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Your Ref. : -
Our Ref. : YLEPP/(DC/2019/10)/M45/840/(0062)

19 June 2023

By Hand

The EIA Ordinance Register Office
Environmental Protection Department
27/F., Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong

Attn.: Ms. HE Zhongming

Dear Madam,

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

Environmental Permit No. EP-565/2019
Submission of Contamination Assessment Report for SAS Thickener House – 2

Further to your comments provided via email dated 3 May 2023 and 1 June 2023, I, on behalf of the Permit Holder, Drainage Services Department, resubmit herewith three hard copies of the revised Contamination Assessment Report (CAR) for SAS thickener house, with a CD containing an electronic copy thereof, to the Director of Environmental Protection.

The submission is for compliance with the requirements as stipulated in Condition 2.14 of the aforementioned Permit. This CAR has documented the findings of Site Investigation (SI) for the "SAS Thickener", covering 4 boreholes, namely ENV-BH18, ENV-BH19, ENV-BH20 and ENV-BH21, in accordance with the approved Supplementary Contamination Assessment Plan (SCAP) under the same Permit, and has been certified by the ET Leader and verified by the IEC of the Project accordingly. The findings of the remaining SI works will be documented in separate CAR(s) which will be submitted in due course.

Should you have any queries, please feel free to contact our Senior Resident Engineer, Mr. Vincent Yiu at 9146 6752 or the undersigned at 9075 7172.

Yours faithfully,

Simon H. M. Yeung
Project Manager's Delegate
AECOM Asia Co. Ltd.

Encl.

c.c.	The *Client* (CE/SP, DSD, HKSAR)	- Attn.: Mr. YIP Tat Ming, Ben
	The *Project Manager* for this contract, AECOM	- Attn.: Mr. Robert CHAN
	Paul Y. – CREC Joint Venture	- Attn.: Mr. Wilson TAM (w/o)
	Fugro (ET)	By email (w/o)
	Mott MacDonald (IEC)	By email (w/o)

SY/WY/AY/ckml

MOTT MACDONALD

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

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Contract No. SPW 03/2022

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

Environmental Permit No. EP-565/2019

EP Condition 2.14 – Contamination Assessment Report for Surplus Activated Sludge Thickener House - 2 (Version 1.3)

14 June 2023
By Hand and E-mail

Dear Sir,

I refer to the captioned "Contamination Assessment Report for Surplus Activated Sludge (SAS) Thickener House - 2" (Version 1.3) by Cinotech Consultants Limited dated June 2023 (hereafter referred to as the "CAR"), which was received via e-mail on 14 June 2023 and certified by the Environmental Team Leader on 14 June 2023 (ref. no.: MCL/ED/0237/2023/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
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Encl.

c.c.	DSD	Mr. Wallace CHENG – E/SP 16	By Email
	Fugro Technical Services Limited	Mr. YU Lap Bong – ETL	By Email
	Paul Y.-CREC Joint Venture	Mr. Wilson TAM – Project Manager	By Email

FUGRO TECHNICAL SERVICES LIMITED
Fugro Development Centre
5 Lok Yi Street, Tai Lam
Tuen Mun, NT
Hong Kong

Date 14 June 2023
Our Ref. MCL/ED/0237/2023/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 - 2

We refer to your Contamination Assessment Report (CAR) for Surplus Activated Sludge (SAS) Thickener House - 2 (Version 1.3) submitted on 14 June 2023 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 - 2

(Version 1.3)

June 2023

Checked By	(Land Contamination Specialist)

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.

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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 m^3/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 4b) shall only entail the SI results for part of the "SAS Thickener House" (SAS Thickener House-2), covering 4 Boreholes, namely ENV-BH18, ENV-BH19, ENV-BH20 and ENV-BH21. 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 4b provides the findings of the SI works and present the laboratory results and their interpretation of the collected samples for "SAS Thickener House-2".

1.7 CAR-Part 4b 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 4b provides a summary of the SCAP as agreed in April 2021, describing the SI and sampling works conducted in this assessment, and presents the laboratory results and their interpretations for the collected samples for the "SAS Thickener House-2". 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 for 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". The SI works for ENV-BH16, ENV-BH17, ENV-BH22 and ENV-BH23 were already conducted in the previous stage from 13th April 2022 to 16th May 2022, and the relevant SI results and findings were reported in the CAR-Part 4a accordingly. Hence only the SI works for boreholes ENV-BH18, ENV-BH19, ENV-BH20 and ENV-BH21 have been carried out for this stage, the SI results and findings for those boreholes shall be presented in this report.

2.2 The sampling locations and Chemicals of Concern (CoCs) as proposed in the agreed SCAP are summarised in **Table 2-1** below.

Table 2-1 Summary of Proposed Sampling Points & CoCs at "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-BH18, ENV-BH19, ENV-BH20, ENV-BH21	ENV-BH18, ENV-BH19, ENV-BH20, ENV-BH21	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

Notes:
(1) m bgl = meter below ground level; GW – groundwater
(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.
- BTEX includes benzene, toluene, ethylbenzene and total xylenes
- 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.
- 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.
(3) Groundwater samples will only be collected if groundwater is encountered during SI works

Sampling Methodology

2.3 All drilling machine and equipment were decontaminated using a non-phosphate detergent and distilled water prior to the SI.

2.4 Since the surface/concrete slab levels and proposed sampling depths for the sampling locations, located in the basement floor, are well below the water table, i.e. > ~7m difference, conducting ground investigation works from the surface of the sampling locations at the basement were deemed unfeasible and unsafe due to the high hydrostatic pressure. Hence, the basement, at where the sampling locations were located, were backfilled until the surface had reached the ground level prior to the SI, to facilitate the sampling works for all sample collections at the proposed sampling depths, using borehole drilling.

2.5 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". Nevertheless, despite the high groundwater level at the sampling locations, at least 3 undisturbed samples were collected, as far as possible, at every borehole with U76 tube sampler (nominal 76mm diameter) at nominal depths of 0.5m, 1.5m and 3.0m below the bottom level of concrete slab at the basement for the sampling locations using dry borehole drilling and hammer dropping method. Adjustment of sampling depths or omission for some soil samples were adopted, when not enough soil was presented at the sampling depths.

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** & **Table 3-3** for the laboratory analysis schedule.

3 CONTAMINATION ASSESSMENT RESULTS

Summary of Samples Collected

3.1 The sampling for boreholes ENV-BH18, ENV-BH19, ENV-BH20 and ENV-BH21 within the concerned areas in "SAS Thickener House" had been conducted from 15th Feb 2023 to 23rd Feb 2023, and supervised by land contamination specialist from Cinotech. A total of 15 soil samples and 4 groundwater samples were taken and their findings are summarized in this CAR. 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^ of Soil Sample no. [*N*][1]				No. of GW Samples Collected
	N=1	N=2	N=3[3]	N=4[3]	
ENV-BH18	0.5	1.5	2.0	2.5	1
ENV-BH19	0.5	1.5	2.0	2.5	1
ENV-BH20	0.5	1.5	2.0	2.5	1
ENV-BH21	0.5	[2]	2.0	2.5	1

^The unit for the sampling depth is "metre below the bottom level of concrete slab at the basement". The bottom levels of the concrete slab at the basement in mbgl are shown in **Appendix D**
1. N is the ordinal number for the sample collected at each sampling location.
2. Since no soil was recovered at around 1.5m below bottom level of concrete slab at BH-21 during sampling, the 2nd soil samples were not collected.
3. As described in Section 2.4, the sampling locations were located well below the water table, rendering all sampling depths as proposed in **Table 2-1** below the GW level. Hence, the samples were collected at adjoining depths, especially for samples at lower depths, to facilitate sample recovery. And since no exceedance were recorded at the collected samples, no further samples are required.

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 5 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-2" can be found in **Appendix B** and **Appendix C** respectively.

3.6 Adjustment of sampling depths or omission for some soil samples were adopted, when not enough soil was presented at the sampling depths. No exceedance was recorded in the sampling results and no traces of contamination were detected during the borehole drilling within the "SAS Thickener House-2". 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-2". The laboratory results are compared against the adopted RBRGs and soil saturation limit (Csat) for soil samples and the adopted RBRGs and the solubility limits for groundwater samples. No exceedance of RBRG are recorded for both soil samples and groundwater samples. Furthermore, no exceedance of the soil saturation limit are recorded for soil samples. However, the exceedances of solubility limits for PCRs (C9-C16) are recorded for groundwater samples collected at BH-18, BH-19, BH-20 and BH-21; and also PCRs (C17-C35) for BH-21. As no NAPL was observed during sampling, as recorded in the **Appendix B**, 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	2/15	BRL - 2.00E+0	1.00E+00	USEPA Method 6020	2.61E+02	-	FALSE	----
Arsenic	15/15	8.00E+0 - 2.50E+1	1.00E+00		1.96E+02	-	FALSE	----
Barium	15/15	1.92E+1 - 1.42E+2	1.00E+00		1.00E+04	-	FALSE	----
Cadmium	0/15	BRL	2.00E-01		6.53E+02	-	FALSE	----
Chromium (III)	15/15	1.56E+1 - 3.41E+1	1.00E+00	By Calculation#	1.00E+04	-	FALSE	----
Chromium (VI)	0/15	BRL	1.00E+00	USEPA Method 3060 APHA Method 3500 Cr:D	1.96E+03	-	FALSE	----
Cobalt	15/15	2.30E+0 - 1.73E+2	1.00E+00	USEPA Method 6020	1.00E+04	-	FALSE	----
Copper	15/15	4.00E+0 - 7.16E+2	1.00E+00		1.00E+04	-	FALSE	----
Lead	15/15	3.40E+1 - 1.35E+2	1.00E+00		2.29E+03	-	FALSE	----
Manganese	15/15	4.39E+1 - 8.39E+2	1.00E+00		1.00E+04	-	FALSE	----
Mercury	10/15	BRL - 1.30E-1	5.00E-02	USEPA Method 6020	3.84E+01	-	FALSE	----
Molybdenum	15/15	1.00E+0 - 7.00E+0	1.00E+00	USEPA Method 6020	3.26E+03	-	FALSE	----
Nickel	15/15	5.00E+0 - 8.30E+1	1.00E+00		1.00E+04	-	FALSE	----
Tin	15/15	3.30E+0 - 3.74E+1	1.00E+00		1.00E+04	-	FALSE	----
Zinc	15/15	7.50E+1 - 3.03E+2	1.00E+00		1.00E+04	-	FALSE	----
VOCs								
2-Propanone (Acetone)	0/15	BRL	5.00E+01	USEPA Method 8260	1.00E+04	***	FALSE	----
Benzene	0/15	BRL	2.00E-01		9.21E+00	3.36E+02	FALSE	FALSE
Bromodichloromethane	0/15	BRL	1.00E-01		2.85E+00	1.03E+03	FALSE	FALSE
2-Butanone (MEK)	0/15	BRL	5.00E+00		1.00E+04	***	FALSE	----
Chloroform	0/15	BRL	4.00E-02		1.54E+00	1.10E+03	FALSE	FALSE
Ethylbenzene	0/15	BRL	5.00E-01		8.24E+03	1.38E+02	FALSE	FALSE
Methyl tert-Butyl Ether	0/15	BRL	5.00E-01		7.01E+01	2.38E+03	FALSE	FALSE
Methylene Chloride	0/15	BRL	5.00E-01		1.39E+01	9.21E+02	FALSE	FALSE
Styrene	0/15	BRL	5.00E-01		1.00E+04	4.97E+02	FALSE	FALSE
Tetrachloroethene	0/15	BRL	4.00E-02		7.77E-01	9.71E+01	FALSE	FALSE
Toluene	0/15	BRL	5.00E-01		1.00E+04	2.35E+02	FALSE	FALSE
Trichloroethene	0/15	BRL	1.00E-01		5.68E+00	4.88E+02	FALSE	FALSE
Xylenes (Total)	0/15	BRL	2.00E+00		1.33E+03	1.50E+02	FALSE	FALSE
SVOCs								
Acenaphthene	0/15	BRL	5.00E-01		1.00E+04	6.02E+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
Acenaphthylene	0/15	BRL	5.00E-01	USEPA Method 8270	1.00E+04	1.98E+01	FALSE	FALSE
Anthracene	0/15	BRL	5.00E-01		1.00E+04	2.56E+00	FALSE	FALSE
Benzo(a)anthracene	0/15	BRL	5.00E-01		9.18E+01	-	FALSE	----
Benzo(a)pyrene	0/15	BRL	5.00E-01		9.18E+00	-	FALSE	----
Benzo(b)fluoranthene	0/15	BRL	5.00E-01		1.78E+01	-	FALSE	----
Benzo(g,h,i)perylene	0/15	BRL	5.00E-01		1.00E+04	-	FALSE	----
Benzo(k)fluoranthene	0/15	BRL	5.00E-01		9.18E+02	-	FALSE	----
bis(2-ethylhexyl)phthalate	0/15	BRL	5.00E+00		9.18E+01	-	FALSE	----
Chrysene	0/15	BRL	5.00E-01		1.14E+03	-	FALSE	----
Dibenz(a.h)anthracene	0/15	BRL	5.00E-01		9.18E+00	-	FALSE	----
Fluoranthene	0/15	BRL	5.00E-01		1.00E+04	-	FALSE	----
Fluorene	0/15	BRL	5.00E-01		1.00E+04	5.47E+01	FALSE	FALSE
Hexachlorobenzene	0/15	BRL	2.00E-01		5.82E-01	-	FALSE	----
Indeno(1.3.3.cd)pyrene	0/15	BRL	1.00E-01		9.18E+01	-	FALSE	----
Naphthalene	0/15	BRL	5.00E-01		4.53E+02	1.35E+02	FALSE	FALSE
Phenanthrene	0/15	BRL	5.00E-01		1.00E+04	2.80E+01	FALSE	FALSE
Phenol	0/15	BRL	5.00E-01		1.00E+04	7.26E+03	FALSE	FALSE
Pyrene	0/15	BRL	5.00E-01		1.00E+04	-	FALSE	----
PCRs								
C6 - C8 Fraction	0/15	BRL	5.00E+00	USEPA Method 8260/8015	1.00E+04	1.00E+03	FALSE	FALSE
C9 - C16 Fraction	0/15	BRL	2.00E+02		1.00E+04	3.00E+03	FALSE	FALSE
C17 - C35 Fraction	0/15	BRL	5.00E+02		1.00E+04	5.00E+03	FALSE	FALSE

Notes: All results are presented in mg/kg

BRL denotes below reporting limit.
x = number of samples in which chemical was found above the method reporting limit
y = number of samples analyzed for chemical

*1.00E+04 indicates a 'ceiling limit' concentration

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

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	Analytical Method	Industrial RBRG* (mg/L)	Solubility Limit (mg/L)	Maximum Detected Concentration Exceeds (check if applicable)	
							RBRG	Solubility
Metal								
Mercury	0/4	BRL	5.00E-04	USEPA Method 6020	6.79E+00	-	FALSE	----
VOCs								
2-Propanone (Acetone)	0/4	BRL	5.00E-01	USEPA Method 8260	1.00E+04	***	FALSE	----
Benzene	0/4	BRL	5.00E-03		5.40E+01	1.75E+03	FALSE	FALSE
Bromodichloromethane	0/4	BRL	5.00E-03		2.62E+01	6.74E+03	FALSE	FALSE
2-Butanone (MEK)	4/4	1.52E-1 - 2.24E-1	5.00E-02		1.00E+04	***	FALSE	----
Chloroform	0/4	BRL	5.00E-03		1.13E+01	7.92E+03	FALSE	FALSE
Ethylbenzene	0/4	BRL	5.00E-03		1.00E+04	1.69E+02	FALSE	FALSE
Methyl tert-Butyl Ether	0/4	BRL	5.00E-03		1.81E+03	***	FALSE	----
Methylene Chloride	0/4	BRL	5.00E-02		2.24E+02	***	FALSE	----
Styrene	4/4	9.20E-3 - 9.90E-3	5.00E-03		1.00E+04	3.10E+02	FALSE	FALSE
Tetrachloroethene	0/4	BRL	5.00E-03		2.95E+00	2.00E+02	FALSE	FALSE
Toluene	4/4	3.74E-2 - 5.20E-2	5.00E-03		1.00E+04	5.26E+02	FALSE	FALSE
Trichloroethene	0/4	BRL	5.00E-03		1.42E+01	1.10E+03	FALSE	FALSE
Xylenes (Total)	0/4	BRL	2.00E-02		1.57E+03	1.75E+02	FALSE	FALSE
SVOCs								
Acenaphthene	0/4	BRL	2.00E-03	USEPA Method 8270	1.00E+04	4.24E+00	FALSE	FALSE
Acenaphthylene	0/4	BRL	2.00E-03		1.00E+04	3.93E+00	FALSE	FALSE
Anthracene	0/4	BRL	2.00E-03		1.00E+04	4.34E-02	FALSE	FALSE
Benzo(b)fluoranthene	0/4	BRL	1.00E-03		7.53E+00	1.50E-03	FALSE	FALSE
Chrysene	0/4	BRL	1.00E-03		8.12E+02	1.60E-03	FALSE	FALSE
Fluoranthene	0/4	BRL	2.00E-03		1.00E+04	2.06E-01	FALSE	FALSE
Fluorene	0/4	BRL	2.00E-03		1.00E+04	1.98E+00	FALSE	FALSE
Hexachlorobenzene	0/4	BRL	4.00E-03		6.95E-01	6.20E+00	FALSE	FALSE
Naphthalene	4/4	2.70E-3 - 4.90E-3	2.00E-03		8.62E+02	3.10E+01	FALSE	FALSE
Phenanthrene	0/4	BRL	2.00E-03		1.00E+04	1.00E+00	FALSE	FALSE
Pyrene	0/4	BRL	2.00E-03		1.00E+04	1.35E-01	FALSE	FALSE
PCRs								
C6 - C8 Fraction	4/4	5.00E-2 - 7.00E-2	2.00E-02	USEPA Method 8260/8015	1.15E+03	5.23E+00	FALSE	FALSE
C9 - C16 Fraction	4/4	4.50E+0 - 8.80E+0	5.00E-01		9.98E+03	2.80E+00	FALSE	TRUE
C17 - C35 Fraction	4/4	1.70E+0 - 3.90E+0	5.00E-01		1.78E+02	2.80E+00	FALSE	TRUE

Notes: All results are presented in mg/L

BRL denotes below reporting limit.

x = number of samples in which chemical was found above the method reporting limit

y = number of samples analyzed for chemical

*1.00E+04 indicates a 'ceiling limit' concentration

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

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 5 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 sample collected from ENV-BH21, and duplicated groundwater sample from ENV-BH20 are within the acceptable limits, respectively. Therefore, the results of the original and duplicate samples are considered as identical samples.

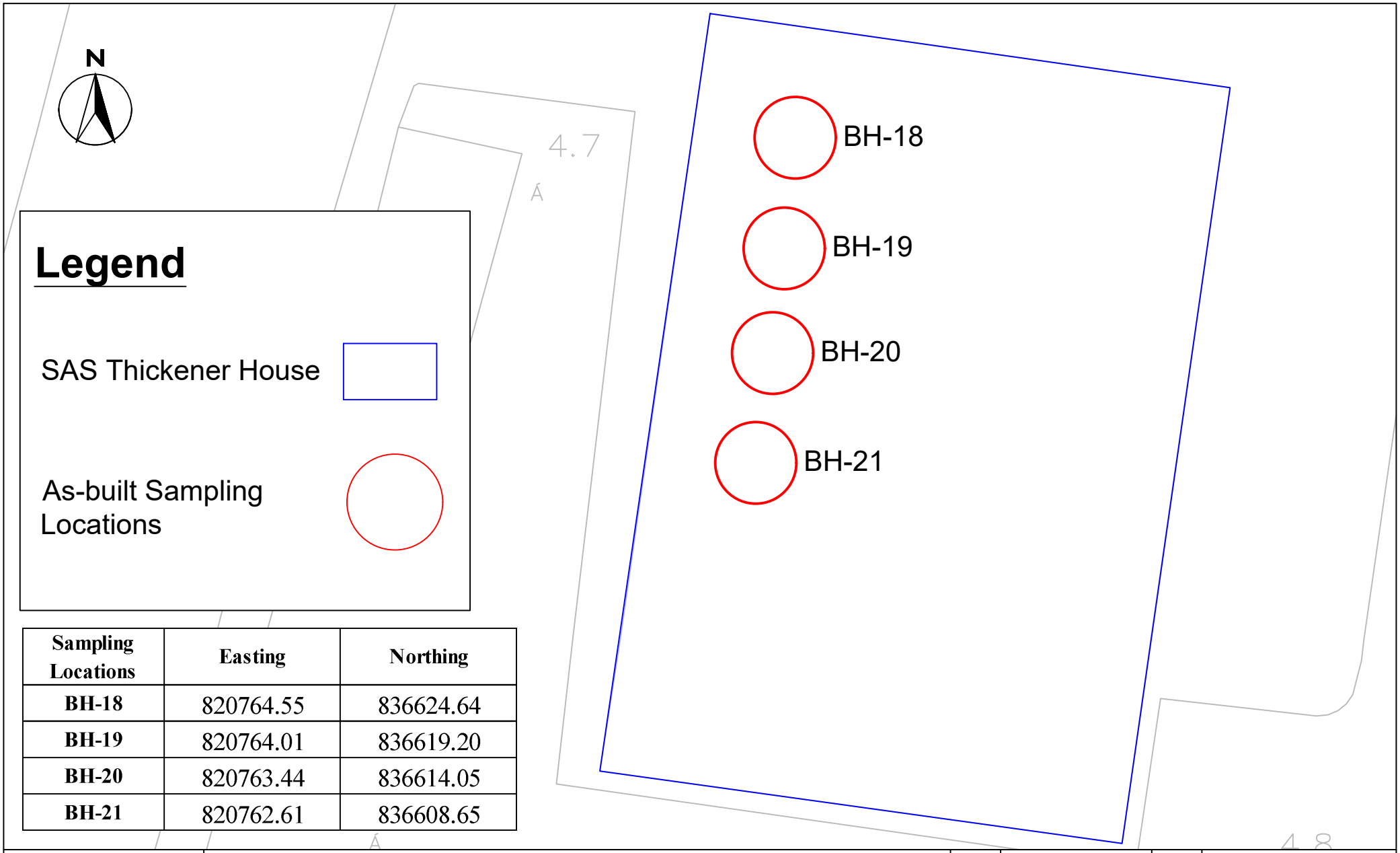
3.12 Hence, the sampling method is consistent throughout the SI; all soil/ groundwater samples were not contaminated from the sampling handling, and that the decontamination procedures had been followed. All field QA/AC results are included in the laboratory chemical testing reports attached in **Appendix F**.

4 CONCLUSION

4.1 In accordance to the approved SCAP, the sampling works for boreholes ENV-BH18, ENV-BH19, ENV-BH20 and ENV-BH21 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-2" and the laboratory results for the sampling works show that there are no exceedances of the adopted RBRGs for the "SAS Thickener House-2". No exceedance of RBRG are recorded for both soil samples and groundwater samples. However, the exceedances of solubility limits for PCRs (C9-C16) are recorded for groundwater samples collected at BH-18, BH-19, BH-20 and BH-21; and also PCRs (C17-C35) for BH-21. As no NAPL was observed during sampling, no further sampling and remediation are required. As no contaminated soil and groundwater was found within the "SAS Thickener House-2", no remediation actions are required for contaminated soil and groundwater for the scheduled land use of the "SAS Thickener House-2".

FIGURES



Sampling Locations	Easting	Northing
BH-18	820764.55	836624.64
BH-19	820764.01	836619.20
BH-20	820763.44	836614.05
BH-21	820762.61	836608.65

CINOTECH
Cinotech Consultants Limited

Contract No. DC/2019/10
Yuen Long Effluent Polishing Plant - Main Works for Stage 1
As-built Sampling Locations Plan (SAS Thickener House)

SCALE	1:250@A4	DATE	March 2023
CHECK	CC	DRAWN	KC
JOB No.	MA21002	FIGURE NO. 1	REV -

APPENDIX A
SITE LOCATIONS & LAYOUT PLANS

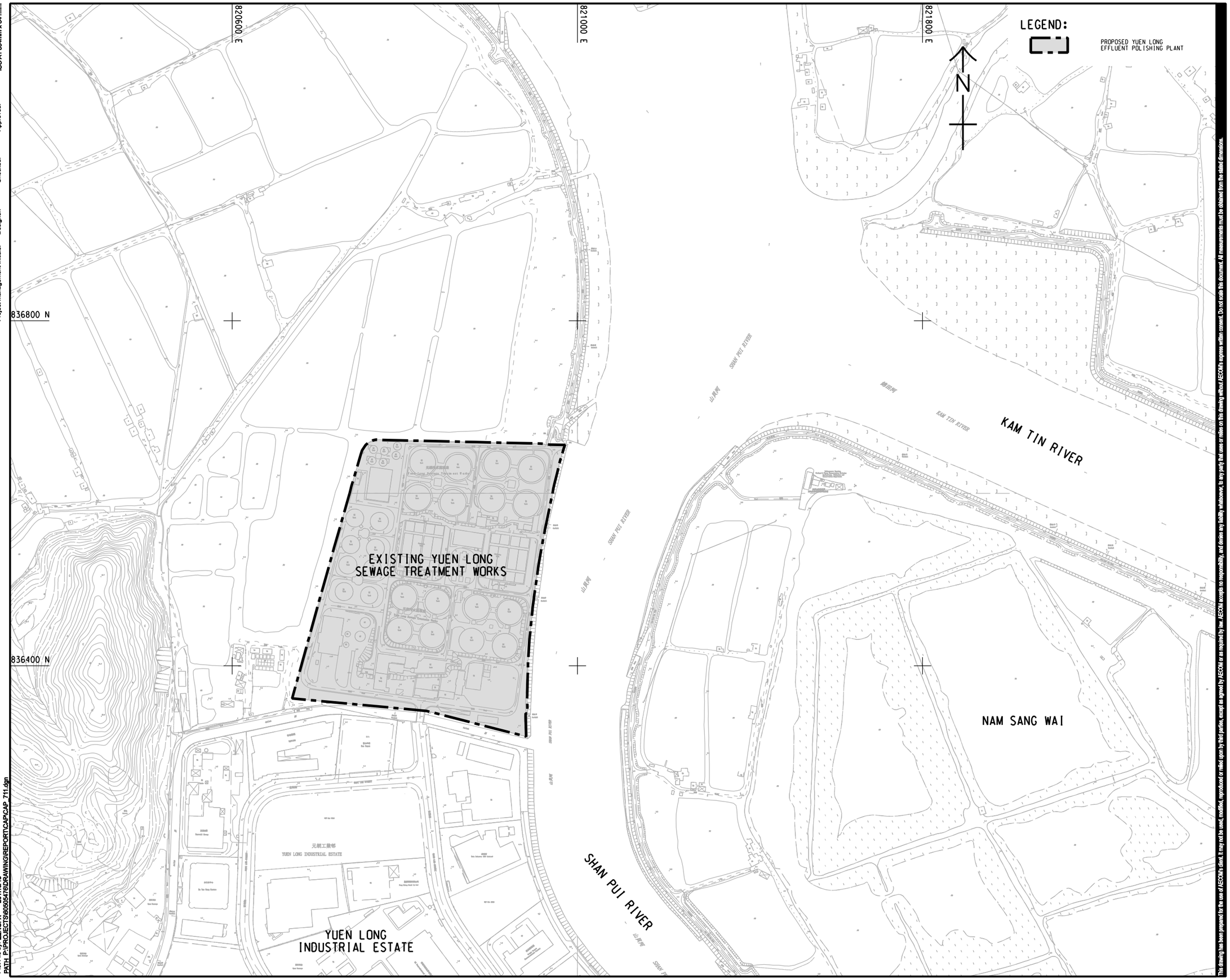
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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

CLIENT
業主

渠務署
Drainage Services Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
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SUB-CONSULTANTS
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核查

STATUS
階段

SCALE 比例: A1 1 : 2000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60505476

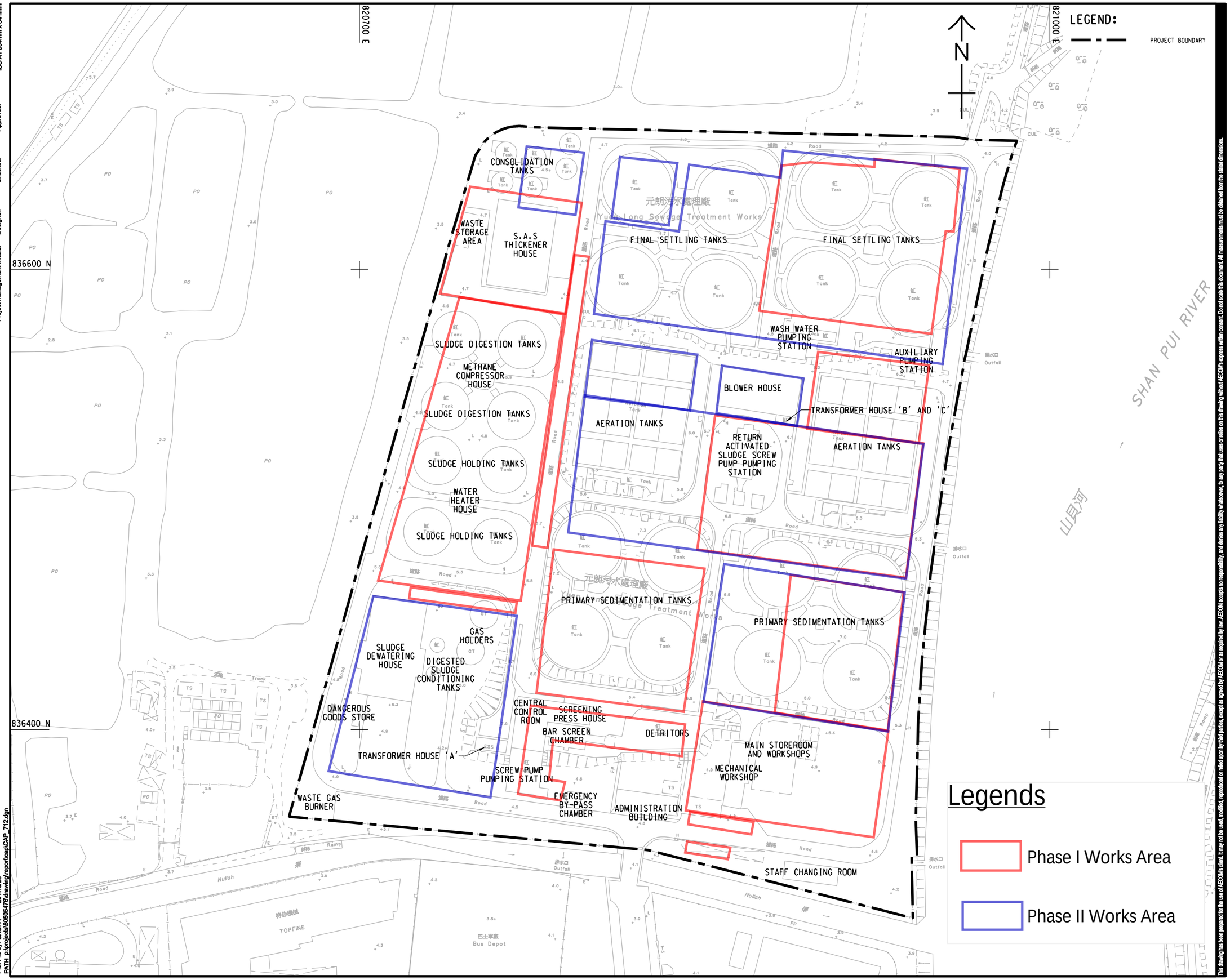
CONTRACT NO. 合約編號: CE 3/2015 (DS)

SHEET TITLE
圖紙名稱

LOCATION OF PROPOSED YUEN LONG EFFLUENT POLISHING PLANT

SHEET NUMBER
圖紙編號

60505476/CAP/711



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PROJECT 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

渠務署 Drainage Services Department

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DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60505476

CONTRACT NO. 合約編號: CE 3/2015 (DS)

SHEET TITLE 圖紙名稱

GENERAL SITE LAYOUT PLAN OF EXISTING YLSTW

SHEET NUMBER 圖紙編號

60505476/CAP/712

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ISO A1 594mm x 841mm

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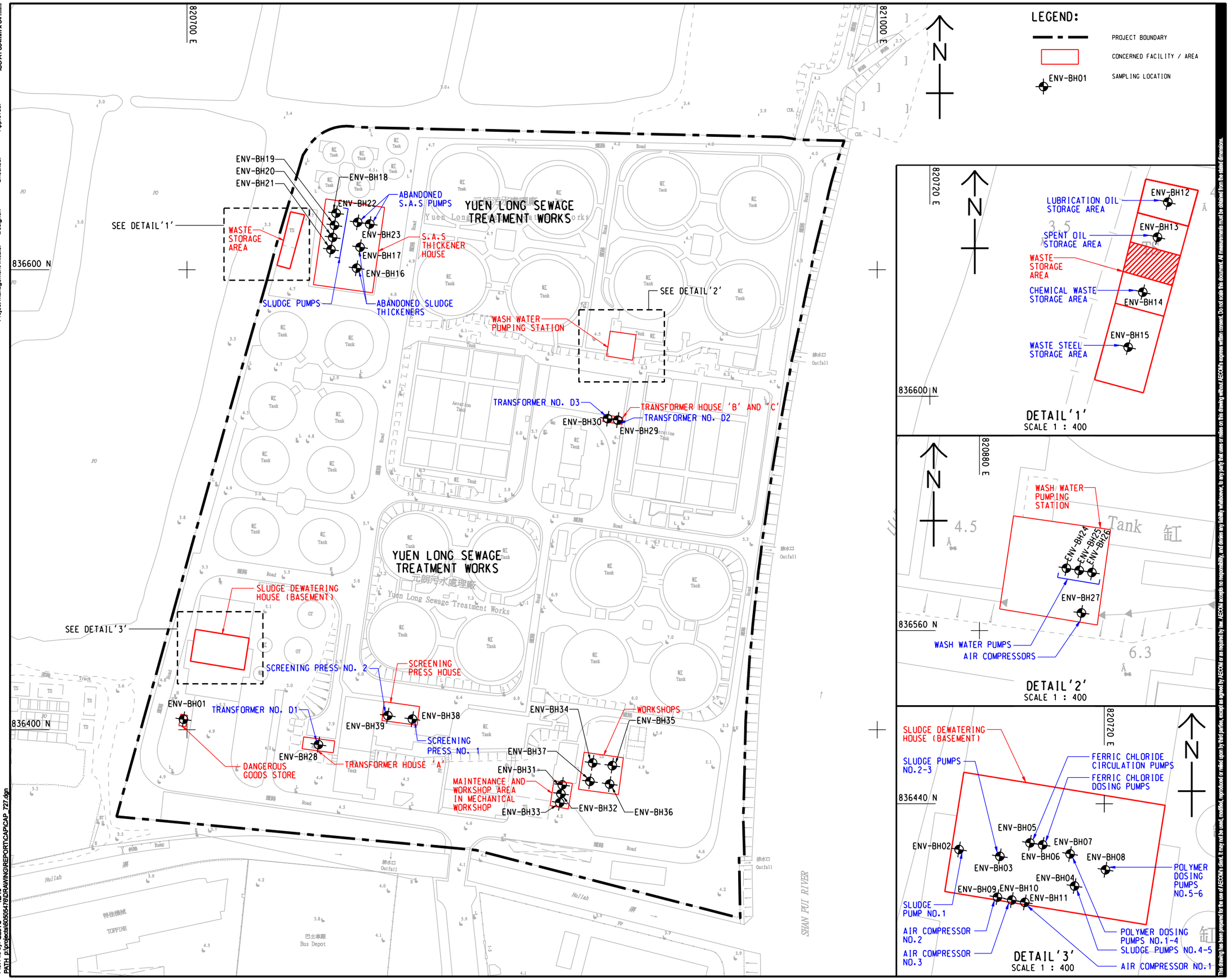

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PROJECT 項目

YUEN LONG EFFLUENT POLISHING PLANT - INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

渠務署 Drainage Services Department

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STATUS 階段

SCALE 比例: A3 1 : 1500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60505476

CONTRACT NO. 合約編號: CE 3/2015 (DS)

SHEET TITLE 圖紙名稱

CONCERNED FACILITIES / AREAS AND PROPOSED SAMPLING LOCATIONS WITHIN EXISTING YLSTW

SHEET NUMBER 圖紙編號

60505476/CAP/727

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APPENDIX B
PHOTO RECORD

lab-grade detergent

Cleaning with lab-grade detergent and distilled Water

Equipment Blanks

Collecting Blank Samples

Field Blanks

CINOTECH 漢臻 consultants limited

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

Decontamination prior to Sampling (SAS Thickener House)

SCALE	N.T.S.	DATE	Mar-23	
CHECK	KC	DRAWN	AT	
JOB NO.	MA21002	Appendix B		REV.
				1

Preparation for Drilling

Sampling Undisturbed

Soil Samples (U76)

Set-up of Monitoring Well

Purging

Ground Water Samples

CINOTECH 漢臻 consultants limited

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

Photos Records for Sampling Works (SAS Thickener House)

SCALE	N.T.S.	DATE	Mar-23	
CHECK	KC	DRAWN	AT	
JOB NO.	MA21002	Appendix B		REV.
				1

BH-18

BH-19

BH-20

BH-21

CINOTECH consultants limited 漢臻

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

Photos Records for Observation on NAPL in GW Sample (SAS Thickener House)

SCALE	N.T.S.	DATE	Jun-23
CHECK	KC	DRAWN	AT
JOB NO.	MA21002	Appendix B	REV.
			2

APPENDIX C
DRILLHOLE RECORD

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH18
SHEET	1 of 2
DATE from	15/2/2023 to 15/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836624.643 **E** 820764.548	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.270** 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
15.02.23	PX 0.50 PX HX			41					T2-101		0.000 1.000			Grey, angular medium to coarse GRAVEL and COBBLE sized of rock and concrete fragments (FILL)
														Wash Boring
				100					T2-101		7.100 7.940			Strong, grey, CONCRETE (CONCRETE)
	8.00 HX								1 2 3 4 5 6 7 8		8.000 8.500 9.000 9.500 10.000			Brown and reddish brown, silty CLAY (ALLUVIUM)

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

50mm standpipe was installed at 9.50m

BOREHOLE LOG REF LV DC201910 YUEN LONG PLANT GPJ STANDARD GDT 25/05/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH18
SHEET	2 of 2
DATE from	15/2/2023 to 15/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836624.643 **E** 820764.548	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.270** 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
15.02.23									9 10		10.500			Details on page 1 of 2
														End of drillhole at 10.50m

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

BOREHOLE LOG REF LY_DC201910 YUEN LONG PLANT GPJ STANDARD GDT 25/05/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH19
SHEET	1 of 2
DATE from	16/2/2023 to 16/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836619.200 **E** 820764.011	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.280** 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
16.02.23	PX													Wash Boring
										+4.780	0.500			
				100					T2-101					Brown and grey, angular medium to coarse GRAVEL sized of moderately strong rock and concrete fragments (FILL)
	1.50 PX									+3.780	1.500			
	HX													Wash Boring
										-1.720	7.000			
				100					T2-101					Strong, grey, reinforced CONCRETE with iron fragments (CONCRETE STRUCTURE)
	7.90 HX									-2.620	7.900			
									1					Brownish grey, angular fine to medium GRAVEL sized moderately decomposed rock fragments (FILL)
									2	-3.120	8.400			
									3					Brown, reddish brown and grey, silty CLAY (ALLUVIUM)
									4	-3.620	8.900			
									5					
									6	-4.120	9.400			
									7					
									8	-4.620	9.900			
										-4.720	10.000			

- 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 **21/2/2023**

CHECKED **P.S.Chan**

DATE **23/2/2023**

REMARKS

50mm standpipe was installed at 9.50m

BOREHOLE LOG REF LV_DC201910 YUEN LONG PLANT GPJ STANDARD GDT 23/02/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH19
SHEET	2 of 2
DATE from	16/2/2023 to 16/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836619.200 **E** 820764.011	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.280** 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
16.02.23									9 10	-5.120	10.400			Details on page 1 of 2
														End of drillhole at 10.40m

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

BOREHOLE LOG REF LY DC201910 YUEN LONG PLANT GPL STANDARD GDT 23/02/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH20
SHEET	1 of 2
DATE from	17/2/2023 to 17/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836614.054 **E** 820763.444	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.130** 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
17.02.23	PX													Wash Boring
										+4.630	0.500			
				65					T2-101					Brown, yellowish brown and grey, angular medium to coarse GRAVEL and COBBLE sized of moderately strong rock, concrete and iron fragments (FILL)
										+3.130	2.000			
				71					T2-101					
										+1.930	3.200			
														Wash Boring
	6.80 PX									-1.670	6.800			
	HX			100					T2-101					Strong, grey, reinforced CONCRETE with iron fragments (CONCRETE STRUCTURE) 6.80m - 7.30m : Angular medium to coarse GRAVEL sized concrete fragments with steel bar
	8.00 HX									-2.670	7.800			
										-2.870	8.000			Brown, reddish brown and grey, silty CLAY with occasional fine gravel (ALLUVIUM)
									1 2	-3.370	8.500			
										-3.870	9.000			
									3 4	-4.370	9.500			
									5 6	-4.870	10.000			

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

50mm standpipe was installed at 9.50m

BOREHOLE LOG REF LV DC201910 YUEN LONG PLANT GPJ STANDARD GDT 23/02/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH20
SHEET	2 of 2
DATE from	17/2/2023 to 17/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836614.054 **E** 820763.444	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.130** 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
17.02.23									7 8	-5.370	10.500			Details on page 1 of 2
														End of drillhole at 10.50m

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

BOREHOLE LOG REF LV DC201910 YUEN LONG PLANT GPJ STANDARD GDT 23/02/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH21
SHEET	1 of 2
DATE from	18/2/2023 to 18/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836608.652 **E** 820762.612	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.220** 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
18.02.23	PX 0.50 PX													Wash Boring
										+4.720	0.500			
	HX			80					T2-101					Brown and grey, angular coarse GRAVEL and COBBLE sized of moderately strong rock and concrete fragments (FILL)
										+3.220	2.000			
				70					T2-101					
										+2.220	3.000			
														Wash Boring
										-2.480	7.700			
	8.00 HX			100					T2-101	-2.780	8.000			Grey, angular coarse GRAVEL and COBBLE sized of concrete and steel bar fragments (CONCRETE STRUCTURE)
									1 ● 2	-3.280	8.500			Brown and grey, silty CLAY (ALLUVIUM)
										-3.780	9.000			
									3 ● 4	-4.280	9.500			9.00m - 9.50m : No Recovery, Alluvium Inferred
									5 ● 6	-4.780	10.000			Brown and yellowish brown, sandy, clayey SILT (ALLUVIUM)

- 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 **21/2/2023**

CHECKED **P.S.Chan**

DATE **23/2/2023**

REMARKS

50mm standpipe was installed at 10.00m

BOREHOLE LOG REF LV DC201910 YUEN LONG PLANT GPJ STANDARD GDT 23/02/23

Shun Bong Drilling Engineering (HK) Ltd.

DRILLHOLE LOG

JOB NO.	J3183-G1
HOLE NO.	ENV-BH21
SHEET	2 of 2
DATE from	18/2/2023 to 18/2/2023

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

METHOD **ROTARY**	CO-ORDINATES	ROCK CORE BIT **T2-101**
Rig & No. **XY2B**	**N** 836608.652 **E** 820762.612	HOLE DIA. **PX, HX**
FLUSHING MEDIUM **DRY**	ORIENTATION **VERTICAL**	REFERENCE LEVEL **+5.220** 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
18.02.23									7 8	-5.280	10.500			Details on page 1 of 2
														End of drillhole at 10.50m

- 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	21/2/2023
CHECKED	P.S.Chan
DATE	23/2/2023

REMARKS

BOREHOLE LOG REF LY_DC201910 YUEN LONG PLANT GPJ STANDARD GDT 23/02/23

APPENDIX D
LIST OF SOIL AND GROUNDWATER SAMPLE

List of Samples for SAS Thickener House-2

Borehole		BH-18	BH-19	BH-20	BH-21
As-built Coordinate					
Easting (m)		820764.55	820764.01	820763.44	820762.61
Northing (m)		836624.64	836619.20	836614.05	836608.65
Bottom level of Concrete Slab (mbgl)		7.94	7.90	7.80	8.00
ID, Depth, and Date of the Samples					
Soil Sample 1	**Sample ID**	**BH-18 8.0-8.5m**	**BH-19 8.4-8.9m**	**BH-20 8.0-8.5m**	**BH-21 8.0-8.5m**
	Depth (m bgl)	8.0-8.5m	8.4-8.9m	8.0-8.5m	8.0-8.5m
	Date	15/02/2023	17/02/2023	17/02/2023	18/02/2023
Soil Sample 2	**Sample ID**	**BH-18 9.0-9.5m**	**BH-19 8.9-9.4m**	**BH-20 9.0-9.5m**	[1]
	Depth (m bgl)	9.0-9.5m	8.9-9.4m	9.0-9.5m	
	Date	15/02/2023	17/02/2023	17/02/2023	
Soil Sample 3	**Sample ID**	**BH-18 9.5-10.0m**	**BH-19 9.4-9.9m**	**BH-20 9.5-10.0m**	**BH-21 9.5-10.0m**
	Depth (m bgl)	9.5-10.0m	9.4-9.9m	9.5-10.0m	9.5-10.0m
	Date	15/02/2023	17/02/2023	17/02/2023	18/02/2023
Soil Sample 4	**Sample ID**	**BH-18 10.0-10.5m**	**BH-19 9.9-10.4m**	**BH-20 10.0-10.5m**	**BH-21 10.0-10.5m^**
	Depth (m bgl)	10.0-10.5m	9.9-10.4m	10.0-10.5m	10.0-10.5m^
	Date	15/02/2023	17/02/2023	17/02/2023	18/02/2023
Groundwater Sample	**Sample ID**	**BH-18**	**BH-19**	**BH-20^**	**BH-21**
	Date	23/02/2023	23/02/2023	23/02/2023	23/02/2023
	G.W. Level (m bgl)	1.46	1.42	1.47	1.27
	pH Value	12.30	12.40	12.27	12.37
	Temperature (°C)	24.07	23.90	24.10	23.83

Note:
[1] Since no soil was recovered at around 1.5m below bottom level of concrete slab at BH-21 during sampling, the 2nd soil samples were not collected.

^ Duplicate soil sample was collected for BH-21 9.5-10.0m

^ Duplicate GW sample was collected for BH-20

APPENDIX E
SUMMARY OF LABORATORY RESULT

DC/2019/10_Detailed Soil Sampling Analytical Results (SAS-2)

Parameters	Any Soil Samples > RBRG ?	Industrial RBRG (mg/kg)*	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)	BH-18				BH-19			
						BH-18 8.0-8.5m	BH-18 9.0-9.5m	BH-18 9.5-10.0m	BH-18 10.0-10.5m	BH-19 8.4-8.9m	BH-19 8.9-9.4m	BH-19 9.4-9.9m	BH-19 9.9-10.4m
						HK2306635001	*HK2306635002*	*HK2306635003*	*HK2306635004*	*HK2306790002*	*HK2306790003*	*HK2306790004*	*HK2306790005*
Metal						*15/02/2023*	*15/02/2023*	*15/02/2023*	*15/02/2023*	*17/02/2023*	*17/02/2023*	*17/02/2023*	*17/02/2023*
Antimony	No	2.61E+02	-	1.00E+00	2.00E+00	BRL	BRL	BRL	BRL	1.00E+00	BRL	BRL	BRL
Arsenic	No	1.96E+02	-	1.00E+00	2.50E+01	1.30E+01	1.20E+01	1.30E+01	1.20E+01	8.00E+00	1.50E+01	1.80E+01	1.80E+01
Barium	No	1.00E+04	-	1.00E+00	1.42E+02	2.97E+01	2.28E+01	2.18E+01	2.41E+01	3.82E+01	5.30E+01	2.80E+01	2.96E+01
Cadmium	No	6.53E+02	-	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chromium (III)	No	1.00E+04	-	1.00E+00	3.41E+01	2.49E+01	1.77E+01	1.76E+01	2.24E+01	2.44E+01	2.14E+01	2.62E+01	2.75E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Cobalt	No	1.00E+04	-	1.00E+00	1.73E+02	3.32E+01	2.30E+00	2.40E+00	1.71E+01	1.73E+02	8.50E+00	1.52E+01	8.60E+00
Copper	No	1.00E+04	-	1.00E+00	7.16E+02	1.18E+02	5.00E+00	4.00E+00	5.20E+01	7.16E+02	3.00E+01	4.80E+01	1.90E+01
Lead	No	2.29E+03	-	1.00E+00	1.35E+02	4.20E+01	5.70E+01	4.10E+01	3.40E+01	3.80E+01	7.30E+01	4.80E+01	5.00E+01
Manganese	No	1.00E+04	-	1.00E+00	8.39E+02	4.54E+02	4.39E+01	4.63E+01	2.38E+02	6.66E+02	1.06E+02	1.47E+02	4.42E+02
Mercury	No	3.84E+01	-	5.00E-02	1.30E-01	BRL	9.00E-02	8.00E-02	BRL	BRL	7.00E-02	5.00E-02	7.00E-02
Molybdenum	No	3.26E+03	-	1.00E+00	7.00E+00	1.00E+00	2.00E+00	2.00E+00	1.00E+00	7.00E+00	2.00E+00	2.00E+00	1.00E+00
Nickel	No	1.00E+04	-	1.00E+00	8.30E+01	2.10E+01	5.00E+00	5.00E+00	9.00E+00	7.00E+01	8.00E+00	1.00E+01	7.00E+00
Tin	No	1.00E+04	-	1.00E+00	3.74E+01	9.60E+00	7.30E+00	8.00E+00	5.40E+00	3.14E+01	7.00E+00	6.30E+00	4.70E+00
Zinc	No	1.00E+04	-	1.00E+00	3.03E+02	9.30E+01	2.87E+02	2.63E+02	1.86E+02	7.50E+01	1.90E+02	1.96E+02	8.20E+01
VOCs													
2-Propanone (Acetone)	No	1.00E+04	***	5.00E+01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Styrene	No	1.00E+04	4.97E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Toluene	No	1.00E+04	2.35E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SVOCs													
Acenaphthene	No	1.00E+04	6.02E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chrysene	No	1.14E+03	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Dibenz(a.h)anthracene	No	9.18E+00	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluoranthene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Indeno(1.2.3.cd)pyrene	No	9.18E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Pyrene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
PCRs													
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL

Notes:

BRL denotes below reporting 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.

* 1.00E+04 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 (SAS-2)

Parameters	Any Soil Samples > RBRG ?	Industrial RBRG (mg/kg)*	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)	BH-20				BH-21		
						BH-20 8.0-8.5m	BH-20 9.0-9.5m	BH-20 9.5-10.0m	BH-20 10.0-10.5m	BH-21 8.0-8.5m	BH-21 9.5-10.0m	BH-21 10.0-10.5m
						HK2306906001	*HK2306906002*	*HK2306906003*	*HK2306906004*	*HK2307012001*	*HK2307012002*	*HK2307012003*
Metal						*17/02/2023*	*17/02/2023*	*17/02/2023*	*17/02/2023*	*18/02/2023*	*18/02/2023*	*18/02/2023*
Antimony	No	2.61E+02	-	1.00E+00	2.00E+00	BRL	BRL	BRL	BRL	BRL	2.00E+00	BRL
Arsenic	No	1.96E+02	-	1.00E+00	2.50E+01	2.50E+01	1.10E+01	1.60E+01	8.00E+00	9.00E+00	9.00E+00	2.20E+01
Barium	No	1.00E+04	-	1.00E+00	1.42E+02	1.92E+01	1.42E+02	3.94E+01	4.08E+01	1.18E+02	8.20E+01	2.42E+01
Cadmium	No	6.53E+02	-	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chromium (III)	No	1.00E+04	-	1.00E+00	3.41E+01	3.41E+01	1.68E+01	3.26E+01	1.56E+01	2.15E+01	2.42E+01	3.28E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Cobalt	No	1.00E+04	-	1.00E+00	1.73E+02	1.10E+01	3.30E+00	1.19E+02	3.10E+00	5.50E+00	1.15E+02	7.80E+00
Copper	No	1.00E+04	-	1.00E+00	7.16E+02	1.30E+01	8.00E+00	6.15E+02	1.60E+01	1.40E+01	6.02E+02	1.00E+01
Lead	No	2.29E+03	-	1.00E+00	1.35E+02	5.40E+01	5.70E+01	5.90E+01	5.20E+01	1.35E+02	6.40E+01	5.70E+01
Manganese	No	1.00E+04	-	1.00E+00	8.39E+02	3.82E+02	5.41E+01	4.08E+02	7.10E+01	8.06E+01	8.39E+02	4.40E+02
Mercury	No	3.84E+01	-	5.00E-02	1.30E-01	5.00E-02	1.00E-01	8.00E-02	1.30E-01	7.00E-02	BRL	BRL
Molybdenum	No	3.26E+03	-	1.00E+00	7.00E+00	1.00E+00	2.00E+00	3.00E+00	2.00E+00	1.00E+00	5.00E+00	1.00E+00
Nickel	No	1.00E+04	-	1.00E+00	8.30E+01	6.00E+00	7.00E+00	2.60E+01	7.00E+00	1.10E+01	8.30E+01	8.00E+00
Tin	No	1.00E+04	-	1.00E+00	3.74E+01	3.40E+00	6.70E+00	2.23E+01	8.10E+00	5.80E+00	3.74E+01	3.30E+00
Zinc	No	1.00E+04	-	1.00E+00	3.03E+02	1.06E+02	1.40E+02	3.03E+02	1.92E+02	1.12E+02	1.57E+02	1.40E+02
VOCs												
2-Propanone (Acetone)	No	1.00E+04	***	5.00E+01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Styrene	No	1.00E+04	4.97E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Toluene	No	1.00E+04	2.35E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SVOCs												
Acenaphthene	No	1.00E+04	6.02E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chrysene	No	1.14E+03	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Dibenz(a.h)anthracene	No	9.18E+00	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluoranthene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Indeno(1.2.3.cd)pyrene	No	9.18E+01	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Pyrene	No	1.00E+04	-	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
PCRs												
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL

Notes:

BRL denotes below reporting 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.

* 1.00E+04 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 (Duplicate) Analytical Results (SAS-2)

Parameters	Any Soil Samples > RBRG ?	Industrial RBRG (mg/kg)*	Soil Saturation Limit (Csat) (mg/kg)	Reporting Limit (mg/kg)	Maximum Value (mg/kg)		BH-21 9.5-10.0m	BH21D 9.5-10.0m
							HK2307012002	*HK2308527001*
Metal							*18/02/2023*	*18/02/2023*
Antimony	No	2.61E+02	-	1.00E+00	2.00E+00		2.00E+00	1.00E+00
Arsenic	No	1.96E+02	-	1.00E+00	1.00E+01		9.00E+00	1.00E+01
Barium	No	1.00E+04	-	1.00E+00	9.53E+01		8.20E+01	9.53E+01
Cadmium	No	6.53E+02	-	2.00E-01	BRL		BRL	BRL
Chromium (III)	No	1.00E+04	-	1.00E+00	2.44E+01		2.42E+01	2.44E+01
Chromium (VI)	No	1.96E+03	-	1.00E+00	BRL		BRL	BRL
Cobalt	No	1.00E+04	-	1.00E+00	1.15E+02		1.15E+02	1.14E+02
Copper	No	1.00E+04	-	1.00E+00	6.02E+02		6.02E+02	6.01E+02
Lead	No	2.29E+03	-	1.00E+00	6.40E+01		6.40E+01	4.00E+01
Manganese	No	1.00E+04	-	1.00E+00	8.39E+02		8.39E+02	8.22E+02
Mercury	No	3.84E+01	-	5.00E-02	BRL		BRL	BRL
Molybdenum	No	3.26E+03	-	1.00E+00	5.00E+00		5.00E+00	5.00E+00
Nickel	No	1.00E+04	-	1.00E+00	9.40E+01		8.30E+01	9.40E+01
Tin	No	1.00E+04	-	1.00E+00	3.74E+01		3.74E+01	3.72E+01
Zinc	No	1.00E+04	-	1.00E+00	2.19E+02		1.57E+02	2.19E+02
VOCs								
2-Propanone (Acetone)	No	1.00E+04	***	5.00E+01	BRL		BRL	BRL
Benzene	No	9.21E+00	3.36E+02	2.00E-01	BRL		BRL	BRL
Bromodichloromethane	No	2.85E+00	1.03E+03	1.00E-01	BRL		BRL	BRL
2-Butanone (MEK)	No	1.00E+04	***	5.00E+00	BRL		BRL	BRL
Chloroform	No	1.54E+00	1.10E+03	4.00E-02	BRL		BRL	BRL
Ethylbenzene	No	8.24E+03	1.38E+02	5.00E-01	BRL		BRL	BRL
Methyl tert-Butyl Ether	No	7.01E+01	2.38E+03	5.00E-01	BRL		BRL	BRL
Methylene Chloride	No	1.39E+01	9.21E+02	5.00E-01	BRL		BRL	BRL
Styrene	No	1.00E+04	4.97E+02	5.00E-01	BRL		BRL	BRL
Tetrachloroethene	No	7.77E-01	9.71E+01	4.00E-02	BRL		BRL	BRL
Toluene	No	1.00E+04	2.35E+02	5.00E-01	BRL		BRL	BRL
Trichloroethene	No	5.68E+00	4.88E+02	1.00E-01	BRL		BRL	BRL
Xylenes (Total)	No	1.23E+03	1.50E+02	2.00E+00	BRL		BRL	BRL
SVOCs								
Acenaphthene	No	1.00E+04	6.02E+01	5.00E-01	BRL		BRL	BRL
Acenaphthylene	No	1.00E+04	1.98E+01	5.00E-01	BRL		BRL	BRL
Anthracene	No	1.00E+04	2.56E+00	5.00E-01	BRL		BRL	BRL
Benzo(a)anthracene	No	9.18E+01	-	5.00E-01	BRL		BRL	BRL
Benzo(a)pyrene	No	9.18E+00	-	5.00E-01	BRL		BRL	BRL
Benzo(b)fluoranthene	No	1.78E+01	-	5.00E-01	BRL		BRL	BRL
Benzo(g,h,i)perylene	No	1.00E+04	-	5.00E-01	BRL		BRL	BRL
Benzo(k)fluoranthene	No	9.18E+02	-	5.00E-01	BRL		BRL	BRL
Bis(2-ethylhexyl)phthalate	No	9.18E+01	-	5.00E+00	BRL		BRL	BRL
Chrysene	No	1.14E+03	-	5.00E-01	BRL		BRL	BRL
Dibenz(a.h)anthracene	No	9.18E+00	-	5.00E-01	BRL		BRL	BRL
Fluoranthene	No	1.00E+04	-	5.00E-01	BRL		BRL	BRL
Fluorene	No	1.00E+04	5.47E+01	5.00E-01	BRL		BRL	BRL
Hexachlorobenzene	No	5.82E-01	-	2.00E-01	BRL		BRL	BRL
Indeno(1.2.3.cd)pyrene	No	9.18E+01	-	5.00E-01	BRL		BRL	BRL
Naphthalene	No	4.53E+02	1.25E+02	5.00E-01	BRL		BRL	BRL
Phenanthrene	No	1.00E+04	2.80E+01	5.00E-01	BRL		BRL	BRL
Phenol	No	1.00E+04	7.26E+03	5.00E-01	BRL		BRL	BRL
Pyrene	No	1.00E+04	-	5.00E-01	BRL		BRL	BRL
PCRs								
C6 - C8 Fraction	No	1.00E+04	1.00E+03	5.00E+00	BRL		BRL	BRL
C9 - C16 Fraction	No	1.00E+04	3.00E+03	2.00E+02	BRL		BRL	BRL
C17 - C35 Fraction	No	1.00E+04	5.00E+03	5.00E+02	BRL		BRL	BRL

Notes:

BRL 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.

* 1.00E+04 indicates a 'ceiling limit' concentration.

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

DC/2019/10_Detailed Groundwater Sampling Analytical Results (SAS-2)

Parameters	> Criteria	Industrial RBRG (mg/L)*	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)		BH-18	BH-19	BH-20	BH-21
							HK2307497001	*HK2307497002*	*HK2307497003*	*HK2307497005*
Metal							*23/02/2023*	*23/02/2023*	*23/02/2023*	*23/02/2023*
Mercury	No	6.79E+00	-	5.00E-04	BRL		BRL	BRL	BRL	BRL
VOCs										
2-Propanone (Acetone)	No	1.00E+04	***	5.00E-01	BRL		BRL	BRL	BRL	BRL
Benzene	No	5.40E+01	1.75E+03	5.00E-03	BRL		BRL	BRL	BRL	BRL
Bromodichloromethane	No	2.62E+01	6.74E+03	5.00E-03	BRL		BRL	BRL	BRL	BRL
2-Butanone (MEK)	No	1.00E+04	***	5.00E-02	2.24E-01		1.52E-01	1.96E-01	1.82E-01	2.24E-01
Chloroform	No	1.13E+01	7.92E+03	5.00E-03	BRL		BRL	BRL	BRL	BRL
Ethylbenzene	No	1.00E+04	1.69E+02	5.00E-03	BRL		BRL	BRL	BRL	BRL
Methyl tert-Butyl Ether	No	1.81E+03	***	5.00E-03	BRL		BRL	BRL	BRL	BRL
Methylene Chloride	No	2.24E+02	***	5.00E-02	BRL		BRL	BRL	BRL	BRL
Styrene	No	1.00E+04	3.10E+02	5.00E-03	9.90E-03		9.90E-03	9.20E-03	9.80E-03	9.30E-03
Tetrachloroethene	No	2.95E+00	2.00E+02	5.00E-03	BRL		BRL	BRL	BRL	BRL
Toluene	No	1.00E+04	5.26E+02	5.00E-03	5.20E-02		5.20E-02	3.92E-02	5.04E-02	3.74E-02
Trichloroethene	No	1.42E+01	1.10E+03	5.00E-03	BRL		BRL	BRL	BRL	BRL
Xylenes (Total)	No	1.57E+03	1.75E+02	2.00E-02	BRL		BRL	BRL	BRL	BRL
SVOCs										
Acenaphthene	No	1.00E+04	4.24E+00	2.00E-03	BRL		BRL	BRL	BRL	BRL
Acenaphthylene	No	1.00E+04	3.93E+00	2.00E-03	BRL		BRL	BRL	BRL	BRL
Anthracene	No	1.00E+04	4.34E-02	2.00E-03	BRL		BRL	BRL	BRL	BRL
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	1.00E-03	BRL		BRL	BRL	BRL	BRL
Chrysene	No	8.12E+02	1.60E-03	1.00E-03	BRL		BRL	BRL	BRL	BRL
Fluoranthene	No	1.00E+04	2.06E-01	2.00E-03	BRL		BRL	BRL	BRL	BRL
Fluorene	No	1.00E+04	1.98E+00	2.00E-03	BRL		BRL	BRL	BRL	BRL
Hexachlorobenzene	No	6.95E-01	6.20E+00	4.00E-03	BRL		BRL	BRL	BRL	BRL
Naphthalene	No	8.62E+02	3.10E+01	2.00E-03	4.90E-03		4.90E-03	3.90E-03	4.10E-03	2.70E-03
Phenanthrene	No	1.00E+04	1.00E+00	2.00E-03	BRL		BRL	BRL	BRL	BRL
Pyrene	No	1.00E+04	1.35E-01	2.00E-03	BRL		BRL	BRL	BRL	BRL
PCRs										
C6 - C8 Fraction	No	1.15E+03	5.23E+00	2.00E-02	7.00E-02		6.00E-02	6.00E-02	7.00E-02	5.00E-02
C9 - C16 Fraction	No	9.98E+03	2.80E+00	5.00E-01	8.80E+00		4.50E+00	5.20E+00	5.60E+00	8.80E+00
C17 - C35 Fraction	No	1.78E+02	2.80E+00	5.00E-01	3.90E+00		1.70E+00	2.00E+00	2.40E+00	3.90E+00

Notes:

BRL 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.

* 1.00E+04 indicates a 'ceiling limit' concentration.

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

DC/2019/10_Detailed Groundwater Sampling (Duplicate)Analytical Results (SAS-2)

Parameters	> Criteria	Industrial RBRG (mg/L)*	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)		BH-20	BH-20D
							HK2307497003	*HK2307497004*
Metal							*23/02/2023*	*23/02/2023*
Mercury	No	6.79E+00	-	5.00E-04	BRL		BRL	BRL
VOCs								
2-Propanone (Acetone)	No	1.00E+04	***	5.00E-01	BRL		BRL	BRL
Benzene	No	5.40E+01	1.75E+03	5.00E-03	BRL		BRL	BRL
Bromodichloromethane	No	2.62E+01	6.74E+03	5.00E-03	BRL		BRL	BRL
2-Butanone (MEK)	No	1.00E+04	***	5.00E-02	1.82E-01		1.82E-01	1.76E-01
Chloroform	No	1.13E+01	7.92E+03	5.00E-03	BRL		BRL	BRL
Ethylbenzene	No	1.00E+04	1.69E+02	5.00E-03	BRL		BRL	BRL
Methyl tert-Butyl Ether	No	1.81E+03	***	5.00E-03	BRL		BRL	BRL
Methylene Chloride	No	2.24E+02	***	5.00E-02	BRL		BRL	BRL
Styrene	No	1.00E+04	3.10E+02	5.00E-03	9.90E-03		9.80E-03	9.90E-03
Tetrachloroethene	No	2.95E+00	2.00E+02	5.00E-03	BRL		BRL	BRL
Toluene	No	1.00E+04	5.26E+02	5.00E-03	5.04E-02		5.04E-02	5.00E-02
Trichloroethene	No	1.42E+01	1.10E+03	5.00E-03	BRL		BRL	BRL
Xylenes (Total)	No	1.57E+03	1.75E+02	2.00E-02	BRL		BRL	BRL
SVOCs								
Acenaphthene	No	1.00E+04	4.24E+00	2.00E-03	BRL		BRL	BRL
Acenaphthylene	No	1.00E+04	3.93E+00	2.00E-03	BRL		BRL	BRL
Anthracene	No	1.00E+04	4.34E-02	2.00E-03	BRL		BRL	BRL
Benzo(b)fluoranthene	No	7.53E+00	1.50E-03	1.00E-03	BRL		BRL	BRL
Chrysene	No	8.12E+02	1.60E-03	1.00E-03	BRL		BRL	BRL
Fluoranthene	No	1.00E+04	2.06E-01	2.00E-03	BRL		BRL	BRL
Fluorene	No	1.00E+04	1.98E+00	2.00E-03	BRL		BRL	BRL
Hexachlorobenzene	No	6.95E-01	6.20E+00	4.00E-03	BRL		BRL	BRL
Naphthalene	No	8.62E+02	3.10E+01	2.00E-03	9.80E-02		4.10E-03	6.10E-03
Phenanthrene	No	1.00E+04	1.00E+00	2.00E-03	BRL		BRL	BRL
Pyrene	No	1.00E+04	1.35E-01	2.00E-03	BRL		BRL	BRL
PCRs								
C6 - C8 Fraction	No	1.15E+03	5.23E+00	2.00E-02	7.00E-02		7.00E-02	7.00E-02
C9 - C16 Fraction	No	9.98E+03	2.80E+00	5.00E-01	6.10E+00		5.60E+00	6.10E+00
C17 - C35 Fraction	No	1.78E+02	2.80E+00	5.00E-01	2.40E+00		2.40E+00	2.40E+00

Notes:

BRL 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.

* 1.00E+04 indicates a 'ceiling limit' concentration.

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

Detailed QA/QC Sampling Analytical Results

Parameters	Solubility Limit (mg/L)	Reporting Limit (mg/L)	Maximum Value (mg/L)	Trip Blank	Trip Blank	Trip Blank	Equipment Blank	Field Blank	Trip Blank	Equipment Blank	Field Blank	Trip Blank
				HK2306635005	*HK2306906005*	*HK2306790001*	*HK2306790006*	*HK2306790007*	*HK2307012004*	*HK2307497006*	*HK2307497007*	*HK2307497008*
Metal				*15/02/2023*	*17/02/2023*	*17/02/2023*	*17/02/2023*	*17/02/2023*	*18/02/2023*	*23/02/2023*	*23/02/2023*	*23/02/2023*
Antimony	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Arsenic	-	-	BDL	----	----	----	BRL	BRL	----	----	----	----
Barium	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Cadmium	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Chromium (III)	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Chromium (VI)	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Cobalt	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Copper	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Lead	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Manganese	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Mercury	-	5.00E-04	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Molybdenum	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Nickel	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Tin	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Zinc	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
VOCs												
2-Propanone (Acetone)	***	5.00E-01	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Benzene	1.75E+03	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Bromodichloromethane	6.74E+03	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
2-Butanone (MEK)	***	5.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chloroform	7.92E+03	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Ethylbenzene	1.69E+02	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methyl tert-Butyl Ether	***	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methylene Chloride	***	5.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Styrene	3.10E+02	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Tetrachloroethene	2.00E+02	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Toluene	5.26E+02	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Trichloroethene	1.10E+03	5.00E-03	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Xylenes (Total)	1.75E+02	2.00E-02	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SVOCs												
Acenaphthene	4.24E+00	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Acenaphthylene	3.93E+00	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Anthracene	4.34E-02	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Benzo(a)anthracene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Benzo(a)pyrene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Benzo(b)fluoranthene	1.50E-03	1.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Benzo(g,h,i)perylene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Benzo(k)fluoranthene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
bis(2-ethylhexyl)phthalate	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Chrysene	1.60E-03	1.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Dibenz(a.h)anthracene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Fluoranthene	2.06E-01	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Fluorene	1.98E+00	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Hexachlorobenzene	6.20E+00	4.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Indeno(1.2.3.cd)pyrene	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Naphthalene	3.10E+01	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Phenanthrene	1.00E+00	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Phenol	-	-	BRL	----	----	----	BRL	BRL	----	----	----	----
Pyrene	1.35E-01	2.00E-03	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
Hydrocarbons - PCRs												
C6 - C8 Fraction	5.23E+00	2.00E-02	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
C9 - C16 Fraction	2.80E+00	5.00E-01	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----
C17 - C35 Fraction	2.80E+00	5.00E-01	BRL	----	----	----	BRL	BRL	----	BRL	BRL	----

Notes:

BRL denotes below detection limit.

"-----": 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

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:		Company Name:	B 100661
Client Contact Name:		Client Contact Name:	
E-mail:		E-mail:	ALS Technichem (HK) Pty Ltd
Phone:		Phone:	
Report Address:		Invoice Address:	

Part 3: Project & Sample Information		Part 4: Test Required
P.O. / Client Order No:	ALS Quotation No:	
Project Name / ID:		
Site Name / ID:		
Service Request (Working Day):	Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)	
Cooler Security Seal:	Sealed ☐ / Broken ☐ / Not Available ☑	
Package:	Cooler box ☑ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐	
Temperature Condition:	Chilled ☑ / Ambient ☐ / Frozen ☐ _____°C	

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals	CrVI	VOCs	SVOCs	PCBs								Remarks
						(✓) Tick the requested test												
1	BH-18 8.0-8.5m	S	15 Feb 2023	13:30	1	✓	✓	✓	✓	✓								
2	BH-18 9.0-9.5m	S	15 Feb 2023	13:40	1	✓	✓	✓	✓	✓								
3	BH-18 9.5-10.0m	S	"	14:00	1	✓	✓	✓	✓	✓								
4	BH-18 10.0-10.5m	S	"	14:50	1	✓	✓	✓	✓	✓								
5	Trip Blank	W	"	16:00	2			✓										
	~~BH-19 8.4-8.9m~~	~~S~~	~~16 Feb 23~~	~~12:30~~	~~1~~	✓	✓	✓	✓	✓								
	~~BH-19 8.9-9.4m~~	~~S~~	~~16 Feb 23~~	~~12:40~~	~~1~~	✓	✓	✓	✓	✓								
	~~BH-19 9.4-9.9m~~	~~S~~	~~16 Feb 23~~	~~12:50~~	~~1~~	✓	✓	✓	✓	✓								
	~~BH-19 9.9-10.4m~~	~~S~~	~~"~~	~~13:00~~	~~1~~	✓	✓	✓	✓	✓								

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:		Company Name:	Cinotech	Company Name:		Company Name:	
Responsible Person:		Responsible Person:	Karina Chan	Responsible Person:		Responsible Person:	
Date & Time:		Date & Time:	16 Feb 2023	Date & Time:		Date & Time:	16/2
Signature:		Signature:		Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
11/F, Chung Shun Knitting Centre
1-3 wing Yip Street
Kwai Chung, N.T. Hong Kong
T +852 2610 1044 F +852 2610 2021

right solutions.
right partner.

QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR@	1	
Antimony			1	NR@	1	
Arsenic			1	NR@	10	
Barium			1	NR@	1	
Cadmium			0.2	NR@	0.2	
Cobalt			1	NR@	1	
Copper			1	NR@	1	
Manganese			1	NR@	1	
Molybdenum			1	NR@	1	
Nickel			1	NR@	1	
Tin			1	NR@	1	
Zinc			1	NR@	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR@	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR@	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium - Chromium VI

@ NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR@	2	
Benzo(a)pyrene			0.5	NR@	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR@	2	
Benzo(g,h,i)perylene			0.5	NR@	2	
Bis(2-Ethylhexyl)phthalate			5	NR@	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR@	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR@	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR@	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

@ NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2306635
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: JustinYu@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	: 16-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 27-Feb-2023
C-O-C number	: B100661			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.

Signatories	*Position*	*Authorised results for*
Anh Ngoc Huynh .	Senior Chemist	Organics_ENV, Kwai Tsing
Chan Siu Ming , Vico	Manager - Inorganics	Inorganics, Kwai Tsing
Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. 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-Feb-2023 to 27-Feb-2023.

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: HK2306635

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

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	BH-18 8.0-8.5m	BH-18 9.0-9.5m	BH-18 9.5-10.0m	BH-18 10.0-10.5m	----
			Sampling date / time	15-Feb-2023 13:30	15-Feb-2023 13:40	15-Feb-2023 14:00	15-Feb-2023 14:50	----
Compound	CAS Number	LOR	Unit	HK2306635-001	HK2306635-002	HK2306635-003	HK2306635-004	--------
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	25.4	20.0	27.4	23.1	----
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	13	12	13	12	----
EG020: Barium	7440-39-3	1.0	mg/kg	29.7	22.8	21.8	24.1	----
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	33.2	2.3	2.4	17.1	----
EG020: Copper	7440-50-8	1	mg/kg	118	5	4	52	----
EG020: Lead	7439-92-1	1	mg/kg	42	57	41	34	----
EG020: Manganese	7439-96-5	1.0	mg/kg	454	43.9	46.3	238	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.09	0.08	<0.05	----
EG020: Molybdenum	7439-98-7	1	mg/kg	1	2	2	1	----
EG020: Nickel	7440-02-0	1	mg/kg	21	5	5	9	----
EG020: Tin	7440-31-5	1.0	mg/kg	9.6	7.3	8.0	5.4	----
EG020: Zinc	7440-66-6	1	mg/kg	93	287	263	186	----
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	24.9	17.7	17.6	22.4	----
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	BH-18 8.0-8.5m	BH-18 9.0-9.5m	BH-18 9.5-10.0m	BH-18 10.0-10.5m	----
			Sampling date / time	15-Feb-2023 13:30	15-Feb-2023 13:40	15-Feb-2023 14:00	15-Feb-2023 14:50	----
Compound	CAS Number	LOR	Unit	HK2306635-001	HK2306635-002	HK2306635-003	HK2306635-004	--------
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued								
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	----
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<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	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<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	----
EP076HK: Benzo(g.h.i)perylene	191-24-2	0.500	mg/kg	<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	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<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	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	----
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<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	----
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<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	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	----
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<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	----
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<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	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<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	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----

Sub-Matrix: SOIL			Sample ID	BH-18 8.0-8.5m	BH-18 9.0-9.5m	BH-18 9.5-10.0m	BH-18 10.0-10.5m	----
			Sampling date / time	15-Feb-2023 13:30	15-Feb-2023 13:40	15-Feb-2023 14:00	15-Feb-2023 14:50	----
Compound	CAS Number	LOR	Unit	HK2306635-001	HK2306635-002	HK2306635-003	HK2306635-004	--------
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	%	77.8	81.3	79.7	74.4	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	84.5	83.5	86.0	78.3	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.6	89.1	89.4	89.8	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	97.5	97.6	98.1	98.0	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	98.0	96.8	96.8	97.9	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.6	89.1	89.4	89.8	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	97.5	97.6	98.1	98.0	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	98.0	96.8	96.8	97.9	----

Sub-Matrix: WATER			Sample ID	Trip Blank	----	----	----	----
			Sampling date / time	15-Feb-2023 16:00	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2306635-005	-------	-------	-------	-------
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	%	99.1	----	----	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	----	----	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.5	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 4887731)								
HK2305973-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.3	10.1	2.0
HK2307162-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	17.3	17.4	0.9
EG: Metals and Major Cations (QC Lot: 4882605)								
HK2306635-002	BH-18 9.0-9.5m	EG020: Mercury	7439-97-6	0.05	mg/kg	0.09	0.10	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	22.8	22.2	2.6
		EG020: Cobalt	7440-48-4	0.5	mg/kg	2.3	2.3	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	43.9	44.1	0.4
		EG020: Tin	7440-31-5	0.5	mg/kg	7.3	7.6	3.2
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.0
		EG020: Copper	7440-50-8	1	mg/kg	5	5	0.0
		EG020: Lead	7439-92-1	1	mg/kg	57	56	2.1
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	5	5	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	287	326	12.6
EG: Metals and Major Cations (QC Lot: 4882616)								
HK2306635-001	BH-18 8.0-8.5m	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264)								
HK2306635-001	BH-18 8.0-8.5m	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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264) - Continued								
HK2306635-001	BH-18 8.0-8.5m	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: 4881264)								
HK2306635-001	BH-18 8.0-8.5m	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: 4881263)								
HK2306635-001	BH-18 8.0-8.5m	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: 4886153)								
HK2306134-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)								
HK2306134-001	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	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	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: 4886154)								

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154) - Continued								
HK2306134-001	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: 4886154)								
HK2306134-001	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: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4882605)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	97.1	----	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	98.4	----	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	102	----	89.8	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	110	----	92.0	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	98.0	----	86.7	115	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	98.5	----	85.8	108	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	106	----	86.6	115	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	98.1	----	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	98.4	----	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: 4882616)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	107	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	90.4	----	78.0	116	----	----
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	83.3	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	93.2	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	88.6	----	77.0	117	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	89.9	----	78.0	121	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	87.4	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	84.7	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	84.8	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	86.8	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	94.2	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	87.0	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	96.0	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	85.7	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	85.1	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	82.9	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	92.3	----	60.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4881264)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	76.8	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	96.0	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	78.0	----	59.0	146	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4881263)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	84.0	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	91.2	----	50.0	96.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	105	----	79.0	120	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	79.0	120	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	119	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	105	----	78.0	121	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	109	----	81.0	119	----	----
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	79.0	119	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	78.0	122	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	108	----	80.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	89.3	----	63.0	134	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	108	----	78.0	120	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	88.0	----	74.0	126	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	100	----	78.0	125	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	99.1	----	79.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	98.8	----	78.0	120	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	94.7	----	73.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886154)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	99.3	----	74.0	129	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4888955)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	110	----	79.0	125	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	119	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	108	----	80.0	119	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	110	----	76.0	121	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	106	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	110	----	80.0	121	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	110	----	80.0	117	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.7	----	69.0	131	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955) - Continued											
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	112	----	76.0	129	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4888955)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	95.6	----	77.0	125	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	104	----	80.0	121	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4888955)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	106	----	76.0	122	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	106	----	75.0	121	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4888955)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	121	----	----

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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations (QC Lot: 4882605)										
HK2306635-001	BH-18 8.0-8.5m	EG020: Antimony	7440-36-0	10 mg/kg	96.5	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	95.4	----	75.0	125	----	----
		EG020: Barium	7440-39-3	10 mg/kg	84.8	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.5 mg/kg	103	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	81.3	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	117	----	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	107	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	106	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	117	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	120	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4882616)										
HK2306635-002	BH-18 9.0-9.5m	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	102	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264)										
HK2306635-003	BH-18 9.5-10.0m	Naphthalene	91-20-3	250 µg/kg	82.8	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	79.4	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	82.1	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	82.5	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	80.8	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	74.5	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	80.4	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	78.6	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264) - Continued										
HK2306635-003	BH-18 9.5-10.0m	Benz(a)anthracene	56-55-3	250 µg/kg	87.5	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	89.3	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	89.8	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	89.7	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	83.6	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	82.5	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	81.0	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	83.4	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4881264)										
HK2306635-003	BH-18 9.5-10.0m	Phenol	108-95-2	250 µg/kg	83.2	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	89.1	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	99.3	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4881263)										
HK2306635-002	BH-18 9.0-9.5m	C9 - C16 Fraction	----	31.5 mg/kg	70.2	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	61.6	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)										
HK2306134-002	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	107	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	106	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	111	----	50.0	130	----	----
		meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	104	----	50.0	130	----	----
		Styrene	100-42-5	0.25 mg/kg	107	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	106	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)										
HK2306134-003	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	98.0	----	50.0	130	----	----
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	92.1	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%) MS	Spike Recovery (%) MSD	Recovery Limits (%) Low	Recovery Limits (%) High	RPD (%) Value	RPD (%) Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)										
HK2306134-003	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	84.3	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	102	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	102	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Chloroform	67-66-3	0.25 mg/kg	100	----	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: 4886154)										
HK2306134-003	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	97.2	----	50.0	130	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) 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**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) 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

Company Name:	PRH L.Y. - CRTC JV.
Client Contact Name:	PC/2019/10.
E-mail:	Justin.yu@lyengineering.com
Phone:	91221451.
Report Address:	

Part 2: Billing Information for Invoice (If different from Reporting Information)

Company Name:	
Client Contact Name:	
E-mail:	
Phone:	
Invoice Address:	

B 100662

ALS Technichem (HK) Pty Ltd

Part 3: Project & Sample Information

P.O. / Client Order No:	ALS Quotation No:
Project Name / ID:	
Site Name / ID:	
Service Request (Working Day):	Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)
Cooler Security Seal:	Sealed ☐ / Broken ☐ / Not Available ☑
Package:	Cooler box ☑ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐
Temperature Condition:	Chilled ☑ / Ambient ☐ / Frozen ☐ _____°C

Part 4: Test Required

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals	CrVI	VOCs	SVOCs	PCBs								Remarks
1	Trip Blank	W	16 Feb 23	14:00	2			✓										
2	BH-19 8.4-8.9m	S	"	12:30	1	✓	✓	✓	✓	✓								
3	BH-19 8.9-9.4m	S	"	12:40	1	✓	✓	✓	✓	✓								
4	BH-19 9.4-9.9m	S	"	12:50	1	✓	✓	✓	✓	✓								
5	BH-19 9.9-10.4m	S	"	13:00	1	✓	✓	✓	✓	✓								
6	Equipment Blank	W	17/2/23	14:00	5	✓	✓	✓	✓	✓								
7	Field Blank	W	17/2/23	14:00	5	✓	✓	✓	✓	✓								

(✓) Tick the requested test

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:		Company Name:	Cinotech	Company Name:		Company Name:	ALS
Responsible Person:		Responsible Person:	Karina Chan	Responsible Person:		Responsible Person:	Samma
Date & Time:		Date & Time:	16/2/23.	Date & Time:		Date & Time:	17/2/2023 1700
Signature:		Signature:	Karina	Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
11/F, Chung Shun Knitting Centre
1-3 wing Yip Street
Kwai Chung, N.T. Hong Kong
T +852 2610 1044 F +852 2610 2021

right solutions.
right partner.

QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR@	1	
Antimony			1	NR@	1	
Arsenic			1	NR@	10	
Barium			1	NR@	1	
Cadmium			0.2	NR@	0.2	
Cobalt			1	NR@	1	
Copper			1	NR@	1	
Manganese			1	NR@	1	
Molybdenum			1	NR@	1	
Nickel			1	NR@	1	
Tin			1	NR@	1	
Zinc			1	NR@	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR@	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR@	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium – Chromium VI

@ NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR@	2	
Benzo(a)pyrene			0.5	NR@	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR@	2	
Benzo(g,h,i)perylene			0.5	NR@	2	
Bis(2-Ethylhexyl)phthalate			5	NR@	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR@	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR@	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR@	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

@ NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

HOKLAS 066 TEST

CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 23
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2306790
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: JustinYu@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	: 17-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 01-Mar-2023
C-O-C number	: B100662			No. of samples received	: 7
Site	:			No. of samples analysed	: 7

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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.

Signatories	*Position*	*Authorised results for*
Anh Ngoc Huynh .	Senior Chemist	Organics_ENV, Kwai Tsing
Chan Siu Ming , Vico	Manager - Inorganics	Inorganics, Kwai Tsing
Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. 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 17-Feb-2023 to 28-Feb-2023.

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: HK2306790

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

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	BH-19 8.4-8.9m	BH-19 8.9-9.4m	BH-19 9.4-9.9m	BH-19 9.9-10.4m	----
			Sampling date / time	17-Feb-2023 12:30	17-Feb-2023 12:40	17-Feb-2023 12:50	17-Feb-2023 13:00	----
Compound	CAS Number	LOR	Unit	HK2306790-002	HK2306790-003	HK2306790-004	HK2306790-005	--------
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.7	26.6	29.2	23.1	----
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	8	15	18	18	----
EG020: Barium	7440-39-3	1.0	mg/kg	38.2	53.0	28.0	29.6	----
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	173	8.5	15.2	8.6	----
EG020: Copper	7440-50-8	1	mg/kg	716	30	48	19	----
EG020: Lead	7439-92-1	1	mg/kg	38	73	48	50	----
EG020: Manganese	7439-96-5	1.0	mg/kg	666	106	147	442	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.07	0.05	0.07	----
EG020: Molybdenum	7439-98-7	1	mg/kg	7	2	2	1	----
EG020: Nickel	7440-02-0	1	mg/kg	70	8	10	7	----
EG020: Tin	7440-31-5	1.0	mg/kg	31.4	7.0	6.3	4.7	----
EG020: Zinc	7440-66-6	1	mg/kg	75	190	196	82	----
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	24.4	21.4	26.2	27.5	----
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	BH-19 8.4-8.9m	BH-19 8.9-9.4m	BH-19 9.4-9.9m	BH-19 9.9-10.4m	----
			Sampling date / time	17-Feb-2023 12:30	17-Feb-2023 12:40	17-Feb-2023 12:50	17-Feb-2023 13:00	----
Compound	CAS Number	LOR	Unit	HK2306790-002	HK2306790-003	HK2306790-004	HK2306790-005	--------
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	----
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<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	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<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	----
EP076HK: Benzo(g.h.i)perylene	191-24-2	0.500	mg/kg	<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	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<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	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	----
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<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	----
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<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	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	----
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<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	----
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<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	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<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	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----

Sub-Matrix: SOIL			Sample ID	BH-19 8.4-8.9m	BH-19 8.9-9.4m	BH-19 9.4-9.9m	BH-19 9.9-10.4m	----
			Sampling date / time	17-Feb-2023 12:30	17-Feb-2023 12:40	17-Feb-2023 12:50	17-Feb-2023 13:00	----
Compound	CAS Number	LOR	Unit	HK2306790-002	HK2306790-003	HK2306790-004	HK2306790-005	--------
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	%	79.3	82.0	82.4	84.7	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	86.2	89.8	88.0	92.3	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	88.2	90.3	89.6	90.5	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	98.1	97.1	97.6	97.8	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.5	99.1	98.1	96.0	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	88.2	90.3	89.6	90.5	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	98.1	97.1	97.6	97.8	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.5	99.1	98.1	96.0	----

Sub-Matrix: WATER			Sample ID	Trip Blank	Equipment Blank	Field Blank	----	----
			Sampling date / time	17-Feb-2023 14:20	17-Feb-2023 14:00	17-Feb-2023 14:00	----	----
Compound	CAS Number	LOR	Unit	HK2306790-001	HK2306790-006	HK2306790-007	--------	--------
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	Trip Blank	Equipment Blank	Field Blank	----	----
			Sampling date / time	17-Feb-2023 14:20	17-Feb-2023 14:00	17-Feb-2023 14:00	----	----
Compound	CAS Number	LOR	Unit	HK2306790-001	HK2306790-006	HK2306790-007	--------	--------
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	Trip Blank	Equipment Blank	Field Blank	----	----
			Sampling date / time	17-Feb-2023 14:20	17-Feb-2023 14:00	17-Feb-2023 14:00	----	----
Compound	CAS Number	LOR	Unit	HK2306790-001	HK2306790-006	HK2306790-007	--------	--------
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	%	----	66.2	56.6	----	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	----	103	93.4	----	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	----	102	101	----	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	----	100	102	----	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	----	94.3	93.7	----	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	101	102	101	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	100	102	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.2	94.3	93.7	----	----

Laboratory Duplicate (DUP) Report

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 4890542)								
HK2306170-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.5	11.9	3.5
HK2306424-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.2	16.6	2.5
EG: Metals and Major Cations (QC Lot: 4882605)								
HK2306635-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.09	0.10	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	22.8	22.2	2.6
		EG020: Cobalt	7440-48-4	0.5	mg/kg	2.3	2.3	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	43.9	44.1	0.4
		EG020: Tin	7440-31-5	0.5	mg/kg	7.3	7.6	3.2
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.0
		EG020: Copper	7440-50-8	1	mg/kg	5	5	0.0
		EG020: Lead	7439-92-1	1	mg/kg	57	56	2.1
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	5	5	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	287	326	12.6
EG: Metals and Major Cations (QC Lot: 4882616)								
HK2306635-001	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: 4881264)								
HK2306635-001	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 sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264) - Continued								
HK2306635-001	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: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4893511)								
HK2306790-005	BH-19 9.9-10.4m	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
		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: 4881264)								
HK2306635-001	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-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4893511)								
HK2306790-005	BH-19 9.9-10.4m	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: 4881263)								

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4881263) - Continued								
HK2306635-001	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: 4886153)								
HK2306134-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4893510)								
HK2306790-005	BH-19 9.9-10.4m	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: 4886154)								
HK2306134-001	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	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.0

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EG: Metals and Major Cations - Filtered (QC Lot: 4882656)								

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EG: Metals and Major Cations - Filtered (QC Lot: 4882656) - Continued								
HK2306747-002	Anonymous	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: 4882714)								
HK2306747-003	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: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4882605)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	97.1	----	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	98.4	----	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	102	----	89.8	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	110	----	92.0	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	98.0	----	86.7	115	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	98.5	----	85.8	108	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	106	----	86.6	115	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4882605) - Continued											
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	98.1	----	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	98.4	----	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: 4882616)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	107	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	90.4	----	78.0	116	----	----
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	83.3	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	93.2	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	88.6	----	77.0	117	----	----
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	89.9	----	78.0	121	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	87.4	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	84.7	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	84.8	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	86.8	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	94.2	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	87.0	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	96.0	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	85.7	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	85.1	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	82.9	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	92.3	----	60.0	123	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4893511)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	106	----	78.0	116	----	----
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	102	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	106	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	106	----	77.0	117	----	----
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	106	----	78.0	121	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4893511) - Continued											
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	105	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	102	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	102	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	105	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	115	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	107	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	112	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	108	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	104	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	102	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	107	----	60.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4881264)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	76.8	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	96.0	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	78.0	----	59.0	146	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4893511)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	102	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	116	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	111	----	59.0	146	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4881263)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	84.0	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	91.2	----	50.0	96.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	105	----	79.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4893510)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	90.6	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	81.4	----	50.0	96.0	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	79.0	120	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154) - Continued											
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	119	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	105	----	78.0	121	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	109	----	81.0	119	----	----
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	79.0	119	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	78.0	122	----	----
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	108	----	80.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	89.3	----	63.0	134	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	108	----	78.0	120	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	88.0	----	74.0	126	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	100	----	78.0	125	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	99.1	----	79.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	98.8	----	78.0	120	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	94.7	----	73.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886154)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	99.3	----	74.0	129	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4882656)											
EG020: Antimony	7440-36-0	1	µg/L	<1	50 µg/L	99.8	----	85.0	115	----	----
EG020: Arsenic	7440-38-2	1	µg/L	<1	50 µg/L	95.4	----	88.1	110	----	----
EG020: Barium	7440-39-3	1	µg/L	<1	50 µg/L	95.3	----	85.0	115	----	----
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	5 µg/L	103	----	85.0	113	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4882656) - Continued											
EG020: Cobalt	7440-48-4	1	µg/L	<1	50 µg/L	95.6	----	86.1	110	----	----
EG020: Copper	7440-50-8	1	µg/L	<1	50 µg/L	94.8	----	89.2	111	----	----
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	96.0	----	86.9	110	----	----
EG020: Manganese	7439-96-5	1	µg/L	<1	50 µg/L	94.4	----	86.9	110	----	----
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	99.8	----	85.0	115	----	----
EG020: Molybdenum	7439-98-7	1	µg/L	<1	50 µg/L	99.9	----	85.8	115	----	----
EG020: Nickel	7440-02-0	1	µg/L	<1	50 µg/L	94.8	----	88.4	109	----	----
EG020: Tin	7440-31-5	1	µg/L	<1	50 µg/L	98.0	----	85.0	115	----	----
EG020: Zinc	7440-66-6	10	µg/L	<10	50 µg/L	101	----	89.1	113	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 4882714)											
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	100 µg/L	96.4	----	80.0	106	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4887829)											
Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	77.8	----	60.0	117	----	----
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	82.1	----	67.0	119	----	----
Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	82.8	----	67.0	113	----	----
Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	84.4	----	67.0	111	----	----
Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	84.6	----	63.0	118	----	----
Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	79.6	----	68.0	114	----	----
Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	88.4	----	75.0	114	----	----
Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	86.2	----	74.0	113	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	0.5 µg/L	89.5	----	61.0	121	----	----
Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	92.1	----	73.0	120	----	----
Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	95.9	----	62.0	122	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	0.5 µg/L	96.2	----	68.0	127	----	----
Benzo(a)pyrene	50-32-8	0.1	µg/L	<0.1	0.5 µg/L	89.4	----	67.0	121	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	0.5 µg/L	88.6	----	42.0	120	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	0.5 µg/L	83.2	----	56.0	114	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	0.5 µg/L	89.7	----	46.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4887829)											

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4887829) - Continued											
Phenol	108-95-2	5	µg/L	<5.0	0.5 µg/L	62.4	----	34.0	126	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	91.9	----	66.0	123	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	<10.0	0.5 µg/L	91.4	----	71.0	135	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4887830)											
C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	69.6	----	54.0	122	----	----
C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	76.6	----	54.0	113	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4888956)											
C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	106	----	80.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4888955)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	110	----	79.0	125	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	119	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	108	----	80.0	119	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	110	----	76.0	121	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	106	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	110	----	80.0	121	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	110	----	80.0	117	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.7	----	69.0	131	----	----
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	112	----	76.0	129	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4888955)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	95.6	----	77.0	125	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	104	----	80.0	121	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4888955)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	106	----	76.0	122	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	106	----	75.0	121	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4888955)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	121	----	----

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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations (QC Lot: 4882605)										
HK2306635-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	96.5	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	95.4	----	75.0	125	----	----
		EG020: Barium	7440-39-3	10 mg/kg	84.8	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.5 mg/kg	103	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	81.3	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	117	----	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	107	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	106	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	117	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	120	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4882616)										
HK2306635-002	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	102	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264)										
HK2306635-003	Anonymous	Naphthalene	91-20-3	250 µg/kg	82.8	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	79.4	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	82.1	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	82.5	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	80.8	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	74.5	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	80.4	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	78.6	----	50.0	130	----	----

Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4881264) - Continued										
HK2306635-003	Anonymous	Benz(a)anthracene	56-55-3	250 µg/kg	87.5	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	89.3	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	89.8	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	89.7	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	83.6	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	82.5	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	81.0	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	83.4	----	50.0	130	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4893511)										
HK2306790-005	BH-19 9.9-10.4m	Naphthalene	91-20-3	250 µg/kg	85.0	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	81.8	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	84.1	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	83.5	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	82.1	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	77.5	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	81.4	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	79.9	----	50.0	130	----	----
		Benz(a)anthracene	56-55-3	250 µg/kg	87.2	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	91.2	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	85.7	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	90.5	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	84.2	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	83.8	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	80.6	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	84.3	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4881264)										
HK2306635-003	Anonymous	Phenol	108-95-2	250 µg/kg	83.2	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	89.1	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	99.3	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4893511)										

Matrix: SOIL

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4893511) - Continued										
HK2306790-005	BH-19 9.9-10.4m	Phenol	108-95-2	250 µg/kg	84.9	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	91.8	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	91.6	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4881263)										
HK2306635-002	Anonymous	C9 - C16 Fraction	----	31.5 mg/kg	70.2	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	61.6	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)										
HK2306134-002	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	107	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4893510)										
HK2306790-005	BH-19 9.9-10.4m	C9 - C16 Fraction	----	31.5 mg/kg	67.8	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	60.2	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	106	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	111	----	50.0	130	----	----
		meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	104	----	50.0	130	----	----
		Styrene	100-42-5	0.25 mg/kg	107	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	106	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)										
HK2306134-003	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	98.0	----	50.0	130	----	----
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	92.1	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)										
HK2306134-003	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	84.3	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	102	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	102	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Chloroform	67-66-3	0.25 mg/kg	100	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154) - Continued										
HK2306134-003	Anonymous	Bromodichloromethane	75-27-4	0.25 mg/kg	92.6	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886154)										
HK2306134-003	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	97.2	----	50.0	130	----	----

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4882656)										
HK2306740-001	Anonymous	EG020: Antimony	7440-36-0	50 µg/L	100	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	50 µg/L	99.0	----	75.0	125	----	----
		EG020: Barium	7440-39-3	50 µg/L	94.2	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	5 µg/L	104	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	50 µg/L	95.7	----	75.0	125	----	----
		EG020: Copper	7440-50-8	50 µg/L	95.0	----	75.0	125	----	----
		EG020: Lead	7439-92-1	50 µg/L	95.0	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	50 µg/L	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	2 µg/L	106	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	50 µg/L	99.0	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	50 µg/L	94.4	----	75.0	125	----	----
		EG020: Tin	7440-31-5	50 µg/L	99.8	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	50 µg/L	101	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 4882714)										
HK2306747-002	Anonymous	EG050: Hexavalent Chromium	18540-29-9	100 µg/L	103	----	75.0	125	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%): Low	Recovery Limits (%): High

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
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

Company Name:
Client Contact Name:
E-mail:
Phone:
Report Address:

Part 2: Billing Information for Invoice (If different from Reporting Information)

Company Name:
Client Contact Name:
E-mail:
Phone:
Invoice Address:

B 100663

ALS Technichem (HK) Pty Ltd

Part 3: Project & Sample Information

P.O. / Client Order No: ALS Quotation No:
Project Name / ID:
Site Name / ID:
Service Request (Working Day): Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)
Cooler Security Seal: Sealed ☐ / Broken ☐ / Not Available ☑
Package: Cooler box ☑ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐
Temperature Condition: Chilled ☑ / Ambient ☐ / Frozen ☐ _____°C

Part 4: Test Required

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals	CrVI	VOCs	SVOCs	PCBs								Remarks
1	BH-20 8.0-8.5m	S	17Feb2023	13:30	1	✓	✓	✓	✓	✓								
2	BH-20 9.0-9.5m	S	17Feb2023	13:45	1	✓	✓	✓	✓	✓								
3	BH-20 9.5-10.0m	S	17Feb2023	14:00	1	✓	✓	✓	✓	✓								
4	BH-20 10.0-10.5m	S	17Feb2023	14:30	1	✓	✓	✓	✓	✓								
5	Trip Blank	W	17Feb2023	15:30	2			✓										

(✓) Tick the requested test

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:		Company Name:	Cinotech	Company Name:	ALS	Company Name:	ALS HK
Responsible Person:		Responsible Person:	Karina Chan	Responsible Person:	Hubo Ng	Responsible Person:	Kefan Lam
Date & Time:		Date & Time:	17 Feb 2023	Date & Time:	18 FEB 2023	Date & Time:	18 FEB 2023 11:30
Signature:		Signature:	Karina	Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
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Kwai Chung, N.T. Hong Kong
T +852 2610 1044 F +852 2610 2021

right solutions.
right partner.

QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR@	1	
Antimony			1	NR@	1	
Arsenic			1	NR@	10	
Barium			1	NR@	1	
Cadmium			0.2	NR@	0.2	
Cobalt			1	NR@	1	
Copper			1	NR@	1	
Manganese			1	NR@	1	
Molybdenum			1	NR@	1	
Nickel			1	NR@	1	
Tin			1	NR@	1	
Zinc			1	NR@	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR@	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR@	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium - Chromium VI

@ NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR@	2	
Benzo(a)pyrene			0.5	NR@	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR@	2	
Benzo(g,h,i)perylene			0.5	NR@	2	
Bis(2-Ethylhexyl)phthalate			5	NR@	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR@	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR@	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR@	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

@ NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

HOKLAS 066 TEST

CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2306906
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: JustinYu@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	: 18-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 28-Feb-2023
C-O-C number	: B100663			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.

Signatories	*Position*	*Authorised results for*
Anh Ngoc Huynh .	Senior Chemist	Organics_ENV, Kwai Tsing
Chan Siu Ming , Vico	Manager - Inorganics	Inorganics, Kwai Tsing
Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. 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 18-Feb-2023 to 28-Feb-2023.

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: HK2306906

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

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	BH-20 8.0-8.5m	BH-20 9.0-9.5m	BH-20 9.5-10.0m	BH-20 10.0-10.5m	----
			Sampling date / time	17-Feb-2023 13:30	17-Feb-2023 13:45	17-Feb-2023 14:00	17-Feb-2023 14:30	----
Compound	CAS Number	LOR	Unit	HK2306906-001	HK2306906-002	HK2306906-003	HK2306906-004	-------
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	23.1	20.6	28.4	21.4	----
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	25	11	16	8	----
EG020: Barium	7440-39-3	1.0	mg/kg	19.2	142	39.4	40.8	----
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	11.0	3.3	119	3.1	----
EG020: Copper	7440-50-8	1	mg/kg	13	8	615	16	----
EG020: Lead	7439-92-1	1	mg/kg	54	57	59	52	----
EG020: Manganese	7439-96-5	1.0	mg/kg	382	54.1	408	71.0	----
EG020: Mercury	7439-97-6	0.05	mg/kg	0.05	0.10	0.08	0.13	----
EG020: Molybdenum	7439-98-7	1	mg/kg	1	2	3	2	----
EG020: Nickel	7440-02-0	1	mg/kg	6	7	26	7	----
EG020: Tin	7440-31-5	1.0	mg/kg	3.4	6.7	22.3	8.1	----
EG020: Zinc	7440-66-6	1	mg/kg	106	140	303	192	----
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	34.1	16.8	32.6	15.6	----
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	BH-20 8.0-8.5m	BH-20 9.0-9.5m	BH-20 9.5-10.0m	BH-20 10.0-10.5m	----
			Sampling date / time	17-Feb-2023 13:30	17-Feb-2023 13:45	17-Feb-2023 14:00	17-Feb-2023 14:30	----
Compound	CAS Number	LOR	Unit	HK2306906-001	HK2306906-002	HK2306906-003	HK2306906-004	--------
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued								
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	----
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<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	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<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	----
EP076HK: Benzo(g.h.i)perylene	191-24-2	0.500	mg/kg	<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	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<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	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	----
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<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	----
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<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	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	----
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<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	----
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<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	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<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	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	----

Sub-Matrix: SOIL			Sample ID	BH-20 8.0-8.5m	BH-20 9.0-9.5m	BH-20 9.5-10.0m	BH-20 10.0-10.5m	----
			Sampling date / time	17-Feb-2023 13:30	17-Feb-2023 13:45	17-Feb-2023 14:00	17-Feb-2023 14:30	----
Compound	CAS Number	LOR	Unit	HK2306906-001	HK2306906-002	HK2306906-003	HK2306906-004	--------
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	%	105	98.9	92.6	103	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	115	110	103	114	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.0	91.0	92.7	91.6	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	97.9	97.4	97.3	98.0	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	98.6	97.7	102	95.4	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.0	91.0	92.7	91.6	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	97.9	97.4	97.3	98.0	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	98.6	97.7	102	95.4	----

Sub-Matrix: WATER			Sample ID	Trip Blank	----	----	----	----
			Sampling date / time	17-Feb-2023 15:30	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2306906-005	-------	-------	-------	-------
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	%	100	----	----	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	99.1	----	----	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	94.4	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 4890542)								
HK2306170-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.5	11.9	3.5
HK2306424-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	16.2	16.6	2.5
EA/ED: Physical and Aggregate Properties (QC Lot: 4890543)								
HK2306906-004	BH-20 10.0-10.5m	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.4	20.9	2.4
HK2306989-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	32.4	31.6	2.7
EG: Metals and Major Cations (QC Lot: 4884953)								
HK2306906-002	BH-20 9.0-9.5m	EG020: Mercury	7439-97-6	0.05	mg/kg	0.10	0.12	21.2
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	142	130	8.7
		EG020: Cobalt	7440-48-4	0.5	mg/kg	3.3	3.3	0.0
		EG020: Manganese	7439-96-5	0.5	mg/kg	54.1	52.8	2.6
		EG020: Tin	7440-31-5	0.5	mg/kg	6.7	6.5	3.3
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	11	9	14.9
		EG020: Copper	7440-50-8	1	mg/kg	8	10	14.8
		EG020: Lead	7439-92-1	1	mg/kg	57	68	17.7
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	7	7	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	140	142	1.8
EG: Metals and Major Cations (QC Lot: 4884963)								
HK2306906-002	BH-20 9.0-9.5m	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981)								
HK2306906-001	BH-20 8.0-8.5m	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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued								
HK2306906-001	BH-20 8.0-8.5m	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
		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: 4884981)								
HK2306906-001	BH-20 8.0-8.5m	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: 4884980)								
HK2306906-001	BH-20 8.0-8.5m	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: 4886153)								
HK2306134-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)								
HK2306134-001	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	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	Anonymous	Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.0

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154) - Continued								
HK2306134-001	Anonymous	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: 4886154)								
HK2306134-001	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: 4886154)								
HK2306134-001	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: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4884953)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	99.2	----	85.0	108	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	102	----	87.2	110	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	97.6	----	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	103	----	89.8	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	109	----	92.0	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	97.2	----	86.7	115	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	101	----	85.8	108	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	110	----	86.6	115	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	99.4	----	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	99.7	----	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: 4884963)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	107	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	95.4	----	78.0	116	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued											
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	99.4	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	97.7	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	95.3	----	77.0	117	----	----
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	94.2	----	78.0	121	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	101	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	99.0	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	98.1	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	93.3	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	95.0	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	91.7	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	109	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	98.8	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	94.3	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	102	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	104	----	60.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4884981)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	87.2	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	112	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	99.0	----	59.0	146	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4884980)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	83.4	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	75.0	----	50.0	96.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	105	----	79.0	120	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	79.0	120	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	119	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	105	----	78.0	121	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154) - Continued											
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	109	----	81.0	119	----	----
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	79.0	119	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	78.0	122	----	----
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	108	----	80.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	89.3	----	63.0	134	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	108	----	78.0	120	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	88.0	----	74.0	126	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	100	----	78.0	125	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	99.1	----	79.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	98.8	----	78.0	120	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	94.7	----	73.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886154)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	99.3	----	74.0	129	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4888955)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	110	----	79.0	125	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	119	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	108	----	80.0	119	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	110	----	76.0	121	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	106	----	78.0	120	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4888955) - Continued											
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	110	----	80.0	121	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	110	----	80.0	117	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.7	----	69.0	131	----	----
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	112	----	76.0	129	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4888955)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	95.6	----	77.0	125	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	104	----	80.0	121	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4888955)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	106	----	76.0	122	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	106	----	75.0	121	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4888955)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	121	----	----

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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations (QC Lot: 4884953)										
HK2306906-001	BH-20 8.0-8.5m	EG020: Antimony	7440-36-0	10 mg/kg	96.2	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	84.7	----	75.0	125	----	----
		EG020: Barium	7440-39-3	10 mg/kg	96.2	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.5 mg/kg	99.9	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	92.6	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	75.6	----	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	94.6	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	104	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	123	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	106	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4884963)										
HK2306906-004	BH-20 10.0-10.5m	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	98.8	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981)										
HK2306906-003	BH-20 9.5-10.0m	Naphthalene	91-20-3	250 µg/kg	82.9	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	88.5	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	79.7	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	80.7	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	80.1	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	79.9	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	85.7	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	84.3	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued										
HK2306906-003	BH-20 9.5-10.0m	Benz(a)anthracene	56-55-3	250 µg/kg	87.0	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	82.1	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	83.0	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	90.0	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	84.7	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	82.2	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	90.3	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	87.6	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4884981)										
HK2306906-003	BH-20 9.5-10.0m	Phenol	108-95-2	250 µg/kg	75.0	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	92.9	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	94.0	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4884980)										
HK2306906-002	BH-20 9.0-9.5m	C9 - C16 Fraction	----	31.5 mg/kg	76.8	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	71.9	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886153)										
HK2306134-002	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	107	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	106	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	111	----	50.0	130	----	----
		meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	104	----	50.0	130	----	----
		Styrene	100-42-5	0.25 mg/kg	107	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	106	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886154)										
HK2306134-003	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	98.0	----	50.0	130	----	----
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	92.1	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%) MS	Spike Recovery (%) MSD	Recovery Limits (%) Low	Recovery Limits (%) High	RPD (%) Value	RPD (%) Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886154)										
HK2306134-003	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	84.3	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	102	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	102	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886154)										
HK2306134-003	Anonymous	Chloroform	67-66-3	0.25 mg/kg	100	----	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: 4886154)										
HK2306134-003	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	97.2	----	50.0	130	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) 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**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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

Company Name:	PAN L.Y - CRTC JV
Client Contact Name:	PC/2019/10
E-mail:	
Phone:	95226451
Report Address:	

Part 2: Billing Information for Invoice (If different from Reporting Information)

Company Name:	
Client Contact Name:	
E-mail:	
Phone:	
Invoice Address:	

B 100664

ALS Technichem (HK) Pty Ltd

Part 3: Project & Sample Information

P.O. / Client Order No:	ALS Quotation No:
Project Name / ID:	
Site Name / ID:	
Service Request (Working Day):	Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)
Cooler Security Seal:	Sealed ☐ / Broken ☐ / Not Available ☑
Package:	Cooler box ☑ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐
Temperature Condition:	Chilled ☑ / Ambient ☐ / Frozen ☐ _____°C

Part 4: Test Required

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals	CrVI	VOCs	SVOCs	PCBs								Remarks
1	ENV-BH21 (8.0-8.5m)	S	18/2/23	15:00	1	✓	✓	✓	✓	✓								
2	ENV-BH21 (9.5-10.0m)	S	18/2/23	15:15	1	✓	✓	✓	✓	✓								
3.	ENV-BH21 (10.0-10.5m)	S	18/2/23	15:25	1	✓	✓	✓	✓	✓								
4.	Trip Blank.	W	18/2/23	15:40.	2			✓										

(✓) Tick the requested test

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:		Company Name:	Cinotech	Company Name:	ALS	Company Name:	ALS HK
Responsible Person:		Responsible Person:	Karma Chan	Responsible Person:	HuGo	Responsible Person:	Ketson Lam
Date & Time:		Date & Time:		Date & Time:	20 FEB 2023	Date & Time:	20 FEB 2023 17:45
Signature:		Signature:		Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
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1-3 wing Yip Street
Kwai Chung, N.T. Hong Kong
T +852 2610 1044 E +852 2610 2021

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QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR@	1	
Antimony			1	NR@	1	
Arsenic			1	NR@	10	
Barium			1	NR@	1	
Cadmium			0.2	NR@	0.2	
Cobalt			1	NR@	1	
Copper			1	NR@	1	
Manganese			1	NR@	1	
Molybdenum			1	NR@	1	
Nickel			1	NR@	1	
Tin			1	NR@	1	
Zinc			1	NR@	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR@	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR@	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium - Chromium VI

@ NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR@	2	
Benzo(a)pyrene			0.5	NR@	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR@	2	
Benzo(g,h,i)perylene			0.5	NR@	2	
Bis(2-Ethylhexyl)phthalate			5	NR@	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR@	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR@	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR@	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

@ NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

HOKLAS 066 TEST

CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2307012
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: JustinYu@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	: 20-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 01-Mar-2023
C-O-C number	: B100664			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.

Signatories	*Position*	*Authorised results for*
Anh Ngoc Huynh .	Senior Chemist	Organics_ENV, Kwai Tsing
Chan Siu Ming , Vico	Manager - Inorganics	Inorganics, Kwai Tsing
Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. 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 20-Feb-2023 to 01-Mar-2023.

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: HK2307012

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

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-BH21 (8.0-8.5m)	ENV-BH21 (9.5-10.0m)	ENV-BH21 (10.0-10.5m)	----	----
			Sampling date / time	18-Feb-2023 15:00	18-Feb-2023 15:15	18-Feb-2023 15:25	----	----
Compound	CAS Number	LOR	Unit	HK2307012-001	HK2307012-002	HK2307012-003	--------	--------
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.2	19.6	20.8	----	----
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	<1	2	<1	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	9	9	22	----	----
EG020: Barium	7440-39-3	1.0	mg/kg	118	82.0	24.2	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	----	----
EG020: Cobalt	7440-48-4	1.0	mg/kg	5.5	115	7.8	----	----
EG020: Copper	7440-50-8	1	mg/kg	14	602	10	----	----
EG020: Lead	7439-92-1	1	mg/kg	135	64	57	----	----
EG020: Manganese	7439-96-5	1.0	mg/kg	80.6	839	440	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	0.07	<0.05	<0.05	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	1	5	1	----	----
EG020: Nickel	7440-02-0	1	mg/kg	11	83	8	----	----
EG020: Tin	7440-31-5	1.0	mg/kg	5.8	37.4	3.3	----	----
EG020: Zinc	7440-66-6	1	mg/kg	112	157	140	----	----
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	21.5	24.2	32.8	----	----
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-BH21 (8.0-8.5m)	ENV-BH21 (9.5-10.0m)	ENV-BH21 (10.0-10.5m)	----	----
			Sampling date / time	18-Feb-2023 15:00	18-Feb-2023 15:15	18-Feb-2023 15:25	----	----
Compound	CAS Number	LOR	Unit	HK2307012-001	HK2307012-002	HK2307012-003	-------	-------
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	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	<1.0	----	----
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-BH21 (8.0-8.5m)	ENV-BH21 (9.5-10.0m)	ENV-BH21 (10.0-10.5m)	----	----
			Sampling date / time	18-Feb-2023 15:00	18-Feb-2023 15:15	18-Feb-2023 15:25	----	----
Compound	CAS Number	LOR	Unit	HK2307012-001	HK2307012-002	HK2307012-003	--------	--------
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	%	102	102	96.9	----	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	118	113	105	----	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.5	88.4	92.1	----	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	100	99.7	----	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.3	93.3	95.7	----	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.5	88.4	92.1	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	100	99.7	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.3	93.3	95.7	----	----

Sub-Matrix: WATER			Sample ID	Trip Blank	----	----	----	----
			Sampling date / time	18-Feb-2023 15:40	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2307012-004	-------	-------	-------	-------
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	%	**98.7**	----	----	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	**101**	----	----	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	**93.2**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 4890543)								
HK2306906-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	21.4	20.9	2.4
HK2306989-003	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	32.4	31.6	2.7
EG: Metals and Major Cations (QC Lot: 4884957)								
HK2306937-002	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	<0.2	<0.2	0.0
		EG020: Barium	7440-39-3	0.5	mg/kg	69.5	68.4	1.5
		EG020: Cobalt	7440-48-4	0.5	mg/kg	7.5	7.0	6.3
		EG020: Manganese	7439-96-5	0.5	mg/kg	391	373	4.8
		EG020: Tin	7440-31-5	0.5	mg/kg	5.0	5.0	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	4	4	0.0
		EG020: Copper	7440-50-8	1	mg/kg	24	28	15.5
		EG020: Lead	7439-92-1	1	mg/kg	39	34	12.9
		EG020: Molybdenum	7439-98-7	1	mg/kg	4	4	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	6	6	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	88	98	9.8
EG: Metals and Major Cations (QC Lot: 4884963)								
HK2306906-002	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: 4884981)								
HK2306906-001	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 sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued								
HK2306906-001	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: 4884981)								
HK2306906-001	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: 4884980)								
HK2306906-001	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: 4886161)								
HK2306354-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886162)								
HK2306354-001	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	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886162)								
HK2306354-001	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: 4886162)								
HK2306354-001	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: 4886162)								

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886162) - Continued								
HK2306354-001	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: 4886162)								
HK2306354-001	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: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4884957)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	91.0	----	85.0	108	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	101	----	87.2	110	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	88.5	----	85.0	110	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	98.5	----	85.0	113	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	10 mg/kg	101	----	89.8	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	10 mg/kg	105	----	92.0	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	91.4	----	86.7	115	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	93.9	----	85.8	108	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	98.8	----	86.6	115	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	95.2	----	85.2	113	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	103	----	90.6	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	90.8	----	85.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	101	----	90.9	115	----	----
EG: Metals and Major Cations (QC Lot: 4884963)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	107	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	95.4	----	78.0	116	----	----
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	99.4	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	97.7	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	95.3	----	77.0	117	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	94.2	----	78.0	121	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	101	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	99.0	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	98.1	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	93.3	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	95.0	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	91.7	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	109	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	98.8	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	94.3	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	102	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	104	----	60.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4884981)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	87.2	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	112	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	99.0	----	59.0	146	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4884980)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	83.4	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	75.0	----	50.0	96.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886161)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	109	----	79.0	120	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886162)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	109	----	79.0	120	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	79.0	119	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	104	----	78.0	121	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	110	----	81.0	119	----	----
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	102	----	79.0	119	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	78.0	122	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886162) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	109	----	80.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886162)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	93.4	----	63.0	134	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	106	----	78.0	120	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886162)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	92.0	----	74.0	126	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	103	----	78.0	125	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	104	----	79.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886162)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	104	----	78.0	120	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	103	----	73.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886162)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	101	----	74.0	129	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4888955)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	110	----	79.0	125	----	----
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	119	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	108	----	80.0	119	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	110	----	76.0	121	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	106	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	110	----	80.0	121	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	110	----	80.0	117	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.7	----	69.0	131	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4888955) - Continued											
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	112	----	76.0	129	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4888955)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	95.6	----	77.0	125	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	104	----	80.0	121	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4888955)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	106	----	76.0	122	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	106	----	75.0	121	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4888955)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	121	----	----

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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations (QC Lot: 4884957)										
HK2306937-001	Anonymous	EG020: Antimony	7440-36-0	10 mg/kg	92.6	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	102	----	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	95.9	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	97.2	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	105	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	107	----	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	105	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	103	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	100	----	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: 4884963)										
HK2306906-004	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	98.8	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981)										
HK2306906-003	Anonymous	Naphthalene	91-20-3	250 µg/kg	82.9	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	88.5	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	79.7	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	80.7	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	80.1	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	79.9	----	50.0	130	----	----
		Fluoranthene	206-44-0	250 µg/kg	85.7	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	84.3	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4884981) - Continued										
HK2306906-003	Anonymous	Benz(a)anthracene	56-55-3	250 µg/kg	87.0	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	82.1	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	83.0	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	90.0	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	84.7	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	82.2	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	90.3	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	87.6	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4884981)										
HK2306906-003	Anonymous	Phenol	108-95-2	250 µg/kg	75.0	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	92.9	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	94.0	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4884980)										
HK2306906-002	Anonymous	C9 - C16 Fraction	----	31.5 mg/kg	76.8	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	71.9	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4886161)										
HK2306354-002	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	109	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4886162)										
HK2306354-003	Anonymous	Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	111	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	105	----	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	95.9	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	107	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	107	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4886162)										
HK2306354-003	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	90.8	----	50.0	130	----	----
		2-Butanone (MEK)	78-93-3	2.5 mg/kg	99.6	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%) MS	Spike Recovery (%) MSD	Recovery Limits (%) Low	Recovery Limits (%) High	RPD (%) Value	RPD (%) Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4886162)										
HK2306354-003	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	81.2	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	98.8	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	95.0	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4886162)										
HK2306354-003	Anonymous	Chloroform	67-66-3	0.25 mg/kg	103	----	50.0	130	----	----
		Bromodichloromethane	75-27-4	0.25 mg/kg	107	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4886162)										
HK2306354-003	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	100	----	50.0	130	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) 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**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) 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

Company Name:	PAAL J-CRTC JV
Client Contact Name:	Justin Yu
E-mail:	Justinyu@pyengineering.com
Phone:	95226451
Report Address:	

Part 2: Billing Information for Invoice (If different from Reporting Information)

Company Name:	
Client Contact Name:	
E-mail:	
Phone:	
Invoice Address:	

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Part 3: Project & Sample Information

P.O. / Client Order No:	ALS Quotation No:
Project Name / ID:	
Site Name / ID:	
Service Request (Working Day):	Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)
Cooler Security Seal:	Sealed ☐ / Broken ☐ / Not Available ☑
Package:	Cooler box ☐ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐
Temperature Condition:	Chilled ☑ / Ambient ☐ / Frozen ☐ _____ °C

Part 4: Test Required

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals	Cr(VI)	VOCs	SVOCs	PCBs								Remarks
1.	ENV-BH21(9.5m-10m)-Duplicate.	S	18/2/23	15:15	1	✓	✓	✓	✓	✓								

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:		Company Name:	Chinotech	Company Name:		Company Name:	ALS HK
Responsible Person:		Responsible Person:	Karma Chan	Responsible Person:		Responsible Person:	Kelsey Lau
Date & Time:		Date & Time:		Date & Time:		Date & Time:	20 Feb. 2023 17:45
Signature:		Signature:		Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
11/F, Chung Shun Knitting Centre
1-3 wing Yip Street
Kwai Chung, N.T. Hong Kong
T +852 2610 1044 F +852 2610 2021

right solutions.
right partner.

QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR®	1	
Antimony			1	NR®	1	
Arsenic			1	NR®	10	
Barium			1	NR®	1	
Cadmium			0.2	NR®	0.2	
Cobalt			1	NR®	1	
Copper			1	NR®	1	
Manganese			1	NR®	1	
Molybdenum			1	NR®	1	
Nickel			1	NR®	1	
Tin			1	NR®	1	
Zinc			1	NR®	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR®	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR®	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium - Chromium VI

® NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR®	2	
Benzo(a)pyrene			0.5	NR®	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR®	2	
Benzo(g,h,i)perylene			0.5	NR®	2	
Bis(2-Ethylhexyl)phthalate			5	NR®	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR®	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR®	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR®	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

® NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

Sample Container Requirements

ALS provides pre-treated and labelled sample containers, for all analytical work to be conducted at the laboratory. Samples for analysis should be chilled whilst en route to the laboratory. **Please contact the laboratory for bottle arrangements.**

Sample Containers for: Soil Samples

Label Colour	Container Type (Preservation noted if required)	Test Parameter(s)
Orange	1 x 250mL Soil Glass Jar - Unpreserved	All testing

Sample Containers for: Groundwater Samples & QA/QC (Field blank/Equipment blank)

Label Colour	Container Type (Preservation noted if required)	Test Parameter(s)
Orange	1 x 500mL Amber Glass Bottle - Unpreserved	Polychlorinated Biphenyls (PCB), Semivolatile Organic Compounds, Total Petroleum Hydrocarbons (C9 - C35)
Blue	1 x 180mL Plastic Bottle - NaOH Preserved (pH>12)	Hexavalent Chromium
Red/Green	1 x 180mL Clear Plastic Bottle - Unpreserved	Heavy Metals
Maroon	2 x 40mL Amber Vial - HCl Acid Preserved (pH<2)	Total Petroleum Hydrocarbons (C6 - C8), Volatile Organic Compounds

Sample Containers for: Unknown Sample

Label Colour	Container Type (Preservation noted if required)	Test Parameter(s)
Orange	1 x 40mL Amber Vial - Unpreserved	Identification of LNAPL

Express Services

And we can offer express turnaround time services upon request, the additional charges as follows:

Express TAT Services	Price Schedule
5 Working days TAT express services	original prices +50%

** The express TAT services must be specially arranged and agreed by ALS in advance.

Sample Pick Up / Delivery Service

ALS provide sample Pick Up / delivery service at:	Price Per trip (HK$)
Yuen Long	

Normal Working Hour: Mon-Fri 9:00-13:00; 14:00-18:00; negotiable at the outside working hours.
Remark: At least 2 working days advance notification are required for each appointment.

Sampling Service

ALS provide sampling service:	Unit Price (HK$)
Provision of Decon 90 (5L) per drum	
Provision of Teflon Bailer per set	
Provision of technician to perform in situ Thickness of LNAPL on the top of groundwater in situ Temperature and pH value for groundwater (3 consecutive readings) and collecting the groundwater sample (Excluded Purging service)	
Identification of LNAPL	

Normal Working Hour: Mon-Fri 9:00-13:00; 14:00-18:00; negotiable at the outside working hours.
Remark: At least 2 working days advance notification are required for each appointment.

Specification

Sampling and Testing Plan for Laboratory Analysis

Concerned Facility / Area	No. of BH	Sample Matrix/ Depth	No. of Samples Required	Parameters to be Tested[1]				
				PCRs	VOCs	SVOCs	PCBs	Metals
Waste Storage Area	4	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only
SAS Thickener House (975m²)	8	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only
Wash Water Pumping Station (126m²)	4	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only
Transformer House 'A'	1	Soil	4	√	√	√	√	√
		GW	1	√	√	√	√	Mercury only
Maintenance and Workshop Area in Mechanical Workshop	3	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only
Workshops	4	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only
Screening Press House	2	Soil	4	√	√	√		√
		GW	1	√	√	√		Mercury only

[1] The testing parameters refer to the parameters as shown in Table 2.1 – RBRGs for Soil & Soil Saturation Limit and Table 2.2 – RBRGs for Groundwater and Solubility Limit
under VOCs, SVOCs (including PAHs), Metals, PCBs and PCRs in the Guidance Manual. For SVOCs, since the RBRG values 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
captioned parameters would not be tested in groundwater sample.

Specification (cont')

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 "Sampling and Testing Plan for Laboratory Analysis" for the proposed testing parameters and Laboratory Analysis Schedule for Soil/GW Samples for the laboratory analysis schedule.

Additional Charge

Additional charge will be applied for below items:	Unit Price (HK$)
Minimum charge per report (applies when the total testing fee per report is below this minimum charge)	
Amendment of report OR invoice requested by the client	
Additional certified true copy report	
Cancellation of Sample pick up on that schedule day per trip	
Cancellation of Sampling Service on that schedule day per trip	

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

HOKLAS 066 TEST

CERTIFICATE OF ANALYSIS

Client	: PAUL Y - CREC JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 13
Contact	: JUSTIN YU	Contact	: Richard Fung	Work Order	: HK2308527
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: JustinYu@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	: 20-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 14-Mar-2023
C-O-C number	: B100665			No. of samples received	: 1
Site	:			No. of samples analysed	: 1

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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.

Signatories	*Position*	*Authorised results for*
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 the same work order number. 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 20-Feb-2023 to 14-Mar-2023.

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: HK2308527

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

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-BH21 (9.5-10.0m) - Duplicate	----	----	----	----
			Sampling date / time	18-Feb-2023 15:15	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2308527-001	-------	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	19.6	----	----	----	----
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	1	----	----	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	10	----	----	----	----
EG020: Barium	7440-39-3	1.0	mg/kg	95.3	----	----	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	----	----	----	----
EG020: Cobalt	7440-48-4	1.0	mg/kg	114	----	----	----	----
EG020: Copper	7440-50-8	1	mg/kg	601	----	----	----	----
EG020: Lead	7439-92-1	1	mg/kg	40	----	----	----	----
EG020: Manganese	7439-96-5	1.0	mg/kg	822	----	----	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	----	----	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	5	----	----	----	----
EG020: Nickel	7440-02-0	1	mg/kg	94	----	----	----	----
EG020: Tin	7440-31-5	1.0	mg/kg	37.2	----	----	----	----
EG020: Zinc	7440-66-6	1	mg/kg	219	----	----	----	----
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	24.4	----	----	----	----
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	----	----	----	----

Sub-Matrix: SOIL			Sample ID	ENV-BH21 (9.5-10.0m) - Duplicate	----	----	----	----
			Sampling date / time	18-Feb-2023 15:15	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2308527-001	-------	-------	-------	-------
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued								
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	----	----	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	----	----	----	----
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	108-38-3 106-42-3	1.0	mg/kg	<1.0	----	----	----	----
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								

Sub-Matrix: SOIL			Sample ID	ENV-BH21 (9.5-10.0m) - Duplicate	----	----	----	----
			Sampling date / time	18-Feb-2023 15:15	----	----	----	----
Compound	CAS Number	LOR	Unit	HK2308527-001	-------	-------	-------	-------
EP-074_SR-E: Halogenated Aliphatics - Continued								
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)								
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	%	94.3	----	----	----	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	97.7	----	----	----	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.5	----	----	----	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	98.7	----	----	----	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	97.2	----	----	----	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.5	----	----	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	98.7	----	----	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	97.2	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EA/ED: Physical and Aggregate Properties (QC Lot: 4918873)								
HK2307961-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.8	13.0	1.0
HK2308815-011	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	26.3	26.6	1.1
EG: Metals and Major Cations (QC Lot: 4913297)								
HK2308815-009	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.0
EG: Metals and Major Cations (QC Lot: 4919468)								
HK2308815-009	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	65.1	64.2	1.5
		EG020: Cobalt	7440-48-4	0.5	mg/kg	22.9	28.0	19.7
		EG020: Manganese	7439-96-5	0.5	mg/kg	890	787	12.4
		EG020: Tin	7440-31-5	0.5	mg/kg	3.1	3.4	9.5
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	13	14	9.4
		EG020: Copper	7440-50-8	1	mg/kg	19	22	11.9
		EG020: Lead	7439-92-1	1	mg/kg	112	101	10.1
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	2	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	6	5	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	46	58	21.6
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255)								
HK2307959-001	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 sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255) - Continued								
HK2307959-001	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: 4911255)								
HK2307959-001	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: 4911254)								
HK2307959-001	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: 4911767)								
HK2307664-001	Anonymous	C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.0
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4911766)								
HK2307664-001	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	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.0
		Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4911766)								
HK2307664-001	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: 4911766)								
HK2307664-001	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: 4911766)								

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
				Laboratory Duplicate (DUP) Report				
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4911766) - Continued								
HK2307664-001	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: 4911766)								
HK2307664-001	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: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 4913297)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	101	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4919468)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	10 mg/kg	102	----	85.0	108	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	10 mg/kg	105	----	87.2	110	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	10 mg/kg	103	----	85.0	110	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5 mg/kg	105	----	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	114	----	92.0	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	10 mg/kg	103	----	86.7	115	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	10 mg/kg	99.5	----	85.8	108	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	108	----	86.6	115	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	10 mg/kg	112	----	85.2	113	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	10 mg/kg	108	----	90.6	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	10 mg/kg	106	----	85.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	10 mg/kg	107	----	90.9	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255)											
Naphthalene	91-20-3	50	µg/kg	<50	250 µg/kg	116	----	78.0	116	----	----
Acenaphthylene	208-96-8	50	µg/kg	<50	250 µg/kg	114	----	74.0	128	----	----
Acenaphthene	83-32-9	50	µg/kg	<50	250 µg/kg	109	----	78.0	117	----	----
Fluorene	86-73-7	50	µg/kg	<50	250 µg/kg	108	----	77.0	117	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255) - Continued											
Phenanthrene	85-01-8	50	µg/kg	<50	250 µg/kg	105	----	78.0	121	----	----
Anthracene	120-12-7	50	µg/kg	<50	250 µg/kg	110	----	77.0	114	----	----
Fluoranthene	206-44-0	50	µg/kg	<50	250 µg/kg	114	----	80.0	116	----	----
Pyrene	129-00-0	50	µg/kg	<50	250 µg/kg	112	----	79.0	114	----	----
Benz(a)anthracene	56-55-3	50	µg/kg	<50	250 µg/kg	114	----	79.0	117	----	----
Chrysene	218-01-9	50	µg/kg	<50	250 µg/kg	117	----	83.0	123	----	----
Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	250 µg/kg	88.3	----	70.0	123	----	----
Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	250 µg/kg	108	----	80.0	128	----	----
Benzo(a)pyrene	50-32-8	50	µg/kg	<50	250 µg/kg	88.4	----	68.0	127	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	250 µg/kg	78.5	----	52.0	118	----	----
Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	250 µg/kg	74.5	----	50.0	128	----	----
Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	250 µg/kg	76.4	----	60.0	123	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4911255)											
Phenol	108-95-2	500	µg/kg	<500	250 µg/kg	103	----	68.0	103	----	----
Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	250 µg/kg	116	----	75.0	127	----	----
Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	250 µg/kg	125	----	59.0	146	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4911254)											
C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	87.1	----	61.0	105	----	----
C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	66.3	----	50.0	96.0	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4911767)											
C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	107	----	79.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4911766)											
Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	92.8	----	79.0	120	----	----
Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	93.4	----	79.0	119	----	----
Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	90.4	----	78.0	121	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	93.5	----	81.0	119	----	----
Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	92.4	----	79.0	119	----	----
ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	92.0	----	78.0	122	----	----

Matrix: **SOIL**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4911766) - Continued											
Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	93.0	----	80.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4911766)											
2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	102	----	63.0	134	----	----
2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	96.0	----	78.0	120	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4911766)											
Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	87.3	----	74.0	126	----	----
Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	92.8	----	78.0	125	----	----
Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	89.9	----	79.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4911766)											
Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	91.7	----	78.0	120	----	----
Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	108	----	73.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4911766)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	95.9	----	74.0	129	----	----

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

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EG: Metals and Major Cations (QC Lot: 4913297)										
HK2308815-010	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	98.4	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 4919468)										
HK2308527-001	ENV-BH21 (9.5-10.0m) - Duplicate	EG020: Antimony	7440-36-0	10 mg/kg	100	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	10 mg/kg	93.1	----	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	106	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Copper	7440-50-8	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	10 mg/kg	122	----	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	97.5	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	10 mg/kg	102	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	10 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Tin	7440-31-5	10 mg/kg	80.7	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	10 mg/kg	# Not Determined	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255)										
HK2307962-001	Anonymous	Naphthalene	91-20-3	250 µg/kg	96.8	----	50.0	130	----	----
		Acenaphthylene	208-96-8	250 µg/kg	99.0	----	50.0	130	----	----
		Acenaphthene	83-32-9	250 µg/kg	92.3	----	50.0	130	----	----
		Fluorene	86-73-7	250 µg/kg	97.0	----	50.0	130	----	----
		Phenanthrene	85-01-8	250 µg/kg	85.0	----	50.0	130	----	----
		Anthracene	120-12-7	250 µg/kg	99.7	----	50.0	130	----	----

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4911255) - Continued										
HK2307962-001	Anonymous	Fluoranthene	206-44-0	250 µg/kg	93.5	----	50.0	130	----	----
		Pyrene	129-00-0	250 µg/kg	91.5	----	50.0	130	----	----
		Benz(a)anthracene	56-55-3	250 µg/kg	92.6	----	50.0	130	----	----
		Chrysene	218-01-9	250 µg/kg	97.6	----	50.0	130	----	----
		Benzo(b)fluoranthene	205-99-2	250 µg/kg	66.9	----	50.0	130	----	----
		Benzo(k)fluoranthene	207-08-9	250 µg/kg	85.3	----	50.0	130	----	----
		Benzo(a)pyrene	50-32-8	250 µg/kg	66.0	----	50.0	130	----	----
		Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	54.8	----	50.0	130	----	----
		Dibenz(a.h)anthracene	53-70-3	250 µg/kg	54.3	----	50.0	130	----	----
		Benzo(g.h.i)perylene	191-24-2	250 µg/kg	57.8	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4911255)										
HK2307962-001	Anonymous	Phenol	108-95-2	250 µg/kg	87.0	----	50.0	130	----	----
		Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	105	----	50.0	130	----	----
		Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	105	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4911254)										
HK2307961-001	Anonymous	C9 - C16 Fraction	----	31.5 mg/kg	71.3	----	50.0	130	----	----
		C17 - C35 Fraction	----	67.5 mg/kg	70.0	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4911767)										
HK2307664-003	Anonymous	C6 - C8 Fraction	----	4.5 mg/kg	102	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4911766)										
HK2307664-002	Anonymous	Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----
		Toluene	108-88-3	0.25 mg/kg	111	----	50.0	130	----	----
		Ethylbenzene	100-41-4	0.25 mg/kg	111	----	50.0	130	----	----
		meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	113	----	50.0	130	----	----
		Styrene	100-42-5	0.25 mg/kg	101	----	50.0	130	----	----
		ortho-Xylene	95-47-6	0.25 mg/kg	108	----	50.0	130	----	----
		Xylenes (Total)	----	0.75 mg/kg	111	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4911766)										

Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%): MS	Spike Recovery (%): MSD	Recovery Limits (%): Low	Recovery Limits (%): High	RPD (%): Value	RPD (%): Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4911766) - Continued										
HK2307664-002	Anonymous	2-Propanone (Acetone)	67-64-1	2.5 mg/kg	108	----	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: 4911766)										
HK2307664-002	Anonymous	Methylene chloride	75-09-2	0.25 mg/kg	93.0	----	50.0	130	----	----
		Trichloroethene	79-01-6	0.25 mg/kg	102	----	50.0	130	----	----
		Tetrachloroethene	127-18-4	0.25 mg/kg	98.8	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4911766)										
HK2307664-002	Anonymous	Chloroform	67-66-3	0.25 mg/kg	104	----	50.0	130	----	----
		Bromodichloromethane	75-27-4	0.25 mg/kg	101	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4911766)										
HK2307664-002	Anonymous	Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	98.2	----	50.0	130	----	----

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%): Low	Recovery Limits (%): 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

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

Part 1: Reporting Information

Company Name:	Paul Y CREC JV
Client Contact Name:	DC/2019/10
E-mail:	
Phone:	
Report Address:	

Part 2: Billing Information for Invoice (If different from Reporting Information)

Company Name:	
Client Contact Name:	
E-mail:	
Phone:	
Invoice Address:	

B 100721

ALS Technichem (HK) Pty Ltd

Part 3: Project & Sample Information

P.O. / Client Order No:	ALS Quotation No:
Project Name / ID:	
Site Name / ID:	YLZPP
Service Request (Working Day):	Regular ☑ / Express (5) ☐ / Double Express (3) ☐ Others ☐ (Pls specify date required _____)
Cooler Security Seal:	Sealed ☐ / Broken ☐ / Not Available ☑
Package:	Cooler box ☑ / Carton box ☐ / Plastic bag ☐ / Others:(_____) ☐
Temperature Condition:	Chilled ☑ / Ambient ☐ / Frozen ☐ _____ °C

Part 4: Test Required

For ALS HK Workorder label use

ALS ID	Sample ID / Sample Name (This description will be appeared on report)	Matrix	Sampling Date	Sampling Time	Total nos of Containers	Metals (mercury)	VOCs	SVOCs	PCBs									Remarks
1	B11-18	W	23 Feb 2023	11:53	~~3~~ 2	✓	✓	✓	✓									
2	B11-19	W	↓	12:03	↓	✓	✓	✓	✓									
3	B11-20	W		12:20		✓	✓	✓	✓									
4	B11-20D	W		12:20		✓	✓	✓	✓									
5	B11-21	W		12:33		✓	✓	✓	✓									
6	Equipment Blank	W		12:10		✓	✓	✓	✓									
7	Field Blank	W		12:15		✓	✓	✓	✓									
8	Trip Blank	W		16:00	2		✓											

Part 5: Handling Information

Sampling Conducted by:		Sampling Supervised by:		Samples Picked up & Delivered By:		Samples Received by:	
Company Name:	ALS	Company Name:	Cihotech Consultants	Company Name:		Company Name:	ALS
Responsible Person:	Chan Choong Shu	Responsible Person:	Karina Chan	Responsible Person:		Responsible Person:	[illegible]
Date & Time:	23-2-23	Date & Time:	23 Feb 2023	Date & Time:		Date & Time:	23/2/2023 17:15
Signature:		Signature:		Signature:		Signature:	

ALS Technichem (HK) Pty Ltd
11/F, Chung Shun Knitting Centre
1-3 wing Yip Street
Kwai Chung, N.T. Hong Kong
T +852 2610 1044 F +852 2610 2021

right solutions.
right partner.

QUOTATION OF ANALYSIS-ENVIRONMENTAL		Quotation No.: HKE/1186/2023	
ANGLE Code (Office use Only):		HK2023PAUCRE0001	
Company Name:	PAUL Y - CREC JOINT VENTURE		
Contact:	Mr Justin YU	Date:	08-February-2023
Email Address:	JustinYu@pyengineering.com	Mobile Phone Number:	+852 9522 6451
Phone Number:	---	Quote Validity:	31-December-2023
Client Code (Office Use Only):	PAUCRE	From:	Wina Chiu
Client Reference/Project Name:	Dc/2019/10 - Yuen Long Effluent Polishing Plant - Main Works For Stage 1		

Dear Client,

Thank you for your enquiry and providing ALSHK the opportunity to prepare our quotation for your upcoming projects and works. It is our commitment to provide reliable, timely and quality testing service to you and your team!

This quotation has been developed based on information provided. Please refer to all sections within this quotation to ensure that we have scoped your project correctly and do not hesitate to contact ALSHK for any clarification or inquiry.

Acceptance of this quotation is required within 60 days from date of issue.

Yours Sincerely,
for ALS Technichem (HK) Pty Ltd.

Wina Chiu
Senior Customer Service Coordinator
Environmental

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **7 working days** for testing performed in ALSHK.

Turnaround time might be affected by unforeseeable transportation delay, due to COVID. ALS HK will close monitor and inform client if committed turnaround time might be affected.

Electronic reports in PDF & Excel format will be emailed/faxed to client attention within the TAT shortly after results are checked and approved by the laboratory's HOKLAS approval signatories of the relevant testing. Hardcopy reports & invoices will be mailed to clients shortly after. Work orders received at the laboratory after 12pm are deemed received the following day for the calculation of turnaround times.

Note: Saturdays, Sundays and Public Holidays will not be considered as the working days.

Service Inclusions

The service offered by ALS will include the following additional items at no extra charge.

- Sample containers appropriately prepared, labelled and pre-dosed with preservatives.
- Cooler boxes to facilitate the "refrigeration" of samples en route to the laboratory. (We recommend the use of ice for chilling samples and ice bricks only for maintaining the temperature of samples that have already been chilled).
- On call access to ALS technical expertise.

Analytical Services & Charges:

RBRG: Land Contamination

Soil and Groundwater Samples

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
Metals						
Lead	EG020	USEPA 6020A	1	NR@	1	
Antimony			1	NR@	1	
Arsenic			1	NR@	10	
Barium			1	NR@	1	
Cadmium			0.2	NR@	0.2	
Cobalt			1	NR@	1	
Copper			1	NR@	1	
Manganese			1	NR@	1	
Molybdenum			1	NR@	1	
Nickel			1	NR@	1	
Tin			1	NR@	1	
Zinc			1	NR@	10	
Mercury			0.05	0.5	0.5	
Chromium III^	EG049	By Calculation	1	NR@	20	
Chromium VI	EG3060 in soil EG050 in water	USEPA3060 APHA 3500 Cr: D	1	NR@	20	
Volatile Organic Compounds (VOCs)						
Acetone	EP074_SR	USEPA 8260	50	500	500	
Benzene			0.2	5	5	
Bromodichloromethane			0.1	5	5	
2-Butanone			5	50	50	
Chloroform			0.04	5	5	
Ethylbenzene			0.5	5	5	
Methyl tert-Butyl Ether			0.5	5	5	
Methylene Chloride			0.5	50	50	
Styrene			0.5	5	5	
Tetrachloroethene			0.04	5	5	
Toluene			0.5	5	5	
Trichloroethene			0.1	5	5	
Xylenes (sum of meta & para, ortho)			2	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8	EP071HK_SR	USEPA 8015/8260	5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

^ Chromium III = Total Chromium - Chromium VI

@ NR = Not required

RBRG: Land Contamination (cont')

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR) Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	Unit price per Sample (HK$)
SVOCs (PAH)						
Acenaphthene	EP076HK	USEPA 8270	0.5	2	2	
Acenaphthylene			0.5	2	2	
Anthracene			0.5	2	2	
Benzo(a)anthracene			0.5	NR@	2	
Benzo(a)pyrene			0.5	NR@	2	
Benzo(b)fluoranthene			0.5	1	1	
Benzo(k)fluoranthene			0.5	NR@	2	
Benzo(g,h,i)perylene			0.5	NR@	2	
Bis(2-Ethylhexyl)phthalate			5	NR@	20	
Chrysene			0.5	1	1	
Dibenzo(a,h)anthracene			0.5	NR@	2	
Fluoranthene			0.5	2	2	
Fluorene			0.5	2	2	
Hexachlorobenzene			0.2	4	4	
Indeno(1,2,3-cd)pyrene			0.5	NR@	2	
Naphthalene			0.5	2	2	
Phenanthrene			0.5	2	2	
Phenol			0.5	NR@	2	
Pyrene			0.5	2	2	
Total PCBs	EP066	USEPA8270	0.1	1	1	

ALS Laboratory is HOKLAS accredited for ALL the methods as quoted, except ** Item.

@ NR = Not required

Testing Price Summary

Testing parameters	Package price per soil sample (HK$)	Package price per groundwater sample (HK$)	Field blank per sample (HK$)	Equipment blank per sample (HK$)	Trip blank per sample (HK$)
PCRs, VOCs, SVOCs, PCBs, Metals (Full list)					
PCRs, VOCs, SVOCs, PCBs, Metals (Mercury only)					
PCRs, VOCs, SVOCs, Metals (Full list)					
PCRs, VOCs, SVOCs, Metals (Mercury only)					
Trip blank (VOCs)					

QA/QC samples (Equipment Blank, Field Blank, Trip Blank and Duplicate) are excluded in the quoted price and will be charged as samples.

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

HOKLAS 066 TEST

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	: HK2307497
Address	: 11/F, PAUL.Y CENTRE, 51 HUNG TO ROAD, KWUN TONG, KL	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: JustinYu@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	: 23-Feb-2023
Order number	: ----	Quote number	: HKE/1186/2023	Issue Date	: 06-Mar-2023
C-O-C number	: ----			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.

Signatories	*Position*	*Authorised results for*
Anh Ngoc Huynh .	Senior Chemist	Organics_ENV, Kwai Tsing
Wong Wing , Kenneth	Assistant Manager - Environmental	Metals_ENV, Kwai Tsing

General Comments

This report supersedes any previous report(s) with the same work order number. 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 23-Feb-2023 to 06-Mar-2023.

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: HK2307497

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 sample(s) is/are reported on as received basis, unless otherwise specified.

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

EP070HK_SR is the numeric code for internal use. Test method for C6-C9 Fraction of TPH is EP071HK_SR.

Analytical Results

Sub-Matrix: **WATER**

			Sample ID	BH-18	BH-19	BH-20	BH-20D	BH-21
			Sampling date / time	23-Feb-2023 11:53	23-Feb-2023 12:03	23-Feb-2023 12:20	23-Feb-2023 12:20	23-Feb-2023 12:33
Compound	CAS Number	LOR	Unit	HK2307497-001	HK2307497-002	HK2307497-003	HK2307497-004	HK2307497-005
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
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)								
EP076HK: Naphthalene	91-20-3	2.0	µg/L	**4.9**	**3.9**	**4.1**	**6.1**	**2.7**
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<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
EP076HK: Fluorene	86-73-7	2.0	µg/L	<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
EP076HK: Anthracene	120-12-7	2.0	µg/L	<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
EP076HK: Pyrene	129-00-0	2.0	µg/L	<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
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<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
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	**60**	**60**	**70**	**70**	**50**
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	**4500**	**5200**	**5600**	**6100**	**8800**
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	**1700**	**2000**	**2400**	**2400**	**3900**
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
EP074_SR: Toluene	108-88-3	5.0	µg/L	**52.0**	**39.2**	**50.4**	**50.0**	**37.4**
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<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
EP074_SR: Styrene	100-42-5	5.0	µg/L	**9.9**	**9.2**	**9.8**	**9.9**	**9.3**
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	**5.8**	<5.0	**5.2**	**5.2**	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	<20	<20	<20
EP-074_SR-B: Oxygenated Compounds								
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	<500	<500	<500

Sub-Matrix: WATER			Sample ID	BH-18	BH-19	BH-20	BH-20D	BH-21
			Sampling date / time	23-Feb-2023 11:53	23-Feb-2023 12:03	23-Feb-2023 12:20	23-Feb-2023 12:20	23-Feb-2023 12:33
Compound	CAS Number	LOR	Unit	HK2307497-001	HK2307497-002	HK2307497-003	HK2307497-004	HK2307497-005
EP-074_SR-B: Oxygenated Compounds - Continued								
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	152	196	182	176	224
EP-074_SR-E: Halogenated Aliphatics								
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<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
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<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
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<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
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates								
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	77.0	97.9	68.7	81.3	101
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	128	129	129	122	127
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.9	95.6	95.9	97.0	95.7
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	99.1	98.0	99.4	98.7	98.5
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	99.1	101	101	102	102
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.9	95.6	95.9	97.0	95.7
EP074_SR: Toluene-D8	2037-26-5	0.1	%	99.1	98.0	99.4	98.7	98.5
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	99.1	101	101	102	102

Sub-Matrix: WATER			Sample ID	Equipment Blank	Field Blank	Trip Blank	----	----
			Sampling date / time	23-Feb-2023 12:10	23-Feb-2023 12:15	23-Feb-2023 16:00	----	----
Compound	CAS Number	LOR	Unit	HK2307497-006	HK2307497-007	HK2307497-008	--------	--------
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	108-38-3 106-42-3	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	----	----

Sub-Matrix: WATER			Sample ID	Equipment Blank	Field Blank	Trip Blank	----	----
			Sampling date / time	23-Feb-2023 12:10	23-Feb-2023 12:15	23-Feb-2023 16:00	----	----
Compound	CAS Number	LOR	Unit	HK2307497-006	HK2307497-007	HK2307497-008	--------	--------
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	%	51.3	91.0	----	----	----
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	78.8	118	----	----	----
EP-080_SRS: TPH(Volatile)/BTEX Surrogate								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	99.7	98.9	----	----	----
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	97.2	99.1	----	----	----
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	103	104	----	----	----
EP-074_SR-S: VOC Surrogates								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	99.7	98.9	97.3	----	----
EP074_SR: Toluene-D8	2037-26-5	0.1	%	97.2	99.1	99.6	----	----
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	103	104	102	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 4893499)								
HK2307497-002	BH-19	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: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4893499)											
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	108	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 4905150)											
Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	70.1	----	60.0	117	----	----
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	71.5	----	67.0	119	----	----
Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	68.6	----	67.0	113	----	----
Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	74.2	----	67.0	111	----	----
Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	76.5	----	63.0	118	----	----
Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	69.5	----	68.0	114	----	----
Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	84.8	----	75.0	114	----	----
Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	84.8	----	74.0	113	----	----
Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	84.2	----	73.0	120	----	----
Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	81.8	----	62.0	122	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 4905150)											
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	66.9	----	66.0	123	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4896719)											
C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	92.3	----	80.0	118	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 4905151)											
C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	68.2	----	54.0	122	----	----
C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	71.9	----	54.0	113	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4896718)											
Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	95.8	----	79.0	125	----	----

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report: Spike Concentration	Spike Recovery (%) LCS	DCS	Recovery Limits(%) Low	High	RPD (%) Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 4896718) - Continued											
Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	95.3	----	81.0	119	----	----
Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	95.3	----	80.0	119	----	----
meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	90.5	----	76.0	121	----	----
Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	93.1	----	78.0	120	----	----
ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	94.8	----	80.0	121	----	----
Xylenes (Total)	----	2	µg/L	<2	6 µg/L	91.9	----	80.0	117	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 4896718)											
2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	88.6	----	69.0	131	----	----
2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	93.2	----	76.0	129	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 4896718)											
Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	93.1	----	77.0	125	----	----
Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	96.4	----	80.0	121	----	----
Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	99.3	----	80.0	119	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 4896718)											
Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	91.9	----	76.0	122	----	----
Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	92.0	----	75.0	121	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 4896718)											
Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	93.7	----	78.0	121	----	----

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

Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report: Spike Concentration	Spike Recovery (%) MS	MSD	Recovery Limits (%) Low	High	RPD (%) Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 4893499)										
HK2307497-001	BH-18	EG020: Mercury	7439-97-6	2 µg/L	90.7	----	75.0	125	----	----

Surrogate Control Limits

Sub-Matrix: WATER

Compound	CAS Number	Recovery Limits (%) 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