




保華-中國中鐵聯營體
PAUL Y.-CREC JOINT VENTURE

Contract No. DC/2019/10
Yuen Long Effluent Polishing Plant
Main Works for Stage 1

CONTRACTOR'S SUBMISSION FORM (CSF)

CSF No.:		DATE:
DC/2019/10/01.01/CSF/GS/0541/01		10 August 2022
From : Contractor's Representative, Paul Y. – CREC Joint Venture		
To : Project Manager's Representative (Attn: Yeung Hon Man, Simon)		
Document Title: Contamination Assessment Report for SAS Thickener House - 1		*New Submission / Resubmission
AECOM Ref. No.: -		
Originator: Justin Yu		
Contractor's Comments: Further to the comments from EPD received on 01-Aug-2022, we resubmit herewith the finalized Contamination Assessment Report (CAR) for SAS Thickener House – 1 for your review.		
Attachments: Contamination Assessment Report for SAS Thickener House - 1		
Relevant Specifications or Documents No.: PS Cl. 1.145		
Reviewed By: Tom Tong		
 _____ Contractor's Representative		10 August 2022 _____ Date

WT/CPL/HS/LKT/TT/ISA/SHM/jy

Yu Wai Chuen Justin

From: Alice.Yeung <Alice.yeung@ylepp-aecom.com>
Sent: Monday, August 1, 2022 4:50 PM
To: Yu Wai Chuen Justin
Cc: Yu, Lap Bong; Brandon.Wong@mottmac.com; Patrick Leung; Vincent Yiu; sean leung; Jimmy Lam; MH Isa; Tom Tong; Man Sze Ho
Subject: EPD's comments on EP-565/2019 - (YLEPP) Contamination Assessment Report for SAS Thickener House

Dear Justin,

Refer to the Contamination Assessment Report for SAS Thickener House, please find below comments received from EPD today for your advance action.

- (i) Table 2-1 - In 1st row of 5th column, please revise as "Proposed Testing Parameters⁽²⁾".
- (ii) Table 3-2 - Please revise the "Range of Detected Concentration" for bis-(2-ethylhexyl)phthalate.
- (iii) Section 3.10 - Please revise as "..... 1 field blank for **groundwater** and".

Regards,

Alice Yeung
Resident Engineer
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Mobile: +852 5220 5752

AECOM

Yuen Long Effluent Polishing Plant – Main Works for Stage 1

AECOM Asia Co. Ltd.
12/F, Grand Central Plaza, Tower 2
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Shatin, Hong Kong

Attn: Mr. Simon H.M. YEUNG – CRE(C)

Your Reference

Contract No. SPW 03/2022

Our Reference

AFK/EC/TC/BW/bw/
T601100019/02/02/L006

Independent Environmental Checker for Construction of Yuen Long Effluent
Polishing Plant Stage 1 (2022-2023)

Environmental Permit No. EP-565/2019

Mott MacDonald
3/F Manulife Tower
348 Kwun Tong Road
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EP Condition 2.14 – Contamination Assessment Report for Surplus Activated
Sludge Thickener House - 1 (Version 1.2)

9 August 2022

By E-mail

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mottmac.hk

Dear Sir,

I refer to the captioned "Contamination Assessment Report for Surplus Activated Sludge (SAS) Thickener House - 1" (Version 1.2) by Cinotech Consultants Limited dated August 2022 (hereafter referred to as the "CAR"), which was received via e-mail on 9 August 2022 and certified by the Environmental Team Leader on 9 August 2022 (ref. no.: MCL/ED/0298/2022/C).

I have no comment on the captioned submission and hereby verify that the CAR has complied with the relevant requirements set out in Condition 2.14 of Environmental Permit No. EP-565/2019.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2828 5875.

Yours faithfully

for MOTT MACDONALD HONG KONG LIMITED

Brandon WONG
Independent Environmental Checker
T +852 2828 5875
Brandon.Wong@mottmac.com

Encl.

c.c. DSD Mr. Wallace CHENG – E/SP 16 By Email
Fugro Technical Services Limited Mr. YU Lap Bong – ETL By Email



FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Date 9 August 2022
Our Ref. MCL/ED/0298/2022/C

Paul Y.-CREC Joint Venture,
11/F, Paul Y. Centre,
51 Hung To Road,
Kwun Tong, Kowloon,
Hong Kong

BY E-MAIL

Attn: Mr. Wilson TAM

Dear Sir,

Contract No. SPW 07/2020
Environmental Team for Construction of Yuen Long Effluent Polishing Plant Stage 1

Environmental Permits: EP-565/2019
Contract No. DC/2019/10 - Certification of Contamination Assessment Report for Surplus Activated Sludge (SAS) Thickener House - 1

We refer to your Contamination Assessment Report (CAR) for Surplus Activated Sludge (SAS) Thickener House - 1 (Version 1.2) submitted on 9 August 2022 for the captioned project. We are pleased to certify the captioned submission pursuant to Environmental Permit No. EP-565/2019 Condition 2.14.

Thank you for your attention. Should there be any queries, please contact Mr. Cyrus LAI on 3565-4442 or the undersigned on 3565-4373.

Yours faithfully,
for and on behalf of
FUGRO TECHNICAL SERVICES LIMITED

Alvin L.B. YU
Environmental Team Leader

c.c.	DSD	Engineer	Attn: Mr. Wallace CHENG (by E-mail)
	AECOM	ER	Attn: Mr. Simon YEUNG (by E-mail)
	Mott MacDonald HK Limited	IEC	Attn: Mr. Brandon WONG (by E-mail)


Drainage Services Department

**Contract No. DC/2019/10
Yuen Long Effluent Polishing Plant –
Main Works for Stage 1**

**Contamination Assessment Report
for
Surplus Activated Sludge (SAS)
Thickener House - 1**

(Version 1.2)

August 2022

Checked By	 _____ (Land Contamination Specialist)
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REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

CINOTECH CONSULTANTS LIMITED

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1 INTRODUCTION

Background

- 1.1 The existing Yuen Long Sewage Treatment Works (YLSTW/ the Site), was commissioned in 1984 with a design capacity of 70,000 m³/d at average dry weather flow (ADWF), provides secondary level treatment to sewage collected from Yuen Long area such as Wang Chau, Yuen Long Industrial Estate, the Yuen Long Town and Kam Tin. Drainage Services Department (DSD) has proposed to upgrade the YLSTW (the Project) into the Yuen Long Effluent Polishing Plant (YLEPP), in order to cope with the forecast increase in sewage flow upon completion of sewerage under interfacing projects, extension of village sewerage in area as planned by Environmental Protection Department (EPD), as well as the proposed housing developments in the region. The Site location is attached in **Appendix A**.
- 1.2 A Project Profile (No. PP-458/2012) was submitted to the Environmental Protection Department (EPD) on 27 February 2012 for application for an Environmental Impact Assessment (EIA) Study Brief under section 5(1)(a) of the EIAO and the EIA Study Brief No. ESB-241/2012 for the Project was issued on 5 April 2012 under the EIAO. A revised Project Profile, entitled “Yuen Long Effluent Polishing Plant”, was submitted on 9 Oct 2018 (No. PP-570/2018) and a revised EIA Study Brief No. ESB-309/2018 was issued on 14 November 2018 under the EIAO. An Environmental Impact Assessment (EIA) Report was approved under EIAO in April 2019 (No.: AEIAR-220-2019) in accordance with the EIA Study Brief (No. ESB-309/2018) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).
- 1.3 According to the Contamination Assessment Plan in the EIA Report (EIA-CAP), prior to commencement of the SI works, a review of the EIA-CAP should be conducted to confirm whether the proposed SI works are still valid, and Supplementary Contamination Assessment Plan (s) (SCAPs), presenting findings of the review, the latest site conditions and any updated sampling strategy and testing protocol, should be submitted to EPD for endorsement. As stipulated in EP condition 2.14, the SCAPs shall be submitted to EPD no later than three months before the commencement of site investigation (SI) at the concerned facilities/ areas; subsequently, the SI works should be carried out according to EPD’s agreed SCAPs, with Remediation Action Plan (RAPs) if contamination is confirmed and remediation is deemed necessary, for remediation in accordance with the approved RAPs and submit Remediation Report(s) (RRs) to document the remediation programme for approval by the Director. No construction works at the concerned facilities/ area shall be commenced before the approval of respective SCAPs by the Director and the satisfactory completion of necessary decontamination works.
- 1.4 The Contract No. DC/2019/10 – Yuen Long Effluent Polishing Plant – Main Works for Stage 1 (the Contract) was commissioned by DSD on November 2020 to carry out the works for phase I of the Project for the provision of facilities, such as Inlet works building, Lamella Primary Sedimentation Tank, Bio-reactor systems, Tertiary Digesters, Biogas Holders, Administration Building, Transformer Rooms and Switch Rooms, Storage Building, etc.

- 1.5 The final version of the Supplementary Contamination Assessment Plan (SCAP) has been submitted and approved by Environment Protection Department (EPD) in April 2021. According to the agreed SCAP, SI works are required for some of the facilities in the plant, namely the Waste Storage Area, Surplus Activated Sludge (SAS) Thickener House, Wash Water Pumping Station, Transformer House ‘A’, Mechanical Workshop, Main Storeroom and Workshops, Screening Press House under this contract. However, in order to ensure that the existing sewage treatment works can operate normally, SI works for different facilities/ areas have to be conducted in separate stages and hence this Contamination Assessment Report (CAR - Part 4a) shall only entail the SI results for part of the “SAS Thickener House” (SAS Thickener House-1), covering 4 Boreholes, namely ENV-BH16, ENV-BH17, ENV-BH22 and ENV-BH23. SI works for other facilities/ areas shall be carried out under separate submissions. The locations of the facilities and the proposed sampling for the SI, as per the agreed SCAP, in the plant are illustrated in **Appendix A**.

Objective & Scope

- 1.6 Cinotech Consultants Limited (Cinotech) was commissioned by Paul.Y – CREC Joint Venture on behalf of the DSD to conduct Land Contamination Assessment focusing on the Contract for the partial fulfilment of the Submission Requirement as per EP condition 2.14 and Section 6 of EM&A Manual (No.: AEIAR-220-2019). CAR-Part 4a provides the findings of the SI works and present the laboratory results and their interpretation of the collected samples for “SAS Thickener House-1”.
- 1.7 CAR-Part 4a is prepared to present the findings of the land contamination assessments with reference of the following legislation, guidelines and standards:
- Practice Guide for Investigation and Remediation of Contaminated Land (PG);
 - Guidance Note for Contaminated Land Assessment and Remediation;
 - Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management;
 - Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C);
 - Dangerous Goods Ordinance (Cap 295).
- 1.8 The CAR-Part 4a provides a summary of the SCAP as agreed in April 2021, describing the SI and sampling works conducted in this assessment and present the laboratory results and their interpretation for the collected samples for the “SAS Thickener House-1”. CAR(s) for other facility/ area that required SI under this contract shall be prepared under separate submissions once the corresponding SI works, laboratory results and their interpretation of the collected samples are completed.

2 SITE INVESTIGATION

Sampling Strategy

- 2.1 According to the agreed SCAP, 8 sampling locations, namely ENV-BH16, ENV-BH17, ENV-BH18, ENV-BH19, ENV-BH20, ENV-BH21, ENV-BH22 and ENV-BH23 were proposed for the SI at “SAS Thickener House”. However, as only the sampling works for boreholes ENV-BH16, ENV-BH17, ENV-BH22 and ENV-BH23 have been carried out at this stage, the SI results and findings for those boreholes shall be presented in this report, while that for the remaining boreholes, i.e. ENV-BH18 to ENV-BH21, will be prepared under separate submission.
- 2.2 The sampling locations and Chemicals of Concern (CoCs) proposed in the agreed SCAP are summarised in **Table 2-1** below.

Table 2-1 Summary of Proposed Sampling Points & CoCs for “SAS Thickener House”

Potentially Contaminated Area	Sampling Location ID in this report	Sampling Location ID in SCAP	Sampling Matrix/ Depths ^{(1) (3)}		Proposed Testing Parameters ⁽²⁾
SAS Thickener House	ENV-BH16, ENV-BH17, ENV-BH22, ENV-BH23	ENV-BH16, ENV-BH17, ENV-BH22, ENV-BH23	Soil	(i) 0.5m bgl (ii) 1.5m bgl (iii) 3.0m bgl (iv) above GW level if present or if no GW encountered, 6m bgl	Metals: Full List VOCs: Full List SVOCs: Full List PCRs: Full List
			GW	If present	Metals: Mercury VOCs: Full List SVOCs: Full List PCRs: Full List
<p>Notes:</p> <p>(1) m bgl = meter below ground level; GW – groundwater</p> <p>(2) - Full list refers to the parameters as shown in Table 2.1 – RBRGs for Soil and Soil Saturation Limit and Table 2.2 – RBRGs for Groundwater and Solubility Limit under VOCs, SVOCs, metals and PCRs in the Guidance Manual.</p> <p>- BTEX includes benzene, toluene, ethylbenzene and total xylenes</p> <p>- PAHs include acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, Fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene.</p> <p>- Since RBRG value of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis-(2-Ethylhexyl)phthalate, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene and Phenol were not available for groundwater, the said parameters would not be tested in groundwater sample.</p> <p>(3) Groundwater samples will only be collected if groundwater is encountered during SI works</p>					

Sampling Methodology

- 2.3 Prior to commencement of sampling & drilling, trial pitting was conducted to inspect for subsurface utilities and obstructions that could pose a hazard or hinder the sampling works. All drilling machine and equipment were decontaminated using a non-phosphate detergent and distilled water prior to the SI.

- 2.4 A disturbed soil sample was collected at every trial pit at a nominal depth of 0.5m bgl using a hand-held sampler.
- 2.5 3 undisturbed samples were collected, as far as possible, at every borehole with U76 tube sampler (nominal 76mm diameter) at nominal depths of 1.5mbgl, 3.0mbgl and 4.5mbgl below the excavation pit using dry borehole drilling and hammer dropping method. According to sampling plan, summarised in **Table 2-1**, the final sample proposed for each sampling location should be “above groundwater level if present or if no groundwater encountered, 6m bgl”. As high groundwater levels were recorded at all boreholes, when not enough soil was presented at sampling depths below the groundwater levels, less than 3 undisturbed samples were able to be collected.
- 2.6 When groundwater was encountered within the sampling depth, the borehole(s) was drilled to a minimum depth of 2m below the water table to allow for the installation of a groundwater monitoring well, from which a groundwater sample was collected.
- 2.7 The sampling exercise was supervised by land contamination specialist to determine the sampling depths for each sampling locations, and inspect for the presence of non-aqueous phase liquid (NAPL) or other signs of potential land contamination.
- 2.8 All collected Soil and Groundwater samples were stored and transported at a temperature of 4°C. The samples were delivered to ALS Technichem (HK) Pty Ltd, a Hong Kong Laboratory Accreditation Scheme (HOKLAS) analytical laboratory, on the same day as far as possible, for testing and analysis on the proposed the Chemicals of Concern (CoCs).

Quality Control and Quality Assurance (QA/QC)

- 2.9 A chain of custody system shall be operated as part of the QA/QC procedure. The laboratory accredited QA/QC procedures shall be followed as below:

Table 2-2 QA/QC Requirements

Samples taken under QA/QC procedures	Sampling Frequency	Testing Parameters
Duplicate samples	- 1 for every 20 Soil samples - 1 for every 20 GW samples	All parameters that are tested for the proposed soil and groundwater samples at the proposed sampling points ¹
Equipment blank	- 1 for every 20 Soil samples - 1 for every 20 GW samples	All parameters that are tested for the proposed soil and groundwater samples at the proposed sampling points ¹
Field Blank	- 1 for every 20 Soil samples - 1 for every 20 GW samples	All parameters that are tested for the proposed soil and groundwater samples at the proposed sampling points ¹
Trip Blank	1 for every trip with samples that require the analysis of VOCs	All VOCs parameters that are tested for the proposed soil and groundwater samples at the proposed sampling points ¹

Remarks:

- 1) Refer to **Table 2-1** for the proposed testing parameters at the proposed sampling points and **Table 3-2** and **Table 3-3** for the laboratory analysis schedule.

3 CONTAMINATION ASSESSMENT RESULTS

Summary of Samples Collected

- 3.1 The sampling for boreholes ENV-BH16, ENV-BH17, ENV-BH22 and ENV-BH23 within the concerned areas in “SAS Thickener House” had been conducted from 13th April 2022 to 16th May 2022, and supervised by land contamination specialist from Cinotech. A total of 14 soil samples and 4 groundwater samples were taken and their findings are summarized in this CAR-Part 4a. The as-built sampling locations and drillhole records are illustrated in **Figure 1** and attached in **Appendix C** respectively.
- 3.2 The list of samples taken are summarized in **Table 3-1**. The details of the samples taken at each borehole, including sampling date, depth of each soil and groundwater sample, and the field measurements taken before groundwater sampling are enclosed in **Appendix D**.

Table 3-1 Samples Inventory

Sampling Location	Sampling Depth [mbgl] of Soil Sample no. [N] ¹				No. of GW Samples Collected
	N=1	N=2	N=3	N=4	
ENV-BH16	0.5	1.5	3.0	3.5	1
ENV-BH17	0.5	1.5	3.0	3.8	1
ENV-BH22	0.5	1.5	3.0	N/A ²	1
ENV-BH23	0.5	1.5	3.0	N/A ²	1

1. N is the ordinal number for the sample collected at each sampling location
 2. N/A = No soil sample was collected.
 As the GW levels of boreholes ENV-BH22 and ENV-BH23 were 1.2m bgl, the sampling depths could be terminated at 3.5m bgl according to the requirements listed in **Table 2-1**. Therefore, only 3 soil samples were collected at those boreholes. The sampling depths of the boreholes are shown in **Appendix B**.

- 3.3 According to sampling frequency shown in **Table 2-2**, 1 duplicate sample, 1 equipment blank and 1 field blank sample are collected for soil and groundwater sampling respectively; while a total of 6 trip blank samples are collected for the SI.
- 3.4 The soil and groundwater samples were sent to the ALS Technichem (HK) Pty Limited, a HOKLAS accredited laboratory for analysing the CoCs listed in **Table 2-1**. All laboratory test methods have been accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS). The reporting limit for laboratory analysis provided by the ALS Technichem (HK) Pty Limited is also listed in **Table 3-2** and **Table 3-3**.

On site Observation

- 3.5 Before drilling and during the SI for all boreholes, no abnormal smell and/ or other trace of pollutant on the ground surfaces was observed. The photo records and the drillhole records for the SI works at the “SAS Thickener House-1” can be found in **Appendix B** and **Appendix C** respectively.
- 3.6 During sampling, high groundwater level is recorded at all boreholes. As boreholes at all sampling locations were terminated at 2m or more below the final groundwater level, only 3 samples were collected at some of the boreholes due to the high groundwater level recorded. No exceedance was recorded in the sampling results and no traces of

contamination were detected during the borehole drilling within the “SAS Thickener House-1”. Therefore, no additional sampling at further depths is required.

- 3.7 During the groundwater purging/ sampling processes, no abnormal smell, colour, or NAPL has been observed. Prior to sampling, the wells were purged with at least approximately five times the well volume at each sampling event to remove silt and drilling fluid residue from the wells, with reference to the SCAP. Samples were taken by using a bailer within 24 hours of the wells being purged.

Laboratory Results & Interpretation

- 3.8 All of the soil and groundwater samples (including duplicate samples, trip blank, equipment blank and field blanks) were delivered to ALS Technichem (HK) Pty Limited for laboratory analysis. The laboratory reports and chain of custody forms are enclosed in **Appendix F**.
- 3.9 According to the agreed SCAP, the RBRGs for the land use of industrial, as listed in Table 2.1 of EPD’s *Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management*, are adopted for the interpretation of SI results at the “SAS Thickener House-1”. The laboratory results are compared against the adopted RBRGs and soil saturation limit (C_{sat}) for soil samples and the adopted RBRGs and the solubility limits for groundwater samples. No exceedance of RBRG, soil saturation limit and solubility limits are recorded for both soil samples and groundwater samples. Therefore, no further sampling and remediation are required. The detailed laboratory testing results and the point-by-point comparison for each sample are listed in **Appendix E**.

Table 3-2 Soil Sample Concentrations and Exceedances of RBRGs and Csat

Chemical	Frequency of Detection (x/y)	Range of Detected Concentration	Range of Method Reporting Limit (mg/kg)	Analytical Method	Industrial RBRG (mg/kg)	Csat (mg/kg)	Maximum Detected Concentration Exceeds (check if applicable)	
							RBRG	Csat
Metal								
Antimony	1/14	BDL - 1.00E+0	1.00E+00	USEPA Method 6020	2.61E+02	-	FALSE	----
Arsenic	14/14	3.00E+0 - 1.50E+1	1.00E+00		1.96E+02	-	FALSE	----
Barium	14/14	3.27E+1 - 1.40E+2	1.00E+00		1.00E+04*	-	FALSE	----
Cadmium	0/14	BDL	2.00E-01		6.53E+02	-	FALSE	----
Chromium (III)	14/14	2.36E+1 - 7.17E+1	1.00E+00		1.00E+04*	-	FALSE	----
Chromium (VI)	1/14	BDL - 1.50E+0	1.00E+00	USEPA Method 3060 APHA Method 3500 Cr:D	1.96E+03	-	FALSE	----
Cobalt	14/14	8.00E+0 - 3.29E+1	1.00E+00	USEPA Method 6020	1.00E+04*	-	FALSE	----
Copper	14/14	1.30E+1 - 7.20E+1	1.00E+00		1.00E+04*	-	FALSE	----
Lead	14/14	2.10E+1 - 9.50E+1	1.00E+00		2.29E+03	-	FALSE	----
Manganese	14/14	4.02E+2 - 1.98E+3	1.00E+00		1.00E+04*	-	FALSE	----
Mercury	1/14	BDL - 6.00E-2	5.00E-02	USEPA Method 3112B	3.84E+01	-	FALSE	----
Molybdenum	11/14	BDL - 5.00E+0	1.00E+00	USEPA Method 6020	3.26E+03	-	FALSE	----
Nickel	14/14	1.40E+1 - 4.60E+1	1.00E+00		1.00E+04*	-	FALSE	----
Tin	14/14	3.40E+0 - 3.62E+1	1.00E+00		1.00E+04*	-	FALSE	----
Zinc	14/14	5.00E+1 - 1.94E+2	1.00E+00		1.00E+04*	-	FALSE	----
VOCs								
2-Propanone (Acetone)	0/14	BDL	5.00E+01	USEPA Method 8260	1.00E+04*	***	FALSE	----
Benzene	0/14	BDL	2.00E-01		9.21E+00	3.36E+02	FALSE	FALSE
Bromodichloromethane	0/14	BDL	1.00E-01		2.85E+00	1.03E+03	FALSE	FALSE
2-Butanone (MEK)	0/14	BDL	5.00E+00		1.00E+04*	***	FALSE	----
Chloroform	0/14	BDL	4.00E-02		1.54E+00	1.10E+03	FALSE	FALSE
Ethylbenzene	0/14	BDL	5.00E-01		8.24E+03	1.38E+02	FALSE	FALSE
Methyl tert-Butyl Ether	0/14	BDL	5.00E-01		7.01E+01	2.38E+03	FALSE	FALSE
Methylene Chloride	0/14	BDL	5.00E-01		1.39E+01	9.21E+02	FALSE	FALSE
Styrene	0/14	BDL	5.00E-01		1.00E+04*	4.97E+02	FALSE	FALSE
Tetrachloroethene	0/14	BDL	4.00E-02		7.77E-01	9.71E+01	FALSE	FALSE
Toluene	0/14	BDL	5.00E-01		1.00E+04*	2.35E+02	FALSE	FALSE
Trichloroethene	0/14	BDL	1.00E-01		5.68E+00	4.88E+02	FALSE	FALSE
Xylenes (Total)	0/14	BDL	2.00E+00		1.23E+03	1.50E+02	FALSE	FALSE
SVOCs								
Acenaphthene	0/14	BDL	5.00E-01	USEPA Method 8270	1.00E+04*	6.02E+01	FALSE	FALSE
Acenaphthylene	0/14	BDL	5.00E-01		1.00E+04*	1.98E+01	FALSE	FALSE

Chemical	Frequency of Detection (x/y)	Range of Detected Concentration	Range of Method Reporting Limit (mg/kg)	Analytical Method	Industrial RBRG (mg/kg)	Csat (mg/kg)	Maximum Detected Concentration Exceeds (check if applicable)		
							RBRG	Csat	
Anthracene	0/14	BDL	5.00E-01		1.00E+04*	2.56E+00	FALSE	FALSE	
Benzo(a)anthracene	0/14	BDL	5.00E-01		9.18E+01	-	FALSE	----	
Benzo(a)pyrene	0/14	BDL	5.00E-01		9.18E+00	-	FALSE	----	
Benzo(b)fluoranthene	0/14	BDL	5.00E-01		1.78E+01	-	FALSE	----	
Benzo(g,h,i)perylene	0/14	BDL	5.00E-01		1.00E+04*	-	FALSE	----	
Benzo(k)fluoranthene	0/14	BDL	5.00E-01		9.18E+02	-	FALSE	----	
bis(2-ethylhexyl)phthalate	1/14	BDL - 1.29E+1	5.00E+00		9.18E+01	-	FALSE	----	
Chrysene	0/14	BDL	5.00E-01		1.14E+03	-	FALSE	----	
Dibenz(a,h)anthracene	0/14	BDL	5.00E-01		9.18E+00	-	FALSE	----	
Fluoranthene	0/14	BDL	5.00E-01		1.00E+04*	-	FALSE	----	
Fluorene	0/14	BDL	5.00E-01		1.00E+04*	5.47E+01	FALSE	FALSE	
Hexachlorobenzene	0/14	BDL	2.00E-01		5.82E-01	-	FALSE	----	
Indeno(1,2,3.cd)pyrene	0/14	BDL	5.00E-01		9.18E+01	-	FALSE	----	
Naphthalene	0/14	BDL	5.00E-01		4.53E+02	1.25E+02	FALSE	FALSE	
Phenanthrene	0/14	BDL	5.00E-01		1.00E+04*	2.80E+01	FALSE	FALSE	
Phenol	0/14	BDL	5.00E-01		1.00E+04*	7.26E+03	FALSE	FALSE	
Pyrene	0/14	BDL	5.00E-01		1.00E+04*	-	FALSE	----	
PCRs									
C6 - C8 Fraction	0/14	BDL	5.00E+00		USEPA Method 8260/8015	1.00E+04*	1.00E+03	FALSE	FALSE
C9 - C16 Fraction	0/14	BDL	2.00E+02	1.00E+04*		3.00E+03	FALSE	FALSE	
C17 - C35 Fraction	0/14	BDL	5.00E+02	1.00E+04*		5.00E+03	FALSE	FALSE	
Noted: All results are presented in mg/kg BDL denotes below detection limit. "x = number of samples in which chemical was found above the method reporting limit y = number of samples analyzed for chemical" * indicates a 'ceiling limit' concentration *** indicates that the soil saturation limit exceeds the 'ceiling limit' therefore the RBRG applies. # Chromium III = Total Chromium – Chromium VI ---- = Not applicable as no soil saturation limit is given.									

Table 3-3 Groundwater Sample Concentrations and Exceedances of RBRGs and Solubility Limits

Chemical	Frequency of Detection (x/y)	Range of Detected Concentration	Range of Method Reporting Limit (mg/L)	Analytical Method	Industrial (mg/L)	Solubility Limit (mg/L)	Maximum Detected Concentration Exceeds (check if applicable)		
							RBRG	Solubility	
Metal									
Mercury	0/4	BDL	5.00E-04	USEPA Method 3112B	6.79E+00	-	FALSE	----	
VOCs									
2-Propanone (Acetone)	0/4	BDL	5.00E-01	USEPA Method 8260	1.00E+04	***	FALSE	----	
Benzene	0/4	BDL	5.00E-03		5.40E+01	1.75E+03	FALSE	FALSE	
Bromodichloromethane	0/4	BDL	5.00E-03		2.62E+01	6.74E+03	FALSE	FALSE	
2-Butanone (MEK)	0/4	BDL	5.00E-02		1.00E+04	***	FALSE	----	
Chloroform	0/4	BDL	5.00E-03		1.13E+01	7.92E+03	FALSE	FALSE	
Ethylbenzene	0/4	BDL	5.00E-03		1.00E+04	1.69E+02	FALSE	FALSE	
Methyl tert-Butyl Ether	0/4	BDL	5.00E-03		1.81E+03	***	FALSE	----	
Methylene Chloride	0/4	BDL	5.00E-02		2.24E+02	***	FALSE	----	
Styrene	0/4	BDL	5.00E-03		1.00E+04	3.10E+02	FALSE	FALSE	
Tetrachloroethene	0/4	BDL	5.00E-03		2.95E+00	2.00E+02	FALSE	FALSE	
Toluene	0/4	BDL	5.00E-03		1.00E+04	5.26E+02	FALSE	FALSE	
Trichloroethene	0/4	BDL	5.00E-03		1.42E+01	1.10E+03	FALSE	FALSE	
Xylenes (Total)	0/4	BDL	2.00E-02		1.57E+03	1.75E+02	FALSE	FALSE	
SVOCs									
Acenaphthene	0/4	BDL	2.00E-03	USEPA Method 8270	1.00E+04	4.24E+00	FALSE	FALSE	
Acenaphthylene	0/4	BDL	2.00E-03		1.00E+04	3.93E+00	FALSE	FALSE	
Anthracene	0/4	BDL	2.00E-03		1.00E+04	4.34E-02	FALSE	FALSE	
Benzo(b)fluoranthene	0/4	BDL	1.00E-03		7.53E+00	1.50E-03	FALSE	FALSE	
Chrysene	0/4	BDL	1.00E-03		8.12E+02	1.60E-03	FALSE	FALSE	
Fluoranthene	0/4	BDL	2.00E-03		1.00E+04	2.06E-01	FALSE	FALSE	
Fluorene	0/4	BDL	2.00E-03		1.00E+04	1.98E+00	FALSE	FALSE	
Hexachlorobenzene	0/4	BDL	4.00E-03		6.95E-01	6.20E+00	FALSE	FALSE	
Naphthalene	0/4	BDL	2.00E-03		8.62E+02	3.10E+01	FALSE	FALSE	
Phenanthrene	0/4	BDL	2.00E-03		1.00E+04	1.00E+00	FALSE	FALSE	
Pyrene	0/4	BDL	2.00E-03		1.00E+04	1.35E-01	FALSE	FALSE	
PCRs									
C6 - C8 Fraction	0/4	BDL	2.00E-02		USEPA Method 8260/8015	1.15E+03	5.23E+00	FALSE	FALSE
C9 - C16 Fraction	1/4	BDL - 5.00E-1	5.00E-01	9.98E+03		2.80E+00	FALSE	FALSE	
C17 - C35 Fraction	2/4	BDL - 1.10E+0	5.00E-01	1.78E+02		2.80E+00	FALSE	FALSE	
<p>Notes: All results are presented in mg/L. BDL denotes below detection limit. x = number of samples in which chemical was found above the method reporting limit y = number of samples analyzed for chemical * indicates a 'ceiling limit' concentration *** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies. ---- = Not applicable as no solubility limit is given.</p>									

Interpretation of Laboratory Results of QA/QC Samples

- 3.10 The field QA/QC samples include 1 duplicate soil sample, 1 duplicate groundwater sample, 1 equipment blank for soil samples, 1 equipment blank for groundwater samples, 1 field blank sample for soil samples, 1 field blank for groundwater samples and 6 trip blank samples.
- 3.11 All results of the tested parameters for the field, equipment and trip blanks are below the corresponding reporting limits. The relative percentage difference (RPD) was used to measure the representativeness and/or precision of the duplicate samples. In accordance with the USEPA guideline, the acceptable limits for the RPDs are less than 50% and 30% for soil and groundwater samples respectively. All RPDs calculated for the duplicated soil samples collected from ENV-BH23, and duplicated groundwater samples from ENV-BH22 are within the acceptable limits, respectively. Therefore, the results of the original and duplicate samples are considered as identical samples.
- 3.12 Hence, the sampling method is consistent throughout the SI; all soil/ groundwater samples were not contaminated from the sampling handling, and that the decontamination procedures had been followed. All field QA/AC results are included in the laboratory chemical testing reports attached in **Appendix F**.

4 CONCLUSION

- 4.1 In accordance to the approved SCAP, the sampling works for boreholes ENV-BH16, ENV-BH17, ENV-BH22 and ENV-BH23 were collected and supervised by Cinotech. The soil and groundwater samples were delivered to ALS Technichem (HK) Pty Ltd for testing and analysis of the CoCs according to the SCAP.
- 4.2 RBRGs for Industrial have been adopted for the “SAS Thickener House-1” and the laboratory results for the sampling works show that there are no exceedances of the adopted RBRGs for the “SAS Thickener House-1”. As no contaminated soil and groundwater was found within the “SAS Thickener House-1”, no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the “SAS Thickener House-1”.

FIGURES



Legend

SAS Thickener House

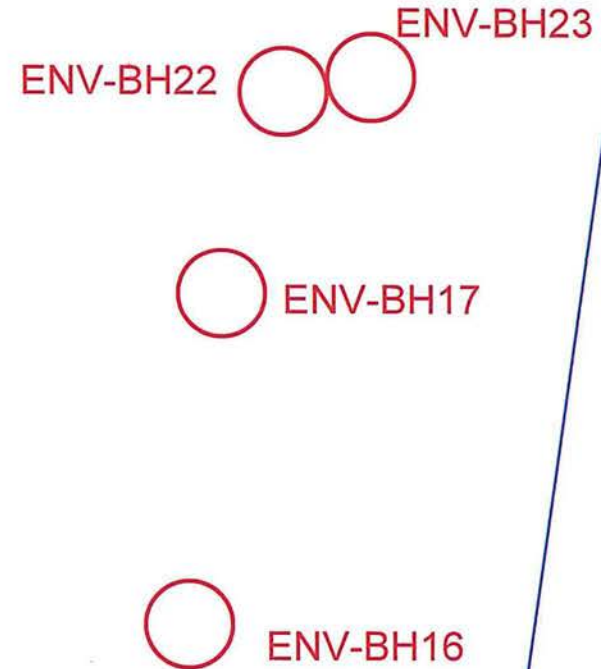


As-built Sampling Locations



Borehole ID	Easting	Northing
ENV-BH16	820770.277	836600.815
ENV-BH17	820771.408	836612.245
ENV-BH22	820773.532	836619.192
ENV-BH23	820776.542	836619.687

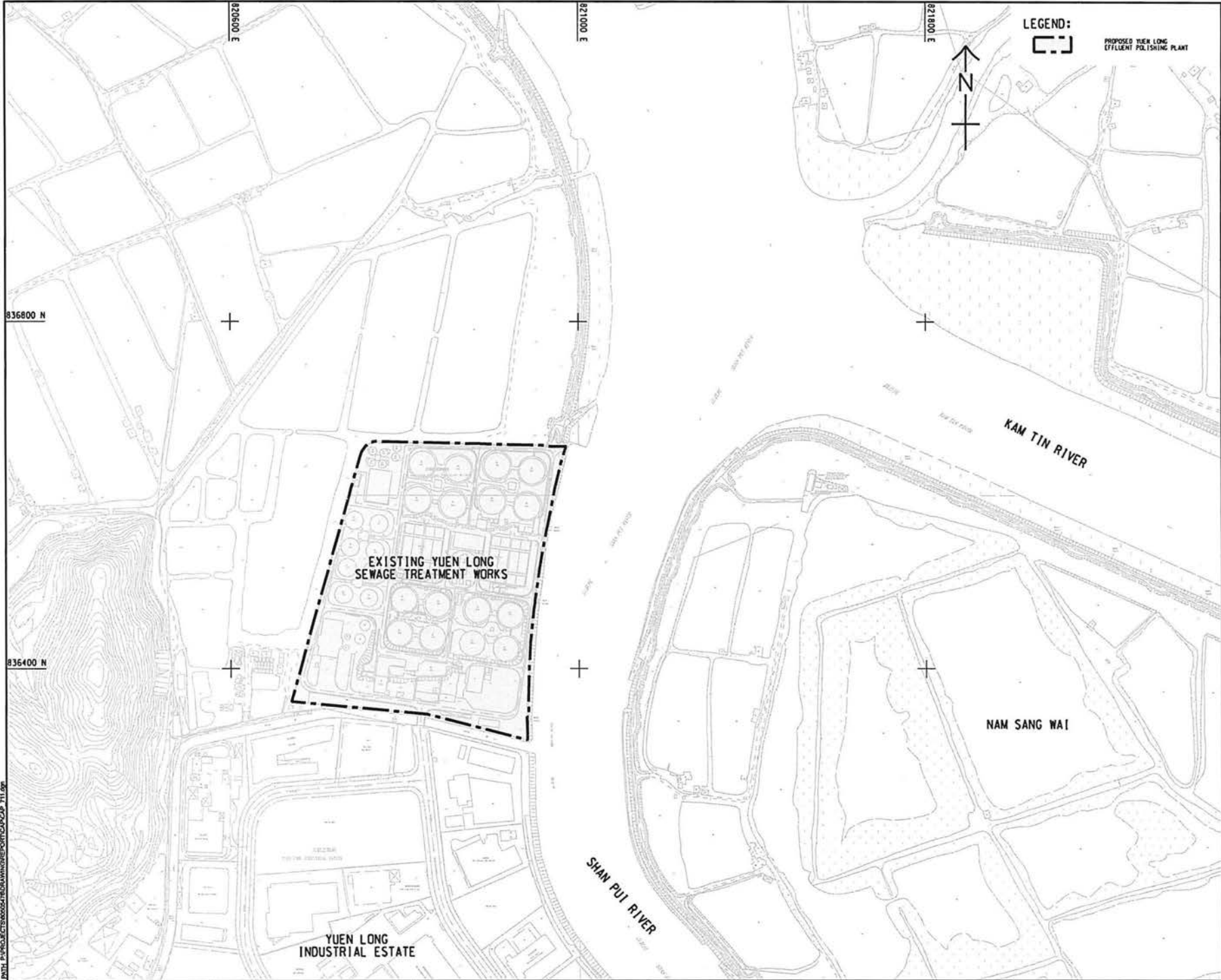
4.7



SCALE	1:250@A4	DATE	May 2022
CHECK	KC	DRAWN	SC
JOB No.	MA21002	FIGURE NO.	1
		REV	-

APPENDIX A
SITE LOCATIONS & LAYOUT PLANS

ISO A1 (841mm x 1189mm) Approved Checked Designer Project Management Title: 836800 N 836400 N 820600 E 820012 E 820012 E



LEGEND:



PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

AECOM

PROJECT
YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
 Drainage Services Department

CONSULTANT
 AECOM Asia Company Ltd.
 www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.

STATUS

SCALE
 A1 1:2000
KEY PLAN

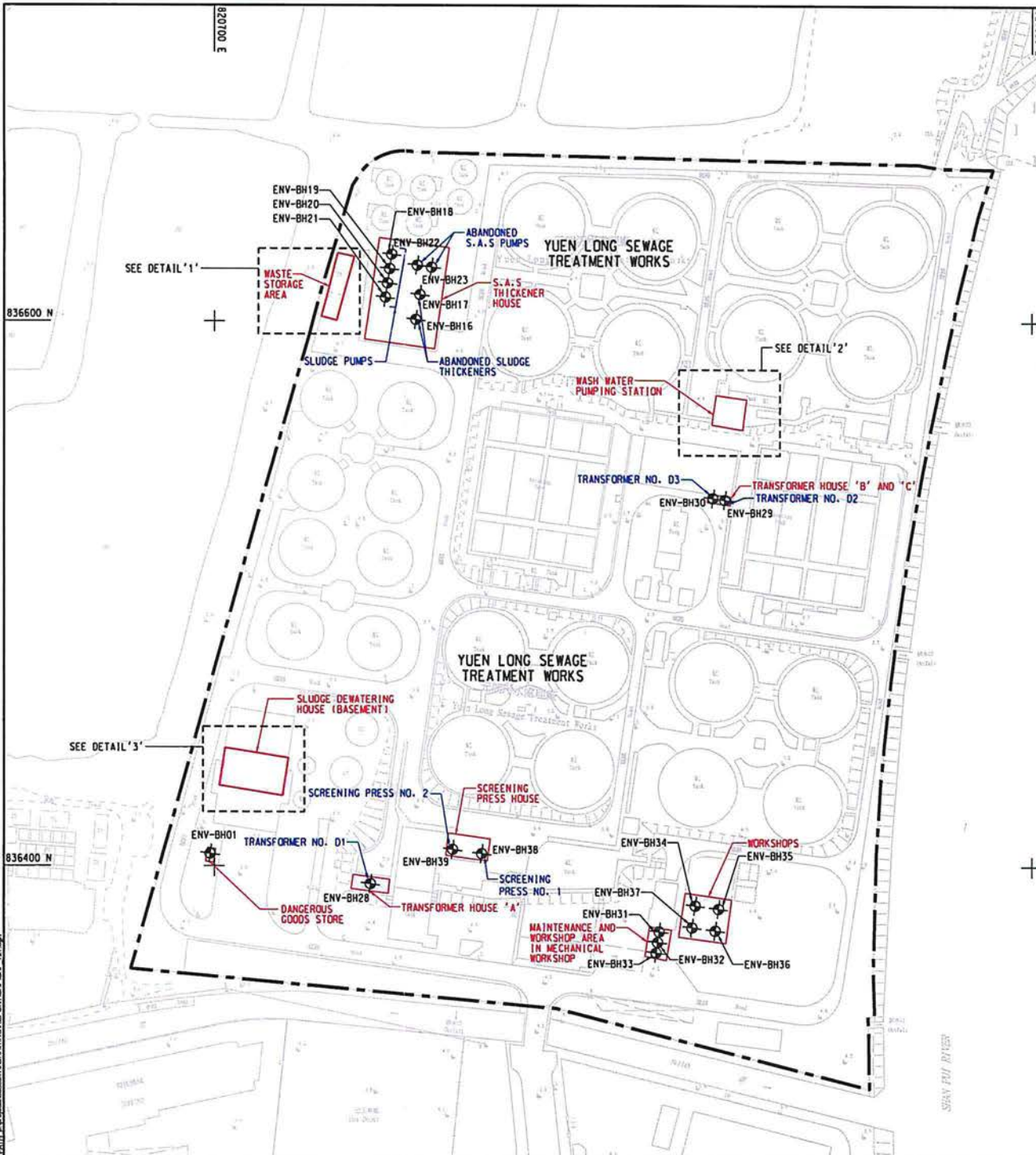
DIMENSION UNIT
 METRES

PROJECT NO.
 60505476
CONTRACT NO.
 CE 3/2015 (DS)

SHEET TITLE
 LOCATION OF PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

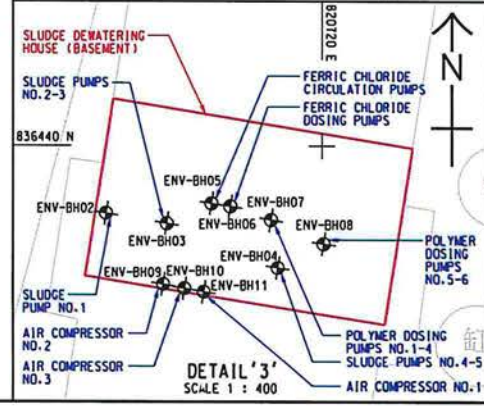
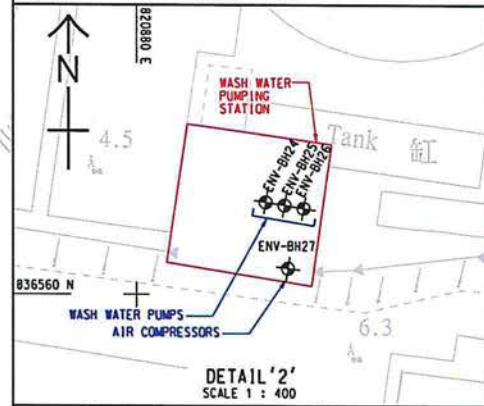
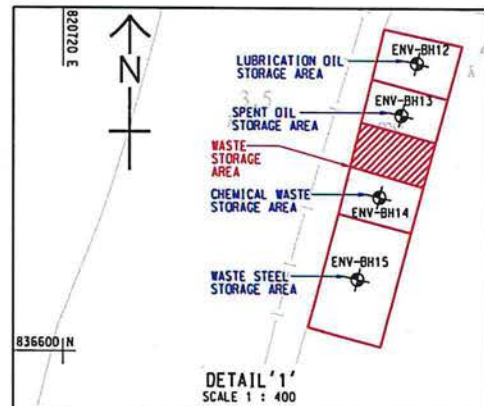
SHEET NUMBER
 60505476/CAP/711

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LEGEND:

- PROJECT BOUNDARY
- CONCERNED FACILITY / AREA
- ENV-BH01
- SAMPLING LOCATION



AECOM

PROJECT
YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
渠務署
Drainage Services Department

CONSULTANT
AECOM
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
Y.L.S.T.W.

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK.

STATUS

SCALE
AS 1:1000
DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60505476
CONTRACT NO.
CE 3/2015 (DS)

SHEET TITLE
CONCERNED FACILITIES / AREAS AND PROPOSED SAMPLING LOCATIONS WITHIN EXISTING YLSTW

SHEET NUMBER
60505476/CP727

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**APPENDIX B
PHOTO RECORD**



lab-grade detergent



Cleaning with lab-grade detergent and distilled Water



Equipment Blanks



Collecting Equipment Blank for GW Sampling



Collecting Equipment Blank for Soil Sampling



Field Blanks



Trial Pits



Collecting Soil Samples at 0.5m bgl



Preparation for Drilling



Soil Sampling



Soil Samples



Set-up of Monitoring Well



Purging



Ground Water Samples

**APPENDIX C
DRILLHOLE RECORD**

Shun Bong Drilling Engineering (HK) Ltd.

JOB NO. J3183-G1
 HOLE NO. ENV-BH16
 SHEET 1 of 1
 DATE from 12/5/2022 to 12/5/2022

DRILLHOLE LOG

PROJECT **Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant - Main Works Stage 1**

METHOD ROTARY	CO-ORDINATES	ROCK CORE BIT
Rig & No. SB28	N 836600.815 E 820770.277	HOLE DIA. PX, HX
FLUSHING MEDIUM DRY	ORIENTATION VERTICAL	REFERENCE LEVEL +4.930 mPD

Drilling Progress	Casing depth/size	Water level/ time/ date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level (mPD)	Depth (m)	Legend	Grade	Description
12.05.22	PX									+4.930	0.000			CONCRETE SLAB
	1.50 PX HX			100				3 bls	1	+4.230	0.700			Reddish brown and brown, slightly sandy, clayey SILT (FILL)
									2	+3.730	1.200			
										+3.430	1.500			
										+2.980	1.950			
								7 bls	3	+1.930	3.000			
									4	+1.480	3.450			
12.05.22	3.50 HX	1.8m at 11:00		100				12 bls	5	+1.430	3.500			
									6	+0.980	3.950			
										+0.930	4.000			End of drillhole at 4.00m

- Small Disturbed Sample
- Large Disturbed Sample
- ▬ SPT Liner Sample
- U76 Undisturbed Sample
- U100 Undisturbed Sample
- Mazier Sample (70mm)
- Piston Sample
- ▲ Water Sample
- ⊥ Water Level
- ⊥ Standard Penetration Test
- ⊥ Permeability Test
- ⊥ Piezometer Tip
- ⊥ Standpipe
- ⊥ In-situ Vane Shear Test

LOGGED F.Y.Chan
 DATE 26/5/2022
 CHECKED P.S.Chan
 DATE 26/5/2022

REMARKS
 1.2m inspection pit was excavated by hand tools
 Groundwater monitoring well was installed at the depth 3.95m

BOREHOLE LOG REF. LV. DC201910 YUEN LONG PLANT GEL STANDARD GDT - 30/05/22

Shun Bong Drilling Engineering (HK) Ltd.

JOB NO. J3183-G1
 HOLE NO. ENV-BH17
 SHEET 1 of 1
 DATE from 5/5/2022 to 6/5/2022

DRILLHOLE LOG

PROJECT **Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant - Main Works Stage 1**

METHOD **ROTARY**

CO-ORDINATES

ROCK CORE BIT

Rig & No. **SB06**

N 836612.245
E 820771.408

HOLE DIA. **PX, HX**

FLUSHING MEDIUM **DRY**

ORIENTATION **VERTICAL**

REFERENCE LEVEL **+4.970 mPD**

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level (mPD)	Depth (m)	Legend	Grade	Description
05.05.22	HX			100						+4.970	0.000			CONCRETE SLAB
										+4.270	0.700			Reddish brown and brown, slightly sandy, clayey SILT (FILL)
										+3.770	1.200			
										+3.470	1.500			
				100				6 bls	1	+3.020	1.950			
										+1.970	3.000			
								8 bls	3	+1.520	3.450			
	3.80 HX	1.8m at 09:00		100						+1.170	3.800			
06.05.22										+0.720	4.250			
06.05.22										+0.470	4.500			End of drillhole at 4.50m

BOREHOLE LOG REF. NO. DC201910YUENLONGPLANTGEL-STANDARD-GDT-30/05/22

- Small Disturbed Sample
- Large Disturbed Sample
- ▨ SPT Liner Sample
- U76 Undisturbed Sample
- U100 Undisturbed Sample
- Mazier Sample (70mm)
- Piston Sample
- ▲ Water Sample
- ✕ Water Level
- ⊥ Standard Penetration Test
- ⊥ Permeability Test
- Piezometer Tip
- Standpipe
- < In-situ Vane Shear Test

LOGGED F.Y.Chan
 DATE 26/5/2022
 CHECKED P.S.Chan
 DATE 26/5/2022

REMARKS
 1.2m inspection pit was excavated by hand tools
 Groundwater monitoring well was installed at the depth 4.50m

Shun Bong Drilling Engineering (HK) Ltd.

JOB NO. J3183-G1
 HOLE NO. ENV-BH22
 SHEET 1 of 1
 DATE from 27/4/2022 to 27/4/2022

DRILLHOLE LOG

PROJECT Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant - Main Works Stage 1

METHOD ROTARY	CO-ORDINATES	ROCK CORE BIT
Rig & No. SB06	N 836619.192 E 820773.532	HOLE DIA. PX, HX
FLUSHING MEDIUM DRY	ORIENTATION VERTICAL	REFERENCE LEVEL +3.140 mPD

Drilling Progress	Casing depth/size	Water level/ time/ date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level (mPD)	Depth (m)	Legend	Grade	Description
27.04.22	HX									+3.140	0.000			CONCRETE SLAB
				100				38 bis	1	+2.440	0.700			Dark brown and reddish brown, slightly sandy, clayey SILT (FILL)
									2	+1.940	1.200			
									3	+1.640	1.500			
	3.00 HX									+1.190	1.950			Grey, clayey SILT (FILL)
		1.2m at 10:00		100				19 bis	4	+0.140	3.000			
27.04.22										-0.310	3.450			End of drillhole at 3.50m
										-0.360	3.500			

- Small Disturbed Sample
- ▲ Water Sample
- Large Disturbed Sample
- ✱ Water Level
- ▬ SPT Liner Sample
- | Standard Penetration Test
- U76 Undisturbed Sample
- ⊥ Permeability Test
- U100 Undisturbed Sample
- ⊕ Piezometer Tip
- Mazier Sample (70mm)
- ⊕ Standpipe
- Piston Sample
- ∨ In-situ Vane Shear Test

LOGGED F.Y.Chan
 DATE 26/5/2022
 CHECKED P.S.Chan
 DATE 26/5/2022

REMARKS
 1.2m inspection pit was excavated by hand tools
 Groundwater monitoring well was installed at the depth 3.50m

BOREHOLE LOG BEE LV DC201910 YUEN LONG PLANT GPT STANDARD GDT 30/05/22

Shun Bong Drilling Engineering (HK) Ltd.

JOB NO. J3183-G1
 HOLE NO. ENV-BH23
 SHEET 1 of 1
 DATE from 20/4/2022 to 20/4/2022

DRILLHOLE LOG

PROJECT **Contract No. DC/2019/10 Yuen Long Effluent Polishing Plant - Main Works Stage 1**

METHOD **ROTARY**

CO-ORDINATES

ROCK CORE BIT

Rig & No. **SB06**

N 836619.687
E 820776.542

HOLE DIA. **PX, HX**

FLUSHING MEDIUM **DRY**

ORIENTATION **VERTICAL**

REFERENCE LEVEL **+3.120 mPD**

Drilling Progress	Casing depth/size	Water level/time/date	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level (mPD)	Depth (m)	Legend	Grade	Description
20.04.22	HX									+3.120	0.000			CONCRETE SLAB
	1.20 HX									+2.420	0.700			Brown, slightly sandy, clayey SILT with some fine to medium gravel (FILL)
										+1.920	1.200			
		1.2m at 10:00								+0.120	3.000			Dark grey, silty CLAY with much shell fragments (DISTURBED MARINE DEPOSIT)
20.04.22										-0.380	3.500			End of drillhole at 3.50m

- Small Disturbed Sample
- Large Disturbed Sample
- ▬ SPT Liner Sample
- U76 Undisturbed Sample
- U100 Undisturbed Sample
- Mazier Sample (70mm)
- Piston Sample
- ▲ Water Sample
- ✱ Water Level
- Standard Penetration Test
- Permeability Test
- Piezometer Tip
- Standpipe
- ∨ In-situ Vane Shear Test

LOGGED F.Y.Chan
 DATE 26/5/2022
 CHECKED P.S.Chan
 DATE 26/5/2022

REMARKS

1.2m inspection pit was excavated by hand tools
 Groundwater monitoring well was installed at the depth 3.50m

BOREHOLE LOG REF. LV. DC/2019/10 YUEN LONG EFFLUENT PLANT GPL STANDARD GDT 20/05/22

**APPENDIX D
LIST OF SOIL AND GROUNDWATER
SAMPLE**

List of Samples for SAS Thickener House

Borehole		ENV-BH16	ENV-BH17	ENV-BH22	ENV-BH23
		As-built Coordinate			
Easting (m)		820770.28	820771.41	820773.53	820776.54
Northing (m)		836600.82	836612.25	836619.19	836619.69
		Date and Depth of the Samples			
Soil Sample 1	Sample ID	ENV-BH16-0.5m	ENV-BH17-0.5m	ENV-BH22-0.5m	ENV-BH23-0.5m
	Depth (m bgl)	0.5	0.5	0.5	0.5
	Date	12-May-22	6-May-22	27-Apr-22	13-Apr-22
Soil Sample 2	Sample ID	ENV-BH16-1.5m	ENV-BH17-1.5m	ENV-BH22-1.5m	ENV-BH23-1.5m ¹
	Depth (m bgl)	1.5	1.5	1.5	1.5
	Date	12-May-22	6-May-22	27-Apr-22	20-Apr-22
Soil Sample 3	Sample ID	ENV-BH16-3m	ENV-BH17-3m	ENV-BH22-3.0m	ENV-BH23-3.0m
	Depth (m bgl)	3	3	3.0	3.0
	Date	12-May-22	6-May-22	27-Apr-22	20-Apr-22
Soil Sample 4	Sample ID	ENV-BH16-3.5m	ENV-BH17-3.8m	N/A	N/A
	Depth (m bgl)	3.5	3.8	N/A	N/A
	Date	12-May-22	6-May-22	N/A	N/A
Groundwater Sample	Sample ID	ENV-BH16-GW	ENV-BH17-GW	ENV-BH22-GW ²	ENV-BH23-GW
	Date	16-May-22	16-May-22	16-May-22	16-May-22
	G.W. Level (m bgl)	0.78	1.16	0.00	0.00
	pH Value	9.1	8.0	9.4	8.5
	Temperature (°C)	24.3	24.1	23.8	23.8

Note:

[1] Duplicate Soil Sample has been taken for ENV-BH23-1.5m.

[2] Duplicate Groundwater Sample has been taken for ENV-BH22.

APPENDIX E
SUMMARY OF LABORATORY RESULT

DC/2019/10_Detailed Soil Sampling Analytical Results

Parameters	> Criteria	Industrial RBRG (mg/kg)	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)	ENV-BH16				ENV-BH17									
						ENV-BH16 (0.5m)	ENV-BH16 (1.5m)	ENV-BH16 (3m)	ENV-BH16 (3.5m)	ENV-BH17 (0.5m)	ENV-BH17 (1.5m-1.95m)	ENV-BH17 (3m-3.4m)	ENV-BH17 (3.8m-4.2m)						
						Metal													
Antimony	No	2.61E+02	-	1.00E+00	1.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00E+00
Arsenic	No	1.96E+02	-	1.00E+00	1.50E+01	6.00E+00	6.00E+00	6.00E+00	6.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	7.00E+00	8.00E+00
Barium	No	1.00E+04	-	1.00E+00	1.40E+02	1.34E+02	1.04E+02	1.40E+02	1.16E+02	1.20E+02	1.06E+02	1.16E+02	1.16E+02	1.16E+02	1.16E+02	1.16E+02	1.16E+02	1.16E+02	8.41E+01
Cadmium	No	6.53E+02	-	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chromium (III)	No	1.00E+04	-	1.00E+00	7.17E+01	4.33E+01	4.44E+01	3.77E+01	4.60E+01	5.06E+01	4.63E+01	7.17E+01	7.17E+01	7.17E+01	7.17E+01	7.17E+01	7.17E+01	7.17E+01	4.71E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	1.50E+00	BDL	BDL	BDL	BDL	BDL	1.50E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cobalt	No	1.00E+04	-	1.00E+00	3.29E+01	2.35E+01	1.86E+01	1.87E+01	1.86E+01	2.55E+01	2.42E+01	2.77E+01	2.77E+01	2.77E+01	2.77E+01	2.77E+01	2.77E+01	2.77E+01	2.08E+01
Copper	No	1.00E+04	-	1.00E+00	7.20E+01	3.90E+01	4.60E+01	4.10E+01	4.10E+01	3.70E+01	4.20E+01	4.60E+01	4.60E+01	4.60E+01	4.60E+01	4.60E+01	4.60E+01	4.60E+01	5.00E+01
Lead	No	2.29E+03	-	1.00E+00	9.50E+01	3.40E+01	9.50E+01	3.60E+01	3.30E+01	3.70E+01	4.50E+01	3.30E+01	3.30E+01	3.30E+01	3.30E+01	3.30E+01	3.30E+01	3.30E+01	3.60E+01
Manganese	No	1.00E+04	-	1.00E+00	1.98E+03	1.66E+03	1.82E+03	1.61E+03	1.42E+03	1.30E+03	1.52E+03	1.35E+03	1.35E+03	1.35E+03	1.35E+03	1.35E+03	1.35E+03	1.35E+03	1.56E+03
Mercury	No	3.84E+01	-	5.00E-02	6.00E-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Molybdenum	No	3.26E+03	-	1.00E+00	5.00E+00	BDL	3.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Nickel	No	1.00E+04*	-	1.00E+00	4.60E+01	2.20E+01	4.60E+01	2.00E+01	2.20E+01	2.50E+01	2.40E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.50E+01	2.40E+01
Tin	No	1.00E+04	-	1.00E+00	3.62E+01	3.14E+01	1.89E+01	3.62E+01	2.82E+01	1.99E+01	2.43E+01	2.41E+01	2.41E+01	2.41E+01	2.41E+01	2.41E+01	2.41E+01	2.41E+01	3.31E+01
Zinc	No	1.00E+04	-	1.00E+00	1.94E+02	9.00E+01	1.68E+02	1.10E+02	1.94E+02	9.60E+01	9.50E+01	8.50E+01	8.50E+01	8.50E+01	8.50E+01	8.50E+01	8.50E+01	8.50E+01	1.60E+02
VOCs																			
2-Propanone (Acetone)	No	1.00E+04*	***	5.00E+01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04*	4.97E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04*	2.35E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SVOCs																			
Acenaphthene	No	1.00E+04	6.02E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	1.29E+01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chrysene	No	1.14E+03	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenz(a,h)anthracene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	No	1.00E+04*	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hydrocarbons - PCRs																			
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

* indicates a 'ceiling limit' concentration

*** indicates that the soil saturation limit exceeds the 'ceiling limit' therefore the RBRG applies.

DC/2019/10_Detailed Soil Sampling Analytical Results

Parameters	> Criteria	Industrial RBRG (mg/kg)	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)	ENV-BH22			ENV-BH23		
						ENV - BH22 (0.5m)	ENV - BH22 (1.5m)	ENV - BH22 (3.0m)	ENV-BH23-0.5m	ENV-BH23 - 1.5m	ENV-BH23 - 3.0m
Metal											
Antimony	No	2.61E+02	-	1.00E+00	1.00E+00	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic	No	1.96E+02	-	1.00E+00	1.50E+01	8.00E+00	4.00E+00	7.00E+00	8.00E+00	3.00E+00	1.50E+01
Barium	No	1.00E+04	-	1.00E+00	1.40E+02	9.30E+01	9.69E+01	4.69E+01	9.42E+01	1.25E+02	3.27E+01
Cadmium	No	6.53E+02	-	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chromium (III)	No	1.00E+04	-	1.00E+00	7.17E+01	5.72E+01	2.95E+01	2.41E+01	4.41E+01	2.36E+01	2.51E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	1.50E+00	BDL	BDL	BDL	BDL	BDL	BDL
Cobalt	No	1.00E+04	-	1.00E+00	3.29E+01	3.29E+01	1.89E+01	1.16E+01	2.60E+01	1.99E+01	8.00E+00
Copper	No	1.00E+04	-	1.00E+00	7.20E+01	5.30E+01	2.80E+01	1.70E+01	3.40E+01	7.20E+01	1.30E+01
Lead	No	2.29E+03	-	1.00E+00	9.50E+01	3.90E+01	2.10E+01	2.80E+01	3.70E+01	2.70E+01	4.60E+01
Manganese	No	1.00E+04	-	1.00E+00	1.98E+03	8.70E+02	5.60E+02	4.02E+02	1.98E+03	4.56E+02	4.02E+02
Mercury	No	3.84E+01	-	5.00E-02	6.00E-02	6.00E-02	BDL	BDL	BDL	BDL	BDL
Molybdenum	No	3.26E+03	-	1.00E+00	5.00E+00	2.00E+00	BDL	2.00E+00	2.00E+00	BDL	5.00E+00
Nickel	No	1.00E+04*	-	1.00E+00	4.60E+01	2.50E+01	1.90E+01	1.40E+01	1.90E+01	1.40E+01	1.40E+01
Tin	No	1.00E+04	-	1.00E+00	3.62E+01	3.62E+01	4.90E+00	4.00E+00	1.57E+01	1.23E+01	3.40E+00
Zinc	No	1.00E+04	-	1.00E+00	1.94E+02	5.00E+01	9.20E+01	1.54E+02	5.40E+01	8.30E+01	7.30E+01
VOCs											
2-Propanone (Acetone)	No	1.00E+04*	***	5.00E+01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04*	4.97E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04*	2.35E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SVOCs											
Acenaphthene	No	1.00E+04	6.02E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	1.29E+01	BDL	1.29E+01	BDL	BDL	BDL	BDL
Chrysene	No	1.14E+03	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Dibenz(a,h)anthracene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluoranthene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Pyrene	No	1.00E+04*	-	5.00E-01	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Hydrocarbons - PCRs											
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

* indicates a 'ceiling limit' concentration

*** indicates that the soil saturation limit exceeds the 'ceiling limit' therefore the RBRG applies.

DC/2019/10_Detailed Soil Sampling Analytical Results (Duplicate)

Parameters	> Criteria	Industrial RBRG (mg/kg)	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)	ENV-BH23	
						ENV-BH23 - 1.5m	ENV-BH23 - 1.5m (Duplicate)
Metal							
Antimony	No	2.61E+02	-	1.00E+00	BDL	BDL	BDL
Arsenic	No	1.96E+02	-	1.00E+00	3.00E+00	2.00E+00	2.00E+00
Barium	No	1.00E+04	-	1.00E+00	1.25E+02	1.01E+02	1.01E+02
Cadmium	No	6.53E+02	-	2.00E-01	BDL	BDL	BDL
Chromium (III)	No	1.00E+04	-	1.00E+00	2.36E+01	1.81E+01	1.81E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	BDL	BDL	BDL
Cobalt	No	1.00E+04	-	1.00E+00	1.99E+01	1.56E+01	1.56E+01
Copper	No	1.00E+04	-	1.00E+00	7.20E+01	5.00E+01	5.00E+01
Lead	No	2.29E+03	-	1.00E+00	2.80E+01	2.80E+01	2.80E+01
Manganese	No	1.00E+04	-	1.00E+00	4.56E+02	3.20E+02	3.20E+02
Mercury	No	3.84E+01	-	5.00E-02	BDL	BDL	BDL
Molybdenum	No	3.26E+03	-	1.00E+00	BDL	BDL	BDL
Nickel	No	1.00E+04*	-	1.00E+00	1.40E+01	1.20E+01	1.20E+01
Tin	No	1.00E+04	-	1.00E+00	1.67E+01	1.67E+01	1.67E+01
Zinc	No	1.00E+04	-	1.00E+00	8.30E+01	5.00E+01	5.00E+01
VOCs							
2-Propanone (Acetone)	No	1.00E+04*	***	5.00E+01	BDL	BDL	BDL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BDL	BDL	BDL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BDL	BDL	BDL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BDL	BDL	BDL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BDL	BDL	BDL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BDL	BDL	BDL
Styrene	No	1.00E+04*	4.97E+02	5.00E-01	BDL	BDL	BDL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BDL	BDL	BDL
Toluene	No	1.00E+04*	2.35E+02	5.00E-01	BDL	BDL	BDL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BDL	BDL	BDL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BDL	BDL	BDL
SVOCs							
Acenaphthene	No	1.00E+04	6.92E+01	5.00E-01	BDL	BDL	BDL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BDL	BDL	BDL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BDL	BDL	BDL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BDL	BDL	BDL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BDL	BDL	BDL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	BDL	BDL	BDL
Chrysene	No	1.14E+03	-	5.00E-01	BDL	BDL	BDL
Dibenz(a,h)anthracene	No	9.18E+00	-	5.00E-01	BDL	BDL	BDL
Fluoranthene	No	1.00E+04	-	5.00E-01	BDL	BDL	BDL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BDL	BDL	BDL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	No	9.18E+01	-	5.00E-01	BDL	BDL	BDL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BDL	BDL	BDL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BDL	BDL	BDL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BDL	BDL	BDL
Pyrene	No	1.00E+04*	-	5.00E-01	BDL	BDL	BDL
Hydrocarbons - PCRs							
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BDL	BDL	BDL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BDL	BDL	BDL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BDL	BDL	BDL

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

* indicates a 'ceiling limit' concentration

"-----": Not tested according to the QA/QC Requirements in Table 2-2

*** indicates that the soil saturation limit exceeds the 'ceiling limit' therefore the RBRG applies.

DC/2019/10_Detailed Groundwater Sampling Analytical Results

Parameters	> Criteria	Industrial RBRG (mg/L)	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	ENV-BH16	ENV-BH17	ENV-BH22	ENV-BH23
						ENV-BH16	ENV-BH17	ENV-BH22	ENV-BH23
Metal									
Mercury	No	6.79E+00	-	5.00E-04	BDL	BDL	BDL	BDL	BDL
VOCs									
2-Propanone (Acetone)	No	1.00E+04	***	5.00E-01	BDL	BDL	BDL	BDL	BDL
Benzene	No	5.40E+01	1.75E+03	5.00E-03	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.62E+01	6.74E+03	5.00E-03	BDL	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	5.00E-02	BDL	BDL	BDL	BDL	BDL
Chloroform	No	1.13E+01	7.92E+03	5.00E-03	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	No	1.00E+04	1.69E+02	5.00E-03	BDL	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	1.81E+03	***	5.00E-03	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	No	2.24E+02	***	5.00E-02	BDL	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04	3.10E+02	5.00E-03	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	No	2.95E+00	2.00E+02	5.00E-03	BDL	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04	5.26E+02	5.00E-03	BDL	BDL	BDL	BDL	BDL
Trichloroethene	No	1.42E+01	1.10E+03	5.00E-03	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.57E+03	1.75E+02	2.00E-02	BDL	BDL	BDL	BDL	BDL
SVOCs									
Acenaphthene	No	1.00E+04	4.24E+00	2.00E-03	BDL	BDL	BDL	BDL	BDL
Acenaphthylene	No	1.00E+04	3.93E+00	2.00E-03	BDL	BDL	BDL	BDL	BDL
Anthracene	No	1.00E+04	4.34E-02	2.00E-03	BDL	BDL	BDL	BDL	BDL
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	1.00E-03	BDL	BDL	BDL	BDL	BDL
Chrysene	No	8.12E+02	1.60E-03	1.00E-03	BDL	BDL	BDL	BDL	BDL
Fluoranthene	No	1.00E+04	2.06E-01	2.00E-03	BDL	BDL	BDL	BDL	BDL
Fluorene	No	1.00E+04	1.98E+00	2.00E-03	BDL	BDL	BDL	BDL	BDL
Hexachlorobenzene	No	6.95E-01	6.20E+00	4.00E-03	BDL	BDL	BDL	BDL	BDL
Naphthalene	No	8.62E+02	3.10E+01	2.00E-03	BDL	BDL	BDL	BDL	BDL
Phenanthrene	No	1.00E+04	1.00E+00	2.00E-03	BDL	BDL	BDL	BDL	BDL
Pyrene	No	1.00E+04	1.35E-01	2.00E-03	BDL	BDL	BDL	BDL	BDL
PCRs									
C6 - C8 Fraction	No	1.15E+03	5.23E+00	2.00E-02	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	No	9.98E+03	2.80E+00	5.00E-01	5.00E-01	BDL	BDL	BDL	5.00E-01
C17 - C35 Fraction	No	1.78E+02	2.80E+00	5.00E-01	1.10E+00	BDL	BDL	1.10E+00	1.00E+00

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

* indicates a 'ceiling limit' concentration

*** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

DC/2019/10 Detailed Groundwater Sampling Analytical Results (Duplicate)

Parameters	> Criteria	Industrial RBRG (mg/L)	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	ENV-BH22	
						ENV-BH22	ENV-BH22 (GW-Duplicate)
Metal							
Mercury	No	6.79E+00	-	5.00E-04	BDL	BDL	BDL
VOCs							
2-Propanone (Acetone)	No	1.00E+04	***	5.00E-01	BDL	BDL	BDL
Benzene	No	5.40E+01	1.75E+03	5.00E-03	BDL	BDL	BDL
Bromodichloromethane	No	2.62E+01	6.74E+03	5.00E-03	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	5.00E-02	BDL	BDL	BDL
Chloroform	No	1.13E+01	7.92E+03	5.00E-03	BDL	BDL	BDL
Ethylbenzene	No	1.00E+04	1.69E+02	5.00E-03	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	1.81E+03	***	5.00E-03	BDL	BDL	BDL
Methylene Chloride	No	2.24E+02	***	5.00E-02	BDL	BDL	BDL
Styrene	No	1.00E+04	3.10E+02	5.00E-03	BDL	BDL	BDL
Tetrachloroethene	No	2.95E+00	2.00E+02	5.00E-03	BDL	BDL	BDL
Toluene	No	1.00E+04	5.26E+02	5.00E-03	BDL	BDL	BDL
Trichloroethene	No	1.42E+01	1.10E+03	5.00E-03	BDL	BDL	BDL
Xylenes (Total)	No	1.57E+03	1.75E+02	2.00E-02	BDL	BDL	BDL
SVOCs							
Acenaphthene	No	1.00E+04	4.24E+00	2.00E-03	BDL	BDL	BDL
Acenaphthylene	No	1.00E+04	3.93E+00	2.00E-03	BDL	BDL	BDL
Anthracene	No	1.00E+04	4.34E-02	2.00E-03	BDL	BDL	BDL
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	1.00E-03	BDL	BDL	BDL
Chrysene	No	8.12E+02	1.60E-03	1.00E-03	BDL	BDL	BDL
Fluoranthene	No	1.00E+04	2.06E-01	2.00E-03	BDL	BDL	BDL
Fluorene	No	1.00E+04	1.98E+00	2.00E-03	BDL	BDL	BDL
Hexachlorobenzene	No	6.95E-01	6.20E+00	4.00E-03	BDL	BDL	BDL
Naphthalene	No	8.62E+02	3.10E+01	2.00E-03	BDL	BDL	BDL
Phenanthrene	No	1.00E+04	1.00E+00	2.00E-03	BDL	BDL	BDL
Pyrene	No	1.00E+04	1.35E-01	2.00E-03	BDL	BDL	BDL
PCRs							
C6 - C8 Fraction	No	1.15E+03	5.23E+00	2.00E-02	BDL	BDL	BDL
C9 - C16 Fraction	No	9.98E+03	2.80E+00	5.00E-01	BDL	BDL	BDL
C17 - C35 Fraction	No	1.78E+02	2.80E+00	5.00E-01	1.10E+00	1.10E+00	9.00E-01

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the solubility limit.

"-": No criteria / solubility limit is provided in RBRG.

"-----": Not tested according to the QA/QC Requirements in Table 2-2

*** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

Detailed QA/QC Sampling Analytical Results

Parameters	> Criteria (RBRG)	Industrial RBRG (mg/L)	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	Trip Blank	Field Blank	Equipment Blank	Trip Blank
							(Soil)	(Soil)	
						13/04/2022	20/04/2022	20/04/2022	20/04/2022
Metal									
Mercury	No	6.79E+00	-	0.0005	BDL	----	BDL	BDL	----
VOCs									
2-Propanone (Acetone)	No	1.00E+04	***	0.5	BDL	BDL	BDL	BDL	BDL
Benzene	No	5.40E+01	1.75E+03	0.005	BDL	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.62E+01	6.74E+03	0.005	BDL	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	0.05	BDL	BDL	BDL	BDL	BDL
Chloroform	No	1.13E+01	7.92E+03	0.005	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	No	1.00E+04	1.69E+02	0.005	BDL	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	1.81E+03	***	0.005	BDL	BDL	BDL	BDL	BDL
Methylene Chloride	No	2.24E+02	***	0.05	BDL	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04	3.10E+02	0.005	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	No	2.95E+00	2.00E+02	0.005	BDL	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04	5.26E+02	0.005	BDL	BDL	BDL	BDL	BDL
Trichloroethene	No	1.42E+01	1.10E+03	0.005	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.57E+03	1.75E+02	0.02	BDL	BDL	BDL	BDL	BDL
SVOCs									
Acenaphthene	No	1.00E+04	4.24E+00	0.002	BDL	----	BDL	BDL	----
Acenaphthylene	No	1.00E+04	3.93E+00	0.002	BDL	----	BDL	BDL	----
Anthracene	No	1.00E+04	4.34E-02	0.002	BDL	----	BDL	BDL	----
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	0.001	BDL	----	BDL	BDL	----
Chrysene	No	8.12E+02	1.60E-03	0.001	BDL	----	BDL	BDL	----
Fluoranthene	No	1.00E+04	2.06E-01	0.002	BDL	----	BDL	BDL	----
Fluorene	No	1.00E+04	1.98E+00	0.002	BDL	----	BDL	BDL	----
Hexachlorobenzene	No	6.95E-01	6.20E+00	0.004	BDL	----	BDL	BDL	----
Naphthalene	No	8.62E+02	3.10E+01	0.002	BDL	----	BDL	BDL	----
Phenanthrene	No	1.00E+04	1.00E+00	0.002	BDL	----	BDL	BDL	----
Pyrene	No	1.00E+04	1.35E-01	0.002	BDL	----	BDL	BDL	----
PCRs									
C6 - C8 Fraction	No	1.15E+03	5.23E+00	0.02	BDL	----	BDL	BDL	----
C9 - C16 Fraction	No	9.98E+03	2.80E+00	0.5	BDL	----	BDL	BDL	----
C17 - C35 Fraction	No	1.78E+02	2.80E+00	0.5	BDL	----	BDL	BDL	----

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

“-”: No criteria / solubility limit is provided in RBRG.

“-----”: Not tested according to the QA/QC Requirements in Table 2-2

*** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

Detailed QA/QC Sampling Analytical Results

Parameters	> Criteria (RBRG)	Industrial RBRG (mg/L)	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	Trip Blank	Trip Blank	Trip Blank
Metal						27/04/2022	06/05/2022	12/5/2022
Mercury	No	6.79E+00	-	0.0005	BDL	----	----	----
VOCs								
2-Propanone (Acetone)	No	1.00E+04	***	0.5	BDL	BDL	BDL	BDL
Benzene	No	5.40E+01	1.75E+03	0.005	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.62E+01	6.74E+03	0.005	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	0.05	BDL	BDL	BDL	BDL
Chloroform	No	1.13E+01	7.92E+03	0.005	BDL	BDL	BDL	BDL
Ethylbenzene	No	1.00E+04	1.69E+02	0.005	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	1.81E+03	***	0.005	BDL	BDL	BDL	BDL
Methylene Chloride	No	2.24E+02	***	0.05	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04	3.10E+02	0.005	BDL	BDL	BDL	BDL
Tetrachloroethene	No	2.95E+00	2.00E+02	0.005	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04	5.26E+02	0.005	BDL	BDL	BDL	BDL
Trichloroethene	No	1.42E+01	1.10E+03	0.005	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.57E+03	1.75E+02	0.02	BDL	BDL	BDL	BDL
SVOCs								
Acenaphthene	No	1.00E+04	4.24E+00	0.002	BDL	----	----	----
Acenaphthylene	No	1.00E+04	3.93E+00	0.002	BDL	----	----	----
Anthracene	No	1.00E+04	4.34E-02	0.002	BDL	----	----	----
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	0.001	BDL	----	----	----
Chrysene	No	8.12E+02	1.60E-03	0.001	BDL	----	----	----
Fluoranthene	No	1.00E+04	2.06E-01	0.002	BDL	----	----	----
Fluorene	No	1.00E+04	1.98E+00	0.002	BDL	----	----	----
Hexachlorobenzene	No	6.95E-01	6.20E+00	0.004	BDL	----	----	----
Naphthalene	No	8.62E+02	3.10E+01	0.002	BDL	----	----	----
Phenanthrene	No	1.00E+04	1.00E+00	0.002	BDL	----	----	----
Pyrene	No	1.00E+04	1.35E-01	0.002	BDL	----	----	----
PCRs								
C6 - C8 Fraction	No	1.15E+03	5.23E+00	0.02	BDL	----	----	----
C9 - C16 Fraction	No	9.98E+03	2.80E+00	0.5	BDL	----	----	----
C17 - C35 Fraction	No	1.78E+02	2.80E+00	0.5	BDL	----	----	----

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG, while the underlined value(s) indicate exceedance of the soil saturation limit

“-”: No criteria / solubility limit is provided in RBRG.

“----”: Not tested according to the QA/QC Requirements in Table 2-2

*** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

Detailed QA/QC Sampling Analytical Results

Parameters	> Criteria (RBRG)	Industrial RBRG (mg/L)	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	Field Blank	Equipment Blank	Trip Blank
						(GW)	(GW)	
Metal						16/05/2022	16/05/2022	16/05/2022
Mercury	No	6.79E+00	-	0.0005	BDL	BDL	BDL	---
VOCs								
2-Propanone (Acetone)	No	1.00E+04	***	0.5	BDL	BDL	BDL	BDL
Benzene	No	5.40E+01	1.75E+03	0.005	BDL	BDL	BDL	BDL
Bromodichloromethane	No	2.62E+01	6.74E+03	0.005	BDL	BDL	BDL	BDL
2-Butanone (MEK)	No	1.00E+04	***	0.05	BDL	BDL	BDL	BDL
Chloroform	No	1.13E+01	7.92E+03	0.005	BDL	BDL	BDL	BDL
Ethylbenzene	No	1.00E+04	1.69E+02	0.005	BDL	BDL	BDL	BDL
Methyl tert-Butyl Ether	No	1.81E+03	***	0.005	BDL	BDL	BDL	BDL
Methylene Chloride	No	2.24E+02	***	0.05	BDL	BDL	BDL	BDL
Styrene	No	1.00E+04	3.10E+02	0.005	BDL	BDL	BDL	BDL
Tetrachloroethene	No	2.95E+00	2.00E+02	0.005	BDL	BDL	BDL	BDL
Toluene	No	1.00E+04	5.26E+02	0.005	BDL	BDL	BDL	BDL
Trichloroethene	No	1.42E+01	1.10E+03	0.005	BDL	BDL	BDL	BDL
Xylenes (Total)	No	1.57E+03	1.75E+02	0.02	BDL	BDL	BDL	BDL
SVOCs								
Acenaphthene	No	1.00E+04	4.24E+00	0.002	BDL	BDL	BDL	---
Acenaphthylene	No	1.00E+04	3.93E+00	0.002	BDL	BDL	BDL	---
Anthracene	No	1.00E+04	4.34E-02	0.002	BDL	BDL	BDL	---
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	0.001	BDL	BDL	BDL	---
Chrysene	No	8.12E+02	1.60E-03	0.001	BDL	BDL	BDL	---
Fluoranthene	No	1.00E+04	2.06E-01	0.002	BDL	BDL	BDL	---
Fluorene	No	1.00E+04	1.98E+00	0.002	BDL	BDL	BDL	---
Hexachlorobenzene	No	6.95E-01	6.20E+00	0.004	BDL	BDL	BDL	---
Naphthalene	No	8.62E+02	3.10E+01	0.002	BDL	BDL	BDL	---
Phenanthrene	No	1.00E+04	1.00E+00	0.002	BDL	BDL	BDL	---
Pyrene	No	1.00E+04	1.35E-01	0.002	BDL	BDL	BDL	---
PCRs								
C6 - C8 Fraction	No	1.15E+03	5.23E+00	0.02	BDL	BDL	BDL	---
C9 - C16 Fraction	No	9.98E+03	2.80E+00	0.5	BDL	BDL	BDL	---
C17 - C35 Fraction	No	1.78E+02	2.80E+00	0.5	BDL	BDL	BDL	---

Notes:

BDL denotes below detection limit.

The highlighted value(s) in bold indicates exceedance of the adopted RBRG,

while the underlined value(s) indicate exceedance of the soil saturation limit

"-": No criteria / solubility limit is provided in RBRG.

"-----": Not tested according to the QA/QC Requirements in Table 2-2

*** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

APPENDIX F
LABORATORY TESTING REPORTS






CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: TEDDY ORR	Contact	: Richard Fung	Work Order	: HK2213568
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Facsimile	: +852 2621 5618	Facsimile	: +852 2610 2021		
Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 14-Apr-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 27-Apr-2022
C-O-C number	: H044460			No. of samples received	: 2
Site	:			No. of samples analysed	: 2

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This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 14-Apr-2022 to 27-Apr-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2213568

Sample(s) was/ were picked up from client by ALS staff. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of soil/sediment sample(s) was / were reported on dry weight basis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.

Sample(s) as received, digested by in-house method E-ASTM D3974-09 prior to determination of metals. The in-house method is developed based on ASTM D3974-09 method.

Test Method - EG3060 - Sample(s) as received, digested by in-house method E-3060 prior to the determination of Hexavalent Chromium (Cr6+). The in-house method is developed based on USEPA method 3060.



Analytical Results

Sub-Matrix: SOIL				Sample ID	ENV-BH23-0.5m	---	---	---	---
				Sampling date / time	13-Apr-2022 10:45	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2213568-002	---	---	---	---	---
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	27.8	---	---	---	---	---
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	8	---	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	94.2	---	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	26.0	---	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	34	---	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	37	---	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	1980	---	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	2	---	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	19	---	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	15.7	---	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	54	---	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	44.1	---	---	---	---	---
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	---	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	---	---	---	---	---



Sub-Matrix: SOIL				Sample ID	ENV-BH23-0.5m	---	---	---	---
				Sampling date / time	13-Apr-2022 10:45	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2213568-002	---	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	---	---	---	---	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	---	---	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	---	---	---	---	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	---	---	---	---	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	---	---	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	---	5	mg/kg	<5	---	---	---	---	---
EP071HK_SR: C9 - C16 Fraction	---	200	mg/kg	<200	---	---	---	---	---
EP071HK_SR: C17 - C35 Fraction	---	500	mg/kg	<500	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	---	---	---	---	---
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	---	---	---	---	---
	106-42-3								
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: Xylenes (Total)	---	2.0	mg/kg	<2.0	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									



Sub-Matrix: SOIL				Sample ID	ENV-BH23-0.5m	---	---	---	---
				Sampling date / time	13-Apr-2022 10:45	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2213568-002	---	---	---	---	---
EP-074 SR-G: Trihalomethanes (THM) - Continued									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	---	---	---	---	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	88.1	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	89.7	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.9	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP07CHK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.2	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.9	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.2	---	---	---	---	---



Sub-Matrix: WATER				Sample ID	Trip Blank				
				Sampling date / time	13-Apr-2022 10:45	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2213568-001	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	---	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	---	20	µg/L	<20	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	101	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.2	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4296704)								
HK2213743-001	Anonymous	EA355: Moisture Content (dried @ 103°C)	----	0.1	%	20.1	19.7	1.9
EG: Metals and Major Cations (QC Lot: 4293945)								
HK2213572-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.0
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	7.7	7.2	5.7
		EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	<0.5	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	142	122	15.2
		EG020: Tin	7440-31-5	0.5	mg/kg	1.0	0.9	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	1	1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	452	449	0.7
		EG020: Copper	7440-50-8	1	mg/kg	21	20	0.0
		EG020: Lead	7439-92-1	1	mg/kg	64	59	8.1
		EG020: Molybdenum	7439-98-7	1	mg/kg	3	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	2	2	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	73	72	0.0
EG: Metals and Major Cations (QC Lot: 4296812)								
HK2213285-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836)								
HK2213568-002	ENV-BH23-0.5m	Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.0



Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836) - Continued									
HK2213568-002	ENV-BH23-0.5m	Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.0	
		Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.0	
		Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.0	
		Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.0	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4299836)									
HK2213568-002	ENV-BH23-0.5m	Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.0	
		Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.0	
		Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.0	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4297264)									
HK2213322-002	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4299837)									
HK2213568-002	ENV-BH23-0.5m	C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.0	
		C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.0	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4297265)									
HK2213322-002	Anonymous	Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.0	
		Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.0	
		Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.0	
		Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.0	
		ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.0	
		meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.0	
			106-42-3						
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0	
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4297265)									
HK2213322-002	Anonymous	2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.0	
		2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.0	
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4297265)									
HK2213322-002	Anonymous	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0	
		Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.0	
		Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0	
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4297265)									
HK2213322-002	Anonymous	Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.0	



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4297265) - Continued								
HK2213322-002	Anonymous	Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.0
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4297265)								
HK2213322-002	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL					Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 4293945)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	93.3	----	85.0	108	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	107	----	87.2	110	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	91.9	----	85.0	110	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	103	----	85.0	113	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	107	----	89.8	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	114	----	92.0	115	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	93.0	----	86.7	115	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	104	----	85.8	108	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	111	----	86.6	115	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	98.2	----	85.2	113	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	105	----	90.6	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	93.9	----	85.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	110	----	90.9	115	----	----	
EG: Metals and Major Cations (QC Lot: 4296812)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	109	----	85.0	1120000	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836)												
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	91.7	----	71.0	100	----	----	
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	81.0	----	69.0	104	----	----	
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	89.4	----	76.0	99.0	----	----	
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	93.0	----	71.0	102	----	----	
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	89.6	----	72.0	97.0	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		Method: Compound	CAS Number	LOR		Unit	Result	LCS	DCS	Low	High
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836) - Continued											
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	85.7	----	72.0	104	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	89.7	----	71.0	105	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	88.1	----	71.0	103	----	----
Benzo(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	87.3	----	72.0	101	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	81.5	----	69.0	109	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	91.5	----	64.0	103	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	96.0	----	63.0	113	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	85.7	----	69.0	101	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	79.6	----	40.0	95.0	----	----
Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	80.0	----	46.0	95.0	----	----
Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	81.5	----	49.0	92.0	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4299836)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	78.5	----	70.0	100	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	85.9	----	84.0	106	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	100	----	77.0	124	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4297264)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	92.6	----	78.0	122	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4299837)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	79.3	----	69.0	92.0	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	70.8	----	59.0	98.0	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4297265)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	109	----	80.0	121	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	122	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	82.0	120	----	----
meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	109	----	80.0	122	----	----
	106-42-3										
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	96.5	----	80.0	120	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	80.0	122	----	----
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	108	----	80.0	122	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4297265)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	108	---	78.0	124	---	---
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	90.7	---	80.0	121	---	---
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4297265)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	87.7	---	79.0	120	---	---
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	106	---	79.0	120	---	---
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	105	---	75.0	119	---	---
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4297265)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	107	---	78.0	119	---	---
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	106	---	80.0	123	---	---
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4297265)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	90.9	---	79.0	124	---	---
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4294207)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	109	---	80.0	123	---	---
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	108	---	79.0	122	---	---
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	99.0	---	79.0	122	---	---
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	108	---	77.0	123	---	---
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	97.3	---	80.0	121	---	---
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	105	---	78.0	123	---	---
Xylenes (Total)	---	2	µg/L	<2	6 µg/L	107	---	78.0	123	---	---
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4294207)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	94.8	---	74.0	123	---	---
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	93.0	---	79.0	121	---	---
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4294207)											



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4294207) - Continued											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	111	----	79.0	122	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	108	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	105	----	76.0	121	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4294207)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	93.2	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4294207)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	104	----	78.0	124	----	----



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4293945)										
HK2213568-002	ENV-BH23-0.5m	EG020: Antimony	7440-36-0	10 mg/kg	83.3	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	97.4	----	75.0	125	----	----
		EG020: Barium	7440-39-3	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.5 mg/kg	101	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	115	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	108	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	79.5	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	103	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	103	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	84.8	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	91.6	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	84.5	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4296812)										
HK2213256-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	106	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836)										
HK2213568-002	ENV-BH23-0.5m	Naphthalene	91-20-3	250 µg/kg	82.8	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	84.1	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	83.2	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	81.2	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	85.0	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	83.2	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	85.5	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	84.3	----	50.0	130	----	----
		Benz(a)anthracene	56-55-3	250 µg/kg	83.8	----	50.0	130	----	----



Matrix: SOIL

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
					EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4299836) - Continued					
HK2213568-002	ENV-BH23-0.5m	Chrysene	218-01-9	250 µg/kg	73.0	---	50.0	130	---	---
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	87.0	---	50.0	130	---	---
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	83.6	---	50.0	130	---	---
		Benzo(a)pyrene	50-32-8	250 µg/kg	85.1	---	50.0	130	---	---
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	85.4	---	50.0	130	---	---
		Dibenz(a,h)anthracene	53-70-3	250 µg/kg	87.4	---	50.0	130	---	---
		Benzo(g,h,i)perylene	191-24-2	250 µg/kg	85.3	---	50.0	130	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4299836)										
HK2213568-002	ENV-BH23-0.5m	Phenol	108-95-2	250 µg/kg	83.9	---	50.0	130	---	---
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	92.2	---	50.0	130	---	---
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	91.8	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4297264)										
HK2213322-003	Anonymous	C6 - C8 Fraction	---	4.5 mg/kg	99.7	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4299837)										
HK2213568-002	ENV-BH23-0.5m	C9 - C16 Fraction	---	31.5 mg/kg	88.0	---	50.0	130	---	---
		C17 - C35 Fraction	---	67.5 mg/kg	84.3	---	50.0	130	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4297265)										
HK2213322-004	Anonymous	Benzene	71-43-2	0.25 mg/kg	105	---	50.0	130	---	---
		Toluene	108-88-3	0.25 mg/kg	109	---	50.0	130	---	---
		Ethylbenzene	100-41-4	0.25 mg/kg	105	---	50.0	130	---	---
		meta- & para-Xylene	108-38-3	0.5 mg/kg	102	---	50.0	130	---	---
			106-42-3							
		Styrene	100-42-5	0.25 mg/kg	109	---	50.0	130	---	---
		ortho-Xylene	95-47-6	0.25 mg/kg	108	---	50.0	130	---	---
		Xylenes (Total)	---	0.75 mg/kg	104	---	50.0	130	---	---
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4297265)										
HK2213322-004	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	105	---	50.0	130	---	---
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	106	---	50.0	130	---	---
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4297265)										



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Sample ID	Method: Compound	CAS Number								
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4297265) - Continued											
HK2213322-004	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	94.0	---	50.0	130	---	---	
		Trichloroethene	79-01-6	0.25 mg/kg	109	---	50.0	130	---	---	
		Tetrachloroethene	127-18-4	0.25 mg/kg	104	---	50.0	130	---	---	
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4297265)											
HK2213322-004	Anonymous	Chloroform	67-66-3	0.25 mg/kg	104	---	50.0	130	---	---	
		Bromodichloromethane	75-27-4	0.25 mg/kg	98.3	---	50.0	130	---	---	
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4297265)											
HK2213322-004	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	106	---	50.0	130	---	---	

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110



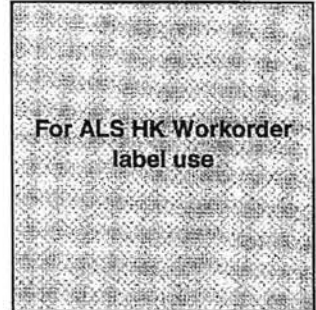
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			
4-Bromofluorobenzene	460-00-4	86	115

CHAIN OF CUSTODY DOCUMENTATION (Failure to complete all sections of this form may delay analysis.)

Part 1: Reporting Information	Part 2: Billing Information for Invoice (If different from Reporting Information)
Company Name: <u>PAWL-Y - CREC JOINT VENTURE.</u>	Company Name:
Client Contact Name: <u>DC/2019/10</u>	Client Contact Name:
E-mail: <u>justiny@pawlyengineering.com</u>	E-mail:
Phone: <u>952264511</u>	Phone:
Report Address:	Invoice Address:



Part 3: Project & Sample Information	Part 4: Test Required																								
P.O. / Client Order No: <u>P5120-008</u> ALS Quotation No:	<table style="width:100%; border-collapse: collapse;"> <tr><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td><td style="width:10%;"></td></tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Metals</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Cr, Pb, Zn</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Sulfates</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Volcs</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Pb, Cu, Sn, Ni</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">PCRS</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>													Metals	Cr, Pb, Zn	Sulfates	Volcs	Pb, Cu, Sn, Ni	PCRS						
Metals		Cr, Pb, Zn	Sulfates	Volcs	Pb, Cu, Sn, Ni	PCRS																			
Project Name / ID: <u>DC/2019/10</u>																									
Site Name / ID: <u>DC/2019/10</u>																									
Service Request (Working Day): Regular <input checked="" type="checkbox"/> / Express (5) <input type="checkbox"/> / Double Express (3) <input type="checkbox"/> Others <input type="checkbox"/> (Pls specify date required _____)																									
Cooler Security Seal: Sealed <input checked="" type="checkbox"/> / Broken <input type="checkbox"/> / Not Available <input checked="" type="checkbox"/>																									
Package: Cooler box <input checked="" type="checkbox"/> / Carton box <input type="checkbox"/> / Plastic bag <input type="checkbox"/> / Others: (_____) <input type="checkbox"/>																									
Temperature Condition: Chilled <input checked="" type="checkbox"/> / Ambient <input type="checkbox"/> / Frozen <input type="checkbox"/> _____ °C																									



ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	(✓) Tick the requested test	Remarks
1	Field Blank	W	20/4/22	15:00	3	✓✓✓✓✓	
2	Equipment Blank	W	20/4/22	15:00	3	✓✓✓✓✓	
3	Trip Blank	W	20/4/22	15:00	3	✓✓✓	
4	ENV-BH23 - 1.5m	S	20/4/22	15:30	1	✓✓✓✓✓	
5	ENV-BH23 - 3.0m	S	20/4/22	16:00	1	✓✓✓✓✓	
6	ENV-BH23 - 1.5m (duplicate)	S	20/4/22	15:30	1	✓✓✓✓✓	

Part 5: Handling Information			
Sampling Conducted by:		Sampling Supervised by:	
Company Name: <u>PAWL-Y - CREC JV</u>	Company Name: <u>CINOTECH CONSULTANT</u>	Samples Picked up & Delivered By:	
Responsible Person: <u>Justin Yn</u>	Responsible Person: <u>KARINA UYAN</u>	Company Name:	Samples Received by:
Date & Time: <u>20/4/2022 15:00</u>	Date & Time:	Responsible Person: <u>[Signature]</u>	Company Name:
Signature: <u>[Signature]</u>	Signature:	Date & Time:	Responsible Person: <u>21/4</u>
		Signature:	Date & Time:






CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 21
Contact	: TEDDY ORR	Contact	: Richard Fung	Work Order	: HK2214165
Address	: 11/F, PAUL Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Teddyorr@pyengineering.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: —	Telephone	: +852 2610 1044		
Facsimile	: +852 2621 5618	Facsimile	: +852 2610 2021		
Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 21-Apr-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 03-May-2022
C-O-C number	: S100066			No. of samples received	: 6
Site	:			No. of samples analysed	: 6

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Hong Kong Accreditation Service (HKAS) has accredited this laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066) under Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories.

This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 21-Apr-2022 to 03-May-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2214165

Sample(s) was/ were picked up from client by ALS staff. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of soil/sediment sample(s) was / were reported on dry weight basis.

Water sample(s) were filtered prior to dissolved metal analysis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.

Sample(s) as received, digested by in-house method E-ASTM D3974-09 prior to determination of metals. The in-house method is developed based on ASTM D3974-09 method.

Test Method - EG3060 - Sample(s) as received, digested by in-house method E-3060 prior to the determination of Hexavalent Chromium (Cr6+). The in-house method is developed based on USEPA method 3060.



Analytical Results

Sub-Matrix: SOIL				Sample ID	ENV-BH23 - 1.5m	ENV-BH23 - 3.0m	ENV-BH23 - 1.5m (Duplicate)	---	---
				Sampling date / time	20-Apr-2022 15:30	20-Apr-2022 16:00	20-Apr-2022 15:30	----	----
Compound	CAS Number	LOR	Unit	HK2214165-004	HK2214165-005	HK2214165-006	-----	-----	
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.6	35.6	12.7	---	---	
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	<1	---	---	
EG020: Arsenic	7440-38-2	1	mg/kg	3	15	2	---	---	
EG020: Barium	7440-39-3	1.0	mg/kg	125	32.7	101	---	---	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	---	---	
EG020: Cobalt	7440-48-4	1.0	mg/kg	19.9	8.0	15.6	---	---	
EG020: Copper	7440-50-8	1	mg/kg	72	13	50	---	---	
EG020: Lead	7439-92-1	1	mg/kg	27	46	28	---	---	
EG020: Manganese	7439-96-5	1.0	mg/kg	456	402	320	---	---	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	<0.05	---	---	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5	<1	---	---	
EG020: Nickel	7440-02-0	1	mg/kg	14	14	12	---	---	
EG020: Tin	7440-31-5	1.0	mg/kg	12.3	3.4	16.7	---	---	
EG020: Zinc	7440-66-6	1	mg/kg	83	73	50	---	---	
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	23.6	25.1	18.1	---	---	
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<1.0	<1.0	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	



Sub-Matrix: SOIL				Sample ID	ENV-BH23 - 1.5m	ENV-BH23 - 3.0m	ENV-BH23 - 1.5m (Duplicate)	---	---
				Sampling date / time	20-Apr-2022 15:30	20-Apr-2022 16:00	20-Apr-2022 15:30	---	---
Compound	CAS Number	LOR	Unit	HK2214165-004	HK2214165-005	HK2214165-006	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	---	---	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	---	---	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	<5.00	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	---	---	---
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	---	---	---
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	---	---	---
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	<1.0	---	---	---
	106-42-3								
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	---	---	---



Sub-Matrix: SOIL				Sample ID	ENV-BH23 - 1.5m	ENV-BH23 - 3.0m	ENV-BH23 - 1.5m (Duplicate)	---	---
				Sampling date / time	20-Apr-2022 15:30	20-Apr-2022 16:00	20-Apr-2022 15:30	----	----
Compound	CAS Number	LOR	Unit	HK2214165-004	HK2214165-005	HK2214165-006	---	---	
EP-074_SR-E: Halogenated Aliphatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	---	---	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	---	---	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	---	---	
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	88.8	73.4	68.5	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	93.7	75.9	71.6	---	---	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.7	91.9	96.0	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	100	101	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.7	92.8	93.7	---	---	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.7	91.9	96.0	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	100	101	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.7	92.8	93.7	---	---	



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank	---	---
				Sampling date / time	20-Apr-2022 15:00	20-Apr-2022 15:00	20-Apr-2022 15:00	----	----
Compound	CAS Number	LOR	Unit	HK2214165-001	HK2214165-002	HK2214165-003	---	---	---
EG: Metals and Major Cations - Filtered									
EG020: Antimony	7440-36-0	1	µg/L	<1	<1	---	---	---	---
EG020: Arsenic	7440-38-2	10	µg/L	<10	<10	---	---	---	---
EG020: Barium	7440-39-3	1	µg/L	<1	<1	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1	µg/L	<1	<1	---	---	---	---
EG020: Copper	7440-50-8	1	µg/L	<1	<1	---	---	---	---
EG020: Lead	7439-92-1	1	µg/L	<1	<1	---	---	---	---
EG020: Manganese	7439-96-5	1	µg/L	<1	<1	---	---	---	---
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	---	---	---	---
EG020: Molybdenum	7439-98-7	1	µg/L	<1	<1	---	---	---	---
EG020: Nickel	7440-02-0	1	µg/L	<1	<1	---	---	---	---
EG020: Tin	7440-31-5	1	µg/L	<1	<1	---	---	---	---
EG020: Zinc	7440-66-6	10	µg/L	<10	<10	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	20	µg/L	<20	<20	---	---	---	---
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	<20	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Fluorene	86-73-7	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Anthracene	120-12-7	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Pyrene	129-00-0	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Benz(a)anthracene	56-55-3	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	---	---	---	---
EP076HK: Benzo(k)fluoranthene	207-08-9	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Benzo(a)pyrene	50-32-8	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Indeno(1,2,3-cd)pyrene	193-39-5	2.0	µg/L	<2.0	<2.0	---	---	---	---



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank	---	---
				Sampling date / time	20-Apr-2022 15:00	20-Apr-2022 15:00	20-Apr-2022 15:00	----	----
Compound	CAS Number	LOR	Unit	HK2214165-001	HK2214165-002	HK2214165-003	----	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Dibenz(a,h)anthracene	53-70-3	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	<4.0	---	---	---	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	20.0	µg/L	<20.0	<20.0	---	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	<20	---	---	---	---
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	<500	<500	---	---	---	---
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	<500	<500	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	<10	<10	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	<20	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	<500	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	<50	<50	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank		
				Sampling date / time	20-Apr-2022 15:00	20-Apr-2022 15:00	20-Apr-2022 15:00	---	---
Compound	CAS Number	LOR	Unit	HK2214165-001	HK2214165-002	HK2214165-003			
EP-074 SR-I: Methyl-tert-butyl Ether - Continued									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	50.6	52.3	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	100	64.2	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.8	94.7	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	102	102	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.6	92.9	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.8	94.7	92.5	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	102	102	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.6	92.9	91.5	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4306063)								
HK2214165-004	ENV-BH23 - 1.5m	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	13.6	13.6	0.0
HK2214489-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.4	10.2	1.0
EG: Metals and Major Cations (QC Lot: 4301631)								
HK2214161-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.0
		EG020: Cadmium	7440-43-9	0.2	mg/kg	0.3	0.3	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	60.8	61.9	1.8
		EG020: Cobalt	7440-48-4	0.5	mg/kg	3.4	3.4	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	174	175	0.9
		EG020: Tin	7440-31-5	0.5	mg/kg	1.9	1.9	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	86	87	0.0
		EG020: Copper	7440-50-8	1	mg/kg	5	5	0.0
		EG020: Lead	7439-92-1	1	mg/kg	8	8	0.0
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	6	6	0.0
EG020: Zinc	7440-66-6	1	mg/kg	118	120	1.6		
EG: Metals and Major Cations (QC Lot: 4309945)								
HK2214165-005	ENV-BH23 - 3.0m	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292)								
HK2213573-001	Anonymous	Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.0



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292) - Continued								
HK2213573-001	Anonymous	Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.0
		Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.0
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4303292)								
HK2213573-001	Anonymous	Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.0
		Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.0
		Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303293)								
HK2213573-001	Anonymous	C9- C16 Fraction	----	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303390)								
HK2214165-004	ENV-BH23 - 1.5m	C6 - C8 Fraction	---	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4303391)								
HK2214165-004	ENV-BH23 - 1.5m	Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.0
		Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.0
		Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.0
		Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.0
		ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.0
		meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4303391)								
HK2214165-004	ENV-BH23 - 1.5m	2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.0
		2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.0
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4303391)								
HK2214165-004	ENV-BH23 - 1.5m	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0
		Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.0
		Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303391)								



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303391) - Continued								
HK2214165-004	ENV-BH23 - 1.5m	Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.0
		Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.0
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4303391)								
HK2214165-004	ENV-BH23 - 1.5m	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 4301589)								
HK2214165-002	Equipment Blank	EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.0
		EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.0
		EG020: Antimony	7440-36-0	1	µg/L	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	µg/L	<10	<10	0.0
		EG020: Barium	7440-39-3	1	µg/L	<1	<1	0.0
		EG020: Cobalt	7440-48-4	1	µg/L	<1	<1	0.0
		EG020: Copper	7440-50-8	1	µg/L	<1	<1	0.0
		EG020: Lead	7439-92-1	1	µg/L	<1	<1	0.0
		EG020: Manganese	7439-96-5	1	µg/L	<1	<1	0.0
		EG020: Molybdenum	7439-98-7	1	µg/L	<1	<1	0.0
		EG020: Nickel	7440-02-0	1	µg/L	<1	<1	0.0
		EG020: Tin	7440-31-5	1	µg/L	<1	<1	0.0
		EG020: Zinc	7440-66-6	10	µg/L	<10	<10	0.0
EG: Metals and Major Cations - Filtered (QC Lot: 4308537)								
HK2213073-010	Anonymous	EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	<20	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4301631)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	98.6	---	85.0	108	---	---



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		Method: Compound	CAS Number	LOR		Unit	Result	LCS	DCS	Low	High
EG: Metals and Major Cations (QC Lot: 4301631) - Continued											
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	98.5	---	87.2	110	---	---
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	92.6	---	85.0	110	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	98.9	---	85.0	113	---	---
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	92.8	---	89.8	110	---	---
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	97.6	---	92.0	115	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	88.0	---	86.7	115	---	---
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	90.4	---	85.8	108	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	95.7	---	86.6	115	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	94.4	---	85.2	113	---	---
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	95.8	---	90.6	111	---	---
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	96.9	---	85.0	109	---	---
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	100	---	90.9	115	---	---
EG: Metals and Major Cations (QC Lot: 4309945)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	116	---	85.0	1120000	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	91.4	---	71.0	100	---	---
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	97.6	---	69.0	104	---	---
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	95.6	---	76.0	99.0	---	---
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	95.7	---	71.0	102	---	---
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	95.8	---	72.0	97.0	---	---
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	87.9	---	72.0	104	---	---
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	86.1	---	71.0	105	---	---
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	91.2	---	71.0	103	---	---
Benzo(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	94.4	---	72.0	101	---	---
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	86.9	---	69.0	109	---	---
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	99.4	---	64.0	103	---	---
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	97.5	---	63.0	113	---	---
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	92.0	---	69.0	101	---	---
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	80.6	---	40.0	95.0	---	---



Matrix: SOIL		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
		Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
								LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292) - Continued													
Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	79.1	----	46.0	95.0	----	----		
Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	81.5	----	49.0	92.0	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4303292)													
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	88.6	----	70.0	100	----	----		
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	96.0	----	84.0	106	----	----		
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	105	----	77.0	124	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303293)													
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	80.3	----	69.0	92.0	----	----		
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	72.8	----	59.0	98.0	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303390)													
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	108	----	78.0	122	----	----		
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4303391)													
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	110	----	80.0	121	----	----		
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	79.0	122	----	----		
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	93.7	----	82.0	120	----	----		
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	93.6	----	80.0	122	----	----		
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	93.0	----	80.0	120	----	----		
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	93.8	----	80.0	122	----	----		
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	93.6	----	80.0	122	----	----		
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4303391)													
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	91.2	----	78.0	124	----	----		
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	103	----	80.0	121	----	----		
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4303391)													
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	109	----	79.0	120	----	----		
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	104	----	79.0	120	----	----		
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	97.7	----	75.0	119	----	----		
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303391)													
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	107	----	78.0	119	----	----		



Matrix: SOIL					Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit	
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303391) - Continued												
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	80.0	123	----	----	
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4303391)												
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	79.0	124	----	----	
Matrix: WATER					Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations - Filtered (QC Lot: 4301589)												
EG020: Antimony	7440-36-0	1	µg/L	<1	50 µg/L	97.3	----	85.0	115	----	----	
EG020: Arsenic	7440-38-2	1	µg/L	<1	50 µg/L	97.3	----	88.1	110	----	----	
EG020: Barium	7440-39-3	1	µg/L	<1	50 µg/L	93.4	----	85.0	115	----	----	
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	5 µg/L	96.9	----	85.0	113	----	----	
EG020: Cobalt	7440-48-4	1	µg/L	<1	50 µg/L	94.3	----	86.1	110	----	----	
EG020: Copper	7440-50-8	1	µg/L	<1	50 µg/L	99.4	----	89.2	111	----	----	
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	92.5	----	86.9	110	----	----	
EG020: Manganese	7439-96-5	1	µg/L	<1	50 µg/L	94.3	----	86.9	110	----	----	
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	102	----	85.0	115	----	----	
EG020: Molybdenum	7439-98-7	1	µg/L	<1	50 µg/L	99.6	----	85.8	115	----	----	
EG020: Nickel	7440-02-0	1	µg/L	<1	50 µg/L	96.0	----	88.4	109	----	----	
EG020: Tin	7440-31-5	1	µg/L	<1	50 µg/L	99.8	----	85.0	115	----	----	
EG020: Zinc	7440-66-6	10	µg/L	<10	50 µg/L	97.2	----	89.1	113	----	----	
EG: Metals and Major Cations - Filtered (QC Lot: 4308537)												
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	100 µg/L	95.0	----	80.0	106	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4301552)												
Naphthalene	91-20-3	0.1	µg/L	<0.1	0.25 µg/L	79.7	----	61.0	101	----	----	
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.25 µg/L	80.5	----	58.0	102	----	----	
Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.25 µg/L	79.9	----	60.0	102	----	----	
Fluorene	86-73-7	0.1	µg/L	<0.1	0.25 µg/L	80.4	----	59.0	100	----	----	



Matrix: WATER		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
		Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
								LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4301552) - Continued													
Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.25 µg/L	83.4	----	58.0	106	----	----		
Anthracene	120-12-7	0.1	µg/L	<0.1	0.25 µg/L	82.4	----	60.0	101	----	----		
Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.25 µg/L	85.4	----	63.0	114	----	----		
Pyrene	129-00-0	0.1	µg/L	<0.1	0.25 µg/L	83.8	----	61.0	115	----	----		
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	0.25 µg/L	80.6	----	67.0	105	----	----		
Chrysene	218-01-9	0.1	µg/L	<0.1	0.25 µg/L	72.5	----	60.0	116	----	----		
Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.25 µg/L	91.0	----	54.0	113	----	----		
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	0.25 µg/L	79.6	----	61.0	109	----	----		
Benzo(a)pyrene	50-32-8	0.1	µg/L	<0.1	0.25 µg/L	82.2	----	57.0	102	----	----		
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	0.25 µg/L	72.6	----	40.0	102	----	----		
Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	0.25 µg/L	78.6	----	43.0	101	----	----		
Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	0.25 µg/L	74.8	----	42.0	106	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4301552)													
Phenol	108-95-2	5	µg/L	<5.0	0.25 µg/L	77.2	----	56.0	106	----	----		
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.25 µg/L	92.2	----	57.0	114	----	----		
Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	<10.0	0.25 µg/L	97.6	----	82.0	120	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4301553)													
C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.105 mg/L	78.2	----	60.0	101	----	----		
C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.225 mg/L	73.0	----	70.0	108	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303372)													
C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	99.7	----	80.0	117	----	----		
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4303371)													
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	92.8	----	79.0	122	----	----		
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	91.9	----	80.0	122	----	----		
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	93.8	----	79.0	123	----	----		
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	94.8	----	83.0	122	----	----		
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	91.9	----	78.0	120	----	----		
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	92.4	----	80.0	123	----	----		



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4303371) - Continued											
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	94.0	----	82.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4303371)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	109	----	77.0	124	----	----
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	94.2	----	78.0	126	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4303371)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	108	----	78.0	123	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	107	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	107	----	74.0	124	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303371)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	93.5	----	79.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.6	----	76.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4303371)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	93.2	----	76.0	124	----	----



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4301631)										
HK2214161-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	103	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	106	----	75.0	125	----	----
		EG020: Barium	7440-39-3	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.5 mg/kg	110	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	90.7	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	94.7	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	99.4	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	108	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	103	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	98.2	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	103	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4309945)										
HK2214165-004	ENV-BH23 - 1.5m	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	104	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292)										
HK2213573-002	Anonymous	Naphthalene	91-20-3	250 µg/kg	90.2	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	81.2	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	80.8	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	81.6	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	77.1	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	86.6	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	77.4	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	79.3	----	50.0	130	----	----



Matrix: SOIL

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4303292) - Continued										
HK2213573-002	Anonymous	Benz(a)anthracene	56-55-3	250 µg/kg	75.7	---	50.0	130	---	---
		Chrysene	218-01-9	250 µg/kg	69.1	---	50.0	130	---	---
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	73.7	---	50.0	130	---	---
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	88.8	---	50.0	130	---	---
		Benzo(a)pyrene	50-32-8	250 µg/kg	78.2	---	50.0	130	---	---
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	73.4	---	50.0	130	---	---
		Dibenz(a,h)anthracene	53-70-3	250 µg/kg	76.4	---	50.0	130	---	---
		Benzo(g,h,i)perylene	191-24-2	250 µg/kg	66.6	---	50.0	130	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4303292)										
HK2213573-002	Anonymous	Phenol	108-95-2	250 µg/kg	81.4	---	50.0	130	---	---
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	92.3	---	50.0	130	---	---
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	76.3	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303293)										
HK2213573-001	Anonymous	C9 - C16 Fraction	---	31.5 mg/kg	85.6	---	50.0	130	---	---
		C17 - C35 Fraction	---	67.5 mg/kg	68.0	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4303390)										
HK2214165-005	ENV-BH23 - 3.0m	C6 - C8 Fraction	---	4.5 mg/kg	108	---	50.0	130	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4303391)										
HK2214165-006	ENV-BH23 - 1.5m (Duplicate)	Benzene	71-43-2	0.25 mg/kg	110	---	50.0	130	---	---
		Toluene	108-88-3	0.25 mg/kg	108	---	50.0	130	---	---
		Ethylbenzene	100-41-4	0.25 mg/kg	106	---	50.0	130	---	---
		meta- & para-Xylene	108-38-3	0.5 mg/kg	108	---	50.0	130	---	---
			106-42-3							
		Styrene	100-42-5	0.25 mg/kg	105	---	50.0	130	---	---
		ortho-Xylene	95-47-6	0.25 mg/kg	109	---	50.0	130	---	---
		Xylenes (Total)	---	0.75 mg/kg	108	---	50.0	130	---	---
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4303391)										
HK2214165-006	ENV-BH23 - 1.5m (Duplicate)	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	92.5	---	50.0	130	---	---
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	107	---	50.0	130	---	---



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4303391)										
HK2214165-006	ENV-BH23 - 1.5m (Duplicate)	Methylene chloride	75-09-2	0.25 mg/kg	101	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	104	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	104	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4303391)										
HK2214165-006	ENV-BH23 - 1.5m (Duplicate)	Chloroform	67-66-3	0.25 mg/kg	105	----	50.0	130	----	----
		Bromodichloromethane	75-27-4	0.25 mg/kg	94.7	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4303391)										
HK2214165-006	ENV-BH23 - 1.5m (Duplicate)	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	105	----	50.0	130	----	----

Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4301589)										
HK2214165-001	Field Blank	EG020: Antimony	7440-36-0	50 µg/L	94.9	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	50 µg/L	94.1	----	75.0	125	----	----
		EG020: Barium	7440-39-3	50 µg/L	90.0	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	5 µg/L	98.6	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	50 µg/L	92.6	----	75.0	125	----	----
		EG020: Copper	7440-50-8	50 µg/L	92.7	----	75.0	125	----	----
		EG020: Lead	7439-92-1	50 µg/L	91.1	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	50 µg/L	93.4	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	2 µg/L	99.4	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	50 µg/L	96.5	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	50 µg/L	94.6	----	75.0	125	----	----
		EG020: Tin	7440-31-5	50 µg/L	95.6	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	50 µg/L	94.0	----	75.0	125	----	----

EG: Metals and Major Cations - Filtered (QC Lot: 4308537)
 HK2213073-009 Anonymous



Matrix: WATER					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4308537) - Continued										
HK2213073-009	Anonymous	EG050: Hexavalent Chromium	18540-29-9	100 µg/L	94.7	---	75.0	125	---	---

Surrogate Control Limits


Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121


Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118



Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115

CHAIN OF CUSTODY DOCUMENTATION (Failure to complete all sections of this form may delay analysis.)

Part 1: Reporting Information		Part 2: Billing Information for Invoice (If different from Reporting Information)	
Company Name: Paul Y. - CREC Joint Venture	Client Contact Name: DC/2019/10	Company Name:	Client Contact Name:
E-mail: justinyu@pyengineering.com	Phone: 9522 6451	E-mail:	Phone:
Report Address:		Invoice Address:	
		 S 100069 ALS Technichem (HK) Pty Ltd	

Part 3: Project & Sample Information		Part 4: Test Required	
P.O. / Client Order No: P5120-008	ALS Quotation No:		
Project Name / ID: DC/2019/10			
Site Name / ID: DC/2019/10			
Service Request (Working Day):	Regular <input checked="" type="checkbox"/> / Express (5) <input type="checkbox"/> / Double Express (3) <input type="checkbox"/> Others <input type="checkbox"/> (Pls specify date required _____)	Metals Cr, Pb, Fe VOCs SVOCs PCRs	
Cooler Security Seal:	Sealed <input checked="" type="checkbox"/> / Broken <input type="checkbox"/> / Not Available <input type="checkbox"/>		
Package:	Cooler box <input checked="" type="checkbox"/> / Carton box <input type="checkbox"/> / Plastic bag <input type="checkbox"/> / Others: (_____) <input type="checkbox"/>		
Temperature Condition:	Chilled <input checked="" type="checkbox"/> / Ambient <input type="checkbox"/> / Frozen <input type="checkbox"/> _____ °C		
			

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	(✓) Tick the requested test										Remarks				
1	Trip Blank	w	27/4/2022	15:00	2															
2	ENV - BH22 (0.5m)	S	27/4/2022	11:30	1	-	-	-	✓	✓										
3	ENV - BH22 (1.5m)	S	27/4/2022	14:00	1	✓	✓	✓	✓	✓										
4	ENV - BH22 (3.0m)	S	27/4/2022	15:00	1	✓	✓	✓	✓	✓										

Part 5: Handling Information							
Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name: CIVOTECH CONSULTANTS	Responsible Person: KARINA CHAN	Company Name: CIVOTECH CONSULTANTS	Responsible Person: KARINA CHAN	Company Name:	Responsible Person: ALS	Date & Time: 28-4-2022 17:45	Signature:
Date & Time: 28-4-2022	Signature:	Date & Time:	Signature:	Date & Time:	Signature:		






CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: TEDDY ORR	Contact	: Richard Fung	Work Order	: HK2215150
Address	: 11/F, PAUL Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Teddyorr@pyengineering.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: —	Telephone	: +852 2610 1044		
Facsimile	: +852 2621 5618	Facsimile	: +852 2610 2021		
Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 28-Apr-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 11-May-2022
C-O-C number	: S100069			No. of samples received	: 4
Site	:			No. of samples analysed	: 4

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Hong Kong Accreditation Service (HKAS) has accredited this laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066) under Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories.

This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 28-Apr-2022 to 10-May-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2215150

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of soil/sediment sample(s) was / were reported on dry weight basis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.

Sample(s) as received, digested by in-house method E-ASTM D3974-09 prior to determination of metals. The in-house method is developed based on ASTM D3974-09 method.

Test Method - EG3060 - Sample(s) as received, digested by in-house method E-3060 prior to the determination of Hexavalent Chromium (Cr6+). The in-house method is developed based on USEPA method 3060.



Analytical Results

Sub-Matrix: SOIL				Sample ID	ENV - BH22 (0.5m)	ENV - BH22 (1.5m)	ENV - BH22 (3.0m)	---	---
				Sampling date / time	27-Apr-2022 11:30	27-Apr-2022 14:00	27-Apr-2022 15:00	----	----
Compound	CAS Number	LOR	Unit	HK2215150-002	HK2215150-003	HK2215150-004	---	---	
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.5	20.3	37.1	---	---	
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	<1	---	---	
EG020: Arsenic	7440-38-2	1	mg/kg	8	4	7	---	---	
EG020: Barium	7440-39-3	1.0	mg/kg	93.0	96.9	46.9	---	---	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	---	---	
EG020: Cobalt	7440-48-4	1.0	mg/kg	32.9	18.9	11.6	---	---	
EG020: Copper	7440-50-8	1	mg/kg	53	28	17	---	---	
EG020: Lead	7439-92-1	1	mg/kg	39	21	28	---	---	
EG020: Manganese	7439-96-5	1.0	mg/kg	870	560	402	---	---	
EG020: Mercury	7439-97-6	0.05	mg/kg	0.06	<0.05	<0.05	---	---	
EG020: Molybdenum	7439-98-7	1	mg/kg	2	<1	2	---	---	
EG020: Nickel	7440-02-0	1	mg/kg	25	19	14	---	---	
EG020: Tin	7440-31-5	1.0	mg/kg	36.2	4.9	4.0	---	---	
EG020: Zinc	7440-66-6	1	mg/kg	50	92	154	---	---	
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	57.2	29.5	24.1	---	---	
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<1.0	<1.0	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	



Sub-Matrix: SOIL				Sample ID	ENV - BH22 (0.5m)	ENV - BH22 (1.5m)	ENV - BH22 (3.0m)	---	---
				Sampling date / time	27-Apr-2022 11:30	27-Apr-2022 14:00	27-Apr-2022 15:00	----	----
Compound	CAS Number	LOR	Unit	HK2215150-002	HK2215150-003	HK2215150-004	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	---	---	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	---	---	
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	---	---	
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	12.9	<5.00	---	---	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	---	---	
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	---	---	
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	---	---	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	---	---	
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	<1.0	---	---	
	106-42-3								
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	---	---	
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	---	---	
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	---	---	
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	---	---	



Sub-Matrix: SOIL				Sample ID	ENV - BH22 (0.5m)	ENV - BH22 (1.5m)	ENV - BH22 (3.0m)	---	---
				Sampling date / time	27-Apr-2022 11:30	27-Apr-2022 14:00	27-Apr-2022 15:00	----	----
Compound	CAS Number	LOR	Unit	HK2215150-002	HK2215150-003	HK2215150-004	---	---	---
EP-074 SR-E: Halogenated Aliohatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	81.1	77.0	74.2	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	87.8	80.3	77.6	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.4	90.4	91.1	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	102	101	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.0	93.5	93.4	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.4	90.4	91.1	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	102	101	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.0	93.5	93.4	---	---	---



Sub-Matrix: WATER				Sample ID	Trip Blank				
				Sampling date / time	27-Apr-2022 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2215150-001	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	---	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	---	20	µg/L	<20	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	104	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.0	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4315773)								
HK2214740-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.3	15.5	1.4
HK2215135-005	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.7	18.5	1.2
EG: Metals and Major Cations (QC Lot: 4311362)								
HK2214994-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.08	0.09	0.0
		EG020: Cadmium	7440-43-9	0.2	mg/kg	0.7	0.5	24.7
		EG020: Barium	7440-39-3	0.5	mg/kg	48.6	42.8	12.8
		EG020: Cobalt	7440-48-4	0.5	mg/kg	2.3	2.0	14.4
		EG020: Manganese	7439-96-5	0.5	mg/kg	184	220	17.5
		EG020: Tin	7440-31-5	0.5	mg/kg	4.2	4.4	6.2
		EG020: Antimony	7440-36-0	1	mg/kg	1	1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	2	2	0.0
		EG020: Copper	7440-50-8	1	mg/kg	43	37	16.8
		EG020: Lead	7439-92-1	1	mg/kg	143	137	3.7
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	1	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	6	6	0.0
EG020: Zinc	7440-66-6	1	mg/kg	761	637	17.7		
EG: Metals and Major Cations (QC Lot: 4315909)								
HK2214744-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940)								
HK2214740-001	Anonymous	Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.0



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940) - Continued								
HK2214740-001	Anonymous	Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.0
		Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.0
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4315940)								
HK2214740-001	Anonymous	Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.0
		Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.0
		Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4312496)								
HK2214740-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4315941)								
HK2214740-001	Anonymous	C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4312497)								
HK2214740-001	Anonymous	Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.0
		Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.0
		Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.0
		Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.0
		ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.0
		meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.0
			106-42-3					
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4312497)								
HK2214740-001	Anonymous	2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.0
		2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.0
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4312497)								
HK2214740-001	Anonymous	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0
		Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.0
		Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4312497)								



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4312497) - Continued								
HK2214740-001	Anonymous	Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.0
		Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.0
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4312497)								
HK2214740-001	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL					Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 4311362)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	94.2	----	85.0	108	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	103	----	87.2	110	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	92.0	----	85.0	110	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	102	----	85.0	113	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	106	----	89.8	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	112	----	92.0	115	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	93.0	----	86.7	115	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	100	----	85.8	108	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	104	----	86.6	115	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	107	----	85.2	113	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	111	----	90.6	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	95.4	----	85.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	109	----	90.9	115	----	----	
EG: Metals and Major Cations (QC Lot: 4315909)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	96.8	----	85.0	1120000	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940)												
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	91.8	----	71.0	100	----	----	
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	87.1	----	69.0	104	----	----	
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	88.8	----	76.0	99.0	----	----	
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	87.2	----	71.0	102	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	83.8	----	72.0	97.0	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	98.4	----	72.0	104	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	90.2	----	71.0	105	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	88.5	----	71.0	103	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	86.3	----	72.0	101	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	84.2	----	69.0	109	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	83.9	----	64.0	103	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	87.8	----	63.0	113	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	79.9	----	69.0	101	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	66.5	----	40.0	95.0	----	----
Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	64.7	----	46.0	95.0	----	----
Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	65.4	----	49.0	92.0	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4315940)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	87.2	----	70.0	100	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	98.5	----	84.0	106	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	99.0	----	77.0	124	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4312496)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	107	----	78.0	122	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4315941)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	76.7	----	69.0	92.0	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	80.9	----	59.0	98.0	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4312497)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	93.6	----	80.0	121	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	96.5	----	79.0	122	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	90.8	----	82.0	120	----	----
meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	93.9	----	80.0	122	----	----
	106-42-3										
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	90.0	----	80.0	120	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	91.0	----	80.0	122	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4312497) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	92.9	----	80.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4312497)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	110	----	78.0	124	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	108	----	80.0	121	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4312497)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	107	----	79.0	120	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	92.6	----	79.0	120	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	96.1	----	75.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4312497)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	91.1	----	78.0	119	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	95.1	----	80.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4312497)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	79.0	124	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4315808)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	102	----	79.0	122	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	91.2	----	80.0	122	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	91.8	----	79.0	123	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	103	----	83.0	122	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	92.6	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	94.0	----	80.0	123	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	100	----	82.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4315808)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	93.5	----	77.0	124	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4315808) - Continued											
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	102	----	78.0	126	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4315808)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	106	----	78.0	123	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	97.7	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	96.3	----	74.0	124	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4315808)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	96.0	----	79.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.4	----	76.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4315808)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	96.9	----	76.0	124	----	----



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4311362)										
HK2214992-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	95.2	---	75.0	125	---	---
		EG020: Arsenic	7440-38-2	10 mg/kg	99.2	---	75.0	125	---	---
		EG020: Barium	7440-39-3	10 mg/kg	96.8	---	75.0	125	---	---
		EG020: Cadmium	7440-43-9	0.5 mg/kg	101	---	75.0	125	---	---
		EG020: Cobalt	7440-48-4	10 mg/kg	106	---	75.0	125	---	---
		EG020: Copper	7440-50-8	10 mg/kg	112	---	75.0	125	---	---
		EG020: Lead	7439-92-1	10 mg/kg	# Not Determined	---	75.0	125	---	---
		EG020: Manganese	7439-96-5	10 mg/kg	# Not Determined	---	75.0	125	---	---
		EG020: Mercury	7439-97-6	0.1 mg/kg	109	---	75.0	125	---	---
		EG020: Molybdenum	7439-98-7	10 mg/kg	104	---	75.0	125	---	---
		EG020: Nickel	7440-02-0	10 mg/kg	109	---	75.0	125	---	---
		EG020: Tin	7440-31-5	10 mg/kg	104	---	75.0	125	---	---
EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	---	75.0	125	---	---		
EG: Metals and Major Cations (QC Lot: 4315909)										
HK2214740-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	92.9	---	75.0	125	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940)										
HK2214740-001	Anonymous	Naphthalene	91-20-3	250 µg/kg	84.1	---	50.0	130	---	---
		Acenaphthylene	208-96-8	250 µg/kg	86.8	---	50.0	130	---	---
		Acenaphthene	83-32-9	250 µg/kg	83.8	---	50.0	130	---	---
		Fluorene	86-73-7	250 µg/kg	80.7	---	50.0	130	---	---
		Phenanthrene	85-01-8	250 µg/kg	80.4	---	50.0	130	---	---
		Anthracene	120-12-7	250 µg/kg	89.9	---	50.0	130	---	---
		Fluoranthene	206-44-0	250 µg/kg	84.5	---	50.0	130	---	---
		Pyrene	129-00-0	250 µg/kg	84.4	---	50.0	130	---	---



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4315940) - Continued										
HK2214740-001	Anonymous	Benz(a)anthracene	56-55-3	250 µg/kg	81.1	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	73.9	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	76.2	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	72.7	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	67.4	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	69.0	----	50.0	130	----	----
		Dibenz(a,h)anthracene	53-70-3	250 µg/kg	68.4	----	50.0	130	----	----
		Benzo(g,h,i)perylene	191-24-2	250 µg/kg	64.1	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4315940)										
HK2214740-001	Anonymous	Phenol	108-95-2	250 µg/kg	79.8	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	92.7	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	87.3	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4312496)										
HK2214744-001	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	106	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4315941)										
HK2214740-001	Anonymous	C9 - C16 Fraction	----	31.5 mg/kg	80.1	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	80.8	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4312497)										
HK2214749-001	Anonymous	Benzene	71-43-2	0.25 mg/kg	105	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	106	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	99.0	----	50.0	130	----	----
		meta- & para-Xylene	108-38-3	0.5 mg/kg	106	----	50.0	130	----	----
			106-42-3							
		Styrene	100-42-5	0.25 mg/kg	94.7	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	105	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4312497)										
HK2214749-001	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	94.4	----	50.0	130	----	----
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	96.0	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
Laboratory sample ID	Sample ID	Method: Compound	CAS Number							
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4312497)										
HK2214749-001	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	109	---	50.0	130	---	---
		Trichloroethene	79-01-6	0.25 mg/kg	107	---	50.0	130	---	---
		Tetrachloroethene	127-18-4	0.25 mg/kg	106	---	50.0	130	---	---
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4312497)										
HK2214749-001	Anonymous	Chloroform	67-66-3	0.25 mg/kg	96.1	---	50.0	130	---	---
		Bromodichloromethane	75-27-4	0.25 mg/kg	90.2	---	50.0	130	---	---
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4312497)										
HK2214749-001	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	91.9	---	50.0	130	---	---

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110



Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			
4-Bromofluorobenzene	460-00-4	86	115

CHAIN OF CUSTODY DOCUMENTATION

H 039603



ALS Laboratory Group

CLIENT: DC/2019/10 Paul Y. - CREC Joint Venture
 ADDRESS / OFFICE:
 PROJECT MANAGER (PM):
 PROJECT ID: DC/2019/10
 SITE: DC/2019/10 P.O. NO.: P5120-008

SAMPLER: Justin Yu
 MOBILE: 9522 6451
 PHONE: Ditto
 EMAIL REPORT TO: justinyu@pyengineering.com
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date): QUOTE NO.:

ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

FOR LABORATORY USE ONLY
 COOLER SEAL (circle appropriate)
 Intact: Yes No N/A
 SAMPLE TEMPERATURE
 CHILLED: Yes No

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

Metals
 Cr III, IV
 VOCs
 SVOCs
 PCBs

Notes: e.g. Highly contaminated samples
 e.g. "High PAHs expected"
 Extra volume for QC or trace LORs etc.

SAMPLE INFORMATION (note: S = Soil, W=Water) CONTAINER INFORMATION

ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles
1	Trip Blank	W	6/5/22	14:00		2
2	ENV - BH17 (0.5m)	S	6/5/22	09:00		1
3	ENV - BH17 (1.5m-1.9m)	S	6/5/22	10:30		1
4	ENV - BH17 (3m-3.4m)	S	6/5/22	13:00		1
5	ENV - BH17 (4.8m-6.1m)	S	6/5/22	14:00		1

Metals	Cr III, IV	VOCs	SVOCs	PCBs
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

RELINQUISHED BY:
 Name: Justin Yu
 Of: Paul Y. - CREC JV
 Name: Karina
 Of: CREC Joint Venture

RECEIVED BY:
 Name: Gray Cheng
 Of: ALS

METHOD OF SHIPMENT
 Con' Note No:
 Date: 6-5-2022
 Time: 1725
 Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved;
 W = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulphuric Preserved Amber Glass; H = HCl Preserved Plastic; HS = HCl Preserved Speciation Bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soil; B = Unpreserved Bag.






CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: TEDDY ORR	Contact	: Richard Fung	Work Order	: HK2216407
Address	: 11/F, PAUL Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Teddyorr@pyengineering.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: —	Telephone	: +852 2610 1044		
Facsimile	: +852 2621 5618	Facsimile	: +852 2610 2021		
Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 06-May-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 18-May-2022
C-O-C number	: H039603			No. of samples received	: 5
Site	:			No. of samples analysed	: 5

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This document has been signed by those names that appear on this report and are the authorised signatories.

Hong Kong Accreditation Service (HKAS) has accredited this laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066) under Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 06-May-2022 to 18-May-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2216407

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of soil/sediment sample(s) was / were reported on dry weight basis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.

Sample(s) as received, digested by in-house method E-ASTM D3974-09 prior to determination of metals. The in-house method is developed based on ASTM D3974-09 method.

Test Method - EG3060 - Sample(s) as received, digested by in-house method E-3060 prior to the determination of Hexavalent Chromium (Cr6+). The in-house method is developed based on USEPA method 3060.



Analytical Results

Sub-Matrix: SOIL				Sample ID	ENV-BH17 (0.5m)	ENV-BH17 (1.5m-1.95m)	ENV-BH17 (3m-3.4m)	ENV-BH17 (3.8m-4.2m)	---
				Sampling date / time	06-May-2022 09:00	06-May-2022 10:30	06-May-2022 13:00	06-May-2022 14:00	---
Compound	CAS Number	LOR	Unit	HK2216407-002	HK2216407-003	HK2216407-004	HK2216407-005	---	
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	22.5	24.8	30.9	28.3	---	
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	<1	1	---	
EG020: Arsenic	7440-38-2	1	mg/kg	7	7	7	8	---	
EG020: Barium	7440-39-3	1.0	mg/kg	120	106	116	84.1	---	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	---	
EG020: Cobalt	7440-48-4	1.0	mg/kg	25.5	24.2	27.7	20.8	---	
EG020: Copper	7440-50-8	1	mg/kg	37	42	46	50	---	
EG020: Lead	7439-92-1	1	mg/kg	37	45	33	36	---	
EG020: Manganese	7439-96-5	1.0	mg/kg	1300	1520	1350	1560	---	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	---	
EG020: Molybdenum	7439-98-7	1	mg/kg	1	1	1	1	---	
EG020: Nickel	7440-02-0	1	mg/kg	25	24	25	24	---	
EG020: Tin	7440-31-5	1.0	mg/kg	19.9	24.3	24.1	33.1	---	
EG020: Zinc	7440-66-6	1	mg/kg	96	95	85	160	---	
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	50.6	46.3	71.7	47.1	---	
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	1.5	<1.0	<1.0	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	---	



Sub-Matrix: SOIL				Sample ID	ENV-BH17 (0.5m)	ENV-BH17 (1.5m-1.95m)	ENV-BH17 (3m-3.4m)	ENV-BH17 (3.8m-4.2m)	---
Sampling date / time				06-May-2022 09:00	06-May-2022 10:30	06-May-2022 13:00	06-May-2022 14:00	----	---
Compound	CAS Number	LOR	Unit	HK2216407-002	HK2216407-003	HK2216407-004	HK2216407-005	----	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Indeno(1,2,3-cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	<0.200	<0.200	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	<5.00	<5.00	<5.00	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	<5	---
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	<200	---
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	<500	<500	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	---
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	---
	106-42-3								
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	<50	<50	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	---



Sub-Matrix: SOIL				Sample ID	ENV-BH17 (0.5m)	ENV-BH17 (1.5m-1.95m)	ENV-BH17 (3m-3.4m)	ENV-BH17 (3.8m-4.2m)	—
Sampling date / time				06-May-2022 09:00	06-May-2022 10:30	06-May-2022 13:00	06-May-2022 14:00	---	
Compound	CAS Number	LOR	Unit	HK2216407-002	HK2216407-003	HK2216407-004	HK2216407-005	---	
EP-074 SR-E: Halogenated Aliphatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	—	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	—	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	—	
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	—	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	86.2	90.1	77.8	84.5	—	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	80.2	86.4	76.4	84.5	—	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.9	98.9	97.6	94.9	—	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	102	102	101	—	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.1	96.8	96.2	95.1	—	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.9	98.9	97.6	94.9	—	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	102	102	101	—	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.1	96.8	96.2	95.1	—	



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	06-May-2022 14:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2216407-001	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	---	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.2	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	109	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.4	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4334120)								
HK2216199-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	33.0	31.8	3.7
HK2216407-002	ENV-BH17 (0.5m)	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	22.5	22.3	0.8
EG: Metals and Major Cations (QC Lot: 4328645)								
HK2216115-002	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EG: Metals and Major Cations (QC Lot: 4331435)								
HK2216115-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.06	18.3
		EG020: Cadmium	7440-43-9	0.2	mg/kg	0.7	0.8	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	43.7	43.8	0.3
		EG020: Cobalt	7440-48-4	0.5	mg/kg	5.3	5.5	4.5
		EG020: Manganese	7439-96-5	0.5	mg/kg	401	420	4.5
		EG020: Tin	7440-31-5	0.5	mg/kg	2.6	2.5	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	10	12	21.9
		EG020: Copper	7440-50-8	1	mg/kg	31	30	3.4
		EG020: Lead	7439-92-1	1	mg/kg	47	54	14.5
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	16	19	21.4
EG020: Zinc	7440-66-6	1	mg/kg	165	143	14.6		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104)								
HK2215366-001	Anonymous	Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.0



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104) - Continued								
HK2215366-001	Anonymous	Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.0
		Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.0
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4329104)								
HK2215366-001	Anonymous	Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.0
		Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.0
		Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4328822)								
HK2215366-001	Anonymous	C6 - C8 Fraction	---	5	mg/kg	<5	<5	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4329105)								
HK2215366-001	Anonymous	C9 - C16 Fraction	---	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	---	500	mg/kg	<500	<500	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4328823)								
HK2215366-001	Anonymous	Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.0
		Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.0
		Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.0
		Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.0
		ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.0
		meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.0
			106-42-3					
		Xylenes (Total)	---	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4328823)								
HK2215366-001	Anonymous	2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.0
		2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.0
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4328823)								
HK2215366-001	Anonymous	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0
		Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.0
		Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4328823)								



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4328823) - Continued								
HK2215366-001	Anonymous	Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.0
		Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.0
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4328823)								
HK2215366-001	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL					Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 4328645)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	105	----	85.0	1120000	----	----	
EG: Metals and Major Cations (QC Lot: 4331435)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	93.5	----	85.0	108	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	106	----	87.2	110	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	94.7	----	85.0	110	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	99.6	----	85.0	113	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	108	----	89.8	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	115	----	92.0	115	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	94.6	----	86.7	115	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	102	----	85.8	108	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	105	----	86.6	115	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	111	----	85.2	113	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	110	----	90.6	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	95.6	----	85.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	110	----	90.9	115	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104)												
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	90.3	----	71.0	100	----	----	
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	88.8	----	69.0	104	----	----	
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	94.9	----	76.0	99.0	----	----	
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	94.3	----	71.0	102	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		Method: Compound	CAS Number	LOR		Unit	Result	LCS	DCS	Low	High
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	96.6	----	72.0	97.0	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	100	----	72.0	104	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	96.8	----	71.0	105	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	95.4	----	71.0	103	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	99.1	----	72.0	101	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	97.4	----	69.0	109	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	94.6	----	64.0	103	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	95.9	----	63.0	113	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	92.3	----	69.0	101	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	69.3	----	40.0	95.0	----	----
Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	70.1	----	46.0	95.0	----	----
Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	68.4	----	49.0	92.0	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4329104)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	96.3	----	70.0	100	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	96.7	----	84.0	106	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	106	----	77.0	124	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4328822)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	93.1	----	80.0	123	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4329105)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	82.0	----	69.0	92.0	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	70.9	----	59.0	98.0	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4328823)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	110	----	80.0	121	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	104	----	79.0	122	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	82.0	120	----	----
meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	110	----	80.0	122	----	----
	106-42-3										
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	80.0	120	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	80.0	122	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4328823) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	110	----	80.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4328823)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	105	----	78.0	124	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	110	----	80.0	121	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4328823)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	111	----	79.0	120	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	90.4	----	79.0	120	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	90.0	----	75.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4328823)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	105	----	78.0	119	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	80.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4328823)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	109	----	79.0	124	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4332269)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	107	----	79.0	122	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	107	----	80.0	122	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	106	----	79.0	123	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	103	----	83.0	122	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	105	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	106	----	80.0	123	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	104	----	82.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4332269)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	104	----	77.0	124	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4332269) - Continued											
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	93.1	----	78.0	126	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4332269)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	94.3	----	78.0	123	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	107	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	103	----	74.0	124	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4332269)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	109	----	79.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	110	----	76.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4332269)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	111	----	76.0	124	----	----



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4328645)										
HK2216403-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	99.0	---	75.0	125	---	---
EG: Metals and Major Cations (QC Lot: 4331435)										
HK2216115-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	98.0	---	75.0	125	---	---
		EG020: Arsenic	7440-38-2	10 mg/kg	98.7	---	75.0	125	---	---
		EG020: Barium	7440-39-3	10 mg/kg	# Not Determined	---	75.0	125	---	---
		EG020: Cadmium	7440-43-9	0.5 mg/kg	110	---	75.0	125	---	---
		EG020: Cobalt	7440-48-4	10 mg/kg	109	---	75.0	125	---	---
		EG020: Copper	7440-50-8	10 mg/kg	95.1	---	75.0	125	---	---
		EG020: Lead	7439-92-1	10 mg/kg	88.7	---	75.0	125	---	---
		EG020: Manganese	7439-96-5	10 mg/kg	# Not Determined	---	75.0	125	---	---
		EG020: Mercury	7439-97-6	0.1 mg/kg	109	---	75.0	125	---	---
		EG020: Molybdenum	7439-98-7	10 mg/kg	114	---	75.0	125	---	---
		EG020: Nickel	7440-02-0	10 mg/kg	96.6	---	75.0	125	---	---
		EG020: Tin	7440-31-5	10 mg/kg	104	---	75.0	125	---	---
EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	---	75.0	125	---	---		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104)										
HK2215366-002	Anonymous	Naphthalene	91-20-3	250 µg/kg	86.0	---	50.0	130	---	---
		Acenaphthylene	208-96-8	250 µg/kg	83.8	---	50.0	130	---	---
		Acenaphthene	83-32-9	250 µg/kg	82.6	---	50.0	130	---	---
		Fluorene	86-73-7	250 µg/kg	82.3	---	50.0	130	---	---
		Phenanthrene	85-01-8	250 µg/kg	86.5	---	50.0	130	---	---
		Anthracene	120-12-7	250 µg/kg	85.3	---	50.0	130	---	---
		Fluoranthene	206-44-0	250 µg/kg	85.0	---	50.0	130	---	---
		Pyrene	129-00-0	250 µg/kg	85.3	---	50.0	130	---	---



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4329104) - Continued										
HK2215366-002	Anonymous	Benz(a)anthracene	56-55-3	250 µg/kg	88.0	---	50.0	130	---	---
		Chrysene	218-01-9	250 µg/kg	77.6	---	50.0	130	---	---
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	91.1	---	50.0	130	---	---
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	78.1	---	50.0	130	---	---
		Benzo(a)pyrene	50-32-8	250 µg/kg	86.3	---	50.0	130	---	---
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	73.5	---	50.0	130	---	---
		Dibenz(a,h)anthracene	53-70-3	250 µg/kg	75.7	---	50.0	130	---	---
		Benzo(g,h,i)perylene	191-24-2	250 µg/kg	70.4	---	50.0	130	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4329104)										
HK2215366-002	Anonymous	Phenol	108-95-2	250 µg/kg	87.0	---	50.0	130	---	---
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	91.1	---	50.0	130	---	---
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	91.8	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4328822)										
HK2215366-002	Anonymous	C6 - C8 Fraction	---	4.5 mg/kg	95.6	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4329105)										
HK2215504-001	Anonymous	C9 - C16 Fraction	---	31.5 mg/kg	68.2	---	50.0	130	---	---
		C17 - C35 Fraction	---	67.5 mg/kg	# Not Determined	---	50.0	130	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4328823)										
HK2215504-001	Anonymous	Benzene	71-43-2	0.25 mg/kg	104	---	50.0	130	---	---
		Toluene	108-88-3	0.25 mg/kg	107	---	50.0	130	---	---
		Ethylbenzene	100-41-4	0.25 mg/kg	104	---	50.0	130	---	---
		meta- & para-Xylene	108-38-3	0.5 mg/kg	101	---	50.0	130	---	---
			106-42-3							
		Styrene	100-42-5	0.25 mg/kg	100	---	50.0	130	---	---
		ortho-Xylene	95-47-6	0.25 mg/kg	107	---	50.0	130	---	---
		Xylenes (Total)	---	0.75 mg/kg	103	---	50.0	130	---	---
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4328823)										
HK2215504-001	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	106	---	50.0	130	---	---



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4328823) - Continued										
HK2215504-001	Anonymous	2-Butanone (MEK)	78-93-3	2.5 mg/kg	107	---	50.0	130	---	---
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4328823)										
HK2215504-001	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	97.0	---	50.0	130	---	---
		Trichloroethene	79-01-6	0.25 mg/kg	107	---	50.0	130	---	---
		Tetrachloroethene	127-18-4	0.25 mg/kg	106	---	50.0	130	---	---
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4328823)										
HK2215504-001	Anonymous	Chloroform	67-66-3	0.25 mg/kg	107	---	50.0	130	---	---
		Bromodichloromethane	75-27-4	0.25 mg/kg	92.6	---	50.0	130	---	---
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4328823)										
HK2215504-001	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	107	---	50.0	130	---	---

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates			



Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115



CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 15
Contact	: TEDDY ORR	Contact	: Richard Fung	Work Order	: HK2217483
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Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 13-May-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 24-May-2022
C-O-C number	: S100067			No. of samples received	: 5
Site	:			No. of samples analysed	: 5

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Hong Kong Accreditation Service (HKAS) has accredited this laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066) under Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories.

This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
	Senior Chemist	Organics_ENV
	Manager - Inorganics	Inorganics
	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 13-May-2022 to 24-May-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2217483

Sample(s) #1, #3-5 were submitted by client. Sample(s) arrived laboratory in chilled condition at 17:30 on 13 May, 2022. The result(s) related only to the item(s) tested.

Sample #2 was submitted by client. Sample(s) arrived laboratory in chilled condition at 19:00 on 14 May, 2022. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of soil/sediment sample(s) was / were reported on dry weight basis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.

Sample(s) as received, digested by in-house method E-ASTM D3974-09 prior to determination of metals. The in-house method is developed based on ASTM D3974-09 method.

Test Method - EG3060 - Sample(s) as received, digested by in-house method E-3060 prior to the determination of Hexavalent Chromium (Cr6+). The in-house method is developed based on USEPA method 3060.



Analytical Results

Sub-Matrix: SOIL				Sample ID	ENV-BH16 (0.5m)	ENV-BH16 (1.5m)	ENV-BH16 (3m)	ENV-BH16 (3.5m)	---
				Sampling date / time	12-May-2022 10:00	12-May-2022 11:30	12-May-2022 14:00	12-May-2022 15:00	---
Compound	CAS Number	LOR	Unit		HK2217483-002	HK2217483-003	HK2217483-004	HK2217483-005	---
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	---	0.1	%		33.5	23.6	32.5	34.6	---
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg		<1	<1	<1	<1	---
EG020: Arsenic	7440-38-2	1	mg/kg		6	6	6	6	---
EG020: Barium	7440-39-3	1.0	mg/kg		134	104	140	116	---
EG020: Cadmium	7440-43-9	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	---
EG020: Cobalt	7440-48-4	1.0	mg/kg		23.5	18.6	18.7	18.6	---
EG020: Copper	7440-50-8	1	mg/kg		39	46	41	41	---
EG020: Lead	7439-92-1	1	mg/kg		34	95	36	33	---
EG020: Manganese	7439-96-5	1.0	mg/kg		1660	1820	1610	1420	---
EG020: Mercury	7439-97-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	---
EG020: Molybdenum	7439-98-7	1	mg/kg		<1	3	1	1	---
EG020: Nickel	7440-02-0	1	mg/kg		22	46	20	22	---
EG020: Tin	7440-31-5	1.0	mg/kg		31.4	18.9	36.2	28.2	---
EG020: Zinc	7440-66-6	1	mg/kg		90	168	110	194	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg		43.3	44.4	37.7	46.0	---
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg		<1.0	<1.0	<1.0	<1.0	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Fluorene	86-73-7	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Anthracene	120-12-7	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Pyrene	129-00-0	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---
EP076HK: Chrysene	218-01-9	0.500	mg/kg		<0.500	<0.500	<0.500	<0.500	---



Sub-Matrix: SOIL				Sample ID	ENV-BH16 (0.5m)	ENV-BH16 (1.5m)	ENV-BH16 (3m)	ENV-BH16 (3.5m)	---
				Sampling date / time	12-May-2022 10:00	12-May-2022 11:30	12-May-2022 14:00	12-May-2022 15:00	----
Compound	CAS Number	LOR	Unit	HK2217483-002	HK2217483-003	HK2217483-004	HK2217483-005	-----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	<0.200	<0.200	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	<5.00	<5.00	<5.00	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	<5	---
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	<200	---
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	<500	<500	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	---
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	---
	106-42-3								
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	<50	<50	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	---



Sub-Matrix: SOIL				Sample ID	ENV-BH16 (0.5m)	ENV-BH16 (1.5m)	ENV-BH16 (3m)	ENV-BH16 (3.5m)	---
				Sampling date / time	12-May-2022 10:00	12-May-2022 11:30	12-May-2022 14:00	12-May-2022 15:00	----
Compound	CAS Number	LOR	Unit	HK2217483-002	HK2217483-003	HK2217483-004	HK2217483-005	-----	
EP-074 SR-E: Halogenated Aliphatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	---
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	91.1	87.3	89.6	95.9	95.9	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	86.8	80.6	82.0	86.5	86.5	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.9	91.4	90.1	90.2	90.2	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	105	105	105	105	105	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.9	91.0	92.7	92.0	92.0	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.9	91.4	90.1	90.2	90.2	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	105	105	105	105	105	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.9	91.0	92.7	92.0	92.0	---



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	12-May-2022 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2217483-001	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	---	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	---	20	µg/L	<20	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.7	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	109	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.0	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4347624)								
HK2216462-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.5	21.6	0.0
HK2218018-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	24.4	24.4	0.0
EG: Metals and Major Cations (QC Lot: 4340183)								
HK2217240-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.08	0.08	0.0
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	19.1	19.6	2.7
		EG020: Cobalt	7440-48-4	0.5	mg/kg	0.6	0.6	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	45.8	39.3	15.1
		EG020: Tin	7440-31-5	0.5	mg/kg	1.0	1.0	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	24	24	0.0
		EG020: Copper	7440-50-8	1	mg/kg	6	6	0.0
		EG020: Lead	7439-92-1	1	mg/kg	18	19	0.0
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	2	2	0.0
EG020: Zinc	7440-66-6	1	mg/kg	25	24	0.0		
EG: Metals and Major Cations (QC Lot: 4343864)								
HK2216751-006	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095)								
HK2216383-012	Anonymous	Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.0
		Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.0



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095) - Continued								
HK2216383-012	Anonymous	Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.0
		Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.0
		Di:benz(a,h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.0
		Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.0
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4341095)								
HK2216383-012	Anonymous	Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.0
		Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.0
		Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4341094)								
HK2216383-012	Anonymous	C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4345963)								
HK2217483-002	ENV-BH16 (0.5m)	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4345964)								
HK2217483-002	ENV-BH16 (0.5m)	Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.0
		Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.0
		Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.0
		Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.0
		ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.0
		meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.0
			106-42-3					
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4345964)								
HK2217483-002	ENV-BH16 (0.5m)	2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.0
		2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.0
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4345964)								
HK2217483-002	ENV-BH16 (0.5m)	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0
		Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.0
		Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.0
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4345964)								



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4345964) - Continued								
HK2217483-002	ENV-BH16 (0.5m)	Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.0
		Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.0
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4345964)								
HK2217483-002	ENV-BH16 (0.5m)	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 4340183)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	97.4	----	85.0	108	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	103	----	87.2	110	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	92.8	----	85.0	110	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	104	----	85.0	113	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	106	----	89.8	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	112	----	92.0	115	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	95.2	----	86.7	115	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	103	----	85.8	108	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	112	----	86.6	115	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	100.0	----	85.2	113	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	109	----	90.6	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	97.0	----	85.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	108	----	90.9	115	----	----	
EG: Metals and Major Cations (QC Lot: 4343864)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	102	----	85.0	1120000	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095)												
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	94.9	----	71.0	100	----	----	
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	86.2	----	69.0	104	----	----	
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	93.6	----	76.0	99.0	----	----	
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	91.4	----	71.0	102	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number	LOR	Unit	Result							
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	91.3	----	72.0	97.0	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	93.4	----	72.0	104	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	92.3	----	71.0	105	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	90.4	----	71.0	103	----	----
Benzo(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	87.4	----	72.0	101	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	83.8	----	69.0	109	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	76.2	----	64.0	103	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	88.5	----	63.0	113	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	72.4	----	69.0	101	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	65.1	----	40.0	95.0	----	----
Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	67.0	----	46.0	95.0	----	----
Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	65.9	----	49.0	92.0	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4341095)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	87.3	----	70.0	100	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	97.0	----	84.0	106	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	100	----	77.0	124	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4341094)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	79.9	----	69.0	92.0	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	73.6	----	59.0	98.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4345963)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	92.1	----	80.0	123	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4345964)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	80.0	121	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	122	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	82.0	120	----	----
meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	107	----	80.0	122	----	----
	106-42-3										
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	80.0	120	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	80.0	122	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4345964) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	107	----	80.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4345964)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	108	----	78.0	124	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	107	----	80.0	121	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4345964)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	106	----	79.0	120	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	91.8	----	79.0	120	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	106	----	75.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4345964)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	92.6	----	78.0	119	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	107	----	80.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4345964)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	105	----	79.0	124	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4342795)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	92.6	----	79.0	122	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	96.1	----	80.0	122	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	92.2	----	79.0	123	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	96.2	----	83.0	122	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	94.3	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	90.4	----	80.0	123	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	94.3	----	82.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4342795)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	109	----	77.0	124	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		Method: Compound	CAS Number	LOR		Unit	Result	LCS	DCS	Low	High
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4342795) - Continued											
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	97.0	----	78.0	126	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4342795)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	109	----	78.0	123	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	93.5	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	90.1	----	74.0	124	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4342795)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	96.5	----	79.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	95.0	----	76.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4342795)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	91.9	----	76.0	124	----	----



Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4340183)										
HK2217240-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	86.3	---	75.0	125	---	---
		EG020: Arsenic	7440-38-2	10 mg/kg	92.8	---	75.0	125	---	---
		EG020: Barium	7440-39-3	10 mg/kg	88.0	---	75.0	125	---	---
		EG020: Cadmium	7440-43-9	0.5 mg/kg	104	---	75.0	125	---	---
		EG020: Cobalt	7440-48-4	10 mg/kg	105	---	75.0	125	---	---
		EG020: Copper	7440-50-8	10 mg/kg	114	---	75.0	125	---	---
		EG020: Lead	7439-92-1	10 mg/kg	89.5	---	75.0	125	---	---
		EG020: Manganese	7439-96-5	10 mg/kg	80.8	---	75.0	125	---	---
		EG020: Mercury	7439-97-6	0.1 mg/kg	111	---	75.0	125	---	---
		EG020: Molybdenum	7439-98-7	10 mg/kg	106	---	75.0	125	---	---
		EG020: Nickel	7440-02-0	10 mg/kg	102	---	75.0	125	---	---
		EG020: Tin	7440-31-5	10 mg/kg	104	---	75.0	125	---	---
		EG020: Zinc	7440-66-6	10 mg/kg	92.1	---	75.0	125	---	---
EG: Metals and Major Cations (QC Lot: 4343864)										
HK2216751-005	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	102	---	75.0	125	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095)										
HK2216383-012	Anonymous	Naphthalene	91-20-3	250 µg/kg	85.8	---	50.0	130	---	---
		Acenaphthylene	208-96-8	250 µg/kg	78.2	---	50.0	130	---	---
		Acenaphthene	83-32-9	250 µg/kg	83.6	---	50.0	130	---	---
		Fluorene	86-73-7	250 µg/kg	80.9	---	50.0	130	---	---
		Phenanthrene	85-01-8	250 µg/kg	80.2	---	50.0	130	---	---
		Anthracene	120-12-7	250 µg/kg	85.5	---	50.0	130	---	---
		Fluoranthene	206-44-0	250 µg/kg	82.5	---	50.0	130	---	---
		Pyrene	129-00-0	250 µg/kg	80.9	---	50.0	130	---	---
		Benz(a)anthracene	56-55-3	250 µg/kg	72.9	---	50.0	130	---	---
		Chrysene	218-01-9	250 µg/kg	82.5	---	50.0	130	---	---
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	69.4	---	50.0	130	---	---



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4341095) - Continued										
HK2216383-012	Anonymous	Benzo(k)fluoranthene	207-08-9	250 µg/kg	78.8	---	50.0	130	---	---
		Benzo(a)pyrene	50-32-8	250 µg/kg	65.6	---	50.0	130	---	---
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	68.6	---	50.0	130	---	---
		Dibenz(a,h)anthracene	53-70-3	250 µg/kg	62.5	---	50.0	130	---	---
		Benzo(g,h,i)perylene	191-24-2	250 µg/kg	64.6	---	50.0	130	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4341095)										
HK2216383-012	Anonymous	Phenol	108-95-2	250 µg/kg	77.2	---	50.0	130	---	---
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	90.3	---	50.0	130	---	---
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	83.0	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4341094)										
HK2216383-012	Anonymous	C9 - C16 Fraction	----	31.5 mg/kg	81.2	---	50.0	130	---	---
		C17 - C35 Fraction	----	67.5 mg/kg	68.6	---	50.0	130	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4345963)										
HK2217483-003	ENV-BH16 (1.5m)	C6 - C8 Fraction	----	4.5 mg/kg	99.0	---	50.0	130	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4345964)										
HK2217483-004	ENV-BH16 (3m)	Benzene	71-43-2	0.25 mg/kg	98.4	---	50.0	130	---	---
		Toluene	108-88-3	0.25 mg/kg	99.8	---	50.0	130	---	---
		Ethylbenzene	100-41-4	0.25 mg/kg	103	---	50.0	130	---	---
		meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	107	---	50.0	130	---	---
		Styrene	100-42-5	0.25 mg/kg	100	---	50.0	130	---	---
		ortho-Xylene	95-47-6	0.25 mg/kg	98.5	---	50.0	130	---	---
		Xylenes (Total)	----	0.75 mg/kg	104	---	50.0	130	---	---
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4345964)										
HK2217483-004	ENV-BH16 (3m)	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	90.2	---	50.0	130	---	---
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	90.7	---	50.0	130	---	---
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4345964)										
HK2217483-004	ENV-BH16 (3m)	Methylene chloride	75-09-2	0.25 mg/kg	107	---	50.0	130	---	---
		Trichloroethene	79-01-6	0.25 mg/kg	92.4	---	50.0	130	---	---



Matrix: SOIL					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4345964) - Continued										
HK2217483-004	ENV-BH16 (3m)	Tetrachloroethene	127-18-4	0.25 mg/kg	90.3	---	50.0	130	---	---
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4345964)										
HK2217483-004	ENV-BH16 (3m)	Chloroform	67-66-3	0.25 mg/kg	106	---	50.0	130	---	---
		Bromodichloromethane	75-27-4	0.25 mg/kg	105	---	50.0	130	---	---
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4345964)										
HK2217483-004	ENV-BH16 (3m)	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	99.2	---	50.0	130	---	---

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115





CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2217700
Address	: 11/F, PAUL Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Project	: DC/2019/10 - YUEN LONG EFFLUENT POLISHING PLANT - MAIN WORKS FOR STAGE 1			Date Samples Received	: 16-May-2022
Order number	: P5120-008	Quote number	: HKE/1853/2021_V6	Issue Date	: 19-May-2022
C-O-C number	: S100113			No. of samples received	: 8
Site	:			No. of samples analysed	: 8

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Hong Kong Accreditation Service (HKAS) has accredited this laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066) under Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories.

This document has been signed by those names that appear on this report and are the authorised signatories.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 16-May-2022 to 19-May-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK2217700

Sample(s) was/ were sampled by ALS staff. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

ALS Technichem (HK) Pty Ltd is HOKLAS accredited for the testing provided in this report. The sampling activity involved is not covered under HOKLAS accreditation.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Water sample(s) were filtered prior to dissolved metal analysis.

EP070 is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071.



Analytical Results

Sub-Matrix: GROUNDWATER				Sample ID	ENV-BH16	ENV-BH17	ENV-BH22	ENV-BH23	ENV-BH22 (GW-Duplicate)
Sampling date / time					16-May-2022 10:00	16-May-2022 10:20	16-May-2022 10:30	16-May-2022 10:50	16-May-2022 10:30
Compound	CAS Number	LOR	Unit	HK2217700-004	HK2217700-005	HK2217700-006	HK2217700-007	HK2217700-008	
EG: Metals and Major Cations - Filtered									
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Fluorene	86-73-7	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Anthracene	120-12-7	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Pyrene	129-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	<20	<20	<20	<20	<20
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	<500	<500	<500	500	<500	<500
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	<500	<500	1100	1000	900	900
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	<10	<10	<10	<10	<10
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	<20	<20	<20	<20
EP-074_SR-B: Oxygenated Compounds									



Sub-Matrix: GROUNDWATER				Sample ID	ENV-BH16	ENV-BH17	ENV-BH22	ENV-BH23	ENV-BH22 (GW-Duplicate)
				Sampling date / time	16-May-2022 10:00	16-May-2022 10:20	16-May-2022 10:30	16-May-2022 10:50	16-May-2022 10:30
Compound	CAS Number	LOR	Unit	HK2217700-004	HK2217700-005	HK2217700-006	HK2217700-007	HK2217700-008	HK2217700-008
EP-074 SR-B: Oxvaenated Compoounds - Continued									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	<500	<500	<500	<500
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50	<50
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	<50	<50	<50	<50	<50
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	63.5	51.6	55.3	60.9	65.2	65.2
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	94.4	92.3	114	95.4	73.3	73.3
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.4	96.6	99.5	96.6	95.4	95.4
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	109	108	107	106	109	109
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.4	90.0	90.3	92.1	91.9	91.9
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.4	96.6	99.5	96.6	95.4	95.4
EP074_SR: Toluene-D8	2037-26-5	0.1	%	109	108	107	106	109	109
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.4	90.0	90.3	92.1	91.9	91.9



Sub-Matrix: WATER				Sample ID	FIELD BLANK	Equipment Blank	Trip Blank	---	---
				Sampling date / time	16-May-2022 10:54	16-May-2022 10:54	16-May-2022 11:00	---	---
Compound	CAS Number	LOR	Unit	HK2217700-001	HK2217700-002	HK2217700-003	---	---	---
EG: Metals and Major Cations - Filtered									
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Fluorene	86-73-7	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Anthracene	120-12-7	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Pyrene	129-00-0	2.0	µg/L	<2.0	<2.0	---	---	---	---
EP076HK: Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	<1.0	---	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	<4.0	---	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	---	20	µg/L	<20	<20	---	---	---	---
EP071HK_SR: C9 - C16 Fraction	---	500	µg/L	<500	<500	---	---	---	---
EP071HK_SR: C17 - C35 Fraction	---	500	µg/L	<500	<500	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3	10	µg/L	<10	<10	<10	---	---	---
	106-42-3								
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Xylenes (Total)	---	20	µg/L	<20	<20	<20	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	<500	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	---	---	---



Sub-Matrix: WATER				Sample ID	FIELD BLANK	Equipment Blank	Trip Blank	---	---
				Sampling date / time	16-May-2022 10:54	16-May-2022 10:54	16-May-2022 11:00	----	----
Compound	CAS Number	LOR	Unit	HK2217700-001	HK2217700-002	HK2217700-003	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	<50	<50	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	55.3	55.5	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	109	92.3	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.4	94.7	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	109	107	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.2	91.8	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.4	94.7	94.0	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	109	107	109	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.2	91.8	92.3	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: WATER

					Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 4342516)									
HK2217700-002	Equipment Blank	EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.0	

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: WATER

					Method Blank (MB) Report							Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)							
						LCS	DCS	Low	High	Value	Control Limit						
EG: Metals and Major Cations - Filtered (QC Lot: 4342516)																	
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	105	----	85.0	115	----	----						
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4342740)																	
Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	86.5	----	61.0	101	----	----						
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	81.8	----	58.0	102	----	----						
Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	93.3	----	60.0	102	----	----						
Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	92.3	----	59.0	100	----	----						
Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	96.3	----	58.0	106	----	----						
Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	98.6	----	60.0	101	----	----						
Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	98.1	----	63.0	114	----	----						
Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	96.8	----	61.0	115	----	----						
Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	96.7	----	60.0	116	----	----						
Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	77.7	----	54.0	113	----	----						
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4342740)																	
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	99.2	----	57.0	114	----	----						
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4342741)																	
C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	77.0	----	60.0	101	----	----						
C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	80.9	----	70.0	108	----	----						
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4342794)																	
C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	107	----	80.0	117	----	----						
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4342795)																	
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	92.6	----	79.0	122	----	----						



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4342795) - Continued											
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	96.1	----	80.0	122	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	92.2	----	79.0	123	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	96.2	----	83.0	122	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	94.3	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	90.4	----	80.0	123	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	94.3	----	82.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4342795)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	109	----	77.0	124	----	----
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	97.0	----	78.0	126	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4342795)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	109	----	78.0	123	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	93.5	----	76.0	123	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	90.1	----	74.0	124	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4342795)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	96.5	----	79.0	123	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	95.0	----	76.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4342795)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	91.9	----	76.0	124	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4342516)										
HK2217700-001	FIELD BLANK	EG020: Mercury	7439-97-6	2 µg/L	99.3	----	75.0	125	----	----

Surrogate Control Limits



Sub-Matrix: GROUNDWATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115