	<0.050	**217,000**	<0.50	<0.050	**0.55**	**33**	<0.30	**113**	**680,000**	**6.54**	**7.2**	<0.50	<2.0	**5,780,000**	<0.050	<5.0	**1.74**	**1.08**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	13-Jun-14	D	**8.7**	<0.50	<2.0	**10.8**	<0.50	**3,510**	<0.050	**246,000**	<0.50	**0.082**	**0.96**	**13**	<0.30	**136**	**776,000**	**3.41**	**8.1**	<0.50	<2.0	**6,720,000**	<0.050	<5.0	**2.04**	**1.21**	**3.3**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	13-Jun-14	T	**122**	<0.50	<2.0	**11.0**	<0.50	**3,470**	<0.050	**254,000**	<0.50	**0.152**	**1.48**	**175**	**0.42**	**137**	**781,000**	**13.5**	**7.7**	**0.62**	<2.0	**6,900,000**	<0.050	<5.0	**1.99**	**1.68**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	12-Sep-14	D	<5.0	<0.50	<2.0	**10.7**	<0.50	**3,880**	<0.050	**314,000**	<0.50	<0.050	**0.73**	<10	<0.30	**151**	**933,000**	**3.65**	**8.5**	<0.50	<2.0	**8,440,000**	<0.050	<5.0	**2.49**	**1.39**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	12-Sep-14	T	**19.4**	<0.50	<2.0	**10.0**	<0.50	**3,860**	<0.050	**326,000**	<0.50	<0.050	**29**	**4.50**	<0.30	**155**	**965,000**	**4.12**	**8.3**	<0.50	<2.0	**8,730,000**	<0.050	<5.0	**2.47**	**1.46**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Mar-15	D	**6.0**	<0.50	<2.0	**10.8**	<0.50	**4,080**	**0.122**	**313,000**	<0.50	<0.050	**1.06**	<10	<0.30	**96**	**943,000**	**2.42**	**8.5**	**0.64**	<2.0	**8,130,000**	<0.050	<5.0	**2.31**	**1.10**	**8.7**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Mar-15	T	**18.7**	<0.50	<2.0	**9.7**	<0.50	**4,110**	**0.098**	**305,000**	<0.50	**0.073**	**32**	<0.30	**100**	**915,000**	**2.99**	**8.6**	<0.50	<2.0	**7,860,000**	<0.050	<5.0	**2.26**	**1.21**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	17-Jun-15	D	<5.0	<0.50	<2.0	**8.9**	<0.50	**3,240**	<0.050	**300,000**	<0.50	<0.050	**0.65**	<10	<0.30	**94**	**883,000**	**4.22**	**7.1**	<0.50	<2.0	**7,460,000**	<0.050	<5.0	**2.01**	**1.16**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	17-Jun-15	T	**227**	<0.50	<2.0	**9.6**	<0.50	**3,270**	<0.050	**296,000**	<0.50	**0.137**	**1.56**	**355**	<0.30	**91**	**863,000**	**9.66**	**7.2**	**0.65**	<2.0	**7,290,000**	<0.050	**12.8**	**1.99**	**1.75**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Sep-15	D	<5.0	<0.50	<2.0	**10.2**	<0.50	**3,370**	<0.050	**300,000**	<0.50	**0.064**	**0.89**	<10	<0.30	**121**	**893,000**	**2.95**	**8.4**	<0.50	<2.0	**7,780,000**	<0.050	<5.0	**2.24**	**1.25**	**7.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Sep-15	T	**19.9**	<0.50	<2.0	**9.8**	<0.50	**3,460**	<0.050	**303,000**	<0.50	**0.058**	**0.82**	**35**	<0.30	**118**	**891,000**	**4.09**	**8.2**	<0.50	<2.0	**7,880,000**	<0.050	<5.0	**2.29**	**1.28**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-15	D	**36.6**	<0.50	<2.0	**6.9**	<0.50	**2,070**	<0.050	**155,000**	<0.50	<0.050	**0.55**	<10	<0.30	**77**	**472,000**	**3.06**	**4.2**	<0.50	<2.0	**3,930,000**	<0.050	<5.0	**1.18**	**0.76**	**24.7**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-15	T	**122**	<0.50	<2.0	**8.7**	<0.50	**2,320**	<0.050	**159,000**	<0.50	**0.058**	**0.51**	**118**	<0.30	**92**	**501,000**	**5.06**	**4.4**	<0.50	<2.0	**4,050,000**	<0.050	**5.6**	**1.18**	**1.00**	**6.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	26-Feb-16	D	**17.7**	<0.50	<2.0	**9.3**	<0.50	**2,890**	<0.050	**238,000**	<0.50	**0.119**	**1.80**	<10	<0.30	**112**	**772,000**	**3.84**	**7.4**	**0.69**	<2.0	**7,660,000**	<0.050	<5.0	**1.96**	**1.08**	**8.6**
DUP-1 (P3-12-NIBO)	Surface water	P3-12	NA	WB	NBO	NBO	NBO	—	—	26-Feb-16	D	**16.6**	<0.50	<2.0	**9.0**	<0.50	**3,130**	<0.050	**237,000**	<0.50	<0.050	<0.50	<10	<0.30	**125**	**761,000**	**4.34**	**7.9**	<0.50	<2.0	**7,490,000**	<0.050	<5.0	**1.94**	**1.18**	<3.0
QA/QC RPD										**Duplicates**	D	**0%**	—	—	**3%**	—	**5%**	—	**2%**	—	—	—	—	—	**11%**	**1%**	**12%**	**7%**	—	—	**1%**	—	—	**1%**	**5%**	—
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	26-Feb-16	T	**61.6**	<0.50	<2.0	**8.5**	<0.50	**3,110**	<0.050	**246,000**	<0.50	**0.077**	**0.52**	**60.0**	<0.30	**117**	**793,000**	**4.97**	**7.6**	<0.50	<2.0	**7,830,000**	<0.050	<5.0	**2.04**	**1.25**	**5.6**
DUP-1 (P3-12-NIBO)	Surface water	P3-12	NA	WB	NBO	NBO	NBO	—	—	26-Feb-16	T	**57.1**	<0.50	<2.0	**9.2**	<0.50	**3,120**	<0.050	**240,000**	<0.50	<0.050	<0.50	**48**	<0.30	**125**	**778,000**	**4.73**	**7.4**	<0.50	<2.0	**7,620,000**	<0.050	<5.0	**2.08**	**1.21**	**3.1**
QA/QC RPD										**Duplicates**	T	**17%**	—	—	**8%**	—	**0%**	—	**2%**	—	—	—	—	—	**7%**	**2%**	**5%**	**3%**	—	—	**2%**	—	—	**2%**	**3%**	—
P3-12-O	Surface Water	P3-12	NA	WB	SW	SW	SW	—	—	9-May-16	D	<5.0	<0.50	<2.0	**9.5**	<0.50	**3,100**	<0.050	**268,000**	<0.50	<0.050	**0.76**	<10	<0.30	**121**	**867,000**	**3.27**	**8.2**	<0.50	<2.0	**7,580,000**	<0.050	<5.0	**2.35**	**1.22**	**5.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	9-May-16	T	**235**	<0.50	<2.0	**9.1**	<0.50	**3,070**	**0.078**	**269,000**	<0.50	**0.157**	**1.45**	**345**	**0.37**	**122**	**874,000**	**9.09**	**7.5**	**0.64**	<2.0	**7,610,000**	<0.050	<5.0	**2.13**	**1.22**	**4.4**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	18-Aug-16	D	<5.0	<0.50	<2.0	**8.9**	<0.50	**3,510**	**0.057**	**269,000**	<0.50	<0.050	**0.67**	<10	<0.30	**131**	**878,000**	**2.90**	**8.2**	<0.50	<2.0	**7,580,000**	<0.050	<5.0	**2.47**	**1.23**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	18-Aug-16	T	**25.9**	<0.50	<2.0	**9.1**	<0.50	**3,410**	**0.064**	**293,000**	**0.81**	<0.050	**0.60**	**32**	<0.30	**136**	**896,000**	**5.82**	**8.0**	<0.50	<2.0	**7,770,000**	<0.050	<5.0	**2.45**	**1.33**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	24-Nov-16	D	**14.2**	<0.50	<2.0	**8.0**	<0.50	**3,100**	**0.075**	**252,000**	<0.50	**0.064**	<10	<0.30	**113**	**810,000**	**3.37**	**7.1**	<0.50	<2.0	**7,390,000**	<0.050	<5.0	**1.97**	**1.01**	<3.0
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	24-Nov-16	T	**115**	<0.50	<2.0	**8.1**	<0.50	**3,110**	**0.069**	**256,000**	<0.50	**0.086**	**0.90**	**146**	<0.30	**128**	**809,000**	**6.95**	**7.3**	**0.53**	<2.0	**6,980,000**	<0.050	**5.1**	**2.08**	**1.39**	**3.8**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Mar-17	D	**22.0**	<0.50	<2.0	**12.4**	<0.50	**2,740**	**0.047**	**247,000**	<0.50	**0.54**	<10	<0.30	**119**	**800,000**	**3.94**	**7.6**	<0.50	<2.0	**6,380,000**	<0.050	<5.0	**2.26**	**1.08**	**4.0**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	14-Mar-17	T	**57.9**	<0.50	<2.0	**8.5**	<0.50	**2,680**	<0.050	**240,000**	<0.50	<0.050	**0.69**	**63**	<0.30	**117**	**768,000**	**4.47**	**7.3**	<0.50	<2.0	**6,380,000**	<0.050	<5.0	**2.17**	**1.15**	**5.6**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	8-Jun-17	D	**12.9**	<0.50	<2.0	**9.4**	<0.50	**1,540**	<0.050	**201,000**	<0.50	**1.13**	<10	<0.30	**110**	**658,000**	**3.02**	**6.1**	<0.50	<2.0	**5,280,000**	<0.050	<5.0	**1.72**	**0.96**	**4.5**
P3-12-NIBO	Surface Water	P3-12	NA	WB	NBO	NBO	NBO	—	—	8-Jun-17	T	**272**	<0.50	<2.0	**10.8**	<0.50	**2,490**	**0.069**	**211,000**	**0.80**	**0.143**	**1.47**	**295**	**0.73**	**99**	**676,000**	**12.4**	**6.1**	**0.79**	<2.0	**5,730,000**	<0.050	**10.7**	**1.93**	**1.57**	**7.1**
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	13-Mar-12	D	**10.9**	<0.50	<2.0	**11.3**	<0.50	**3,840**	**0.076**	**322,000**	<0.10	<0.050	<0.50	<10	<0.30	**144**	**948,000**	**16.8**	**9.3**	<0.50	<2.0	**8,260,000**	<0.050	<5.0	**2.55**	**1.19**	<3.0
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	8-Jun-12	D	**10.7**	<0.50	<2.0	**8.1**	<0.50	**3,070**	**0.088**	**251,000**	<0.50	<0.050	**0.89**	<10	<0.30	**121**	**822,000**	**2.21**	**7.4**	<0.50	<2.0	**7,340,000**	<0.050	<5.0	**2.12**	**1.15**	**3.2**
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	18-Sep-12	D	**50.1**	<0.50	<2.0	**9.9**	<0.50	**4,040**	**0.1**	**325,000**	<0.50	**0.05**	**0.78**	**73**	<0.30	**153**	**987,000**	**5.75**	**9**	<0.50	<2.0	**8,850,000**	<0.050	<5.0	**2.55**	**1.54**	**3.4**
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	18-Sep-12	T	**42.4**	<0.50	<2.0	**9.7**	<0.50	**3,940**	**0.074**	**321,000**	<0.50	<0.050	**0.68**	**76**	<0.30	**153**	**988,000**	**5.46**	**8.8**	**0.52**	<2.0	**8,850,000**	<0.050	<5.0	**2.53**	**1.47**	<3.0
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	10-Dec-12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Well Not Sampled										
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	9-Jan-13	D	<5.0	<0.50	<2.0	**9.2**	<0.50	**3,710**	<0.050	**306,000**	<0.50	**0.199**	<0.50	**26**	<0.30	**134**	**911,000**	**6.99**	**8.7**	<0.50	<2.0	**8,040,000**	<0.050	<5.0	**2.24**	**1.16**	<3.0
P6-3-O	Surface Water	P6-3	NA	EB	SW	SW	SW	—	—	9-Jan-13	T	**31.1**	<0.50	<2.0	**8.8**	<0.50	**3,540**	<0.050	**297,000**	<0.50	<0.050	**0.65**	**41**	<0.30	**125**	**906,000**	**6.60**	**8.1**	<0.50	<2.0

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

												Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	15	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved																									
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	10-Dec-12	T	**44.2**	<0.50	<2.0	**8.5**	<0.50	**2,870**	<0.050	**208,000**	<0.50	<0.050	**0.71**	**25**	<0.30	**98**	**648,000**	**3.81**	**6.8**	<0.50	<2.0	**5,820,000**	<0.050	<5.0	**1.71**	**0.98**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Jan-13	D	**6.2**	**0.53**	<2.0	**10.3**	<0.50	**4,030**	<0.050	**302,000**	<0.50	**0.451**	**0.59**	<10	<0.30	**142**	**914,000**	**4.50**	**9.4**	<0.50	<2.0	**8,100,000**	<0.050	<5.0	**2.45**	**1.27**	**3.3**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Jan-13	T	**38.2**	<0.50	<2.0	**8.9**	<0.50	**3,520**	<0.050	**288,000**	<0.50	<0.050	**1.04**	**40**	<0.30	**126**	**864,000**	**4.20**	**8.2**	<0.50	<2.0	**7,740,000**	<0.050	<5.0	**2.16**	**1.26**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	11-Mar-13	D	**10.3**	<0.50	<2.0	**8.3**	<0.50	**3,400**	<0.050	**291,000**	<0.50	<0.050	**0.98**	<10	<0.30	**125**	**764,000**	**3.98**	**7.8**	<0.50	<2.0	**6,820,000**	<0.050	<5.0	**2.04**	**1.17**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	11-Mar-13	T	**22.5**	<0.50	<2.0	**8.3**	<0.50	**3,470**	<0.050	**290,000**	<0.50	<0.050	**0.82**	**23**	<0.30	**126**	**764,000**	**4.08**	**7.7**	<0.50	<2.0	**6,780,000**	<0.050	<5.0	**2.02**	**1.21**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	24-Jun-13	D	**8.7**	<0.50	<2.0	**10.0**	<0.50	**2,660**	<0.050	**218,000**	<0.50	**0.099**	**1.54**	<10	<0.30	**123**	**728,000**	**3.31**	**6.9**	**0.51**	**<5.0**	**5,110,000**	<0.050	<5.0	**1.89**	**1.15**	**3.6**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	24-Jun-13	T	**1,050**	<0.50	<2.0	**13.5**	<0.50	**2,730**	**0.079**	**218,000**	**1.43**	**0.587**	**3.67**	**1,280**	**1.87**	**135**	**710,000**	**40.9**	**6.9**	**1.56**	<2.0	**5,150,000**	<0.050	<5.0	**48.3**	**2.07**	**4.40**	**10.5**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	**11.2**	<0.50	**3,570**	<0.050	**301,000**	<0.50	**0.138**	**0.84**	<10	<0.30	**125**	**960,000**	**2.66**	**8.2**	**0.71**	<2.0	**7,760,000**	<0.050	<5.0	**2.38**	**1.25**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	20-Sep-13	T	**13.4**	<0.50	<2.0	**9.9**	<0.50	**3,350**	<0.050	**316,000**	<0.50	<0.050	<0.50	**21**	<0.30	**122**	**966,000**	**3.13**	**8.0**	<0.50	<2.0	**7,760,000**	<0.050	<5.0	**2.35**	**1.41**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Dec-13	D	<5.0	<0.50	<2.0	**9.0**	<0.50	**3,410**	<0.050	**291,000**	<0.50	<0.050	<0.50	<10	<0.30	**131**	**890,000**	**3.15**	**8.3**	<0.50	<2.0	**7,630,000**	<0.050	<5.0	**2.31**	**1.29**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Dec-13	T	**35.9**	<0.50	<2.0	**9.4**	<0.50	**3,520**	**0.056**	**300,000**	<0.50	**0.052**	**0.62**	**57**	<0.30	**136**	**910,000**	**4.16**	**8.6**	<0.50	<2.0	**7,740,000**	<0.050	<5.0	**2.38**	**1.44**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Mar-14	D	**20.0**	<0.50	<2.0	**8.6**	<0.50	**2,870**	<0.050	**213,000**	<0.50	**0.097**	**0.91**	<10	<0.30	**105**	**670,000**	**4.94**	**6.9**	**0.54**	<2.0	**5,690,000**	<0.050	<5.0	**1.69**	**1.00**	**4.2**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Mar-14	T	**56.2**	<0.50	<2.0	**8.5**	<0.50	**2,780**	<0.050	**204,000**	<0.50	**0.052**	**0.72**	**82**	<0.30	**107**	**650,000**	**9.81**	**6.4**	<0.50	<2.0	**5,350,000**	<0.050	<5.0	**1.70**	**1.02**	**3.1**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	13-Jun-14	D	**8.7**	<0.50	<2.0	**10.2**	<0.50	**3,370**	<0.050	**241,000**	<0.50	**0.100**	**0.83**	**12**	<0.30	**131**	**777,000**	**2.71**	**7.9**	<0.50	<2.0	**6,380,000**	<0.050	<5.0	**2.07**	**1.33**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	13-Jun-14	T	**16.2**	<0.50	<2.0	**10.0**	<0.50	**3,460**	<0.050	**252,000**	<0.50	<0.050	**0.65**	**21**	<0.30	**133**	**791,000**	**4.19**	**7.7**	<0.50	<2.0	**6,890,000**	<0.050	<5.0	**1.95**	**1.26**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	**10.9**	<0.50	**3,930**	<0.050	**312,000**	<0.50	<0.050	**0.82**	<10	<0.30	**157**	**957,000**	**3.56**	**8.0**	<0.50	<2.0	**8,540,000**	<0.050	<5.0	**2.58**	**1.38**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	12-Sep-14	T	**21.3**	<0.50	<2.0	**9.4**	<0.50	**3,850**	<0.050	**318,000**	<0.50	**0.057**	**38**	<0.30	**150**	**967,000**	**4.39**	**7.8**	<0.50	<2.0	**8,620,000**	<0.050	<5.0	**2.47**	**1.42**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	10-Mar-15	D	**8.1**	<0.50	<2.0	**10.3**	<0.50	**4,010**	**0.051**	**302,000**	<0.50	<0.050	**1.14**	<10	<0.30	**99**	**905,000**	**2.57**	**8.3**	<0.50	<2.0	**7,780,000**	<0.050	<5.0	**2.26**	**1.03**	**6.2**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	10-Mar-15	T	**26.0**	<0.50	<2.0	**9.9**	<0.50	**4,210**	**0.057**	**314,000**	<0.50	<0.050	**0.87**	**36**	<0.30	**103**	**959,000**	**3.39**	**8.4**	<0.50	<2.0	**8,150,000**	<0.050	<5.0	**2.33**	**1.25**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	D	<5.0	<0.50	<2.0	**8.8**	<0.50	**2,780**	<0.050	**261,000**	<0.50	<0.050	**0.80**	<10	<0.30	**78**	**807,000**	**4.47**	**6.7**	<0.50	<2.0	**7,210,000**	<0.050	<5.0	**1.74**	**0.99**	**3.7**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	T	**30.9**	<0.50	<2.0	**9.6**	<0.50	**3,160**	<0.050	**269,000**	<0.50	<0.050	<0.50	**44**	<0.30	**87**	**842,000**	**5.78**	**6.9**	<0.50	<2.0	**7,360,000**	<0.050	<5.0	**1.88**	**1.17**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Sep-15	D	<5.0	<0.50	<2.0	**10.0**	<0.50	**3,530**	<0.050	**316,000**	<0.50	<0.050	**0.79**	<10	<0.30	**116**	**910,000**	**2.92**	**8.6**	<0.50	<2.0	**8,020,000**	<0.050	<5.0	**2.22**	**1.29**	**7.9**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Sep-15	T	**16.8**	<0.50	<2.0	**10.1**	<0.50	**3,440**	<0.050	**316,000**	<0.50	**0.078**	**0.85**	**34**	<0.30	**129**	**926,000**	**4.50**	**8.3**	<0.50	<2.0	**8,100,000**	<0.050	<5.0	**2.24**	**1.40**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	D	**21.8**	<0.50	<2.0	**6.6**	<0.50	**2,680**	**0.082**	**218,000**	<0.50	<0.050	**0.56**	**25**	<0.30	**100**	**693,000**	**2.78**	**5.3**	<0.50	<2.0	**5,370,000**	<0.050	<5.0	**1.47**	**0.86**	**5.4**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	T	**67.2**	<0.50	<2.0	**6.6**	<0.50	**2,780**	**0.075**	**223,000**	<0.50	<0.050	**0.60**	**64**	<0.30	**100**	**711,000**	**4.19**	**5.2**	<0.50	<2.0	**5,550,000**	<0.050	<5.0	**1.40**	**1.01**	**5.2**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	26-Feb-16	D	**20.7**	<0.50	<2.0	**9.0**	<0.50	**2,760**	<0.050	**227,000**	<0.50	**0.94**	**0.43**	<10	<0.30	**109**	**731,000**	**3.71**	**6.7**	<0.50	<2.0	**5,890,000**	<0.050	<5.0	**2.08**	**1.05**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	26-Feb-16	T	**34.5**	<0.50	<2.0	**8.2**	<0.50	**2,620**	<0.050	**223,000**	<0.50	<0.050	<0.50	**20.0**	<0.30	**108**	**717,000**	**4.28**	**6.4**	<0.50	<2.0	**6,100,000**	<0.050	<5.0	**1.98**	**1.11**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-May-16	D	<5.0	<0.50	<2.0	**9.2**	<0.50	**3,020**	<0.050	**261,000**	<0.50	<0.050	**1.06**	<10	<0.30	**120**	**849,000**	**2.82**	**8.1**	<0.50	<2.0	**7,380,000**	<0.050	<5.0	**2.33**	**1.15**	**7.3**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-May-16	T	**130**	<0.50	<2.0	**8.9**	<0.50	**3,110**	**0.067**	**268,000**	<0.50	**0.090**	**1.22**	**172**	<0.30	**125**	**866,000**	**7.49**	**8.3**	**0.60**	<2.0	**7,600,000**	<0.050	**7.2**	**2.43**	**1.71**	**8.9**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	D	<5.0	<0.50	<2.0	**8.5**	<0.50	**3,200**	<0.050	**269,000**	<0.50	**0.060**	**0.78**	<10	<0.30	**127**	**855,000**	**2.82**	**7.4**	<0.50	<2.0	**7,690,000**	<0.050	<5.0	**2.41**	**1.14**	**3.1**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	T	**12.8**	<0.50	<2.0	**8.8**	<0.50	**3,330**	<0.050	**265,000**	<0.50	<0.050	**0.66**	**19**	<0.30	**127**	**868,000**	**3.63**	**7.6**	<0.50	<2.0	**7,670,000**	<0.050	<5.0	**2.44**	**1.20**	**3.2**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	24-Nov-16	D	**15.0**	<0.50	<2.0	**8.1**	<0.50	**3,180**	<0.050	**253,000**	<0.50	<0.050	**0.64**	**12**	<0.30	**126**	**811,000**	**3.60**	**7.4**	<0.50	<2.0	**7,340,000**	<0.050	<5.0	**2.04**	**1.05**	**5.7**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	24-Nov-16	T	**37.2**	<0.50	<2.0	**9.1**	<0.50	**3,200**	<0.050	**266,000**	<0.50	<0.050	**0.69**	**42**	<0.30	**130**	**833,000**	**4.04**	**7.6**	<0.50	<2.0	**7,150,000**	<0.050	<5.0	**2.18**	**1.07**	**74.6**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Mar-17	D	**16.6**	<0.50	<2.0	**12.9**	<0.50	**2,720**	<0.050	**238,000**	<0.50	<0.050	**0.64**	<10	<0.30	**117**	**758,000**	**3.15**	**7.5**	<0.50	<2.0	**6,120,000**	<0.050	<5.0	**2.23**	**1.08**	**4.0**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	14-Mar-17	T	**44.1**	<0.50	<2.0	**8.2**	<0.50	**2,700**	<0.050	**245,000**	<0.50	<0.050	**0.53**	**40**	<0.30	**118**	**779,000**	**3.92**	**7.5**	<0.50	<2.0	**6,450,000**	<0.050	<5.0	**2.17**	**1.07**	**16.9**
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Jun-17	D	**8.7**	<0.50	<2.0	**10.0**	<0.50	**2,410**	<0.050	**213,000**	<0.50	<0.050	**0.87**	<10	<0.30	**99**	**658,000**	**4.55**	**6.5**	<0.50	<2.0	**5,520,000**	<0.050	<5.0	**1.93**	**0.83**	<3.0
P6-12-O	Surface Water	P6-12	NA	EB	SW	SW	SW	---	---	9-Jun-17	T	**45.8**	<0.50	<2.0	**11.3**	<0.50	**2,450**	<0.050	**208,000**	<0.50	<0.050	**0.68**	**68**	<0.30	**100**	**633,000**	**6.72**	**6.4**	<0.50	<2.0	**5,370,000**	<0.050	<5.0	**1.89**	**0.99**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	8-Dec-11	D	**10.3** J	<0.50	<2.0	**8.4**	<0.50	**3,000**	**0.051** J	**287,000**	<0.50	<0.050	**0.67**	<10	<0.30	**122**	**550,000**	**3.03**	**7.1**	<0.50	<2.0	**7,370,000**	<0.050	<5.0	**1.99**	**1.23**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	8-Dec-11	T	**86.4**	<0.50	<2.0	**9.1**	<0.50	**3,110**	**0.077** J	**288,000**	<0.50	**0.078**	**1.41**	**116**	<0.30	**125**	**844,000**	**6.80**	**8.0**	<0.60	<2.0	**7,240,000**	<0.050	<5.0	**2.02**	**1.59**	**4.2**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	13-Mar-12	D	**11.8**	<0.50	<2.0	**9.0**	<0.50	**3,520**	**0.124**	**290,000**	<0.10	<0.050	**0.71**	<10	<0.30	**134**	**866,000**	**2.99**	**7.8**	<0.50	<2.0	**7,270,000**	<0.050	<5.0	**2.29**	**1.24**	**3.0**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	13-Mar-12	T	**18.0**	<0.50	<2.0	**7.4**	<0.50	**2,540**	**0.052**	**205,000**	<0.50	<0.050	**0.84**	**13**	<0.30	**100**	**685,000**	**2.13**	**6.2**	<0.50	<2.0	**5,310,000**	<0.050	<5.0	**1.72**	**1.05**	**6.2**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	11-Jun-12	D	**123**	<0.50	<2.0	**8.9**	<0.50	**2,530**	**0.145**	**207,000**	<0.50	<0.050	**1.23**	**158**	<0.30	**100**	**669,000**	**8.02**	**6.0**	<0.50	<2.0	**5,330,000**	<0.050	<5.0	**1.73**	**1.39**	**6.7**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	11-Jun-12	T	**123**	<0.50	<2.0	**9.7**	<0.50	**3,680**	**0.07**	**270,000**	<0.50	**0.99**	**1.19**	<10	<0.30	**136**	**858,000**	**4.05**	**8.2**	**0.51**	<2.0	**7,170,000**	<0.050	<5.0	**2.3**	**1.19**	**3.8**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	18-Sep-12	D	**102**	<0.50	<2.0	**9.9**	<0.50	**3,780**	**0.078**	**282,000**	<0.50	**0.103**	**1.08**	**170**	<0.30	**140**	**916,000**	**7.66**	**8.3**	**0.62**	<2.0	**7,820,000**	<0.050	<5.0	**2.39**	**1.63**	**3.2**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	18-Sep-12	T	**23.4**	<0.50	<2.0	**7.8**	<0.50	**2,630**	<0.050	**186,000**	<0.50	<0.050	**0.71**	<10	<0.30	**79**	**599,000**	**3.76**	**5**	<0.50	<2.0	**5,560,000**	<0.050	<5.0	**1.38**	**0.76**	**4.7**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	10-Dec-12	T	**53.2**	<0.50	<2.0	**7.2**	<0.50	**1,850**	<0.050	**193,000**	<0.50	<0.050	**1.48**	**46**	<0.30	**77**	**602,000**	**5.32**	**4.6**	<0.50	<2.0	**5,320,000**	<0.050	<5.0	**1.37**	**0.74**	**4.1**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	9-Jan-13	D	<5.0	<0.50	<2.0	**9.2**	<0.50	**3,390**	<0.050	**313,000**	<0.50	**0.235**	<0.50	<10	<0.30	**124**	**947,000**	**5.24**	**7.8**	<0.50	<2.0	**8,410,000**	<0.050	<5.0	**2.05**	**1.07**	**4.5**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	9-Jan-13	T	**135**	<0.50	<2.0	**9.4**	<0.50	**3,410**	<0.050	**305,000**	<0.50	**0.063**	**1.08**	**178**	<0.30	**120**	**923,000**	**8.91**	**7.8**	<0.50	<2.0	**8,100,000**	<0.050	<5.0	**2.08**	**1.47**	**4.4**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	11-Mar-13	D	**12.0**	<0.50	<2.0	**7.9**	<0.50	**3,330**	<0.050	**248,000**	<0.50	<0.050	**0.77**	<10	<0.30	**121**	**741,000**	**4.15**	**7.6**	<0.50	<2.0	**6,700,000**	<0.050	<5.0	**1.94**	**1.03**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	11-Mar-13	T	**51.1**	<0.50	<2.0	**8.0**	<0.50	**3,380**	<0.050	**248,000**	<0.50	**0.69**	**62**	<0.30	**124**	**746,000**	**5.16**	**7.5**	<0.50	<2.0	**6,600,000**	<0.050	<5.0	**1.97**	**1.28**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	24-Jun-13	D	**8.1**	<0.50	<2.0	**10.4**	<0.50	**2,870**	<0.050	**216,000**	<0.50	**0.095**	**1.08**	<10	<0.30	**131**	**715,000**	**3.30**	**7.4**	**0.54**	<2.0	**5,820,000**	<0.050	<5.0	**2.03**	**1.13**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	24-Jun-13	T	**138**	<0.50	<2.0	**10.4**	<0.50	**2,890**	**0.064**	**227,000**	**0.52**	**0.098**	**1.40**	**164**	<0.30	**204**	**755,000**	**6.82**	**7.2**	**0.56**	**<5.0**	**5,700,000**	<0.050	<5.0	**2.1**	**1.54**	**1.61**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	**11.5**	<0.50	**3,520**	<0.050	**310,000**	<0.50	**0.094**	**0.91**	<10	<0.30	**129**	**950,000**	**2.92**	**8.3**	<0.50	<2.0	**7,850,000**	<0.050	<5.0	**2.34**	**1.36**	**4.0**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	20-Sep-13	T	**20.4**	<0.50	<2.0	**10.4**	<0.50	**3,520**	<0.050	**307,000**	<0.50	<0.050	**0.52**	**33**	<0.30	**122**	**956,000**	**3.48**	**7.8**	<0.50	<2.0	**7,720,000**	<0.050	<5.0	**2.35**	**1.19**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	9-Dec-13	D	<5.0	<0.50	<2.0	**9.7**	<0.50	**3,330**	<0.050	**292,000**	<0.50	<0.050	<0.50	<10	<0.30	**130**	**892,000**	**3.37**	**8.0**	**0.55**	<2.0	**7,570,000**	<0.050	<5.0	**2.24**	**1.16**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	9-Dec-13	T	**45.0**	<0.50	<2.0	**10.2**	<0.50	**3,420**	**0.062**	**302,000**	<0.50	<0.050	**0.53**	**65**	<0.30	**132**	**909,000**	**4.77**	**8.4**	<0.50	<2.0	**7,740,000**	<0.050	<5.0	**2.37**	**1.43**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	14-Mar-14	D	**29.0**	<0.50	<2.0	**8.4**	<0.50	**2,780**	<0.050	**207,000**	**0.77**	**0.087**	**0.71**	**21**	<0.30	**104**	**663,000**	**5.48**	**6.7**	<0.50	<2.0	**5,640,000**	<0.050	<5.0	**1.67**	**1.05**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	14-Mar-14	T	**46.7**	<0.50	<2.0	**8.0**	<0.50	**2,740**	<0.050	**206,000**	<0.50	**0.059**	**0.72**	**42**	<0.30	**103**	**646,000**	**6.45**	**6.4**	<0.50	<2.0	**5,410,000**	<0.050	<5.0	**1.67**	**1.07**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	13-Jun-14	D	<5.0	<0.50	<2.0	**11.0**	<0.50	**3,500**	<0.050	**250,000**	<0.50	**0.082**	**0.97**	<10	<0.30	**133**	**797,000**	**2.61**	**7.7**	**0.50**	<2.0	**6,910,000**	<0.050	<5.0	**1.99**	**1.23**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	13-Jun-14	T	**155**	<0.50	<2.0	**11.4**	<0.50	**3,380**	<0.050	**250,000**	<0.50	**0.160**	**1.69**	**206**	**0.38**	**131**	**789,000**	**17.2**	**7.5**	**0.59**	<2.0	**6,820,000**	<0.050	**6.5**	**2.01**	**1.85**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	**10.8**	<0.50	**3,910**	<0.050	**310,000**	<0.50	**0.051**	**0.81**	<10	<0.30	**152**	**941,000**	**3.51**	**7.8**	<0.50	<2.0	**8,340,000**	<0.050	<5.0	**2.53**	**1.22**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	12-Sep-14	T	**30.6**	<0.50	<2.0	**9.7**	<0.50	**3,810**	<0.050	**309,000**	<0.50	**0.055**	<0.50	**53**	<0.30	**153**	**928,000**	**5.45**	**7.9**	<0.50	<2.0	**8,150,000**	<0.050	<5.0	**2.51**	**1.52**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	10-Mar-15	D	<5.0	<0.50	<2.0	**11.1**	<0.50	**4,020**	**0.081**	**300,000**	<0.50	<0.050	**0.77**	<10	<0.30	**97**	**899,000**	**2.38**	**8.4**	<0.50	<2.0	**7,650,000**	<0.050	<5.0	**2.40**	**1.16**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	10-Mar-15	T	**102**	<0.50	<2.0	**10.4**	<0.50	**4,100**	**0.089**	**310,000**	<0.50	**0.068**	**0.67**	**128**	<0.30	**98**	**947,000**	**5.09**	**8.4**	<0.50	<2.0	**8,010,000**	<0.050	<5.0	**2.33**	**1.50**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	17-Jun-15	D	<5.0	<0.50	<2.0	**11.2**	<0.50	**3,270**	<0.050	**285,000**	<0.50	**0.084**	<10	<0.30	**90.0**	**854,000**	**3.16**	**7.7**	<0.50	<2.0	**7,400,000**	<0.050	<5.0	**2.01**	**1.10**	**3.7**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	17-Jun-15	T	**192**	<0.50	<2.0	**11.2**	<0.50	**3,200**	<0.050	**281,000**	<0.50	**0.123**	**1.05**	**267**	<0.30	**88**	**843,000**	**7.28**	**6.7**	**0.55**	<2.0	**7,430,000**	<0.050	<5.0	**1.99**	**1.71**	<3.0
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	14-Sep-15	D	<5.0	<0.50	<2.0	**9.9**	<0.50	**3,520**	<0.050	**312,000**	<0.50	<0.050	**0.96**	<10	<0.30	**121**	**911,000**	**2.96**	**8.2**	<0.50	<2.0	**8,210,000**	<0.050	<5.0	**2.17**	**1.37**	**10.7**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	14-Sep-15	T	**19.6**	<0.50	<2.0	**10.6**	<0.50	**3,440**	<0.050	**316,000**	<0.50	**0.056**	**0.84**	**33**	<0.30	**124**	**937,000**	**4.37**	**9.0**	<0.50	<2.0	**8,290,000**	<0.050	<5.0	**2.30**	**1.26**	**3.2**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	10-Dec-15	D	**29.2**	<0.50	<2.0	**7.6**	<0.50	**2,030**	<0.050	**157,000**	<0.50	<0.050	**0.53**	<10	<0.30	**80.0**	**478,000**	**3.60**	**4.1**	<0.50	<2.0	**3,970,000**	<0.050	<5.0	**1.12**	**0.85**	**8.9**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	10-Dec-15	T	**607**	<0.50	<2.0	**9.3**	<0.50	**2,060**	**0.062**	**155,000**	**0.77**	**0.171**	**1.53**	**630**	**0.74**	**79**	**470,000**	**20.2**	**4.3**	**0.57**	<2.0	**3,890,000**	<0.050	**28.4**	**1.23**	**2.29**	**7.0**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	26-Feb-16	D	**17.2**	<0.50	<2.0	**9.4**	<0.50	**2,850**	<0.050	**240,000**	<0.50	<0.050	**0.76**	<10	<0.30	**111**	**761,000**	**3.73**	**6.9**	<0.50	<2.0	**7,070,000**	<0.050	<5.0	**2.04**	**1.00**	**15.0**
P6-12-NIBO	Surface Water	P6-12	NA	NIBO	NIBO	NIBO	NIBO	---	---	26-Feb-16	T	**58.0**	<0.50	<2.0	**9.4**	<0.50	**2,960**	<0.050	**246,000**	<0.50	<0.050	**0.75**	**47**	<0.30	**123**	**793,000**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
P8-8-NBO	Surface Water	P8-8	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	D	**9.2** J	<0.50	<2.0	**8.7**	<0.50	**3,260**	**0.065** J	**301,000**	<0.50	<0.050	**0.55**	<10	<0.30	**132**	**895,000**	**3.32**	**7.7**	<0.50	<2.0	**7,730,000**	<0.050	<5.0	**2.13**	**1.32**	<3.0
P8-8-NBO	Surface Water	P8-8	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	T	**24.3**	<0.50	<2.0	**8.8**	<0.50	**3,330**	**0.058** J	**309,000**	<0.50	<0.050	**0.73**	**27**	<0.30	**132**	**938,000**	**4.36**	**7.7**	<0.50	<2.0	**7,900,000**	<0.050	<5.0	**2.17**	**1.43**	**4.0**
P8-8-NBO	Surface Water	P8-8	NA	EB	8-Dec-13	D	<5.0	<0.50	<2.0	**11.7**	<0.50	**3,500**	**0.058**	<2.0	**9.6**	<0.50	**3,430**	<0.050	**297,000**	<0.50	**0.064**	**0.68**	<10	<0.30	**137**	**992,000**	**4.88**	**8.5**	**0.64**	<2.0	**7,670,000**	<0.050	<5.0	**2.38**	**1.35**	**3.7**
P8-8-NBO	Surface Water	P8-8	NA	EB	NBO	NBO	NBO	---	---	9-Dec-13	T	**40.2**	<0.50	<2.0	**10.6**	<0.50	**3,430**	<0.050	**313,000**	<0.50	**0.055**	**1.31**	**77**	<0.30	**134**	**913,000**	**6.38**	**8.5**	**1.08**	<2.0	**8,050,000**	<0.050	<5.0	**2.33**	**1.45**	**10.6**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	8-Dec-11	D	**7.4** J	<0.50	<2.0	**8.6**	<0.50	**3,210**	**0.063** J	**301,000**	<0.50	<0.050	**0.52**	<10	<0.30	**130**	**896,000**	**2.99**	**7.5**	<0.50	<2.0	**7,850,000**	<0.050	<5.0	**2.10**	**1.30**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	8-Dec-11	T	**16.8**	<0.50	<2.0	**8.7**	<0.50	**3,320**	**0.076** J	**307,000**	<0.50	<0.050	**0.65**	**17**	<0.30	**131**	**936,000**	**3.80**	**7.8**	<0.50	<2.0	**7,950,000**	<0.050	<5.0	**2.19**	**1.35**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	13-Mar-12	D	**11.7**	<0.50	<2.0	**9.6**	<0.50	**3,800**	**0.113**	**305,000**	<0.10	<0.050	**0.63**	<10	<0.30	**147**	**945,000**	**3.36**	**8.5**	**0.87**	<2.0	**7,800,000**	<0.050	<5.0	**2.51**	**1.19**	**4.6**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	11-Jun-12	D	**17.5**	<0.50	<2.0	**5.8**	<0.50	**2,490**	**0.113**	**203,000**	**0.78**	<0.050	**1.14**	**16**	<0.30	**95**	**673,000**	**2.03**	**6.1**	<0.50	<2.0	**5,240,000**	<0.050	<5.0	**1.72**	**1.01**	**3.2**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	11-Jun-12	T	**48.4**	<0.50	<2.0	**6.5**	<0.50	**2,470**	**0.051**	**204,000**	<0.50	<0.050	**0.68**	**138**	<0.30	**96**	**677,000**	**3.04**	**5.9**	**0.92**	<2.0	**5,160,000**	<0.050	<5.0	**1.69**	**1.31**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	**10**	<0.50	**3,720**	**0.099**	**327,000**	<0.50	<0.050	**0.92**	**23**	<0.30	**142**	**974,000**	**4.22**	**8.4**	<0.50	<2.0	**8,680,000**	<0.050	<5.0	**2.4**	**1.3**	**3**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	18-Sep-12	T	**41.1**	<0.50	<2.0	**9.7**	<0.50	**3,800**	**0.081**	**306,000**	<0.50	<0.050	**0.74**	**33**	<0.30	**142**	**916,000**	**5.03**	**8.5**	<0.50	<2.0	**8,250,000**	<0.050	<5.0	**2.38**	**1.36**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	13-Nov-12	D	**17.9**	<0.50	<2.0	**9.0**	<0.50	**3,110**	**0.108**	**238,000**	<0.50	**0.065**	**0.88**	<10	<0.30	**126**	**790,000**	**7.12**	**7.3**	<0.50	<2.0	**6,900,000**	<0.050	<5.0	**1.95**	**1.13**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	13-Nov-12	T	**33.6**	<0.50	<2.0	**8.6**	<0.50	**3,120**	**0.106**	**246,000**	<0.50	<0.050	**0.70**	**30**	<0.30	**126**	**829,000**	**7.79**	**7.2**	<0.50	<2.0	**6,330,000**	<0.050	<5.0	**1.89**	**1.24**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	10-Dec-12	D	**25.7**	<0.50	<2.0	**8.0**	<0.50	**2,590**	<0.050	**194,000**	<0.50	<0.050	**0.69**	**13**	<0.30	**85**	**618,000**	**3.38**	**6.0**	<0.50	<2.0	**5,410,000**	<0.050	<5.0	**1.60**	**0.88**	**3.4**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	10-Dec-12	T	**42.9**	<0.50	<2.0	**8.4**	<0.50	**2,840**	<0.050	**207,000**	<0.50	<0.050	**0.77**	**26**	<0.30	**96**	**655,000**	**3.66**	**6.7**	<0.50	<2.0	**5,710,000**	<0.050	<5.0	**1.77**	**1.03**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-Jan-13	D	<5.0	<0.50	<2.0	**8.9**	<0.50	**3,580**	<0.050	**299,000**	<0.50	**0.244**	**0.54**	**14**	<0.30	**134**	**908,000**	**3.48**	**8.5**	<0.50	<2.0	**8,060,000**	<0.050	<5.0	**2.21**	**1.01**	**3.9**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-Jan-13	T	**29.0**	<0.50	<2.0	**8.1**	<0.50	**3,310**	<0.050	**307,000**	<0.50	<0.050	**0.55**	**36**	<0.30	**122**	**943,000**	**3.49**	**7.7**	<0.50	<2.0	**8,110,000**	<0.050	<5.0	**2.01**	**1.13**	**3.8**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	11-Mar-13	D	**9.7**	<0.50	<2.0	**8.2**	<0.50	**3,380**	<0.050	**251,000**	<0.50	<0.050	**0.61**	<10	<0.30	**121**	**767,000**	**3.93**	**7.6**	<0.50	<2.0	**6,840,000**	<0.050	<5.0	**2.01**	**1.19**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	11-Mar-13	T	**26.1**	<0.50	<2.0	**8.3**	<0.50	**3,460**	<0.050	**251,000**	<0.50	<0.050	**0.69**	**28**	<0.30	**124**	**764,000**	**4.61**	**7.6**	**0.55**	<2.0	**6,840,000**	<0.050	<5.0	**2.02**	**1.20**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	24-Jun-13	D	**8.1**	<0.50	<2.0	**10.0**	<0.50	**2,740**	<0.050	**221,000**	<0.50	<0.050	**1.00**	<10	<0.30	**127**	**716,000**	**3.66**	**7.1**	<0.50	<2.0	**5,160,000**	<0.050	<5.0	**1.88**	**1.09**	**3.7**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	24-Jun-13	T	**994**	<0.50	<4.0	**13.4**	<0.50	**2,730**	**0.054**	**229,000**	**1.18**	**0.820**	**6.20**	**1,170**	**1.65**	**129**	**729,000**	**31.6**	**6.9**	**1.49**	**<7.0**	**5,380,000**	<0.050	**38.3**	**2.03**	**4.11**	**7.2**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	**11.2**	<0.50	**3,500**	<0.050	**302,000**	<0.50	**0.139**	**0.93**	<10	<0.30	**129**	**945,000**	**2.98**	**8.5**	**0.63**	<2.0	**7,640,000**	<0.050	<5.0	**2.36**	**1.34**	**3.8**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	20-Sep-13	T	**20.6**	<0.50	<2.0	**10.3**	<0.50	**3,440**	<0.050	**311,000**	<0.50	<0.050	**0.85**	**31**	<0.30	**126**	**961,000**	**3.17**	**7.7**	<0.50	<2.0	**7,810,000**	<0.050	<5.0	**2.30**	**1.29**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	8-Dec-13	D	<5.0	<0.50	<2.0	**9.7**	<0.50	**3,540**	**0.066**	**304,000**	**0.79**	<0.050	**0.82**	<10	<0.30	**137**	**917,000**	**3.35**	**8.9**	<0.50	<2.0	**7,820,000**	<0.050	<5.0	**2.37**	**1.35**	**10.1**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-Dec-13	T	**39.3**	<0.50	<2.0	**9.7**	<0.50	**3,730**	**0.057**	**301,000**	<0.50	<0.050	**0.68**	**52**	<0.30	**143**	**915,000**	**4.24**	**9.0**	**0.66**	<2.0	**7,740,000**	<0.050	<5.0	**2.43**	**1.54**	**3.7**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Mar-14	D	**20.6**	<0.50	<2.0	**8.1**	<0.50	**2,820**	<0.050	**207,000**	<0.50	**0.071**	**0.78**	<10	<0.30	**107**	**648,000**	**5.47**	**7.0**	<0.50	<2.0	**5,470,000**	<0.050	<5.0	**1.70**	**0.96**	**4.1**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Mar-14	T	**47.6**	<0.50	<2.0	**8.2**	<0.50	**2,820**	<0.050	**200,000**	<0.50	<0.050	**0.56**	**40.0**	<0.30	**107**	**630,000**	**6.73**	**6.9**	<0.50	<2.0	**5,250,000**	<0.050	<5.0	**1.66**	**1.11**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	13-Jun-14	D	**6.8** J	<0.50	<2.0	**10.2**	<0.50	**3,400**	<0.050	**239,000**	<0.50	**0.080** J	**1.12**	<10	<0.30	**133**	**749,000**	**2.79**	**7.6**	**0.77** J	<2.0	**6,250,000**	<0.050	<5.0	**1.99**	**1.19**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	13-Jun-14	T	**264** J	<0.50	<2.0	**10.2**	<0.50	**3,380**	<0.050	**243,000**	<0.50	**0.055**	**0.87**	**23** J	<0.30	**134**	**761,000**	**4.20**	**7.6**	**0.67**	<2.0	**6,360,000**	<0.050	<5.0	**1.94**	**1.28**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	**10.1**	<0.50	**3,980**	<0.050	**316,000**	<0.50	<0.050 UJ	**0.59** J	<10	<0.30	**158**	**956,000**	**3.42**	**8.5**	<0.50	<2.0	**8,560,000**	<0.050	<5.0	**2.48**	**1.37**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	12-Sep-14	T	**17.2**	<0.50	<2.0	**9.8**	<0.50	**4,050**	<0.050	**307,000**	<0.50	<0.050	<0.50 UJ	**29**	<0.30	**162**	**942,000**	**4.01**	**8.6**	<0.50	<2.0	**8,290,000**	<0.050	<5.0	**2.45**	**1.44**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	10-Mar-15	D	**6.1**	<0.50	<2.0	**11.1**	<0.50	**4,000**	**0.090**	**312,000**	<0.50	<0.050	**0.72**	<10	<0.30	**95**	**925,000**	**2.37**	**8.1**	**0.54**	<2.0	**8,070,000**	<0.050	<5.0	**2.24**	**1.13**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	10-Mar-15	T	**26.0**	<0.50	<2.0	**9.4**	<0.50	**4,150**	**0.087**	**311,000**	<0.50	<0.050	**0.82**	**30.0**	<0.30	**95**	**928,000**	**2.84**	**8.4**	<0.50	<2.0	**8,030,000**	<0.050	<5.0	**2.35**	**1.23**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	D	<5.0	<0.50	<2.0	**8.2**	<0.50	**2,970**	<0.050	**290,000**	<0.50	<0.050	**0.74**	<10	<0.30	**84**	**899,000**	**4.12**	**7.0**	<0.50	<2.0	**7,620,000**	<0.050	<5.0	**1.82**	**1.07**	<3.0
DUP-3 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	D	<5.0	<0.50	<2.0	**9.3**	<0.50	**3,140**	<0.050	**266,000**	<0.50	<0.050	**0.74**	<10	<0.30	**89**	**828,000**	**4.34**	**7.1**	<0.50	<2.0	**6,960,000**	<0.050	<5.0	**1.93**	**1.10**	**4.8**
QA/QC RPD										**Duplicates**	D	—	—	—	**13%**	—	**6%**	—	**9%**	—	—	—	—	—	**6%**	**8%**	**5%**	**1%**	—	—	**6%**	—	—	**6%**	**3%**	—
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	T	**24.2**	<0.50	<2.0	**9.3**	<0.50	**3,210**	<0.050	**294,000**	<0.50	<0.050	**0.91**	**38**	<0.30	**91**	**883,000**	**4.98**	**7.1**	<0.50	<2.0	**7,610,000**	<0.050	<5.0	**1.97**	**1.17**	<3.0
DUP-3 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	---	---	17-Jun-15	T	**22.0**	<0.50	<2.0	**9.3**	<0.50	**3,220**	**0.044**	**288,000**	<0.50	<0.050	**0.87**	**31**	<0.30	**91**	**856,000**	**4.98**	**7.2**	<0.50	<2.0	**7,510,000**	<0.050	<5.0	**1.97**	**1.20**	<3.0
QA/QC RPD										**Duplicates**	T	—	—	—	**9%**	—	**0%**	—	**2%**	—	—	—	—	—	**0%**	**3%**	**0%**	**1%**	—	—	**2%**	—	—	**0%**	**3%**	—
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	D	<5.0	<0.50	<2.0	**9.3**	<0.50	**3,470**	<0.050	**312,000**	<0.50	**0.089**	<10	<0.30	**121**	**904,000**	**3.05**	**8.3**	**0.67**	<2.0	**8,120,000**	<0.050	<5.0	**2.12**	**1.18**	**8.1**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Sep-15	T	**12.0**	<0.50	<2.0	**10.1**	<0.50	**3,570**	**0.056**	**318,000**	<0.50	<0.050	**1.15**	**18**	<0.30	**125**	**931,000**	**3.83**	**8.8**	<0.50	<2.0	**8,100,000**	<0.050	<5.0	**2.21**	**1.34**	**3.4**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	D	**22.0**	<0.50	<2.0	**6.4**	<0.50	**2,680**	**0.093**	**217,000**	<0.50	<0.050	<0.50	<10	<0.30	**104**	**684,000**	**2.84**	**5.5**	<0.50	<2.0	**5,490,000**	<0.050	<5.0	**1.47**	**0.83**	<3.0
DUP-8	Surface water	P8-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	D	**21.6**	<0.50	<2.0	**6.8**	<0.50	**2,690**	**0.067**	**216,000**	<0.50	<0.050	**0.66**	<10	<0.30	**98**	**684,000**	**2.80**	**5.2**	<0.50	<2.0	**5,470,000**	<0.050	<5.0	**1.50**	**0.86**	**3.9**
QA/QC RPD										**Duplicates**	D	**2%**	—	—	**6%**	—	**7%**	**33%**	**1%**	—	—	—	—	—	**6%**	**5%**	**1%**	**6%**	—	—	**0%**	—	—	**2%**	**4%**	—
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Dec-15	T	**80.2**	<0.50	<2.0	**7.2**	<0.50	**2,700**	**0.100**	**217,000**	<0.50	<0.050	**0.51**	**75**	<0.30	**107**	**690,000**	**4.33**	**5.6**	<0.50	<2.0	**5,410,000**	<0.050	<5.0	**1.55**	**1.06**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	26-Feb-16	D	**22.2**	<0.50	<2.0	**8.5**	<0.50	**2,610**	<0.050	**220,000**	<0.50	<0.050	**1.42**	<10	<0.30	**106**	**710,000**	**3.89**	**6.4**	<0.50	<2.0	**6,090,000**	<0.050	<5.0	**1.83**	**0.92**	**4.3**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	26-Feb-16	T	**35.3**	<0.50	<2.0	**9.3**	<0.50	**3,010**	<0.050	**231,000**	<0.50	<0.050	**1.08**	**20.0**	<0.30	**118**	**740,000**	**4.27**	**7.3**	<0.50	<2.0	**6,380,000**	<0.050	<5.0	**2.01**	**1.09**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-May-16	D	<5.0	<0.50	<2.0	**9.2**	<0.50	**3,010**	**0.072**	**255,000**	<0.50	<0.050	**0.90**	<10	<0.30	**118**	**828,000**	**2.07**	**8.0**	<0.50	<2.0	**7,190,000**	<0.050	<5.0	**2.16**	**1.16**	**5.7**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-May-16	T	**122**	<0.50	<2.0	**9.3**	<0.50	**2,940**	**0.068**	**262,000**	<0.50	**0.122**	**1.06**	**171**	<0.30	**117**	**857,000**	**7.72**	**7.5**	<0.50	<2.0	**7,440,000**	<0.050	**6.3**	**2.25**	**1.52**	**3.4**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	D	**33.2**	<0.50	<2.0	**8.8**	<0.50	**3,460**	**0.058**	**261,000**	<0.50	<0.050	**0.73**	**42**	<0.30	**128**	**876,000**	**4.07**	**7.3**	<0.50	<2.0	**7,260,000**	<0.050	<5.0	**1.95**	**1.36**	<3.0
DUP-7 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	D	<5.0	<0.50	<2.0	**8.3**	<0.50	**3,190**	<0.050	**266,000**	<0.50	<0.050	**0.74**	<10	<0.30	**124**	**856,000**	**2.79**	**7.4**	<0.50	<2.0	**7,530,000**	<0.050	<5.0	**2.29**	**1.16**	<3.0
QA/QC RPD										**Duplicates**	D	—	—	—	**8%**	—	**8%**	**4%**	**2%**	—	—	—	—	—	**5%**	**2%**	**8%**	**11%**	—	—	**2%**	—	—	**11%**	**8%**	—
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	T	**7.8**	<0.50	<2.0	**9.0**	<0.50	**3,510**	<0.050	**287,000**	<0.50	**0.055**	**0.52**	**13**	<0.30	**126**	**877,000**	**3.34**	**8.3**	<0.50	<2.0	**7,700,000**	<0.050	<5.0	**2.46**	**1.18**	<3.0
DUP-7 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	---	---	18-Aug-16	T	**23.9**	<0.50	<2.0	**9.0**	<0.50	**3,390**	<0.050	**288,000**	<0.50	<0.050	**0.62**	**15**	<0.30	**133**	**856,000**	**3.56**	**7.9**	<0.50	<2.0	**7,730,000**	<0.050	<5.0	**2.46**	**1.30**	<3.0
QA/QC RPD										**Duplicates**	T	—	—	—	**9%**	—	**3%**	**9%**	**0%**	—	—	—	—	—	**5%**	**2%**	**6%**	**9%**	—	—	**0%**	—	—	**0%**	**10%**	—
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	24-Nov-16	D	**14.5**	<0.50	<2.0	**8.2**	<0.50	**3,150**	**0.055**	**263,000**	<0.50	<0.050	**0.55**	<10	<0.30	**127**	**828,000**	**3.81**	**7.4**	<0.50	<2.0	**7,670,000**	<0.050	<5.0	**2.08**	**0.99**	**3.1**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	24-Nov-16	T	**44.1**	<0.50	<2.0	**8.3**	<0.50	**3,210**	**0.066**	**268,000**	<0.50	<0.050	**0.62**	**39**	<0.30	**132**	**842,000**	**4.08**	**7.5**	<0.50	<2.0	**7,290,000**	<0.050	<5.0	**2.18**	**1.08**	**4.7**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Mar-17	D	**16.0**	<0.50	<2.0	**11.2**	<0.50	**2,650**	<0.050	**238,000**	<0.50	<0.050	<0.50	**40**	<0.30	**110**	**773,000**	**3.13**	**8.2**	<0.50	<2.0	**6,150,000**	<0.050	<5.0	**2.10**	**1.01**	**5.1**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	14-Mar-17	T	**45.6**	<0.50	<2.0	**8.4**	<0.50	**2,720**	<0.050	**239,000**	<0.50	<0.050	<0.50	**44**	<0.30	**116**	**763,000**	**4.10**	**7.3**	<0.50	<2.0	**6,260,000**	<0.050	<5.0	**2.14**	**1.05**	**12.6**
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-Jun-17	D	**6.5**	<0.50	<2.0	**10.0**	<0.50	**2,270**	<0.050	**216,000**	<0.50	<0.050	**0.94**	<10	<0.30	**99**	**656,000**	**4.59**	**6.0**	<0.50	<2.0	**6,050,000**	<0.050	<5.0	**1.92**	**0.75**	<3.0
P8-12-O	Surface Water	P8-12	NA	EB	SW	SW	SW	---	---	9-Jun-17	T	**51.9**	<0.50	<2.0	**11.6**	<0.50	**2,530**	<0.050	**207,000**	<0.50	<0.050	**0.92**	**85**	<0.30	**103**	**631,000**	**7.25**	**6.6**	<0.50	<2.0	**5,270,000**	<0.050	<5.0	**1.98**	**0.93**	**3.4**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	D	**9.9** J	<0.50	<2.0	**9.0**	<0.50	**3,100**	**0.078** J	**298,000**	<0.50	<0.050	**0.74**	<10	<0.30	**123**	**891,000**	**2.63**	**7.2**	<0.50	<2.0	**7,590,000**	<0.050	<5.0	**1.98**	**1.25**	<3.0
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	8-Dec-11	T	**33.2**	<0.50	<2.0	**8.8**	<0.50	**3,100**	**0.065** J	**290,000**	<0.50	**0.72**	**42**	<0.30	**128**	**874,000**	**4.07**	**7.3**	<0.50	<2.0	**7,420,000**	<0.050	<5.0	**1.95**	**1.36**	<3.0
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	13-Mar-12	D	**14.8**	<0.50	<2.0	**9.0**	<0.50	**3,730**	**0.092**	**295,000**	<0.10	<0.050	**14.4**	<10	<0.30	**138**	**881,000**	**3.14**	**8.3**	<0.50	<2.0	**7,820,000**	<0.050	<5.0	**2.36**	**1.23**	**7.4**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	11-Jun-12	D	**20.0**	<0.50	<2.0	**6.1**	<0.50	**2,470**	**0.076**	**197,000**	<0.50	<0.050	**1.12**	<10	<0.30	**96**	**655,000**	**1.81**	**5.7**	<0.50	<2.0	**5,040,000**	<0.050	<5.0	**1.70**	**0.96**	**4.6**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	11-Jun-12	T	**32.1**	<0.50	<2.0	**6.7**	<0.50	**2,460**	**0.124**	**199,000**	<0.50	<0.050	**0.64**	**28**	**8.72**	**96**	**652,000**	**2.84**	**6.0**	<0.50	<2.0	**5,050,000**	<0.050	<5.0	**1.76**	**0.97**	**3.1**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	**9.8**	<0.50	**3,760**	**0.102**	**272,000**	<0.50	<0.050	**0.89**	<10	<0.30	**140**	**898,000**	**3.97**	**8.2**	**0.58**	<2.0	**7,530,000**	<0.050	<5.0	**2.33**	**1.26**	**3.7**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	18-Sep-12	T	**177**	<0.50	<2.0	**10.3**	<0.50	**3,760**	**0.087**	**279,000**	<0.50	**0.136**	**1.6**	**273**	**0.55**	**140**	**923,000**	**10.30**	**8.2**	**0.82**	<2.0	**7,670,000**	<0.050	**7.4**	**2.34**	**1.92**	**5.9**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	D	**22.4**	<0.50	<2.0	**7.5**	<0.50	**2,040**	<0.050	**185,000**	<0.50	<0.050	**0.88**	<10	<0.30	**79**	**572,000**	**3.39**	**5**	<0.50	<2.0	**5,110,000**	<0.050	<5.0	**1.41**	**0.8**	**3.4**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	10-Dec-12	T	**52**	<0.50	<2.0	**7.3**	<0.50	**2,090**	<0.050	**184,000**	<0.50	<0.050	**1.19**	**45**	<0.30	**83**	**586,000**	**4.42**	**5.2**	<0.50	<2.0	**5,060,000**	<0.050	<5.0	**1.44**	**0.84**	<3.0
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	D	<5.0	<0.50	<2.0	**8.8**	<0.50	**3,290**	<0.050	**305,000**	<0.50	**0.142**	<0.50	<10	<0.30	**120**	**913,000**	**4.17**	**7.5**	<0.50	<2.0	**8,200,000**	<0.050	<5.0	**1.99**	**1.00**	<3.0
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	9-Jan-13	T	**106**	<0.50	<2.0	**9.5**	<0.50	**3,380**	<0.050	**302,000**	<0.50	**0.083**	**1.03**	**143**	**1.83**	**121**	**912,000**	**7.37**	**7.9**	**0.54**	<2.0	**8,070,000**	<0.050	**5.9**	**2.05**	**1.34**	**3.6**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	D	**10.8**	<0.50	<2.0	**8.2**	<0.50	**3,480**	<0.050	**248,000**	<0.50	**0.067**	<10	<0.30	**125**	**748,000**	**3.90**	**8.0**	<0.50	<2.0	**6,710,000**	<0.050	<5.0	**2.02**	**1.10**	**3.7**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	11-Mar-13	T	**66.4**	<0.50	<2.0	**8.1**	<0.50	**3,450**	<0.050	**245,000**	<0.50	**0.077**	**0.96**	**98**	<0.30	**125**	**730,000**	**6.18**	**7.7**	<0.50	<2.0	**6,630,000**	<0.050	<5.0	**1.99**	**1.31**	<3.0
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	D	**9.2**	<0.50	<2.0	**10.1**	<0.50	**2,790**	<0.050	**210,000**	<0.50	**0.088**	**1.18**	<10	<0.30	**130**	**693,000**	**3.02**	**7.1**	<0.50	<2.0	**5,520,000**	<0.050	<5.0	**1.88**	**1.12**	**5.9**
P8-12-NBO	Surface Water	P8-12	NA	EB	NBO	NBO	NBO	---	---	24-Jun-13	T	**1,160**

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	100	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQC	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
PR2-8-O	Surface Water	PR2-8	NA	RL	SW	SW	SW	---	---	8-Dec-11	D	18.7 J	<0.50	<2.0	8.7	<0.50	3,170	0.071 J	284,000	<0.50	<0.050	0.57	<10	<0.30	130	837,000	4.50	7.6	<0.50	<2.0	7,200,000	<0.050	<5.0	2.04	1.25	<3.0 J
PR2-8-O	Surface Water	PR2-8	NA	RL	SW	SW	SW	---	---	8-Dec-11	T	21.0	<0.50	<2.0	8.7	<0.50	3,060	0.068 J	285,000	<0.50	<0.050	0.78	14	<0.30	128	867,000	7.13	7.6	<0.50	<2.0	7,320,000	<0.050	<5.0	1.96	1.28	<3.0
PR2-8-NBO	Surface Water	PR2-8	NA	RL	NBO	NBO	NBO	---	---	8-Dec-11	D	14.1 J	<0.50	<2.0	8.5	<0.50	2,930	0.051 J	254,000	<0.50	<0.050	0.64	<10	<0.30	112	815,000	2.93	6.7	<0.50	<2.0	6,600,000	<0.050	<5.0	1.89	1.18	<3.0
PR2-8-NBO	Surface Water	PR2-8	NA	RL	NBO	NBO	NBO	---	---	8-Dec-11	T	19.8	<0.50	<2.0	8.6	<0.50	2,780	0.053 J	257,000	<0.50	<0.050	0.68	12	<0.30	115	814,000	3.54	6.7	<0.50	<2.0	6,930,000	<0.050	<5.0	1.88	1.24	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	8-Dec-11	D	12.5 J	<0.50	<2.0	8.7	<0.50	3,190	0.067 J	297,000	<0.50	<0.050	0.67	<10	<0.30	127	885,000	3.41	7.2	<0.50	<2.0	7,700,000	<0.050	<5.0	2.07	1.29	3.6
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	8-Dec-11	T	25.9	<0.50	<2.0	9.3	<0.50	3,220	0.060 J	298,000	<0.50	<0.050	0.61	19	<0.30	125	915,000	4.10	7.4	<0.50	<2.0	7,910,000	<0.050	<5.0	2.08	1.28	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	13-Mar-12	D	12.0	<0.50	<2.0	10.3	<0.50	3,670	0.105	290,000	<0.10	<0.050	0.51	<10	<0.30	143	877,000	4.04	8.1	0.64	<2.0	7,360,000	<0.050	<5.0	2.37	1.23	8.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	11-Jun-12	D	25.3	<0.50	<2.0	8.0	<0.50	2,290	0.089	179,000	<0.50	<0.050	0.98	<10	<0.30	87	587,000	1.70	5.2	0.55	<2.0	4,480,000	<0.050	<5.0	1.59	0.88	5.1
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	11-Jun-12	T	33.8	<0.50	<2.0	5.8	<0.50	2,150	0.065	177,000	0.76	<0.050	1.17	<10	<0.30	80	591,000	2.12	5.0	0.50	<2.0	4,450,000	<0.050	<5.0	1.49	0.90	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	10	<0.50	3,690	0.084	319,000	<0.50	<0.050	0.99	<10	<0.30	140	951,000	3.77	8.3	0.51	<2.0	8,570,000	<0.050	<5.0	2.35	1.3	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	18-Sep-12	T	39.8	<0.50	<2.0	9.6	<0.50	3,640	0.08	310,000	<0.50	<0.050	0.9	53	<0.30	141	931,000	4.82	8	<0.50	<2.0	8,240,000	<0.050	<5.0	2.29	1.35	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	13-Nov-12	D	21.3	<0.50	<2.0	8.1	<0.50	2,810	0.106	237,000	<0.50	<0.050	0.81	<10	<0.30	112	798,000	4.29	6.6	<0.50	<2.0	6,120,000	<0.050	<5.0	1.75	1.02	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	13-Nov-12	T	33.0	<0.50	<2.0	8.5	<0.50	2,900	0.091	231,000	<0.50	<0.050	0.83	19	<0.30	121	792,000	4.70	6.9	<0.50	<2.0	6,070,000	<0.050	<5.0	1.82	1.07	3.3
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	10-Dec-12	D	26.8	<0.50	<2.0	8.1	<0.50	2,430	<0.050	179,000	<0.50	<0.050	1.19	<10	<0.30	80	574,000	4.29	6.0	<0.50	<2.0	4,940,000	<0.050	<5.0	1.48	0.89	3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	10-Dec-12	T	45.0	<0.50	<2.0	8.3	<0.50	2,870	<0.050	187,000	<0.50	<0.050	0.95	30	<0.30	89	597,000	4.23	6.3	<0.50	<2.0	5,220,000	<0.050	<5.0	1.63	0.95	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	9-Jan-13	D	<5.0	<0.50	<2.0	9.0	<0.50	3,290	<0.050	293,000	<0.50	<0.050	<0.50	<10	<0.30	119	885,000	3.12	7.6	<0.50	<2.0	7,790,000	<0.050	<5.0	1.94	0.95	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	9-Jan-13	T	28.8	<0.50	<2.0	8.9	<0.50	3,520	<0.050	301,000	0.85	35	<0.30	128	910,000	3.94	8.3	<0.50	<2.0	8,000,000	<0.050	<5.0	2.17	1.20	6.1
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	11-Mar-13	D	12.0	<0.50	<2.0	8.3	<0.50	3,270	0.119	237,000	<0.50	0.097	0.92	<10	<0.30	117	722,000	4.21	7.3	<0.50	<2.0	6,430,000	<0.050	<5.0	1.88	1.05	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	11-Mar-13	T	19.3	<0.50	<2.0	7.9	<0.50	3,280	<0.050	298,000	<0.50	<0.050	0.93	15	<0.30	116	727,000	4.47	7.4	<0.50	<2.0	6,460,000	<0.050	<5.0	1.85	1.12	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	24-Jun-13	D	7.9	<0.50	<2.0	10.0	<0.50	2,610	<0.050	211,000	<0.50	0.096	1.16	<10	<0.30	119	689,000	4.52	6.6	0.53	2.0	5,250,000	<0.050	<5.0	1.86	1.18	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	24-Jun-13	T	1,770	<0.50	<2.0	16.1	<0.50	2,620	0.084	222,000	2.69	0.975	6.73	2,140	3.31	127	715,000	50.2	6.5	2.86	2.1	5,470,000	<0.050	79.5	2.02	6.20	12.6
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	12.2	<0.50	3,300	<0.050	300,000	<0.50	0.148	1.32	134	<0.30	124	921,000	2.86	8.2	0.65	<2.0	7,390,000	<0.050	<5.0	2.29	1.28	6.1
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	20-Sep-13	T	9.7	<0.50	<2.0	10.3	<0.50	3,230	<0.050	298,000	<0.50	0.056	0.56	19	<0.30	121	936,000	2.97	7.6	<0.50	<2.0	7,450,000	<0.050	<5.0	2.20	1.23	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	10-Dec-13	D	<5.0	<0.50	<2.0	10.1	<0.50	3,600	<0.050	309,000	0.72	0.060	0.72	<10	<0.30	133	935,000	3.81	12.2	<0.50	<2.0	8,070,000	<0.050	<5.0	2.60	1.38	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	10-Dec-13	T	10.3	<0.50	<2.0	9.8	<0.50	3,490	<0.050	305,000	<0.50	<0.050	0.60	20	<0.30	131	957,000	16.9	11.8	<0.50	<2.0	8,020,000	<0.050	<5.0	2.53	1.35	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	14-Mar-14	D	21.9	<0.50	<2.0	8.5	<0.50	2,730	<0.050	200,000	0.70	0.081	0.70	<10	<0.30	102	627,000	7.30 J	6.7	<0.50	<2.0	5,310,000	<0.050	<5.0	1.64	0.96	3.7 J
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	14-Mar-14	T	57.0	<0.50	<2.0	7.8	<0.50	2,650	<0.050	202,000	<0.50	0.082	0.62	65	<0.30	102	652,000	6.75	6.3	<0.50	<2.0	5,360,000	<0.050	<5.0	1.62	1.07	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	13-Jun-14	D	8.2	<0.50	<2.0	9.4	<0.50	3,260	<0.050	232,000	<0.50	0.106	0.85	<10	<0.30	126	729,000	2.13	7.3	0.68	<2.0	6,160,000	<0.050	<5.0	1.92	1.19	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	13-Jun-14	T	35.2	<0.50	<2.0	9.6	<0.50	3,250	<0.050	236,000	1.40	0.080	0.90	51	<0.30	133	733,000	5.00	7.1	0.75	<2.0	6,190,000	<0.050	<5.0	1.85	1.36	4.8
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	11.6	<0.50	3,840	<0.050	310,000	<0.50	<0.050	0.68	<10	<0.30	157	944,000	3.51	8.1	0.50	<2.0	8,380,000	<0.050	<5.0	2.37	1.29	<3.0
PR2-12-O	Surface Water	PR2-12	NA	RL	SW	SW	SW	---	---	12-Sep-14	T	12.4	<0.50	<2.0	9.9	<0.50	3,740	<0.050	333,000	<0.50	<0.050	21	<10	<0.30	152	940,000	3.93	8.1	<0.50	<2.0	9,050,000	<0.050	<5.0	2.38	1.37	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	9-Dec-11	D	13.7	<0.50	<2.0	9.4	<0.50	2,840	0.078	244,000	<0.50	<0.050	0.58	<10	<0.30	115	764,000	8.63	7.5	<0.50	<2.0	6,010,000	<0.050	<5.0	1.96	1.2	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	9-Dec-11	T	61.3	<0.50	<2.0	8.6	<0.50	2,650	0.084 J	258,000	<0.50	0.064	0.8	52	<0.30	107	775,000	10.70	6.6	<0.50	<2.0	7,140,000	<0.050	<5.0	1.98	1.27	5.2
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	13-Mar-12	D	15.9	<0.50	<2.0	9.0	<0.50	3,500	0.077	262,000	<0.10	<0.050	0.78	<10	<0.30	135	812,000	3.29	7.8	<0.50	<2.0	7,050,000	<0.050	<5.0	2.35	1.27	3.2
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	11-Jun-12	D	29.2	<0.50	<2.0	5.1	<0.50	2,110	0.089	178,000	0.77	<0.050	1.30	35	<0.30	80	588,000	1.44	5.1	<0.50	<2.0	4,520,000	<0.050	<5.0	1.47	0.85	5.9
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	11-Jun-12	T	86.6	<0.50	<2.0	6.3	<0.50	2,150	0.069	180,000	1.28	0.066	0.77	82	<0.30	83	591,000	4.81	5.0	0.58	<2.0	4,570,000	<0.050	<5.0	1.47	1.33	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	18-Sep-12	D	<5.0	<0.50	<2.0	9.8	<0.50	3,620	0.094	270,000	<0.50	<0.050	0.88	<10	<0.30	134	840,000	3.73	8.2	<0.50	<2.0	6,980,000	<0.050	<5.0	2.25	1.26	4.8
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	18-Sep-12	T	23.9	<0.50	<2.0	9.6	<0.50	3,710	0.081	268,000	<0.50	<0.050	0.87	40	<0.30	142	820,000	4.74	8.4	0.53	<2.0	6,770,000	<0.050	<5.0	2.35	1.26	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	D	21.5	<0.50	<2.0	8.2	<0.50	2,920	0.070 J	224,000	<0.50	<0.050	0.76	<10	<0.30	120	762,000	4.30	7.1	<0.50	<2.0	5,750,000	<0.050	<5.0	1.81	1.06	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	13-Nov-12	T	39.0	<0.50	<2.0	7.7	<0.50	2,780	0.071	224,000	<0.50	<0.050	0.81	30	<0.30	114	761,000	4.89	6.5	<0.50	<2.0	5,720,000	<0.050	<5.0	1.76	1.06	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	10-Dec-12	D	23.8	<0.50	<2.0	7.1	<0.50	1,830	<0.050	171,000	<0.50	0.052	0.73	<10	<0.30	72	528,000	3.10	4.6	<0.50	<2.0	4,070,000	<0.050	<5.0	1.26	0.72	3.5
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	10-Dec-12	T	119	<0.50	<2.0	7.1	<0.50	1,780	<0.050	171,000	<0.50	0.052	1.42	120	<0.30	72	521,000	5.55	4.5	<0.50	<2.0	4,680,000	<0.050	<5.0	1.25	0.97	3.2
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	9-Jan-13	D	6.2	<0.50	<2.0	10.1	<0.50	3,780	<0.050	295,000	<0.50	0.240	0.79	<10	<0.30	137	885,000	4.78	8.8	<0.50	<2.0	7,730,000	<0.050	<5.0	2.28	1.15	3.6
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	9-Jan-13	T	341	<0.50	<2.0	10.9	<0.50	3,680	<0.050	292,000	0.66	0.162	1.74	423	0.45	137	872,000	12.2	8.4	0.66	<2.0	7,740,000	<0.050	20.5	2.24	2.11	5.9
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	11-Mar-13	D	15.1	<0.50	<2.0	7.4	<0.50	3,600	<0.050	217,000	<0.50	<0.050	0.70	<10	<0.30	107	658,000	7.46	6.6	<0.50	<2.0	5,840,000	<0.050	89.1	2.01	6.48	13.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	11-Mar-13	T	23.7	<0.50	<2.0	7.4	<0.50	3,040	<0.050	217,000	<0.50	<0.050	0.57	14	<0.30	107	667,000	4.60	6.8	<0.50	<2.0	5,070,000	<0.050	<5.0	1.70	1.00	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	24-Jun-13	D	7.1	<0.50	<2.0	10.3	<0.50	2,660	0.056	220,000	<0.50	0.115	1.12	21	<0.30	119	720,000	4.47	6.8	0.53	<2.0	5,470,000	<0.050	<5.0	1.86	1.23	4.3
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	24-Jun-13	T	2,600	<0.50	<2.0	17.3	<0.50	2,650	0.098	219,000	2.71	1.10	14.7	2,380	3.51	121	700,000	50.4	6.6	2.89	<2.0	5,130,000	<0.050	89.1	2.01	6.48	13.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	20-Sep-13	D	<5.0	<0.50	<2.0	11.0	<0.50	3,170	<0.050	292,000	<0.50	0.122	0.93	<10	<0.30	115	896,000	2.75	7.7	0.68	<2.0	7,900,000	<0.050	<5.0	2.24	1.29	4.6
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	20-Sep-13	T	18.7	<0.50	<2.0	10.2	<0.50	3,230	<0.050	305,000	<0.50	<0.050	<0.50	29	<0.30	116	939,000	3.20	7.7	<0.50	<2.0	7,790,000	<0.050	<5.0	2.21	1.33	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	D	<5.0	<0.50	<2.0	10.5	<0.50	3,610	<0.050	305,000	<0.50	0.061	1.09	<10	<0.30	136	929,000	3.82	11.5	<0.50	<2.0	8,500,000	<0.050	<5.0	2.66	1.37	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	10-Dec-13	T	34.8	<0.50	<2.0	10.3	<0.50	3,440	<0.050	325,000	<0.50	0.060	0.68	56	<0.30	138	991,000	6.78	11.0	<0.50	<2.0	8,860,000	<0.050	<5.0	2.66	1.60	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	14-Mar-14	D	21.4	<0.50	<2.0	8.0	<0.50	2,700	<0.050	200,000	<0.50	0.080	0.81	<10	<0.30	101	641,000	5.67	6.4	<0.50	<2.0	5,280,000	<0.050	<5.0	1.63	0.91	3.2
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	14-Mar-14	T	45.1	<0.50	<2.0	7.9	<0.50	2,820	<0.050	198,000	<0.50	0.079	0.58	33	<0.30	103	626,000	6.58	6.6	<0.50	<2.0	5,220,000	<0.050	<5.0	1.61	1.01	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	13-Jun-14	D	8.8	<0.50	<2.0	9.0	<0.50	3,210	<0.050	227,000	<0.50	0.087	1.07	<10	<0.30	126	727,000	2.01	7.4	<0.50	<2.0	6,150,000	<0.050	<5.0	1.89	1.11	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	13-Jun-14	T	23.0	<0.50	<2.0	8.8	<0.50	3,240	<0.050	231,000	<0.50	<0.050	0.87	23	<0.30	130	731,000	4.36	7.4	<0.50	<2.0	6,210,000	<0.050	<5.0	1.75	1.22	4.6
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	12-Sep-14	D	<5.0	<0.50	<2.0	10.5	<0.50	3,680	<0.050	319,000	<0.50	<0.050	<0.50	<10	<0.30	145	911,000	3.44	8.1	0.51	<2.0	8,070,000	<0.050	<5.0	2.42	1.49	<3.0
PR2-12-NBO	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	---	---	12-Sep-14	T	27.1	<0.50	<2.0	9.8	<0.50	3,670	<0.050	305,000	<0.50	0.063	0.60	43	<0.30	147	929,000	4.38	8.2	<0.50	<2.0	8,150,000	<0.050	<5.0	2.33	1.48	<3.0
RAC-SW	Surface Run-off	RAC	NA	RL	SW	SW	SW	---	---	8-Dec-11	D	5.9	0.155	0.338	51.1	0.0052	42.5	0.0815	26,400	<0.50	0.070	0.46	<30	<0.050	0.38	6,470	11.7	22.5	0.216	3.22	5,810	0.0041	<0.30	0.0050	0.078	34.8
RAC-SW	Surface Run-off	RAC	NA	RL	SW	SW	SW	---	---	18-Dec-12	T	33.7	0.169	0.459	53.1	0.0090	46.4	0.0850	26,300	<0.50	0.092	9.60	85	0.271	0.36	6,070	22.5	0.249	3.31	<0.20	83,100	0.0034	0.88	0.0060	1.00	36.2
Tidal Cycle Sampling																																				
P5-3D-A	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Coliluvium	---	13-Mar-12	D	<5.0	<0.50	<2.0	37.0	<0.50	330	<0.030	35,400	<0.50	3.80	<0.50	86	<0.30	<20	61,300	2,210	<2.0	2.41	<2.0	572,000	<0.050	<5.0	0.113	<0.50	517
P5-3D-B	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Coliluvium	---	13-Mar-12	D	<6.0	0.079	0.19	30.1	<0.010	228	0.030	20,900	<1.0	3.18	<1.0	<30	<0.10	1.92	24,900	1,850	1.74	1.91	<0.40	339,000	0.0145	<0.40	0.0538	0.32	64.1
P5-3D-C	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Coliluvium	---	13-Mar-12	D	<6.0	0.074	0.21	28.8	<0.010	226	0.023	20,000	<1.0	2.92	<1.0	<30	<0.10	1.42	22,200	1,680	1.76	1.60	<0.40	335,000	0.0164	<0.40	0.0477	0.31	25.1
P5-3D-D	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Coliluvium	---	13-Mar-12	D	<6.0	0.090	0.18	29.1	<0.010	211	0.027	19,200	<1.0	2.88	<1.0	<30	<0.10	1.49	21,900	1,630	1.66	2.27	<0.40	299,000	0.0165	<0.40	0.0463	0.32	38.9
P5-3D-E	Porewater	P5-3	USAT	EB	1.3-1.5	1.3	1.5	Weathered Coliluvium	---	13-Mar-12	D	<6.0	0.076	0.17	29.0	<0.010	218	0.023	19,900	<1.0	2.81	<1.0	<30	<0.10	1.28	20,800	1,630	1.64	1.82	<0.40	290,000	0.0167	<0.40	0.0391	0.26	34.0
P5-8-A	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	D	2.4	0.137	0.84	115	<0.010	319	<0.040	142,000	<1.0	3.89	3.89	<0.40	1.280	16	133,000	15,290	<0.20	1.03	<0.40	899,000	<0.040	0.41	0.0593	0.26	2.4
P5-8-A	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	T	185	0.225	0.99	119	<0.010	359	<0.060	156,000	<1.0	2.61	<1.0	0.31	13.2	144,000	9,060	0.36	1.52	<0.40	1,000,000	<0.040	8.04	0.146	1.08	23.6
P5-8-B	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	D	<2.0	0.130	0.74	121	<0.010	284	<0.050	128,000	<1.0	8.55	<0.40	2,650	<0.10	7.83	124,000	9,070	0.50	1.22	<0.40	828,000	<0.040	<0.40	0.0651	0.23	3.4
P5-8-B	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	T	476	0.216	1.64	133	0.012	289	0.106	131,000	<1.0	10.5	1.8	3,350	0.60	8.83	125,000	9,380	0.77	2.13	<0.40	848,000	0.0041	19.3	0.243	2.77	36.1
P5-8-C	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	D	2.0	0.111	0.70	137	<0.010	240	<0.050	134,000	<1.0	11.1	<1.0	2,610	<0.10	8.75	127,000	10,200	0.30	0.49	0.56	825,000	<0.040	<0.40	0.0880	0.30	<2.0
P5-8-C	Porewater EA2	P6-8	DS	EB	0.8-1.0	0.8	1.0	Weathered Coliluvium	---	24-Jun-13	T	482	0.207	1.34	133	0.011	260	0.124	128,000	<1.0	10.1	1.9	3,610	0.68	7.94	122,000	9,160	0.65	2.17	0.41	796,000	0.0042	19.4	0.244	2.33

TABLE A-3
CONCENTRATIONS OF DISSOLVED AND TOTAL METALS IN WATER SAMPLES (µg/L [ppb])
FORESHORE
PARKLAND BURNABY REFINERY
2019 ANNUAL MONITORING PROGRAM

Sample ID [5]	Matrix	Sample Location	Well Location	Location Area	Screened Interval (m)	Top Screen (m)	Bottom Screen (m)	Lithology of Screen Interval (Primary)	Lithology of Screen Interval (Secondary)	Sample Date	Total/ Dissolved	Aluminum	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Molybdenum	Nickel	Selenium	Sodium	Thallium	Titanium	Uranium	Vanadium	Zinc
Updated Screening Level (D)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	300	140	NS [2]	NS [2]	2	NS [2]	75	2	NS [2]	0.3	100	10	50	95
Source												CCME (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
Updated Screening Level (T)[1]												100	20	10	500	100	5,000	9	NS [2]	50	110	3	1,000	140	NS [2]	NS [2]	100	1,000	75	2	NS [2]	0.3	100	10	50	95
Source												BC AWQG (FW)	CSR/10	BWQG	BC WWQG	BC WWQG	CSR/10	BWQG	—	BWQG	BC AWQC (FW)	BWQG	BC AWQG (FW)	BWQG	—	—	BC WWQG	CSR/10	BWQG	BC AWQG	—	BC WWQG	CSR/10	BC WWQG	BC WWQG	BWQG
RBMT[4]												—	—	—	—	—	—	—	—	—	—	6.2	—	—	—	—	—	—	—	—	—	—	—	—	—	90
DUP-4 (P6-8D)	Porewater	P6-8	DS	EB	4.0-4.4	4	4.4	Colluvium	—	10-Mar-14	D	<1.0	**0.144**	**0.51**	**39.3**	<0.0050	**84.1**	**0.0236**	**67.400**	<0.50	**0.349**	**0.38**	**134**	<0.050	**1.38**	**30.900**	**487**	**0.508**	**0.73**	<0.20	**40.200**	<0.0020	<0.20	**0.176**	**0.07**	**6.1**
DUP-4 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	—	—	13-Jun-14	D	<5.0 UJ	<0.50	<2.0	**9.3**	<0.50	**3.340**	<0.050	**235.000**	<0.50	<0.050 UJ	UJ	**0.93**	<10	<0.30	**132**	**749.000**	**2.49**	**7.5**	<0.50 UJ	<2.0	**6,310.000**	<0.050	<5.0	**2.00**	**1.10**	<3.0
DUP-4 (P8-12-O)	Surface water	P8-12	NA	EB	SW	SW	SW	—	—	13-Jun-14	T	**15.7** J	<0.50	<2.0	**9.4**	<0.50	**3.370**		**235.000**	<0.50	<0.050	**0.63** J	**14** J	<0.30	**131**	**749.000**	**3.99**	**7.6**	<0.50 UJ	<2.0	**6,290.000**	<0.050	<5.0	**1.87**	**1.24**	<3.0
DUP-4 (P8-7.5I)	Porewater	P8-7.5	DS	EB	2.0-2.4	2	2.4	Colluvium	—	11-Sep-14	D	<2.0	**0.047**	**1.15**	**686**	<0.010	**110**	**0.016** J	**560.000**	<1.0	**0.72**	<0.40	**3.140**	<0.10	**15.2**	**174.000**	**3.550**	**0.50**	**1.68**	<0.40	**277.000**	<0.0040	<0.40	**1.22**	<0.10	<2.0
DUP-4 (P9-3)	Porewater EAZ	P9-3	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	3-Dec-14	D	**11.2**	<0.50	**3.1**	**132**	**800**	<0.050	**71.400**	<0.50	**0.123** J	**55**	<0.30	**55**	<0.30	<20	**109.000**	**1.260**	<2.0	<0.50	<2.0	**1.190.000**	<0.050	<5.0	**0.14**	**2.91**	<3.0
DUP-4 (P9-3)	Porewater EAZ	P9-3	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	3-Dec-14	T	**18.1**	<0.50	**3.6**	**129**	**790**	**0.065**	**69.100**	<0.50	**0.098**	<0.50	<0.30	**131**	<0.30	<20	**105.000**	**1.220**	<2.0	<0.50	<2.0	**1.160.000**	<0.050	<5.0	**0.131**	**2.98**	**4.7**
DUP-5 (P14R-12D)	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	13-Sep-12	D	<5.0 UJ	<0.50	<2.0	**108**	<0.50	**2.330**	**0.262**	**276.000**	<0.50	<0.050	**1.26** J	<10 UJ	<0.30	**74**	**740.000**	**25.1**	**3.9**	**0.95**	<2.0	**5.680.000**	**0.054**	<5.0	**0.828**	**1.03**	**6.7** J
DUP-5 (PR2-12-NBO)	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	—	—	13-Nov-12	D	**23.1**	<0.50	<2.0	**8.6**	<0.50	**2.900**	**0.087** J	**224.000**	<0.50	<0.050	**0.87**	<10	<0.30	**119**	**740.000**	**4.34**	**7.0**	<0.50	<2.0	**5.680.000**	<0.050	<5.0	**1.84**	**1.06**	<3.0
DUP-5 (PR2-12-NBO)	Surface Water	PR2-12	NA	RL	NBO	NBO	NBO	—	—	13-Nov-12	T	**44.8**	<0.50	<2.0	**8.1**	<0.50	**2.870**	**0.078**	**224.000**	<0.50	<0.050	**0.89**	**33**	<0.30	**117**	**750.000**	**4.86**	**6.8**	<0.50	<2.0	**5.770.000**	<0.050	<5.0	**1.75**	**1.13**	<3.0
DUP-5 (P9-7D)	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	—	11-Dec-12	D	<1.0	**0.031**	**0.420**	**35.6**	<0.050	**169**	**0.021**	**56.900**	<0.50	**0.203**	<0.20	**UJ**	<0.30	**115**	**26.200**	**300**	**0.235**	**0.42**	<0.20	**62.600**	**0.0024**	<0.20	**0.112**	**0.057**	**1.3** J
DUP-5 (P14.5-12D)	Porewater	P14.5-12	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	—	9-Jan-13	D	<5.0	<0.50	<2.0	**151** J	<0.50	**2.160** J	<0.050	**398.000**	<0.50	**1.12**	<0.50	**401** J	<0.30	**134** J	**550.000**	**2.560** J	**2.2**	**0.91** J	<2.0	**5.040.000**	<0.050	<5.0	**2.22** J	<0.50	**5.2**
DUP-5 (P9-7)	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	—	13-Mar-13	D	<1.0	**0.018** J	**0.249**	**42.2**	<0.0050	**79.2**	**0.0316**	**75.400**	<0.50	**0.226**	**0.32**	**417**	<0.050	**0.93**	**24.300**	**456**	**0.166**	**0.44**	<0.20	**77.600**	**0.0098**	<0.20	**0.0626**	<0.050	**1.6** J
DUP-5 (P6-5.3)	Porewater EAZ	P6-5.3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	D	**24.8**	**0.101**	**1.43**	**9.67**	**0.015**	**143**	<0.010	**63.100**	<1.0	<0.10 UJ	<0.40	**2.450**	<0.10	**11.6**	**37.600**	**2.340**	**0.12**	<0.40	**318.000**	<0.0040	**1.53**	**0.0213**	**4.74**	**16.8** J
DUP-5 (P6-5.3)	Porewater EAZ	P6-5.3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Jun-13	T	**49.3**	**0.169** J	**1.74**	**48.0** J	**0.022**	**434** J	**0.018** J	**161.000** J	<1.0	**0.10** J	<1.0	**6.580** J	**0.18**	**17.3**	**112.000** J	**5.590** UJ	**0.25**	<0.40	<0.40 UJ	**997.000** J	<0.0040	**3.41**	**0.0355**	**5.65**	<6.0 UJ
DUP-5 (P3R-7D)	Porewater	P3R-7	DS	WB	4.6-5.0	4.6	5	Colluvium	Till	17-Sep-13	D	**3.0** J	**0.044** J	**0.548**	**38.1**	<0.0050	**122**	**0.0121** J	**87.900**	<0.50	**0.304** J	**0.53** J	<30	<0.050	**1.49**	**18.500**	**639**	**0.217**	**1.29** J	<0.20	**96.500**	<0.0020	<0.20	**0.0298**	**0.100**	**6.0** J
DUP-5 (P3-12-NBO)	Surface water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-13	D	<5.0	<0.50	<2.0	**9.7**	<0.50	**3.480**	<0.050	**315.000**	<0.50	<0.050	**0.66**	<10	<0.30	**132**	**986.000**	**3.13**	**11.7**	<0.50	<2.0	**8.990.000**	<0.050	<5.0	**2.6**	**1.42**	<3.0
DUP-5 (P3-12-NBO)	Surface water	P3-12	NA	WB	NBO	NBO	NBO	—	—	10-Dec-13	T	**58.8**	<0.50	<2.0	**9.9**	<0.50	**3.430**	<0.050	**305.000**	**0.78**	**0.053**	**85**	<0.30	**130**	**955.000**	**4.69**	**11.2**	<0.50	<2.0	**8.700.000**	<0.050	<5.0	**2.55**	**1.44**	<3.0
DUP-5 (PR2-3-O)	Surface water	PR2-3	NA	RL	SW	SW	SW	—	—	14-Mar-14	D	**22.1**	<0.50	<2.0	**7.8**	<0.50	**2.630**	<0.050	**200.000**	<0.50	<0.050 UJ	**0.58**	**18** J	<0.30	**99**	**633.000**	**5.55**	**6.3**	**0.5**	<2.0	**5.330.000**	<0.050	<5.0	**1.57**	**1.42** J	<3.0 UJ
DUP-5 (PR2-3-O)	Surface water	PR2-3	NA	RL	SW	SW	SW	—	—	14-Mar-14	T	**40.6**	<0.50	<2.0	**7.7**	<0.50	**2.650**	<0.050	**194.000**	<0.50	<0.050	**0.57**	**26**	<0.30	**101**	**614.000**	**6.66**	**6.4**	<0.50	<2.0	**5.170.000**	<0.050	<5.0	**1.57**	**1.04**	<3.0
DUP-5 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	13-Jun-14	D	<5.0	<0.50	<2.0	**9.7**	<0.50	**3.470**	<0.050	**240.000**	<0.50	**0.105** J	**0.78** J	<10	<0.30	**133**	**759.000**	**3**	**7.7**	<0.50	<2.0	**6.460.000**	<0.050	<5.0	**1.99**	**1.19**	<3.0
DUP-5 (P3-12-O)	Surface water	P3-12	NA	WB	SW	SW	SW	—	—	13-Jun-14	T	**27.7**	<0.50	<2.0	**10**	<0.50	**3.450**	<0.050	**252.000**	<0.50	<0.050	**0.94**	**30** J	<0.30	**135**	**773.000**	**5.12**	**7.8**	<0.50 UJ	<2.0	**6.980.000**	<0.050	<5.0	**2.01**	**1.26**	<3.0
DUP-5 (P8-5)	Porewater EAZ	P8-5	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	3-Dec-14	D	**6.0**	<0.50	**3.3**	**377**	<0.50	**960**	<0.050	**275.000**	<0.50	**0.164** J	<0.50	**310**	<0.30	**28**	**988.000**	**5.510**	<2.0	<0.50	<2.0	**2.920.000**	<0.050	<5.0	**0.511**	**2.41**	<3.0
DUP-5 (P7.5-3)	Porewater EAZ	P7.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	D	**37.9**	**0.029**	**0.451**	**12.7**	**0.0143**	**163**	**0.0113** J	**55.200**	<0.50	<0.050	**1.160**	<0.050	**6.36**	**43.900**	**4.080**	<0.050	**0.7**	**0.49**	**290.000**	<0.0020	**1.73**	**0.0231**	**4.64**	**1.6** J
DUP-5 (P8-3)	Porewater EAZ	P8-3	OB	EB	0.3-0.7	0.3	0.7	Beach sand/OC	—	12-Sep-14	T	**13.3**	**0.58**	**5.7**	**643**	**0.63**	**1.330**	<0.050	**318.000**	**0.90**	**0.099**	<0.50	**285**	<0.30	**31**	**452.000**	**5.380**	<2.0	<0.50	<2.0	**3.710.000**	<0.050	<5.0	**0.640**	**2.64**	**3.1** J
DUP-5 (P7.5-3)	Porewater EAZ	P7.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	T	**49.5**	**0.069**	**0.434**	**13.3**	**0.0158**	**170**	**0.0062**	**53.700**	<0.50	<0.050	<0.50	**1.470**	**0.125**	**6.11**	**40.300**	**3.800**	**0.126** J	**0.51**	<0.20	**278.000**	<0.0020	**2.63**	**0.0266**	**5.63**	<3.0
DUP-5 (P9-7D)	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	Till	7-Jun-12	D	**5.7**	**0.066**	**0.97**	**27**	<0.050	**120**	**0.0243** J	**54.100**	**0.61**	**0.061**	**0.64** J	<30	**0.073** J	**4**	**14.400**	**101**	**0.953**	**0.45** J	<2.0	**77.600**	**0.0098**	<0.20	**0.135**	**0.629**	**5.7** J
DUP-6 (P14.5-12D)	Porewater	P14.5-12	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	—	13-Sep-12	D	<5.0 UJ	<0.50 UJ	<2.0 UJ	**329**	<0.50	**1.140**	<0.050	**306.000**	<0.50	<0.050	<0.50 UJ	<10	<0.30	**37**	**303.000**	**6.61** J	**3.5**	**0.51** J	<2.0	**2.380.000**	<0.050 UJ	<5.0 UJ	**0.822**	<0.50 UJ	**3.0**
DUP-6 (P3.5-7D)	Porewater	P3.5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	—	12-Dec-12	D	<5.0	<0.50	<2.0	**252**	<0.50	**590**	<0.050	**196.000**	<0.50	**2.46**	**3.12**	**119**	<0.30	<20	**268.000**	**5.470**	**3.0**	**2.13**	<2.0	**1.330.000**	<0.050	<5.0	**1.66**	**0.53**	**29.9**
DUP-6 (P3.5-7D)	Porewater	P3.5-7	CS	WB	2.1-2.3	2.1	2.3	Weathered Colluvium	—	14-Mar-13	D	**8.1**	<0.50	<2.0	**176**	<0.50	**560**	**0.135** J	**187.000**	<0.50	**1.04** J	**0.56** J	**76** J	<0.30	<20	**278.000**	**1.700** J	<2.0	**4.37** J	<2.0	**1.420.000**	<0.050	<5.0	**1.50**	<0.50	**18.3**
DUP-6 (P4.9-5)	Porewater EAZ	P4.9-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	—	12-Jun-13	D	<5.0	<0.50	**2.5**	**194**	<0.50	**1.130**	**0.147** J	**310.000**	<0.50	**9.00**	**0.57**	**2.250**	<0.30	**21**	**485.000**	**9.010**	<2.0	**14.1**	<2.0	**3.660.000**	<0.050	<5.0	**2.55**	<0.50	**4.8** J
DUP-6 (P4.9-5)	Porewater EAZ	P4.9-5	ATB	EB	0.4-0.8	0.4	0.8	Imported sand/OC	—	12-Jun-13	T	**95.1**	<0.50	**2.4**	**207**	<0.50	**1.170**	**0.187** J	**314.000**	<0.50	**8.57**	**0.76**	**2.240** J	**95.1**	<0.30	**22**	**486.000**	**8.030**	<2.0	**14.1**	<2.0	**3.670.000**	<0.050	<5.0	**2.62**	<0.50	**6.6** J
DUP-6 (P14-17D)	Porewater	P14-17	NA	CL	4.6-5.0	4.6	5	Colluvium	—	17-Sep-13	D	**8.6**	**0.013**	**1.20**	**4.39**	<0.0050	**279**	**0.0072** J	**18.900**	<0.50	<0.050 UJ	<0.20	<30	<0.050	**4.71**	**34.200**	**104**	**1.27**	<0.20 UJ	**0.61**	**323.000**	<0.0020	**1.08**	**0.0694**	**0.282**	<1.0 UJ
DUP-6 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	D	**11.1**	<0.50	<2.0	**64.7**	<0.50	**630**	<0.050	**178.000**	<0.50	**0.05** J	<0.50	**115**	<0.30	**21**	**170.000**	**2.320**	<2.0	<0.50	<2.0	**1.240.000**	<0.050	<5.0	**0.179**	**3.84**	<3.0
DUP-6 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	11-Dec-13	T	**41**	<0.50	**2.9**	**110**	<0.50	**870**	<0.050	**250.000**	<0.50	**0.106** J	<0.50	**844**	<0.30	**27**	**245.000**	**3.640**	**2.6** J	**0.71** J	<2.0	**1.750.000**	<0.050	<5.0	**0.285**	**4.36**	<3.0
DUP-6 (PR2-12-O)	Surface water	PR2-12	NA	RL	SW	SW	SW	—	—	14-Mar-14	D	**21.1**	<0.50	<2.0	**8.1**	<0.50	**2.740**	<0.050	**198.000**	<0.50	<0.050 UJ	**0.6**	<10	<0.30	**99**	**620.000**	**5.32** J	**6.5**	<0.50	<2.0	**5.160.000**	<0.050	<5.0	**1.61**	**0.08**	<3.0 UJ
DUP-6 (PR2-12-O)	Surface water	PR2-12	NA	RL	SW	SW	SW	—	—	14-Mar-14	T	**53.5**	<0.50	<2.0	**8.3**	<0.50	**2.790**	<0.050	**209.000**	<0.50	<0.050	**0.63**	**43**	<0.30	**101**	**662.000**	**7.02**	**6.4**	<0.50	<2.0	**5.490.000**	<0.050	<5.0	**1.6**	**1.01**	<3.0
DUP-6 (P3R-7D)	Porewater	P3R-7	DS	WB	4.6-5.0	4.6	5	Colluvium	Till	10-Jun-14	D	**1.6**	<0.010	**0.449** J	**3.7**	<0.0050	**132**	<0.050	**66.900**	<0.50	**0.064** J	**0.37** J	**13**	<0.050	**1.54**	**20.500**	**512**	**0.185**	**0.26**	<0.20	**88.100**	<0.0020	<0.20	**0.0186**	<0.050	**2.7** J
DUP-6 (P7.5-3)	Porewater EAZ	P7.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	D	**17.8**	<0.50	**2.1**	**775**	<0.50	**1.850**	<0.050	**521.000**	<0.50	<0.050 UJ	<0.50	**5.650**	<0.30	<20	**666.000**	**23.000**	<2.0	<0.50	<2.0	**7.800.000**	<0.050	<5.0	<0.050	**3.70**	<3.0
DUP-6 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	D	**15.9**	<0.50	<2.0	**20.9**	<0.50	**1.010**	**0.053**	**124.000**	<0.50	<0.050	<0.50	**141**	<0.30	**34**	**251.000**	**1.680** J	<2.0	**1.1** J	<2.0	**2.120.000**	<0.050	<5.0	**0.367**	**2.2**	<3.0
DUP-6 (P6.5-3)	Porewater EAZ	P6.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	4-Dec-14	T	**85.6**	<0.50	<2.0	**20.4**	<0.50	**1.010**	**0.066** J	**123.000**	<0.50	**0.053**	**0.68**	**313**	**0.38** J	**34**	**238.000**	**1.550** J	<2.0	**1.19** J	<2.0	**2.070.000**	<0.050	<5.0	**0.279**	**2.76**	**9.5** J
DUP-6 (P7.5-3)	Porewater EAZ	P7.5-3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	—	3-Dec-14	T	**28.0**	<0.50	<2.0	**806**	<0.50	**1.590**	**0.111** J	**549.000**	<0.50	**0.111** J	**1.07** J	**5.990**	**0.34**	**34**	**697.000**	**21.600**	<2.0	<0.50	<2.0	**5.530.000**	<0.050	<5.0	<0.050	**3.51**	**3.2**
DUP-7 (P14R-12D)	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	7-Jun-12	D	<5.0	<0.50	<2.0	**100**	<0.50	**1.590**	**0.131** J	**213.000**	<0.50	<0.050	**0.77**	**10**	<0.30	**71**	**476.000**	**62**	**4.1**	**0.59**	<2.0	**3.720.000**	<0.050	<5.0	**1.49**	**0.63**	**4.1** J
DUP-7 (PR2-8D)	Porewater	PR2-8	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	—	14-Sep-12	D	<1.0	<0.010	**3.18**	**172**	<0.0050	**36.4**	<0.0050	**214.000**	<0.50	**0.786**	**0.30** J	**1.750**	<0.30	**38**	**38.100**	**2.480**	**0.479**	**0.42**	<0.20	**46.400**	<0.0020	<0.20	**0.0220**	<0.050	**4.0** J
DUP-7 (P14.5-12D)	Porewater	P14.5-12	NA	CL	4.6-5.0	4.6	5.0	Weathered Colluvium	—	12-Dec-12	D	<5.0	<0.50	<2.0	**143**	<0.50	**510**	<0.050	**157.000**	<0.50	**0.079** J	**1.43** J	**23**	<0.30	<20	**104.000**	**21.3** J	**2.7** J	**1.43** J	<2.0	**928.000**	<0.050	<5.0	**0.215**	<0.50	**3.5**
DUP-7 (P14.5-12)	Porewater	P14.5-12	NA	CL	4.6-5.0	3.0	3.4	Weathered Colluvium	—	16-Mar-13	D	**1.9** J	**0.068**	**0.720**	**46.2**	<0.0050	**244**	<0.0050 UJ	**89.900**	<0.50	<0.050 UJ	<0.20 UJ	<30	<0.050	**6.53**	**32.400**	**8.00**	**3.14**	**0.21** J	<2.0	**311.000**	<0.0020	<0.20	**0.149**	**0.447**	<1.0 UJ
DUP-7 (P1-12)	Porewater	P1-12	NA	CL	2.6-3.0	2.6	3.0	Weathered Colluvium	—	13-Jun-13	D	**2.5** J	**0.016**	**0.872**	**20.1**	<0.0050	**191**	<0.0050	**10.100**	<0.50	**0.138** J	<0.20	**69**	<0.050	**1.38**	**14.700**	**110**	**0.426**	**0.29** J	<2.0	**177.000**	<0.0020	<0.20	**0.0676**	**0.140**	**2.0** J
DUP-7 (P1A-5)	Porewater	P1A-5	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	18-Sep-13	D	<1.0	**0.026**	**0.190**	**43.5**	<0.0050	**43.2**	**0.0942**	**76.000**	<0.50	**2.60**	**0.80** J	<30	<0.050	**0.74**	**10.900**	**3.680**	**0.211**	**1.62** J	<0.20	**22.200**	**0.0031**	<0.20	**0.560**	**0.625**	**4.9** J
DUP-7 (P3.8-3D)	Porewater EAZ	P3.8-3	CS	WB	2.6-3.0	2.6	3.0	Colluvium	—	12-Dec-12	D	<5.0	<0.50	<2.0	**96**	<0.50	**1.080**	**0.246**	**251.000**	<0.50	**2.19** J	**0.66**	**26** J	<0.30	<20	**472.000**	**940**	**2.5**	**1.65**	<2.0	**3.200.000**	<0.050	<5.0	**0.544**	**0.53**	**6.0**
DUP-7 (P4-2-3D)	Porewater	P4-2-3	CS	EB	4.6-5.0	4.6	5.0	Colluvium	—	11-Mar-14	D	**1.7**	**0.015**	**0.339**	**42.5**	<0.0050	**88.4**	<0.0050 UJ	**74.800**	<0.50	**0.237**	<0.20 UJ	<30	<0.050	**0.86**	**19.500**	**1.460**	**0.223**	**0.27** J	<2.0	**58.800**	**0.0021**	<0.20	**0.0872**	**0.083**	<1.0 UJ
DUP-7 (P6-8D)	Porewater	P6-8	DS	EB	4.0-4.4	4.0	4.4	Colluvium	—	5-Jan-12	D	**2.0** J	**0.087** J	**2.62**	**51.2**	<0.050	**82.6**	<0.050	**74.200**	<0.50	**0.398**	<0.50	**1.880**	<0.050	**1.27**	**29.600**	**699**	**0.371**	**0.49** J	<2.0	**68.000**	<0.0020	<0.20	**0.179**	**0.192**	<1.0 UJ
DUP-7 (P6-25-3)	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	D	**15.6**	<0.50	**6.7**	**672**	<0.50	**1.960**	<0.050	**610.000**	<0.50	**0.119** J	<0.50	**81**	<0.30	**56**	**769.000**	**9.290**	<2.0	<0.50	<2.0	**5.970.000**	<0.050	<5.0	**0.486**	**4.21**	<3.0
DUP-7 (P6-25-3)	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	12-Sep-14	T	**21.3**	<0.50	**6.9**	**689**	<0.50	**2.240**	<0.050	**599.000**	<0.50	**0.124** J	**0.60** J	**26** J	<0.30	**55**	**761.000**	**8.780**	<2.0	<0.50	<2.0	**5.910.000**	<0.050	<5.0	**0.487**	**4.53**	<3.0
DUP-7 (P6-25-3)	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	D	**19.6**	**0.048**	**0.771**	**37.4**	**0.0159**	**322**	<0.0050	**83.800**	<0.50	<0.050	<0.20	**1.210**	<0.050	**14.5**	**73.200**	**2.210**	<0.050	**0.26** J	**0.51**	**542.000**	<0.0020	**0.97**	**0.0368**	**3.94**	<1.0
DUP-7 (P6-25-3)	Porewater EAZ	P6-25-3	OB	EB	0.5-0.9	0.5	0.9	Beach sand/OC	Weathered Colluvium	4-Dec-14	T	**30.2**	**0.091** J+	**0.822**	**37.4**	**0.0148**	**322**	**0.148**	**75.700**	<0.50	<0.050	**1.040**	**0.161**	**14.4**	**63.100**	**1.900**	**0.124**	**0.41**	**0.34**	**491.000**	<0.0020	**1.55**	**0.0354**	**3.7**	<3.0
DUP-8 (P14-17R)	Porewater	P14-17	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	7-Jun-12	D	**7.2** J	<0.50	<2.0	**112**	<0.50	**1.170**	**0.071** J	**253.000**	**2.4** J	**0.321** J	<0.50	**24** J	<0.30	**107**	**648.000**	**705**	<2.0	**2.15** J	<2.0	**4.630.000**	<0.050	<5.0	**0.352**	**1.21**	**3.4**
DUP-8 (PEC-5I)	Porewater	PEC-5	NA	RL	2.1-2.5	2.1	2.5	Weathered Colluvium	Colluvium	13-Dec-12	D	**1.4** J	**0.094**	**1.04**	**56.2**	<0.0050	**381**	**0.0305** J	**31.100**	<0.50	**1.85**	**0.32** J	**556**	<0.050	**11.4**	**27.500**	**1.210**	**2.90**	**4.64**	<0.20	**406.000**	**0.0050**	<0.20	**0.388**	**0.185**	**5.7**
DUP-8 (P14R-12D)	Porewater	P14R-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	15-Mar-13	D	<5.0	<0.50	<2.0	**32.6**	<0.50	**1.630**	<0.050	**94.700**	<0.50	<0.050	<0.50	<30	<0.30	**34**	**234.000**	**4.3**	**4.1**	<1.0	<2.0	**253.000**	<0.0020	<0.20	**0.620**	**0.680**	**5.8** J
DUP-8 (P1-12D)	Porewater	P1-12	NA	CL	4.6-5.0	4.6	5.0	Colluvium	—	13-Jun-13	D	**3.2** J	**0.112**	**0.445**	**9.39**	<0.050	**519**	<0.0050	**6.090**	<0.50	<0.050 UJ	<0.20 UJ	<30	<0.050	**13.6**	**8.950**	**24.1**	**2.70**	**0.25** J	<2.0	**443.000**	<0.0020	<0.20	**0.478**	**1.30**	<1.0 UJ
DUP-8 (P1-5-3)	Porewater	P1-5-3	NA	CL	2.6-3.0	2.6	3.0	Colluvium	—	12-Dec-12	D	**1.0** J	**0.015**	**2.41**	**43.6**	<0.050	**57.0**	<0.0050 UJ	**50.600**	<0.50	**0.928**	<0.20	**2.210**	<0.050	**0.44**	**13.200**	**792**	**0.187**	**1.02** J	<2.0	**18.200**	**0.0085**	<0.20	**0.0446**	<0.050	**1.1** J
DUP-8 (P3R-7D)	Porewater	P3R-7	DS	WB	4.6-5.0	4.6	5.0	Colluvium	Till	12-Dec-13	D	**4.6** J	**0.117**	**0.51**	**36.2**	<0.0050	**131**	**0.246**	**67.200**	<0.50	**0.148** J	**0.75** J	<30	<0.050	**1.4**	**20.300**	**231**	**0.232**	**0.98**	<2.0	**92.800**	<0.0020	<0.20	**0.0245**	**0.085**	**7.9** J
DUP-8 (P3R-7D)	Porewater	P3R-7	DS	WB	1.5-1.7	1.5	1.7	Colluvium	—	11-Mar-14	D	<1.0	**0.026**	**0.364**	**40.6**	<0.050	**135**	<0.0050	**73.600**	<0.50	**0.110** J	**0.44** J	<30	<0.050	**1.29**	**21.400**	**465**	**0.191**	**0.29** J	<2.0	**95.600**	<0.0020	<0.20	**0.0206**	<0.050	**2.7** J
DUP-8 (P9-7)	Porewater	P9-7	DS	EB	4.4-4.8	4.4	4.8	Colluvium	—	11-Dec-12	D	<1.0	**0.011**	**0.451**	**63.3**	<0.050	**98.9**	<0.050	**87.600**	<0.50	**0.130**	**0.35** J	**2.390**	<0.050	**0.78**	**25.300**	**446**	**0.11**	**0.34**	<2.0	**22.500**	<0.0020	<0.20	**0.0271**	**0.064**	**4.6** J
DUP-8 (P6-5.3)	Porewater EAZ	P6-5.3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	D	**13.4**	<0.50	**4.0**	**486**	<0.50	**2.270**	<0.050	**562.000**	<0.50	**0.095** J	<0.50	**39**	<0.30	**58**	**830.000**	**7.210**	<2.0	<0.50	<2.0	**5.140.000**	<0.050	<5.0	**0.441**	**4.26**	<3.0
DUP-8 (P6-5.3)	Porewater EAZ	P6-5.3	OB	EB	0.4-0.8	0.4	0.8	Beach sand/OC	Weathered Colluvium	12-Sep-14	T	**17.3**	<0.50	**4.2**	**470**	<0.50	**2.170**	<0.050	**566.000**	<0.50	**0.097** J	<0.50	**272**	<0.30	**53**	**800.000**	**7.660**	<2.0	<0.50	<2.0	**5.600.000**	<0.050	<5.0	**0.479**	**4.61**	<3.0 UJ
DUP-8 (PR2-8D)	Porewater	PR2-8	NA	RL	4.6-5.0	4.6	5.0	Weathered Colluvium	—	12-Dec-12	D	<1.0	<0.010	**2.87**	**160**	<0.0050	**29.0**	**0.0068** J	**226.000**	<0.50	**0.819**	<0.20 UJ	**3.760**	<0.050	**0.43**	**37.100**	**