



Castle Peak Power Company Limited

Land Contamination Assessment for West Coal Stockyard Modification Work in Castle Peak Power Station

Contamination Assessment Report

3 March 2021

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Contamination Assessment Report



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Acronyms and Abbreviations

<u>Name</u>	<u>Description</u>
CAPCO	Castle Peak Power Company Ltd
CAP	Contamination Assessment Plan
CAR	Contamination Assessment Report
CPPS	Castle Peak Power Station
DEP	Director of Environmental Protection
DG	Dangerous Goods
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance
EPD	Environmental Protection Department
GI	Ground Investigation
m bgl	metres below ground level
mPD	metres above the Hong Kong Principal Datum
PCR	Petroleum Carbon Range
RBRGs	Risk Based Remediation Goals
SI	Site Investigation
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
WPCO	Water Pollution Control Ordinance
WDO	Waste Disposal Ordinance

1. INTRODUCTION

1.1 Background

1.1.1 Project History

The Castle Peak Power Company Ltd (CAPCO) currently uses the West Ash Lagoons at Tsang Tsui for disposal of surplus ashes, which consist mainly of raw Pulverised Fuel Ash (PFA), rejected PFA and Furnace Bottom Ash (FBA) generated from the Castle Peak Power Station (CPPS); and storage of process water/ stormwater runoff arising from the CPPS. Hong Kong SAR Government plans to use the West Ash Lagoon for the WENT Landfill Extension which will impact on the daily operations of CPPS, especially on ash and stormwater management. CAPCO therefore plans to implement an enhanced ash utilisation and water management scheme at the CPPS to ensure the effective operation of the CPPS. CPPS is an exempted Designated Project under Section 9(2)(g) of the Environmental Impact Assessment Ordinance (EIAO). The proposed new ash management facilities are classified as a Designated Project (DP) under Item G.6, Part I, Schedule 2 – A waste disposal facility for pulverised fuel ash, furnace bottom ash or gypsum. Therefore the implementation of the enhancement scheme will require an EP under the EIAO.

A design scheme was put forward in 2012 to enhance ash utilisation and water management facilities at the CPPS before handing over of the West Ash Lagoon to the Government. Pursuant to the EIAO, a Project Profile was submitted to apply directly for an EP. An EP (EP-441/2012) was issued to CAPCO by the Director of Environmental Protection (DEP) on 23 July 2012.

In 2017, CAPCO revised the design and developed a new scheme (hereinafter referred as ‘the 2017 scheme’). To facilitate the changes, an Environmental Review Report (ERR) was submitted to DEP to apply for Variation of Environmental Permit (VEP). The revised EP (No: EP-441/2012/A) was issued by DEP on 29 June 2018.

As part of the ERR, a Contamination Assessment Plan (hereinafter referred as “ERR-CAP”) was prepared and accepted by Environmental Protection Department (EPD) in March 2018. The ERR-CAP identified four (4) Works Areas with potential land contamination sources

- Works Area A: Contractor Village;
- Works Area B: South of Lagoon No.1;
- Works Area C: West Coal Stockyard and;
- Works Area D: Existing Silos A1 and A2 along Sea Bank Road West.

In the ERR-CAP, a review of a Preliminary Land Contamination Assessment (PLCA) during the period between August 2016 and October 2017 in accordance with EPD’s RBRGs Practice Guide and Guidance Note was conducted. The Site Investigation (SI) for PLCA was undertaken at three (3) locations, i.e. TP1, AEBH1 and AEBH2 in Works Areas A, B and D respectively. All soil and groundwater samples collected indicated no exceedance in RBRGs for industrial land uses. For Works Area C, the SI for 19 boreholes proposed within the West Coal Stockyard (hereinafter referred as “WCS” or “the Site”) were put on-hold as the site was still occurred by the coal stockpile. This SI was therefore scheduled to be conducted after the clearance of coal stockpile.

The proposed SI arrangement for the 19 boreholes within the WCS were accepted by EPD in the revised EP. According to the *Section 2 Specific Conditions* of the revised EP (No: EP-441/2012/A), CAPCO shall submit an updated CAP and a Contamination Assessment Report (CAR) at least one month before the partial decommissioning works of WCS.

1.1.2 Land Contamination Assessment under revised EP (No.EP-441/2012/A)

ERM-Hong Kong, Limited (ERM) was commissioned by CAPCO as the Land Contamination Specialist to conduct a Land Contamination Assessment for the WCS in CPPS prior to the partial decommissioning of the WCS (hereafter referred to as “the Project”) in accordance with the *Section 2 Specific Conditions* of the revised EP (No: EP-441/2012/A). (see *Figure 1*).

With an aim to provide more recent data and verify the ground condition at the Project Site, a Pilot Land Contamination Assessment for WCS (2020 PLCA-WCS), as part of the Land Contamination Assessment, was completed at three (3) proposed sampling locations, i.e. AEBH4, AEBH10 and AEBH18, between 3 and 18 June 2020. In addition, the site conditions at WCS between 2018 and 2020 were reviewed to determine the appropriate sampling strategy before further SI. The results of 2020 PLCA-WCS and the updated sampling strategy were presented in the Updated CAP for submission to EPD. The Updated CAP was agreed by EPD on 16 November 2020.

After clearance of coal at WCS in early November 2020, the remaining 16 proposed sampling locations were available for subsequent SI and soil and groundwater sampling. SI was completed between 20 November and 18 December 2020 under the supervision of ERM to collect soil and groundwater samples for laboratory analysis in accordance with the agreed Updated CAP.

1.2 Purpose of this CAR

The SI for 2020 PLCA-WCS was conducted between 3 and 18 June 2020 and the SI for the remaining 16 proposed sampling locations was conducted between 20 November and 18 December 2020 to collect soil and groundwater samples for laboratory analysis in accordance with the agreed Updated CAP. This Contamination Assessment Report (CAR) is prepared to present the details of the SI works and results of the laboratory analysis.

1.3 Structure of this CAR

This section introduces the background of this Project, while subsequent sections are structured according to the assessment methodology for contaminated sites.

- *Section 2* outlines the statutory requirements and the evaluation criteria for land contamination assessment;
- *Section 3* presents the details of SI;
- *Section 4* presents and interprets the laboratory analytical results;
- *Section 5* outlines the conclusions of this CAR.

This CAR is also supplemented by the following annexes:

<i>Annex A</i>	<i>Selected Site Photographs</i>
<i>Annex B</i>	<i>Ground Investigation Record</i>
<i>Annex C</i>	<i>Schematic Drawing of Groundwater Monitoring Well</i>
<i>Annex D</i>	<i>Risk-Based Remediation Goals</i>
<i>Annex E</i>	<i>Summary of Laboratory Analytical Results</i>
<i>Annex F</i>	<i>Laboratory Testing Reports and Chain of Custody</i>

2. STATUTORY REQUIREMENTS AND EVALUATION CRITERIA

2.1 Statutory Framework

The following key guiding documents are referenced for land contamination assessment:

- Guidance Note for Contaminated Land Assessment and Remediation (the RBRGs Guidance Note);
- Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (the RBRGs Guidance Manual); and
- Practice Guide for Investigation and Remediation of Contaminated Land (the Practice Guide).

The following legislation, documents and guidelines may cover or have some bearing upon the assessment of contamination and the handling, treatment and disposal of contaminated materials for this Project:

- *Water Pollution Control Ordinance (WPCO) (Cap 358);*
- *Waste Disposal Ordinance (WDO) (Cap 354);*
- *Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C); and*
- *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.*

3. SITE INVESTIGATION

The SI for three (3) selected sampling locations, i.e. AEBH4, AEBH10 and AEBH18, of 2020 PLCA-WCS was conducted by Intrafor HK Limited (hereinafter referred to as “Intrafor”) between 3 and 18 June 2020. Soil and groundwater sampling were supervised by a land contamination specialist from ERM. Since the SI conducted at during the 2020 PLCA-WCS was carried out in accordance with the approved Updated CAP approved under EP-441/2012/A and EPD’s RBRGs Guidance Note and Practice Guide, their sampling method and data are considered valid and representative for the land contamination assessment of this Project as per the agreed Updated CAP.

The SI for the remaining 16 sampling locations, i.e. AEBH3, AEBH5, AEBH6, AEBH7, AEBH8, AEBH9, AEBH11, AEBH12, AEBH13, AEBH14, AEBH15, AEBH16, AEBH17, AEBH19, AEBH20 and AEBH21, was conducted by Gammon Construction Limited (hereinafter referred to as “Gammon”) between 19 November and 18 December 2020 under supervision by land contamination specialist from ERM.

3.1 Sampling Strategy and Locations

Borehole drilling was carried out at nineteen (19) sampling locations, namely AEBH3, AEBH4, AEBH5, AEBH6, AEBH7, AEBH8, AEBH9, AEBH10, AEBH11, AEBH12, AEBH13, AEBH14, AEBH15, AEBH16, AEBH17, AEBH18, AEBH19, AEBH20, AEBH21, as per the agreed Updated CAP. Due to the uneven site surface conditions, their final locations were further reviewed and adjusted onsite based on the suitability for drill rig placement. The as-built sampling locations are shown in *Figure 2*.

3.1.1 Soil and Groundwater Samples

A total of twenty-two (22) soil samples (including two (2) duplicate samples) and twenty (20) groundwater samples (including one (1) duplicate sample) were collected for laboratory analysis. No visual or olfactory sign of contamination (e.g. discoloration of soil, foul odour) was observed from the soil samples during the SI. No signs of oil sheen or oily residual were noted from the groundwater samples collected. The details of the soil and groundwater sampling are summarised in *Table 3.1*.

Table 3.1 As-built Sampling and Analysis Plan

Sampling Location	As-built Coordinates ^(a)	Drilling Depth (m bgl)	Sampling Date	Soil Sampling Depths (m bgl) ^(b)	No. of Soil Samples collected	No. of Groundwater Samples collected
AEBH3	E: 809484.61 N: 826508.10	6.00	Soil Sampling: 2 Dec to 7 Dec 2020 Groundwater Sampling: 18 Dec 2020	0.5, 3.0	2	1
AEBH4 ^(c)	E: 809500.73 N: 826478.59	7.10	Soil Sampling: 3 Jun to 4 Jun 2020 Groundwater Sampling: 18 Jun 2020	0.5, 3.6 ^(d) , 6.0	3	1

Sampling Location	As-built Coordinates ^(a)	Drilling Depth (m bgl)	Sampling Date	Soil Sampling Depths (m bgl) ^(b)	No. of Soil Samples collected	No. of Groundwater Samples collected
AEBH5	E: 809519.06 N: 826447.25	6.00	Soil Sampling: 2 Dec 2020 Groundwater Sampling: 18 Dec 2020	0.5 ^(e)	2	1
AEBH6	E: 809457.63 N: 826493.25	6.00	Groundwater Sampling: 18 Dec 2020	-	0	1
AEBH7	E: 809475.55 N: 826462.74	6.00	Groundwater Sampling: 18 Dec 2020	-	0	1
AEBH8	E: 809493.44 N: 826432.42	6.00	Soil Sampling: 2 Dec 2020 Groundwater Sampling: 18 Dec 2020	0.5	1	1
AEBH9	E: 809437.49 N: 826472.29	6.00	Soil Sampling: 2 Dec 2020 Groundwater Sampling: 11 Dec 2020	0.5	1	1
AEBH10 ^(c)	E: 809460.03 N: 826451.08	7.00	Soil Sampling: 15 Jun 2020 Groundwater Sampling: 18 Jun 2020	0.5	1	1
AEBH11	E: 809469.19 N: 826418.73	6.00	Groundwater Sampling: 18 Dec 2020	-	0	1
AEBH12	E: 809419.44 N: 826449.15	6.00	Soil Sampling: 20 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5	1	1
AEBH13	E: 809432.42 N: 826425.45	6.00	Groundwater Sampling: 11 Dec 2020	-	0	1
AEBH14	E: 809445.44 N: 826404.40	6.00	Groundwater Sampling: 11 Dec 2020	-	0	1

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Sampling Location	As-built Coordinates ^(a)	Drilling Depth (m bgl)	Sampling Date	Soil Sampling Depths (m bgl) ^(b)	No. of Soil Samples collected	No. of Groundwater Samples collected
AEBH15	E: 809401.26 N: 826424.66	6.00	Soil Sampling: 20 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5	1	1
AEBH16	E: 809421.01 N: 826390.98	6.00	Soil Sampling: 20 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5	1	1
AEBH17	E: 809381.84 N: 826400.46	6.00	Soil Sampling: 20 Nov to 26 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5, 1.5	2	1
AEBH18 ^(c)	E: 809407.07 N: 826392.66	7.11	Soil Sampling: 9 Jun 2020 Groundwater Sampling: 18 Jun 2020	0.5, 1.5 ^(e)	3	2 ^(f)
AEBH19	E: 809360.09 N: 826372.80	6.00	Soil Sampling: 20 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5	1	1
AEBH20	E: 809367.62 N: 826359.22	6.00	Soil Sampling: 20 Nov to 23 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.5, 1.5	2	1
AEBH21	E: 809335.37 N: 826347.28	6.00	Soil Sampling: 20 Nov 2020 Groundwater Sampling: 11 Dec 2020	0.4 ^(d)	1	1
Total number of soil / groundwater samples collected					22	20

Sampling Location	As-built Coordinates ^(a)	Drilling Depth (m bgl)	Sampling Date	Soil Sampling Depths (m bgl) ^(b)	No. of Soil Samples collected	No. of Groundwater Samples collected
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Notes:

- (a) m bgl denotes meters below ground level.
- (b) Due to the rocks/ boulders encountered during SI, no soil samples were retrieved at AEBH3 1.5m, AEBH4 1.5m and 3.0m, AEBH5 1.5m and 3.0m, AEBH6 0.5m, 1.5m and 3.0m, AEBH7 0.5m, 1.5m and 3.0m, AEBH8 1.5m and 3.0m, AEBH9 1.5m and 3.0m, AEBH10 1.5m, 3.0m and 6.0m, AEBH11 0.5m, 1.5m and 3.0m, AEBH12 1.5m and 3.0m, AEBH13 0.5m, 1.5m and 3.0m, AEBH14 0.5m, 1.5m and 3.0m, AEBH15 1.5m and 3.0m, AEBH16 1.5m and 3.0m, AEBH17 3.0m, AEBH18 3.0m and 6.0m, AEBH19 1.5m and 3.0m, AEBH20 3.0m, AEBH21 0.5m, 1.5m and 3.0m. Photos of the drill cores retrieved by Gammon are provided in Annex B.
- (c) Soil and groundwater sampling at AEBH4, AEBH10 and AEBH18 were conducted in 2020 PLCA-WCS.
- (d) Exact sampling depth is adjusted from the proposed sampling depths in the CAP. This is due to the presence of boulders/ rock at the proposed sampling depths as advised by drilling contractor and onsite land contamination specialist.
- (e) Soil duplicate sample was collected.
- (f) Groundwater duplicate sample was collected.

3.2 Soil Sampling Methodology

For safety reasons, underground utility clearance was conducted at each of the sampling locations before drilling. Inspection pits were excavated manually as far as practicable. Due to hard materials encountered during the inspection pits excavation, the depth of inspection pits were limited to 0.5m bgl. Drilling was then advanced continuously from bottom of inspection pits by dry rotary drilling method. One (1) rotary drilling rig was mobilised for the sampling exercise. Soil sub-samples, if any, were retrieved at approximately 1m intervals for inspection for geological characteristics and for visual inspection for potential contamination (such as visual evidence of discoloration, stains, presence of non-aqueous liquid phase or abnormal odor). No visual or olfactory sign of contamination (e.g. discoloration of soil, foul odour) was observed at the boreholes during the SI. No additional soil samples were collected for further laboratory analysis. Selected photographs taken during the SI are presented in *Annex A*.

Three (3) boreholes (AEBH4, AEBH10, AEBH18) and sixteen (16) boreholes (AEBH3, AEBH5, AEBH6, AEBH7, AEBH8, AEBH9, AEBH11, AEBH12, AEBH13, AEBH14, AEBH15, AEBH16, AEBH17, AEBH19, AEBH20 and AEBH21) were advanced down to termination depths between 6.0m bgl and 7.11m bgl (for actual drilling details of each borehole please refer to *Annex B*). Soil sampling was conducted by ERM land contamination specialist on site. In case of no soil samples were encountered at proposed sampling depths, alternative sampling depths were explored in order to retrieve soil samples for testing, i.e. AEBH21-0.4m was collected instead of AEBH21-0.5m because of presence of boulders. The majority of the proposed sampling locations below 0.5m bgl were mostly rocks and boulders with no presence of soil. Photos of the drill cores retrieved by Gammon are provided in *Annex B*.

Strata logging for boreholes was undertaken by a qualified geologist. The logs include the general stratigraphic description, depth of soil sampling, sample notation and level of groundwater. The presence of rocks/boulders /cobbles and foreign materials such as metals, wood and plastics (if any) was also recorded. Intrafor and Gammon conducted the level survey of each borehole, including as-built coordinate of sampling locations, and ground level of boreholes (mPD). Ground investigation logs are provided in *Annex B*.

3.3 Groundwater Sampling Methodology

As groundwater was encountered at all nineteen (19) boreholes, groundwater monitoring wells were installed at all nineteen (19) boreholes after the completion of drilling works. The boreholes were converted into groundwater monitoring wells using uPVC perforated piping with a machine slotted section (1mm or less slot aperture). The well screens were installed at a minimum of 1m above and 2m below the groundwater level. Well caps were secured to prevent contamination from the surface by filling bentonite and cement to the top of the void. A schematic design of a groundwater monitoring well is shown in *Annex C*.

Prior to the groundwater sampling, the monitoring wells were developed by bailing at least five times the well volume to remove standing water and allow for replenishment. The wells were allowed to stand for a day to permit groundwater conditions to stabilise. The static groundwater levels were measured with an electronic groundwater level indicator in each well. The details of the groundwater wells installed and groundwater levels recorded are provided in *Table 3.2*.

Table 3.2 Details of Groundwater Wells and Static Groundwater Levels

GW Wells	Well Depth (m bgl) ^(a)	Static GW Level (m bgl) ^(a)	Reference Ground Level Elevation (mPD) ^(b)	Reference GW Elevation (mPD) ^(c)
AEBH3	6.00	3.45	+6.75	+3.30
AEBH4	7.10	1.80	+5.40	+3.60

GW Wells	Well Depth (m bgl ^(a))	Static GW Level (m bgl ^(a))	Reference Ground Level Elevation (mPD ^(b))	Reference GW Elevation (mPD) ^(c)
AEBH5	6.00	3.77	+5.79	+2.02
AEBH6	6.00	3.72	+5.87	+2.15
AEBH7	6.00	3.62	+5.88	+2.26
AEBH8	6.00	4.05	+5.52	+1.47
AEBH9	6.00	4.48	+5.16	+0.68
AEBH10	7.00	4.30	+4.50	+0.20
AEBH11	6.00	4.02	+4.86	+0.84
AEBH12	6.00	4.44	+5.77	+1.33
AEBH13	6.00	4.37	+5.99	+1.62
AEBH14	6.00	4.51	+6.10	+1.59
AEBH15	6.00	4.47	+5.59	+1.12
AEBH16	6.00	4.35	+6.26	+1.91
AEBH17	6.00	4.16	+5.36	+1.20
AEBH18	7.11	2.01	+5.01	+3.00
AEBH19	6.00	4.30	+5.37	+1.07
AEBH20	6.00	4.34	+5.77	+1.43
AEBH21	6.00	4.52	+5.13	+0.61

Notes:

- (a) m bgl denotes meter below ground level.
- (b) mPD denotes meters above Hong Kong Principal Datum.
- (c) The reference groundwater elevation was estimated using the formula: GW elevation = Reference Ground level Elevation – Static GW level.

3.4 Decontamination of Equipment

Sampling equipment used during the course of the SI was thoroughly decontaminated, to minimize the potential of cross-contamination. All equipment was decontaminated using a non-phosphate soap solution and distilled water.

3.5 Quality Control/Quality Assurance

3.5.1 Sample Preservation and Delivery

ERM supervised the soil and groundwater sampling to meet the requirements of the project QA/QC and the decontamination procedures. All soil and groundwater samples (including QA/QC samples) were kept in a refrigerator at 4°C for delivery. The samples were delivered on ice with Chain of Custody to a courier and arrived at the laboratory within the sample holding time. Samples were delivered to the contracted Hong Kong Laboratory Accreditation Scheme (HOKLAS) accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), for chemical analysis.

The Chain of Custody for the samples was maintained from the time of sample collection to sample arrival at the testing laboratory. The written record of sample handling is intended to ensure prompt sample analysis and integrity. The Chain of Custody records are provided in *Annex F*.

3.5.2 Field QA/QC

The field QA/QC samples included two (2) soil duplicates, one (1) groundwater duplicate, two (2) equipment blanks, two (2) field blanks and twelve (12) trip blanks.

The soil and groundwater duplicates were analyzed for the same suite of parameters as the original sample. The relative percentage difference (RPD) was used to assess the sample collection and laboratory analysis reproducibility and precision. In accordance with the USEPA guideline, RPDs were

only calculated for the duplicate sample results that were higher than two times of the method detection limits. The USEPA acceptable limits for the RPDs are less than 50% for a soil sample and 30% for a groundwater sample.

The RPDs calculated for the soil duplicate collected from AEBH5 0.5m is 63.6% for Barium and 73.7% for Copper. Although the RPDs value were higher than 50%, the detected metal concentrations of the duplicate samples were all below RBRGs standards of Industrial land use. In addition, prior to each sampling event, the sampling equipment in contact with all soil samples were decontaminated thoroughly. No signs of cross contamination were observed. Therefore, it is believed that the elevated levels of Barium and Copper detected in the duplicate samples were not anthropogenic activities resulting from industrial contamination. Details of the RPDs calculation are provided in *Annex E3*.

All the parameters in groundwater duplicate are below the method detection limits, therefore no RPD is required.

Rinsate equipment blank was taken after decontamination procedures had been followed and no evidence of cross contamination was found. De-ionized water was poured onto decontaminated sampling equipment. The equipment blanks were analysed for metals to account for any potential cross-contamination due to drilling equipment. Two (2) equipment blanks were collected during the SI in June and December 2020 respectively. A trace amount of Zinc (80µg/L) was detected from the equipment blank collected on 15 June 2020 alongside with AEBH10-0.5M. However, no abnormal Zinc concentrations were detected in AEBH10-0.5M and other soilsamples collected in June 2020. Therefore, no signs of cross contamination of soil samples caused by the Zinc detection in equipment blank were noted.

The analytical results of field blank and trip blanks were below their respective detection limits.

The QA/QC results indicated that there is no evidence of the sampling or testing procedures influencing the results and findings of the land contamination assessment. The procedures for sample collection and preparation are considered acceptable.

All field QA/QC results are included in the laboratory chemical testing reports attached in *Annex F*.

3.5.3 Laboratory QA/QC Data

The laboratory QA/QC samples including method blanks, surrogates, matrix spikes, etc. were prepared and analysed by the contracted HOKLAS accredited laboratory, i.e. ALS, in accordance with relevant USEPA's standard methods and procedures.

Copy of laboratory chemical testing reports is attached in *Annex F*.

4. ANALYTICAL RESULTS AND RESULTS INTERPRETATION

4.1 RBRGs – Land Use Scenarios

Risk-based Remediation Goals (RBRGs) were developed for four different post-restoration land use scenarios reflecting the typical physical settings in Hong Kong under which people could be exposed to contaminated soil and groundwater.

According to the agreed Updated CAP, RBRGs for Industrial land use shall be adopted in this assessment. Comparisons were made with the RBRGs stipulated in Table 2.1 and Table 2.2 of the RBRGs Guidance Manual.

In addition to the RBRGs, non-aqueous phase liquid (NAPL) screening criteria (soil saturation limits and C_{sat} in soil and solubility limits in groundwater) were also referenced. The laboratory analytical results for the soil and groundwater are summarised in *Annex E1* and *E2*, and are discussed in the following sections. Full laboratory analytical reports are provided in *Annex F*.

4.2 Field Observations

At the time of soil sampling, no signs of stained and unnaturally colored soil were observed above the water table. No signs of oily residual or oil sheen were noted during groundwater sampling. No petroleum products odours were observed during the soil and groundwater sampling.

No signs of potential occurrence of NAPL was found during the soil and groundwater sampling. Selected photos of field observations made during the SI were provided in *Annex A*.

4.3 Soil Sample Results and Interpretation

Twenty-two (22) soil samples (including two (2) duplicate) were collected from this SI programme. Metals, petroleum carbon ranges (PCRs), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) and free Cyanide were tested in accordance with the requirements of the agreed Updated CAP.

4.3.1 Comparison of Soil Analysis Results against RBRGs and Soil Saturation Limits

The results have been compared with the RBRGs for Industrial land use and the Soil Saturation Limits (C_{sat}). The laboratory analysis results are summarised in *Table 4.1* and presented in *Annex E1*.

Metals including Antimony, Arsenic, Barium, Cadmium, Cobalt, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Tin, Zinc and Trivalent Chromium were detected in the soil samples analysed. Their concentrations were far below the RBRGs for Industrial land use and C_{sat} . Hexavalent Chromium were not detected with concentration above laboratory detection limits.

Concentrations of PCRs, VOCs, SVOCs and free Cyanide were all below laboratory detection limit for all soil samples analysed.

No exceedance of RBRGs Industrial land use were detected in all soil samples collected.

Table 4.1 Summary of Soil Samples Results

Parameter	Frequency of Detection (x/y) ^{(a)(b)}	Range of Detected Conc. (mg/kg)	Range of Method Detection Limit	Referenced Analytical Method	Relevant RBRG Land Use Scenario ^(c)	RBRGs (mg/kg)	C _{sat} (mg/kg)	Maximum Concentration Exceeds (Y/N/NA)	
								RBRGs	C _{sat}
Metals									
Antimony	2 /20	BDL – 2	1	USEPA 6020	Industrial	261	NA	N	NA
Arsenic	17 /20	BDL – 17	1	USEPA 6020	Industrial	196	NA	N	NA
Barium	20 /20	7.4 – 438	1	USEPA 6020	Industrial	10,000	NA	N	NA
Cadmium	3 /20	0.2 – 0.5	0.2	USEPA 6020	Industrial	653	NA	N	NA
Cobalt	20 /20	1.6 – 31.9	1	USEPA 6020	Industrial	10,000	NA	N	NA
Copper	20 /20	2 – 122	1	USEPA 6020	Industrial	10,000	NA	N	NA
Lead	20 /20	24 – 176	1	USEPA 6020	Industrial	2,290	NA	N	NA
Manganese	20 /20	158 – 997	1	USEPA 6020	Industrial	10,000	NA	N	NA
Mercury	2 /20	BDL – 0.2	0.05	APHA3500Cr:D	Industrial	38.4	NA	N	NA
Molybdenum	11 /20	1 – 9	1	USEPA 6020	Industrial	3,260	NA	N	NA
Nickel	20 /20	2 – 81	1	USEPA 6020	Industrial	10,000	NA	N	NA
Tin	20 /20	1.8 – 8.5	1	USEPA 6020	Industrial	10,000	NA	N	NA
Zinc	20 /20	20 – 308	1	USEPA 6020	Industrial	10,000	NA	N	NA
Chromium (III) ^(f)	20 /20	2.0 – 121	1	By calculation	Industrial	10,000	NA	N	NA
Chromium (VI)	0 /20	BDL	1	USEPA 3060	Industrial	1,960	NA	N	NA
PCRs									
C ₆ – C ₈	0 /20	BDL	5	USEPA 8015	Industrial	10,000	1,000	N	N
C ₉ – C ₁₆	0 /20	BDL	200	USEPA 8015	Industrial	10,000	3,000	N	N
C ₁₇ – C ₃₅	0 /20	BDL	500	USEPA 8015	Industrial	10,000	5,000	N	N
VOCs^(d)									
Various	0 /20	BDL	Various	USEPA 8260	Industrial	Various	Various	N	N
SVOCs^(e)									
Various	0 /20	BDL	Various	USEPA 8270	Industrial	Various	Various	N	N

LAND CONTAMINATION ASSESSMENT FOR WEST COAL STOCKYARD MODIFICATION WORK IN CASTLE PEAK POWER STATION

Parameter	Frequency of Detection (x/y) ^{(a)(b)}	Range of Detected Conc. (mg/kg)	Range of Method Detection Limit	Referenced Analytical Method	Relevant RBRG Land Use Scenario ^(c)	RBRGs (mg/kg)	C _{sat} (mg/kg)	Maximum Concentration Exceeds (Y/N/NA)	
								RBRGs	C _{sat}
Other Inorganic Compounds									
Free Cyanide	0 /20	BDL	1	APHA 500CN:L	Industrial	10,000	NA	N	N

Notes:

This table is based on Standard Form 3.2 of the *RBRGs Guidance Manual*.

(a) x = number of samples above laboratory detection limit; y = number of samples analysed.

(b) Duplicate sample is not included in the frequency of detection.

(c) RBRGs for Soil for the Industrial land use was used in this Project

(d) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether, Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)

(e) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis-(2-Ethylhexyl)phthalate, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Phenol, and Pyrene

(f) Concentration of Chromium (III) = Concentration of Total Chromium – Concentration of Chromium (VI) according to the laboratory.

NA – Not Applicable (no C_{sat} limits were available for these parameters)

BDL – Below Detection Limit

Various – Various RBRGs for Soil and C_{sat} for individual compound

4.4 Groundwater Sample Results and Interpretation

Nineteen (19) groundwater samples were taken during the SI. Metal (mercury), PCRs, VOCs, SVOCs and free Cyanide were tested in accordance with the requirements of the agreed Updated CAP.

4.4.1 Comparison of Groundwater Analysis Results against RBRGs and Solubility Limits

The results have been compared with the RBRGs for Industrial land use and the Solubility Limits. The laboratory analysis results are presented in *Annex E2* and summarised in *Table 4.2*.

The concentrations of mercury, PCRs, VOCs, SVOCs and free Cyanide were below RBRGs for Industrial / solubility limits in all groundwater samples tested. Mercury, VOCs, SVOCs and free Cyanide were not detected with concentration above laboratory detection limits.

PCR C9-C16 was detected from one (1) groundwater samples collected from AEBH9, but far below the Industrial / solubility limits. Concentrations of PCRs were below laboratory detection limit for all the remaining groundwater samples.

Testing results of groundwater samples indicated that the detected results are below the RBRGs for Industrial land use and solubility limit at the nineteen (19) sampling locations. No signs of potential occurrence of NAPL was found during the groundwater sampling. No exceedance of RBRGs were detected in groundwater collected.

Table 4.2 Summary of Groundwater Samples Results

Parameter	Frequency of Detection (x/y) ^{(a)(b)}	Range of Detected Conc. (ug/l)	Range of Method Detection Limit	Referenced Analytical Method	Relevant Land Use ^(c)	RBRGs (ug/l)	Solubility Limit (ug/l)	Maximum Concentration Exceeds (Y/N/NA)	
								RBRGs	Solubility Limit
Metals									
Mercury	0 /19	BDL	0.05	APHA3500Cr:D	Industrial	6,790	NA	N	NA
PCRs									
C6 – C8	0 /19	BDL	20	USEPA 8015	Industrial	1,150,000	5,230	N	N
C9 – C16	1 /19	BDL – 700	500	USEPA 8015	Industrial	9,980,000	2,800	N	N
C17 – C35	0 /19	BDL	500	USEPA 8015	Industrial	178,000	2,800	N	N
VOCs^(d)									
Various	0 /19	BDL	Various	USEPA 8260	Industrial	Various	Various	N	N
SVOCs^(e)									
Various	0 /19	BDL	Various	USEPA 8270	Industrial	Various	Various	N	N
Other Inorganic Compounds									
Free Cyanide	0 /19	BDL	10	APHA 500CN:L	Industrial	NA	NA	N	N

Notes:

This table is based on Standard Form 3.2 of the *RBRGs Guidance Manual*.

(a) x = number of samples above laboratory reporting limit; y = number of samples analysed.

(b) Duplicate samples are not included in the frequency of detection.

(c) RBRGs for Groundwater for the Industrial land use was used in this Project

(d) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether (MTBE), Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)

(e) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(b)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Naphthalene, Phenanthrene, and Pyrene

NA – Not Applicable (no C_{sat} limits were available for these parameters)

BDL – Below Detection Limit

Various – Various RBRGs for Groundwater and solubility limit for individual compound

5. CONCLUSION

5.1 Conclusion

Two (2) SI events in WCS were conducted between 3 to 18 June 2020 and 19 November to 18 December 2020 to collect soil and groundwater samples from nineteen (19) sampling locations, namely AEBH3, AEBH4, AEBH5, AEBH6, AEBH7, AEBH8, AEBH9, AEBH10, AEBH11, AEBH12, AEBH13, AEBH14, AEBH15, AEBH16, AEBH17, AEBH18, AEBH19, AEBH20, AEBH21, for laboratory analysis on designated parameters in accordance with the agreed Updated CAP.

During the SI, a total of nineteen (19) boreholes and nineteen (19) groundwater wells were established and a total of twenty-two (22) soil samples (including two (2) soil duplicate) and twenty (20) groundwater (including one (1) groundwater duplicate) samples were collected and analysed for the selected parameters, i.e, metals, PCRs, VOCs, SVOCs and free Cyanide.

Laboratory results indicated that the overall detected results in all soil samples and groundwater samples are below the RBRGs for Industrial land use and Csat / solubility limit. No remediation is required in accordance with the current remediation guidelines set out by HKSAR Government. Upon the endorsement of this CAR from EPD, the Site is considered suitable to commence redevelopment works.

ANNEX A SELECTED SITE PHOTOGRAPHS



Photo 1: Inspection Pit at AEBH20



Photo 2: Equipment decontamination

PROJECT:
Land Contamination Assessment for West Coal Stockyard Modification Work in Castle Peak Power Station

ERM-Hong Kong, Limited
2507, 25/F, One Harbourfront
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Hungghom, Kowloon,
Hong Kong
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TITLE: Annex A
Selected Site Photographs

DATE:	CHECKED:	PROJECT: 0553980	
DRAWN:	APPROVED:	SCALE:	
DRAWING:		SIZE:	REV:
		A4	0



Photo 3: Disturbed sampling



Photo 4: Borehole drilling at AEBH21

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Selected Site Photographs

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		A4	0



Photo 5: Disturbed soil samples stored in a cooler box for delivery



Photo 6: QA/QC sampling

PROJECT:
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ERM-Hong Kong, Limited
2507, 25/F, One Harbourfront
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Annex A
Selected Site Photographs

DATE:	CHECKED:	PROJECT: 0553980	
DRAWN:	APPROVED:	SCALE:	
DRAWING:		SIZE:	REV:
		A4	0



Photo 7: Groundwater well installation



Photo 8: Equipment decontamination


PROJECT: Land Contamination Assessment for West Coal Stockyard Modification Work in Castle Peak Power Station		TITLE: Annex A	
ERM-Hong Kong, Limited 2507, 25/F, One Harbourfront 18 Tak Fung Street, Hung Hom, Kowloon, Hong Kong Tel: (852) 2271 3000 Fax: (852) 2723 5660			
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Photo 9: Groundwater sampling at AEBH19



Photo 10: Field observation of groundwater sample retrieved at AEBH14.
No signs of NAPL was observed through the bailer

PROJECT:
Land Contamination Assessment for West Coal Stockyard Modification Work in Castle Peak Power Station

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TITLE:
Annex A
Selected Site Photographs

DATE:	CHECKED:	PROJECT: 0553980	
DRAWN:	APPROVED:	SCALE:	
DRAWING:		SIZE:	REV:
		A4	0

ANNEX B GROUND INVESTIGATION RECORD



DRILLHOLE RECORD

DRILLHOLE No.
AEBH 4

OUTLINE AGREEMENT No. 4600006651

SHEET 1 of 1

PROJECT Site Investigation Works for Existing / Prospective Sites of CLP Power's Premises (2017-2019)
Environmental Sampling in West Coal Yard at CPPS

METHOD **RC**

CO-ORDINATES

PURCHASE ORDER No. 4501275597

MACHINE & No. **ZA006**

E **809500.73**
N **826478.59**

DATE from **03/06/2020** to **04/06/2020**

FLUSHING MEDIUM **Water**

ORIENTATION **Vertical**

REFERENCE LEVEL **+ 5.40** mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Legend	Grade	Description
								No.	Type	Depth			
03/06/2020	PX		0				105 bls	1	•	0.20	5.20	0.20	Greyish brown, spotted grey, silty fine to coarse SAND with occasional subangular to subrounded fine to coarse gravel sized rock and quartz fragments. (FILL) Stiff, brown, spotted white and grey, clayey and slightly sandy SILT with occasional subangular to subrounded fine to medium gravel sized rock and quartz fragments. (FILL)
								2	▨	0.50			
								3	▨	0.67			
			400				100 bls	4	▨	1.50	3.90	1.50	No recovery. Assumed to be FILL. Greyish pink and orangish brown, COBBLE with occasional angular to subrounded gravel sized rock fragments. (FILL) 1.88-2.21m: BOULDER sized granite.
			97							1.62	3.78	1.62	
	PX 2.62 HX	Dry at 18:00	98						T2(I)	2.62			
03/06/2020		Dry at 08:00	98						T2(O)	3.10			
04/06/2020			92				20 bls		T2(O)	3.60	1.80	3.60	Orangish brown, slightly sandy, angular fine to coarse gravel sized rock fragments. (FILL)
			0							4.20	1.20	4.20	
			46						T2(O)	5.50			Greyish pink and orangish brown, COBBLE with occasional angular to subangular medium to coarse gravel sized rock fragments. (FILL)
			0							6.00	-0.60	6.00	
			94				159 bls		T2(O)	6.46	-1.06	6.46	Brown, fine to coarse SAND with some angular to subangular fine to coarse gravel sized rock and quartz fragments. (FILL) Greyish pink and orangish brown, COBBLE with occasional angular to fine to coarse gravel sized rock and quartz fragments. (FILL) 6.46-6.58m: Sandy.
04/06/2020	HX 7.10	1.80m at 18:00	0							7.10	-1.70	7.10	
													End of borehole at 7.10m.

- Small disturbed sample
- ▨ Large disturbed sample
- ▨ SPT liner sample
- ▨ U76 undisturbed sample
- ▨ U100 undisturbed sample
- ▨ Mazier sample
- ▨ Piston sample
- ▨ Water sample
- ▲ Standpipe tip
- ▲ Piezometer tip
- ▨ Standard penetration test
- ▨ Standard penetration test (Cone)
- ▨ Pressuremeter Test
- ▨ Permeability test
- ▨ Packer test
- ▨ In-situ vane shear test
- ▨ Televiewer test

LOGGED Y.S.CHIK
DATE 05/06/2020
CHECKED T.K.CHENG
DATE 08/06/2020

REMARKS
1. Standpipe was installed to depth at 7.10m.



DRILLHOLE RECORD

DRILLHOLE No.
AEBH10

OUTLINE AGREEMENT No. 4600006651

SHEET **1** of **1**

PROJECT Site Investigation Works for Existing / Prospective Sites of CLP Power's Premises (2017-2019)
Environmental Sampling in West Coal Yard at CPPS

METHOD **RC**

CO-ORDINATES

PURCHASE ORDER No. 4501275597

MACHINE & No. **ZA006**

E **809460.03**
N **826451.08**

DATE from **15/06/2020** to **16/06/2020**

FLUSHING MEDIUM **Water**

ORIENTATION **Vertical**

REFERENCE LEVEL **+ 4.50** mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples	Reduced Level	Depth (m)	Legend	Grade	Description
15/06/2020	SX 0.30		100	100					4.50	0.00			
	PX		0				200 bis	1	0.05 0.22	0.50			Grey and dark grey, COBBLE with occasional angular medium to coarse gravel sized concrete fragments. (FILL) 0.21-0.22m: With 5mm diameter steel bar.
													Greyish brown, slightly silty fine to coarse SAND with occasional angular fine to coarse gravel and cobble sized rock fragments. (FILL)
			81						1.00 1.10	3.40	1.10		Greyish pink, BOULDER sized granite with some angular coarse gravel and cobble sized rock fragments. (FILL) 1.33-1.70m: BOULDER sized granite.
			0				120 bis	2	1.90 2.30	2.60 2.20	1.90 2.30		Greyish brown, sandy angular fine to coarse GRAVEL and COBBLE sized rock and brick fragments. (FILL) Greyish pink, pink and orangish brown, COBBLE with occasional angular to subangular coarse gravel sized rock fragments. (FILL) 2.62-2.85m: BOULDER sized granite. 3.03-3.29m: BOULDER sized granite.
			46										
			80						3.70				5.58-5.85m: BOULDER sized granite.
			92						4.05				6.15-6.40m: BOULDER sized granite.
			62						4.70				
15/06/2020		4.50m at 18:00											
16/06/2020	PX 6.40	4.30m at 08:00	89						5.85				
	HX	Dry at 18:00	53						6.40				
16/02/2020	HX 7.00								7.00	-2.50	7.00		End of borehole at 7.00m.

- Small disturbed sample
- ▬ Large disturbed sample
- SPT liner sample
- ▨ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▧ Mazier sample
- ▦ Piston sample
- ▲ Water sample

- ▲ Standpipe tip
- ▲ Piezometer tip
- ▲ Standard penetration test
- ▲ Standard penetration test (Cone)
- ▲ Pressuremeter Test
- ▲ Permeability test
- ▲ Packer test
- ▲ In-situ vane shear test
- ▲ Televiwer test

LOGGED **Y.S.CHIK**
DATE **17/06/2020**
CHECKED **T.K.CHENG**
DATE **18/06/2020**

REMARKS

1. Standpipe was installed to depth at 7.00m.



DRILLHOLE RECORD

DRILLHOLE No.
AEBH18

OUTLINE AGREEMENT No. 4600006651

SHEET 1 of 1

PROJECT Site Investigation Works for Existing / Prospective Sites of CLP Power's Premises (2017-2019)
Environmental Sampling in West Coal Yard at CPPS

METHOD **RC**

CO-ORDINATES

PURCHASE ORDER No. 4501275597

MACHINE & No. **ZA006**

E **849407.07**
N **826392.66**

DATE from **09/06/2020** to **11/06/2020**

FLUSHING MEDIUM **Water**

ORIENTATION **Vertical**

REFERENCE LEVEL **+ 5.01** mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
								No.	Type	Depth					
09/06/2020	PX		0				118 bis	1	U76	0.50	4.51	0.50		Greyish brown, silty and clayey, fine to coarse SAND with some subangular to subrounded medium to coarse gravel sized rock fragments. (FILL)	
								2	U76	1.00				Greyish brown, slightly silty and sandy, subangular to subrounded fine to coarse GRAVEL sized rock fragments. (FILL)	
09/06/2020		1.51m at 18:00	0				168 bis	3	U100	1.50	3.51	1.50		Greyish brown, angular coarse GRAVEL and COBBLE sized rock fragments. (FILL)	
10/06/2020		Dry at 08:00							T2120	1.71	3.30	1.71		Pink, greyish pink, orangish brown and dark grey, COBBLE with occasional angular medium to coarse gravel sized rock fragments. (FILL) 2.21-2.46m: BOULDER sized granite.	
			78						T2120						
			100						T2120						
			72						T2120						
			88						T2120						
			0				170 bis	4	U76	4.81	0.20	4.81		3.98-4.19m: BOULDER sized granite. 4.31-4.81m: With cobble sized silt matrix.	
		1.71m at 18:00	100						T2120	5.11	-0.10	5.11		Brown, COBBLE sized rock fragments. (FILL)	
10/06/2020		1.81m at 08:00	100						T2120					Greyish pink, angular medium to coarse GRAVEL and COBBLE sized rock fragments. (FILL)	
11/06/2020			100						T2120						
	PX 6.31		100						T2120						
	HX		100						T2120						
		2.01m at 18:00	100						T2120						
11/06/2020	HX 7.11								T2101	7.11	-2.10	7.11		6.80-7.11m: BOULDER sized granite.	
														End of borehole at 7.11m.	

- Small disturbed sample
- ⬇ Large disturbed sample
- ▭ SPT liner sample
- ▨ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▧ Mazier sample
- ▦ Piston sample
- ▲ Water sample
- ⬆ Standpipe tip
- ⬇ Piezometer tip
- ⬇ Standard penetration test
- ⬇ Standard penetration test (Cone)
- ⬇ Pressuremeter Test
- ⬇ Permeability test
- ⬇ Packer test
- ⬇ In-situ vane shear test
- ⬇ Televiwer test

LOGGED Y.S.CHIK
DATE 12/06/2020
CHECKED T.K.CHENG
DATE 12/06/2020

REMARKS
1. Standpipe was installed to depth at 7.11m.



DRILLHOLE RECORD

HOLE No.
AEBH3

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809484.61
N 826508.10

DATE from 02/12/2020 to 07/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 6.75 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
02/12/2020	SX	08:00 Dry at										6.75	0.00			
02/12/2020 07/12/2020		18:00 Dry at 08:00		82					A	INSPECTION PIT	0.45 0.50	6.25	0.50			Brown, slightly silty fine to coarse SAND with occasional subangular fine to coarse gravel sized rock fragments. (FILL)
				50				64 bls	1		1.50	5.25	1.50			Light brown, COBBLE with occasional coarse gravel sized rock fragments. (FILL)
				58					2		1.90 1.95 2.00	4.75	2.00			Brown, subangular fine to coarse GRAVEL sized rock fragments in sandy silty matrix. (FILL)
				38				73 bls	3	T2101	2.55	4.20	2.55			Light brown, COBBLE with occasional coarse gravel sized rock fragments. (FILL)
				25					4		2.95 3.00 3.10	3.65	3.10			Brown, slightly silty fine to coarse SAND with occasional subangular fine to coarse gravel sized rock fragments. (FILL)
				35						T2101			4.50			Light brown and light pinkish grey, COBBLE with occasional coarse gravel sized rock fragments. (FILL)
07/12/2020	SX 6.00	3.45m at 18:00								T2101			6.00	0.75	6.00	End of hole at 6.00m depth.

t:\gintw\library\library ags 3.0 (01 dec 2019).gbl\3159 clp drillhole

<ul style="list-style-type: none"> ● Small disturbed sample ○ Large disturbed sample ▨ SPT liner sample ▩ U76 undisturbed sample ▧ U100 undisturbed sample ▦ Mazier sample ▤ Piston sample ▲ Water sample □ Piezometer / standpipe tip ⊥ Standard penetration test ⊥ Water absorption (Packer) test ⊥ Permeability test ⊥ Acoustic Televiwer Survey Test ∇ In-situ vane shear test 	<p>LOGGED <u>W K SIU</u></p> <p>DATE <u>08/12/2020</u></p> <p>CHECKED <u>W L YIU</u></p> <p>DATE <u>09/12/2020</u></p>	<p>REMARKS</p> <ol style="list-style-type: none"> 1. Inspection pit was dug to 0.50m depth. 2. 2 nos. of environmental samples at 0.50m and 3.00m were sent to the laboratory. 3. Water sample was collected. 4. Groundwater monitoring well was intalled at 6.00m depth.
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DRILLHOLE RECORD

HOLE No.
AEBH5

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809519.06
N 826447.25

DATE from 02/12/2020 to 10/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.79 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
02/12/2020	SX	08:00 Dry at														Light brownish grey, subangular fine to coarse Gravel sized rock fragments in sandy matrix. (FILL)
02/12/2020 10/12/2020		18:00 Dry at 08:00		83					A	INSPECTION PIT	0.45 0.50	5.29	0.50			Brown and grey, COBBLE with occasional coarse gravel sized rock fragments. (FILL)
				78						T2101	1.10					
				73						T2101	1.70					
				100						T2101	2.60					
				13						T2101	3.20					
										T2101	4.50					
											1.29		4.50			Wash boring, no sample recovered. Inferred as FILL.
10/12/2020	SX 6.00	3.77m at 18:00									-0.21		6.00			End of hole at 6.00m depth.

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<ul style="list-style-type: none"> ● Small disturbed sample ○ Large disturbed sample ▬ SPT liner sample ▨ U76 undisturbed sample ▩ U100 undisturbed sample ▧ Mazier sample ▦ Piston sample ▲ Water sample □ Piezometer / standpipe tip ⊥ Standard penetration test ⊥ Water absorption (Packer) test ⊥ Permeability test ⊥ Acoustic Televiwer Survey Test ∇ In-situ vane shear test 	<p>LOGGED <u>W K SIU</u></p> <p>DATE <u>11/12/2020</u></p> <p>CHECKED <u>W L YIU</u></p> <p>DATE <u>12/12/2020</u></p>	<p>REMARKS</p> <ol style="list-style-type: none"> 1. Inspection pit was dug to 0.50m depth. 2. 2 nos. of environmental samples at 0.50m were sent to the laboratory. 3. Water sample was collected. 4. Groundwater monitoring well was intalled at 6.00m depth.
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DRILLHOLE RECORD

HOLE No.
AEBH6

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809457.63
N 826493.25

DATE from 02/12/2020 to 08/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.87 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
02/12/2020	SX	08:00										5.87	0.00			Dark grey and grey, subangular fine to coarse GRAVEL sized rock and coal fragments in sandy matrix. (FILL) Light grey and brown, COBBLE with occasional subangular coarse gravel sized rock fragments. (FILL)
02/12/2020		Dry at 18:00		68					A	0.25						
08/12/2020		Dry at 08:00		78					T2101	0.99						
				77					T2101	2.00						
				29					T2101	3.30						
				27					T2101	4.70						
08/12/2020	SX 6.00	3.72m at 18:00								6.00		-0.13	6.00		End of hole at 6.00m depth.	

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- Small disturbed sample
- Large disturbed sample
- ▬ SPT liner sample
- ▨ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▧ Mazier sample
- ▦ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
 DATE 09/12/2020
 CHECKED W L YIU
 DATE 10/12/2020

REMARKS

1. Inspection pit was dug to 0.30m depth.
2. Water sample was collected.
3. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH7

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809475.55
N 826462.74

DATE from 02/12/2020 to 09/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.88 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
02/12/2020	SX	08:00 Dry at 18:00 Dry at 08:00														Light grey, subangular fine to coarse GRAVEL sized rock fragments in sandy matrix. (FILL)
02/12/2020 09/12/2020									A	Inspection Pit	0.35 0.40	5.48	0.40			Light pinkish brown and grey, COBBLE with occasional subangular coarse gravel sized rock fragments. (FILL)
										T2101	1.70					
										T2101	2.50					
										T2101	3.10					
										T2101	3.80					
										T2101	5.00					
												0.88	5.00			Wash boring, no sample recovered. Inferred as FILL.
09/12/2020	SX 6.00	3.62m at 18:00										-0.12	6.00			End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- U100 undisturbed sample
- ▤ Mazier sample
- ▨ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
 DATE 10/12/2020
 CHECKED W L YIU
 DATE 11/12/2020

REMARKS
 1. Inspection pit was dug to 0.40m depth.
 2. Water sample was collected.
 3. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH8

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809493.44
N 826432.42

DATE from 02/12/2020 to 12/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.52 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Legend	Grade	Description
									No.	Type	Depth			
02/12/2020	SX	08:00 Dry at												Dark grey and grey, angular to subangular fine to coarse GRAVEL sized rock and coal fragments in sandy matrix. (FILL)
02/12/2020 12/12/2020		18:00 Dry at 08:00		83					A	INSPECTION PIT	0.45 0.50	5.02	0.50	Light greyish brown and grey, COBBLE with occasional subangular coarse gravel sized rock and concrete fragments. (FILL)
				78					T2101		1.70			2.00 - 2.50m: Boulder.
				78					T2101		3.52	2.00		
				78					T2101		2.50	3.02	2.50	
				83					T2101		3.10			
				49					T2101		3.70			
				17					T2101		4.50			
12/12/2020	SX 6.00	4.05m at 18:00							T2101		6.00	-0.48	6.00	End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▨ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 14/12/2020
CHECKED W L YIU
DATE 15/12/2020

REMARKS

1. Inspection pit was dug to 0.50m depth.
2. 1 no. of environmental sample at 0.50m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH9

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809437.49
N 826472.29

DATE from 02/12/2020 to 05/12/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.16 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
02/12/2020	SX	08:00														Grey and brown, angular to subangular fine to coarse GRAVEL sized rock fragments in sandy matrix. (FILL)
				98					A	INSPECTION PIT	0.45 0.50	4.66	0.50			Light pinkish grey and brown, COBBLE with occasional subangular medium to coarse gravel sized rock fragments. (FILL)
				84					T2101		1.40					
02/12/2020		Dry at 18:00							T2101		1.83	3.33	1.83			1.83 - 2.06m: Boulder.
05/12/2020		Dry at 08:00							T2101		2.63	3.10	2.06			2.33 - 2.53m: Boulder.
				98					T2101		2.30	2.83	2.33			2.86 - 3.25m: Boulder.
									T2101		3.35	2.63	2.53			
				28					T2101		4.50	2.30	2.86			
									T2101		6.00	1.91	3.25			
05/12/2020	SX 6.00	4.48m at 18:00							T2101			-0.84	6.00			End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- U100 undisturbed sample
- ▨ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 07/12/2020
CHECKED W L YIU
DATE 08/12/2020

REMARKS

1. Inspection pit was dug to 0.50m depth.
2. 1 no. of environmental sample at 0.50m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH15

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809401.26
N 826424.66

DATE from 20/11/2020 to 27/11/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.59 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
20/11/2020	PX	08:00 Dry at														Grey, fine to coarse SAND with some subangular fine to coarse gravel sized rock fragments. (FILL)
20/11/2020 27/11/2020		18:00 Dry at 08:00		74 97 98 88 100					A T2101 T2101 T2101 T2101 T2101 T2101 T2101 T2101	0.45 0.50 0.77 1.39 2.18 2.58 2.76 2.45 3.47 1.99 1.51	5.09	0.50 2.83 3.14 3.60 4.08			Light pinkish grey and brown, COBBLE with occasional subangular medium to coarse gravel sized rock fragments. (FILL) 2.83 - 3.14m: Boulder. 3.60 - 4.08m: Boulder.	
27/11/2020	PX 6.00	4.47m at 18:00 18:00		32												End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▩ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 28/11/2020
CHECKED W L YIU
DATE 30/11/2020

REMARKS
1. Inspection pit was dug to 0.50m depth.
2. 1 no. of environmental sample at 0.50m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH16

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809421.01
N 826390.98

DATE from 20/11/2020 to 28/11/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 6.26 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level 6.26	Depth (m) 0.00	Legend	Grade	Description
									No.	Type	Depth					
20/11/2020	PX	08:00 Dry at														Dark grey, subangular fine to coarse GRAVEL sized rock fragments in sandy matrix. (FILL)
20/11/2020 28/11/2020		18:00 Dry at 08:00		100					A	INSPECTION PIT	0.45 0.50	5.76	0.50			Grey and brown, COBBLE with occasional subangular medium to coarse gravel sized rock fragments. (FILL)
				100						T2101	1.25					
				100						T2101	1.97					
				100						T2101	2.53					
				27						T2101	3.21					
				11						T2101	4.50					
28/11/2020	PX 6.00	4.35m at 18:00								T2101	6.00	0.26	6.00			End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- U100 undisturbed sample
- ▨ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ↓ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 30/11/2020
CHECKED W L YIU
DATE 01/12/2020

REMARKS

1. Inspection pit was dug to 0.50m depth.
2. 1 no. of environmental sample at 0.50m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH17

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809381.84
N 826400.46

DATE from 20/11/2020 to 26/11/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.36 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
20/11/2020	PX	08:00 Dry at														Dark grey, fine to coarse SAND with some subangular fine to coarse gravel sized rock fragments. (FILL)
20/11/2020 26/11/2020		18:00 Dry at 08:00		83				78 bls	A	INSPECTION PIT	0.45 0.50	4.86	0.50			Light grey and brown, subangular fine to coarse GRAVEL with occasional cobble sized rock fragments. (FILL)
				75						T2101	1.10					
				34					1	T2101	1.50	3.86	1.50			Brown, slightly silty fine to coarse SAND with occasional subangular fine to coarse gravel sized rock fragments. (FILL)
				89					2	T2101	1.90 2.00	3.36	2.00			Light pinkish grey and brown, COBBLE with occasional subangular coarse gravel sized rock fragments. (FILL) 2.20 - 2.45m: Boulder.
				98						T2101	3.16	3.16	2.20			
				100						T2101	2.91	2.91	2.45			
				98						T2101	3.15					
				100						T2101	3.70					
				100						T2101	4.30	1.04	4.32			4.32 - 4.52m: Boulder.
				56						T2101	0.84	0.84	4.52			
										T2101	4.76	0.51	4.85			4.85 - 5.48m: Boulder.
26/11/2020	PX 6.00	4.16m at 18:00								T2101	-0.12	-0.12	5.48			
										T2101	6.00	-0.64	6.00			End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▩ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 27/11/2020
CHECKED W L YIU
DATE 28/11/2020

REMARKS

1. Inspection pit was dug to 0.50m depth.
2. 2 nos. of environmental samples at 0.50m and 1.50m were sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH19

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809360.09
N 826372.80

DATE from 20/11/2020 to 25/11/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.37 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
20/11/2020	PX	08:00 Dry at														Dark grey, subangular fine to coarse GRAVEL sized rock fragments in sandy matrix. (FILL)
20/11/2020 25/11/2020		18:00 Dry at 08:00		80					A	INSPECTION PIT	0.45	4.87	0.50			Light pinkish grey and dark grey, BOULDER with some subangular medium to coarse gravel and cobble sized rock fragments. (FILL)
				98						T2101	0.90					
				88						T2101	1.30					
				100						T2101	1.70					
				100						T2101	2.77					
				70						T2101	3.70					
				62						T2101	4.30					
				100						T2101	5.50					
25/11/2020	PX 6.00	4.30m at 18:00								T2101	6.00	-0.63	6.00			End of hole at 6.00m depth.

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- Small disturbed sample
- Large disturbed sample
- ▨ SPT liner sample
- ▩ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▩ Mazier sample
- ▩ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ↓ Standard penetration test
- ⊥ Water absorption (Packer) test
- ⊥ Permeability test
- ⊥ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 26/11/2020
CHECKED W L YIU
DATE 27/11/2020

REMARKS
1. Inspection pit was dug to 0.50m depth.
2. 1 no. of environmental sample at 0.50m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



DRILLHOLE RECORD

HOLE No.
AEBH21

OUTLINE AGREEMENT 4600008232

SHEET 1 of 1

PROJECT Site Investigation Works for Existing/Prospective Sites of CLP Powers Premises - Environmental Sampling Work on WCSY

METHOD Rotary

CO-ORDINATES

PURCHASE ORDER No. **4501303770**

MACHINE & No. 20-103

E 809335.37
N 826347.28

DATE from 20/11/2020 to 21/11/2020

FLUSHING MEDIUM DRY

ORIENTATION **Vertical**

GROUND LEVEL + 5.13 mPD

Drilling Progress	Casing depth/size	Water Depth (m)	Water Recovery %	Total core Recovery %	Solid core Recovery %	R.Q.D.	Fracture Index	Tests	Samples			Reduced Level	Depth (m)	Legend	Grade	Description
									No.	Type	Depth					
20/11/2020	SX	08:00										5.13	0.00			Light grey, CONCRETE slab.
				97					A	Inspection Pit	0.35	4.93	0.40			Brown, slightly silty fine to coarse SAND with occasional subangular fine to coarse gravel sized rock fragments. (FILL)
				98					T2120	Standard penetration test	1.00					Light grey, brown and dark grey, COBBLE with some subangular medium to coarse gravel sized rock fragments. (FILL)
				99					T2120	Standard penetration test	2.10					
				83					T2120	Standard penetration test	2.50					
				95					T216	Water absorption (Packer) test	2.80	2.23	2.90			2.90 - 3.60m: Boulder.
		Dry at 18:00							T2101	Acoustic Televiwer Survey Test						
20/11/2020 21/11/2020		Dry at 08:00		22					T2101	Standard penetration test	3.60	1.53	3.60			
				47					T2101	Standard penetration test	4.50					
	SX	4.52m at 18:00										-0.62	5.75			5.75 - 6.00m: Boulder.
21/11/2020	6.00	18:00										-0.87	6.00			End of hole at 6.00m depth.

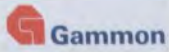
t:\gintw\library\library ags 3.0 (01 dec 2019)\glb\3159 clp drillhole

- Small disturbed sample
- Large disturbed sample
- ▬ SPT liner sample
- ▨ U76 undisturbed sample
- ▩ U100 undisturbed sample
- ▧ Mazier sample
- ▦ Piston sample
- ▲ Water sample
- Piezometer / standpipe tip
- ⊥ Standard penetration test
- ⊕ Water absorption (Packer) test
- ⊖ Permeability test
- ⊗ Acoustic Televiwer Survey Test
- ∇ In-situ vane shear test

LOGGED W K SIU
DATE 23/11/2020
CHECKED W L YIU
DATE 24/11/2020

REMARKS

1. Inspection pit was dug to 0.40m depth.
2. 1 no. of environmental sample at 0.40m was sent to the laboratory.
3. Water sample was collected.
4. Groundwater monitoring well was intalled at 6.00m depth.



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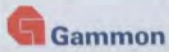
Hole No. : AEBH3

Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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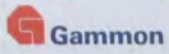
Hole No. : AEBH5

Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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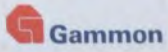
Hole No. : AEBH6

Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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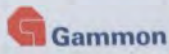
Hole No. : AEBH7

Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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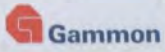
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Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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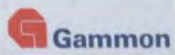
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Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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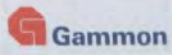
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Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





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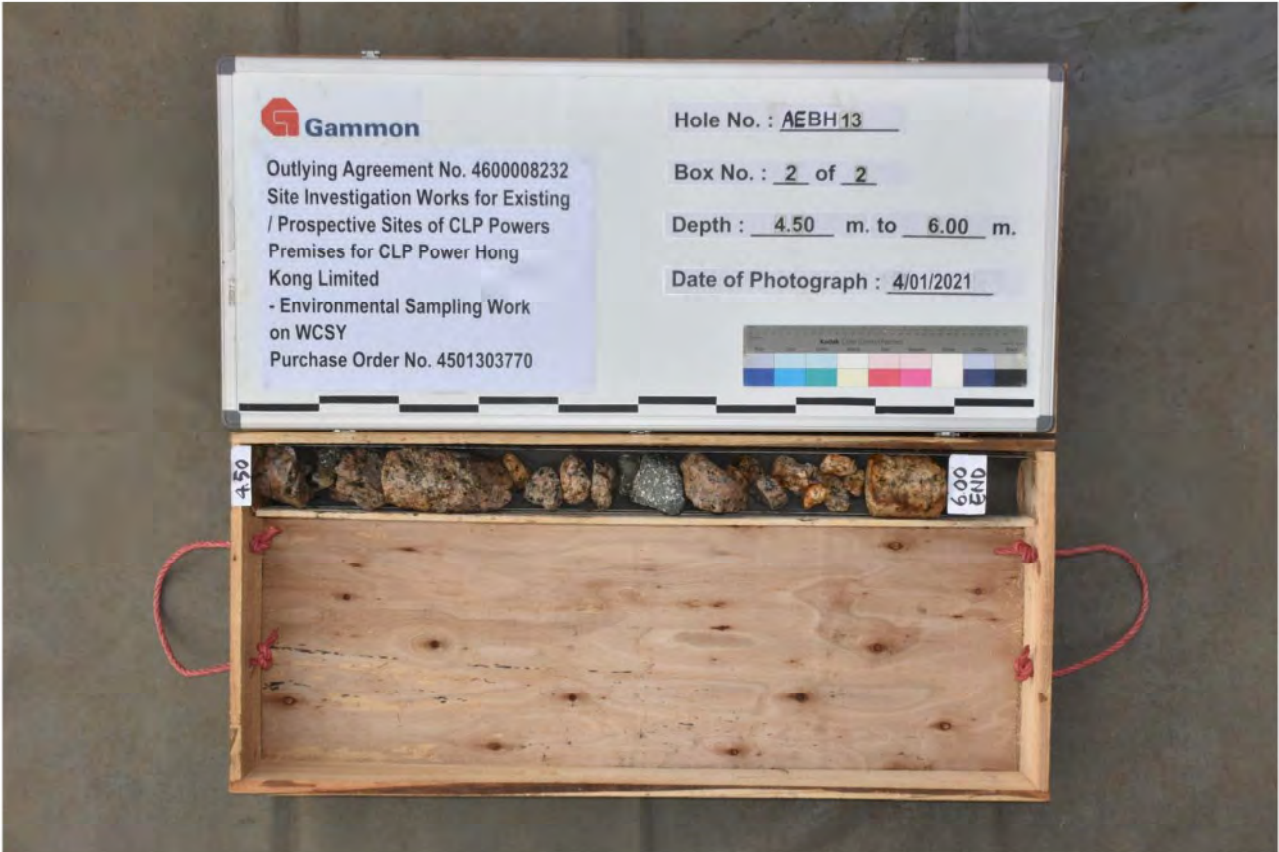
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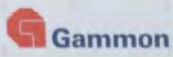
Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021







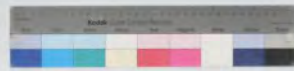
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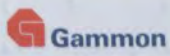
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Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





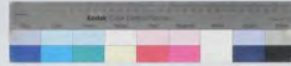
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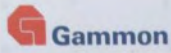
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Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





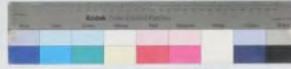
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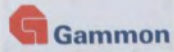
Hole No. : AEBH 16

Box No. : 1 of 1

Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





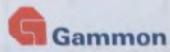
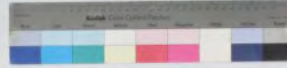
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Hole No. : AEBH 17

Box No. : 1 of 2

Depth : 0.00 m. to 4.76 m.

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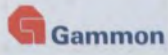
Hole No. : AEBH 17

Box No. : 2 of 2

Depth : 4.76 m. to 6.00 m.

Date of Photograph : 4/01/2021





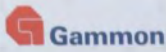
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Hole No. : AEBH 19

Box No. : 1 of 2

Depth : 0.00 m. to 4.30 m.

Date of Photograph : 4/01/2021



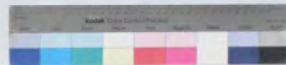
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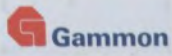
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Box No. : 2 of 2

Depth : 4.30 m. to 6.00 m.

Date of Photograph : 4/01/2021





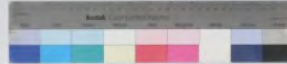
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Hole No. : AEBH20

Box No. : 1 of 1

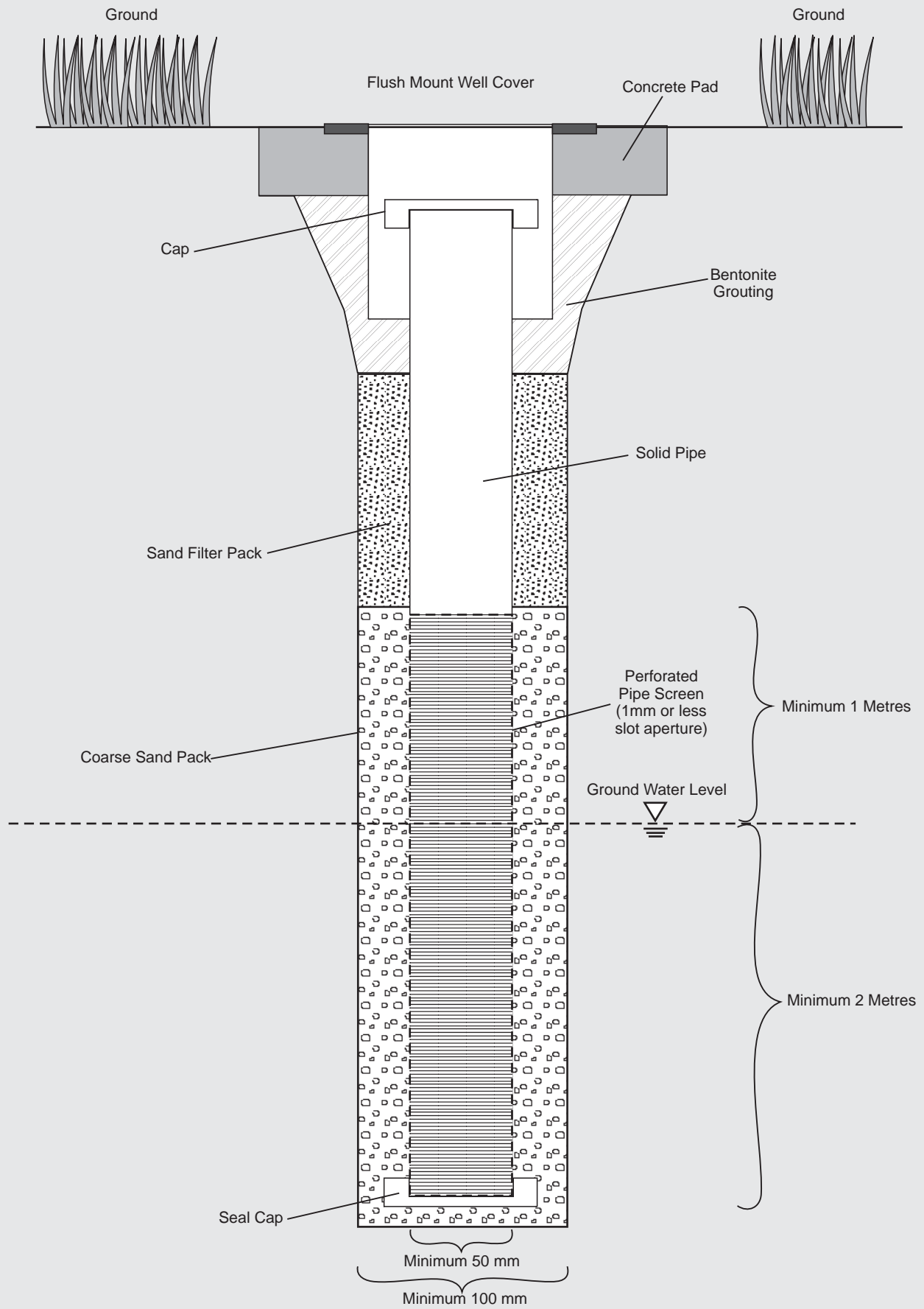
Depth : 0.00 m. to 6.00 m.

Date of Photograph : 4/01/2021





ANNEX C SCHEMATIC DRAWING OF GROUNDWATER MONITORING WELL



ANNEX D RISK-BASED REMEDIATION GOALS

**Table 2.1
Risk-Based Remediation Goals (RBRGs) for Soil & Soil Saturation Limit**

Chemical	Risk-Based Remediation Goals for Soil				Soil Saturation Limit (C _{sat}) (mg/kg)
	Urban Residential (mg/kg)	Rural Residential (mg/kg)	Industrial (mg/kg)	Public Parks (mg/kg)	
VOCs					
Acetone	9.59E+03	4.26E+03	1.00E+04*	1.00E+04*	***
Benzene	7.04E-01	2.79E-01	9.21E+00	4.22E+01	3.36E+02
Bromodichloromethane	3.17E-01	1.29E-01	2.85E+00	1.34E+01	1.03E+03
2-Butanone	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	***
Chloroform	1.32E-01	5.29E-02	1.54E+00	2.53E+02	1.10E+03
Ethylbenzene	7.09E+02	2.98E+02	8.24E+03	1.00E+04*	1.38E+02
Methyl tert-Butyl Ether	6.88E+00	2.80E+00	7.01E+01	5.05E+02	2.38E+03
Methylene Chloride	1.30E+00	5.29E-01	1.39E+01	1.28E+02	9.21E+02
Styrene	3.22E+03	1.54E+03	1.00E+04*	1.00E+04*	4.97E+02
Tetrachloroethene	1.01E-01	4.44E-02	7.77E-01	1.84E+00	9.71E+01
Toluene	1.44E+03	7.05E+02	1.00E+04*	1.00E+04*	2.35E+02
Trichloroethene	5.23E-01	2.11E-01	5.68E+00	6.94E+01	4.88E+02
Xylenes (Total)	9.50E+01	3.68E+01	1.23E+03	1.00E+04*	1.50E+02
SVOCs					
Acenaphthene	3.51E+03	3.28E+03	1.00E+04*	1.00E+04*	6.02E+01
Acenaphthylene	2.34E+03	1.51E+03	1.00E+04*	1.00E+04*	1.98E+01
Anthracene	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	2.56E+00
Benzo(a)anthracene	1.20E+01	1.14E+01	9.18E+01	3.83E+01	
Benzo(a)pyrene	1.20E+00	1.14E+00	9.18E+00	3.83E+00	
Benzo(b)fluoranthene	9.88E+00	1.01E+01	1.78E+01	2.04E+01	
Benzo(g,h,i)perylene	1.80E+03	1.71E+03	1.00E+04*	5.74E+03	
Benzo(k)fluoranthene	1.20E+02	1.14E+02	9.18E+02	3.83E+02	
bis-(2-Ethylhexyl)phthalate	3.00E+01	2.80E+01	9.18E+01	9.42E+01	
Chrysene	8.71E+02	9.19E+02	1.14E+03	1.54E+03	
Dibenzo(a,h)anthracene	1.20E+00	1.14E+00	9.18E+00	3.83E+00	
Fluoranthene	2.40E+03	2.27E+03	1.00E+04*	7.62E+03	
Fluorene	2.38E+03	2.25E+03	1.00E+04*	7.45E+03	5.47E+01
Hexachlorobenzene	2.43E-01	2.20E-01	5.82E-01	7.13E-01	
Indeno(1,2,3-cd)pyrene	1.20E+01	1.14E+01	9.18E+01	3.83E+01	
Naphthalene	1.82E+02	8.56E+01	4.53E+02	9.14E+02	1.25E+02
Phenanthrene	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	2.80E+01
Phenol	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	7.26E+03
Pyrene	1.80E+03	1.71E+03	1.00E+04*	5.72E+03	
Metals					
Antimony	2.95E+01	2.91E+01	2.61E+02	9.79E+01	
Arsenic	2.21E+01	2.18E+01	1.96E+02	7.35E+01	
Barium	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	
Cadmium	7.38E+01	7.28E+01	6.53E+02	2.45E+02	
Chromium III	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	
Chromium VI	2.21E+02	2.18E+02	1.96E+03	7.35E+02	
Cobalt	1.48E+03	1.46E+03	1.00E+04*	4.90E+03	
Copper	2.95E+03	2.91E+03	1.00E+04*	9.79E+03	
Lead	2.58E+02	2.55E+02	2.29E+03	8.57E+02	
Manganese	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	
Mercury	1.10E+01	6.52E+00	3.84E+01	4.56E+01	
Molybdenum	3.69E+02	3.64E+02	3.26E+03	1.22E+03	
Nickel	1.48E+03	1.46E+03	1.00E+04*	4.90E+03	
Tin	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	
Zinc	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	
Dioxins / PCBs					
Dioxins (I-TEQ)	1.00E-03	1.00E-03	5.00E-03	1.00E-03	
PCBs	2.36E-01	2.26E-01	7.48E-01	7.56E-01	
Petroleum Carbon Ranges					
C6 - C8	1.41E+03	5.45E+02	1.00E+04*	1.00E+04*	1.00E+03
C9 - C16	2.24E+03	1.33E+03	1.00E+04*	1.00E+04*	3.00E+03
C17 - C35	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+04*	5.00E+03
Other Inorganic Compounds					
Cyanide, free	1.48E+03	1.46E+03	1.00E+04*	4.90E+03	
Organometallics					
TBTO	2.21E+01	2.18E+01	1.96E+02	7.35E+01	

Notes:

- (1) For Dioxins, the cleanup levels in USEPA Office of Solid Waste and Emergency Response (OSWER) Directive of 1998 have been adopted. The OSWER Directive value of 1 ppb for residential use has been applied to the scenarios of "Urban Residential", "Rural Residential", and "Public Parks", while the low end of the range of values for industrial, 5 ppb, has been applied to the scenario of "Industrial".
- (2) Soil saturation limits for petroleum carbon ranges taken from the Canada-Wide Standards for Petroleum Hydrocarbons in Soil, CCME 2000.
- (3) * indicates a 'ceiling limit' concentration.
- (4) *** indicates that the C_{sat} value exceeds the 'ceiling limit' therefore the RBRG applies.

**Table 2.2
Risk-Based Remediation Goals (RBRGs) for Groundwater and Solubility Limit**

Chemical	Risk-Based Remediation Goals for Groundwater			Solubility Limit (mg/L)
	Urban Residential (mg/L)	Rural Residential (mg/L)	Industrial (mg/L)	
VOCs				
Acetone	1.00E+04*	1.00E+04*	1.00E+04*	***
Benzene	3.86E+00	1.49E+00	5.40E+01	1.75E+03
Bromodichloromethane	2.22E+00	8.71E-01	2.62E+01	6.74E+03
2-Butanone	1.00E+04*	1.00E+04*	1.00E+04*	***
Chloroform	9.56E-01	3.82E-01	1.13E+01	7.92E+03
Ethylbenzene	1.02E+03	3.91E+02	1.00E+04*	1.69E+02
Methyl tert-Butyl Ether	1.53E+02	6.11E+01	1.81E+03	***
Methylene Chloride	1.90E+01	7.59E+00	2.24E+02	***
Styrene	3.02E+03	1.16E+03	1.00E+04*	3.10E+02
Tetrachloroethene	2.50E-01	9.96E-02	2.95E+00	2.00E+02
Toluene	5.11E+03	1.97E+03	1.00E+04*	5.26E+02
Trichloroethene	1.21E+00	4.81E-01	1.42E+01	1.10E+03
Xylenes (Total)	1.12E+02	4.33E+01	1.57E+03	1.75E+02
SVOCs				
Acenaphthene	1.00E+04*	7.09E+03	1.00E+04*	4.24E+00
Acenaphthylene	1.41E+03	5.42E+02	1.00E+04*	3.93E+00
Anthracene	1.00E+04*	1.00E+04*	1.00E+04*	4.34E-02
Benzo(a)anthracene				
Benzo(a)pyrene				
Benzo(b)fluoranthene	5.39E-01	2.03E-01	7.53E+00	1.50E-03
Benzo(g,h,i)perylene				
Benzo(k)fluoranthene				
bis-(2-Ethylhexyl)phthalate				
Chrysene	5.81E+01	2.19E+01	8.12E+02	1.60E-03
Dibenzo(a,h)anthracene				
Fluoranthene	1.00E+04*	1.00E+04*	1.00E+04*	2.06E-01
Fluorene	1.00E+04*	1.00E+04*	1.00E+04*	1.98E+00
Hexachlorobenzene	5.89E-02	2.34E-02	6.95E-01	6.20E+00
Indeno(1,2,3-cd)pyrene				
Naphthalene	6.17E+01	2.37E+01	8.62E+02	3.10E+01
Phenanthrene	1.00E+04*	1.00E+04*	1.00E+04*	1.00E+00
Phenol				
Pyrene	1.00E+04*	1.00E+04*	1.00E+04*	1.35E-01
Metals				
Antimony				
Arsenic				
Barium				
Cadmium				
Chromium III				
Chromium VI				
Cobalt				
Copper				
Lead				
Manganese				
Mercury	4.86E-01	1.84E-01	6.79E+00	
Molybdenum				
Nickel				
Tin				
Zinc				
Dioxins / PCBs				
Dioxins (I-TEQ)				
PCBs	4.33E-01	1.71E-01	5.11E+00	3.10E-02
Petroleum Carbon Ranges				
C6 - C8	8.22E+01	3.17E+01	1.15E+03	5.23E+00
C9 - C16	7.14E+02	2.76E+02	9.98E+03	2.80E+00
C17 - C35	1.28E+01	4.93E+00	1.78E+02	2.80E+00
Other Inorganic Compounds				
Cyanide, free				
Organometallics				
TBTO				

Notes:

- (1) Blank indicates that RBRG could not be calculated because the toxicity or physical/chemical values were unavailable, or the condition of Henry's Law Constant > 1.00E-05 was not met for the inhalation pathway.
- (2) Water solubilities for Petroleum Carbon Range aliphatic C9-C16 and greater than C16 generally are considered to be effectively zero and therefore the aromatic solubility for C9-C16 is used.
- (3) * indicates a 'ceiling limit' concentration.
- (4) *** indicates that the solubility limit exceeds the 'ceiling limit' therefore the RBRG applies.

ANNEX E SUMMARY OF LABORATORY ANALYTICAL RESULTS

Annex E1 Summary of the Laboratory Analytical Results with Reference to the RBRGS Soil and Saturation Limits

Sampling Location					AEBH3-0.5M	AEBH3-3.0M	AEBH4-0.5M	AEBH4-3.6M	AEBH4-6.0M	AEBH5-0.5M ^(d)	AEBH8-0.5M	AEBH9-0.5M	AEBH10-0.5M	AEBH12-0.5M
Sampling Date					2 Dec 2020	7 Dec 2020	3 Jun 2020	4 Jun 2020	4 Jun 2020	2 Dec 2020	2 Dec 2020	2 Dec 2020	15 Jun 2020	20 Nov 2020
Parameters	Unit	LOR	RBRGs ^(c)	C _{sat}										
Metals														
Antimony	mg/kg	1	261	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Arsenic	mg/kg	1	196	NA	2	BDL	3	BDL	BDL	4	1	2	1	2
Barium	mg/kg	1	10,000	NA	48.1	22.5	41.1	27	7.4	74	13.2	41.9	16.9	20.4
Cadmium	mg/kg	0.2	653	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cobalt	mg/kg	1	10,000	NA	3.3	17.3	5.5	5.3	31.9	4.6	1.6	5.7	1.6	1.9
Copper	mg/kg	1	10,000	NA	4	43	10	2	56	13	2	4	2	2
Lead	mg/kg	1	2,290	NA	72	104	176	63	50	88	78	85	72	81
Manganese	mg/kg	1	10,000	NA	802	321	335	231	234	997	314	279	410	301
Mercury	mg/kg	0.05	38.4	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Molybdenum	mg/kg	1	3,260	NA	1	BDL	1	BDL	BDL	2	BDL	BDL	BDL	BDL
Nickel	mg/kg	1	10,000	NA	6	9	4	2	5	8	4	7	3	3
Tin	mg/kg	1	10,000	NA	4.3	3.6	8.4	3.2	5.6	5.4	1.8	3.7	2	4
Zinc	mg/kg	1	10,000	NA	39	20	54	20	21	35	29	46	27	32
Chromium (III)	mg/kg	1	10,000	NA	18.5	14.9	13.3	3.5	2.0	20	9.7	22.2	6.5	14
Chromium (VI)	mg/kg	1	1,960	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Petroleum Carbon Ranges (PCRs)														
C6 - C8 Fraction	mg/kg	5	10,000	1,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	mg/kg	200	10,000	3,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C17 - C35 Fraction	mg/kg	500	10,000	5,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
VOCs^(a)														
Various	mg/kg	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SVOCs^(b)														
Various	mg/kg	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Other Inorganic Compounds														
Free Cyanide	mg/kg	1	10,000	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

(a) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether, Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)

(b) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis-(2-Ethylhexyl)phthalate, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Phenol, and Pyrene

(c) RBRGs Soil and Saturation Limits (C_{sat}) for Industrial Land Use were used for comparisons of results in this Project.

(d) A duplicate sample was taken from this location; the higher of the two results is reported in this table.

NA – no respective testing results / RBRGs/ Soil Saturation Limits available for these chemicals.

LOR – Limit of Reporting indicates the detection limits of the analytical results.

BDL – Below Detection Limit indicates the concentration is lower than the limit of reporting.

Various- Various RBRGs and C_{sat} for individual compound.

Sampling Location					AEBH15-0.5M	AEBH16-0.5M	AEBH17-0.5M	AEBH17-1.5M	AEBH18-0.5M	AEBH18-1.5M ^(d)	AEBH19-0.5M	AEBH20-0.5M	AEBH20-1.5M	AEBH21-0.4M	
Sampling Date					20 Nov 2020	20 Nov 2020	20 Nov 2020	26 Nov 2020	9 Jun 2020	9 Jun 2020	20 Nov 2020	20 Nov 2020	23 Nov 2020	20 Nov 2020	
Parameters	Unit	LOR	RBRGs ^(c)	C _{sat}											
Metals															
Antimony	mg/kg	1	261	NA	BDL	2	BDL	BDL	BDL	BDL	BDL	BDL	2	BDL	BDL
Arsenic	mg/kg	1	196	NA	3	5	2	3	2	2	2	17	1	2	
Barium	mg/kg	1	10,000	NA	114	288	20.4	15.6	29.2	12.1	25.2	438	11.8	40.9	
Cadmium	mg/kg	0.2	653	NA	0.3	0.2	BDL	BDL	BDL	BDL	BDL	0.5	BDL	BDL	
Cobalt	mg/kg	1	10,000	NA	6.3	12.2	2.5	29.9	11.3	2.1	4.2	52.7	1.9	7.4	
Copper	mg/kg	1	10,000	NA	7	12	4	111	122	6	4	52	6	9	
Lead	mg/kg	1	2,290	NA	169	38	68	79	78	90	150	24	64	84	
Manganese	mg/kg	1	10,000	NA	364	166	295	408	698	262	158	385	209	503	
Mercury	mg/kg	0.05	38.4	NA	BDL	0.08	BDL	BDL	BDL	BDL	BDL	0.2	BDL	BDL	
Molybdenum	mg/kg	1	3,260	NA	2	1	4	3	1	1.5	9	2	BDL	BDL	
Nickel	mg/kg	1	10,000	NA	10	21	5	32	10	2	3	81	2	44	
Tin	mg/kg	1	10,000	NA	4.5	3.9	3.8	8.5	5.1	6.8	4.7	3.7	3.1	3.4	
Zinc	mg/kg	1	10,000	NA	52	67	37	61	301	25	65	308	33	78	
Chromium (III)	mg/kg	1	10,000	NA	12.2	15.6	15.8	18	23.5	5.9	6.9	21.6	5.8	121	
Chromium (VI)	mg/kg	1	1,960	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Petroleum Carbon Ranges (PCRs)															
C6 - C8 Fraction	mg/kg	5	10,000	1,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
C9 - C16 Fraction	mg/kg	200	10,000	3,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
C17 - C35 Fraction	mg/kg	500	10,000	5,000	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
VOCs^(a)															
Various	mg/kg	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
SVOCs^(b)															
Various	mg/kg	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Other Inorganic Compounds															
Free Cyanide	mg/kg	1	10,000	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	

Notes:
(a) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether, Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)
(b) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis-(2-Ethylhexyl)phthalate, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene, Phenol, and Pyrene
(c) RBRGs Soil and Saturation Limits (C_{sat}) for Industrial Land Use were used for comparisons of results in this Project.
(d) A duplicate sample was taken from this location; the higher of the two results is reported in this table.
NA – no respective testing results / RBRGs/ Soil Saturation Limits available for these chemicals.
LOR – Limit of Reporting indicates the detection limits of the analytical results.
BDL – Below Detection Limit indicates the concentration is lower than the limit of reporting.
Various- Various RBRGs and C_{sat} for individual compound.

Annex E2 Summary of the Laboratory Analytical Results with Reference to the RBRGS Groundwater and Solubility Limits

Sampling Location					AEBH3	AEBH4	AEBH5	AEBH6	AEBH7	AEBH8	AEBH9	AEBH10	AEBH11	AEBH12
Sampling Date					18 Dec 2020	18 Jun 2020	18 Dec 2020	18 Dec 2020	18 Dec 2020	18 Dec 2020	11 Dec 2020	18 Jun 2020	18 Dec 2020	11 Dec 2020
Parameters	Unit	LOR	RBRGs ^(c)	Solubility Limit										
Metals														
Mercury	µg/l	0.05	6,790	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Petroleum Carbon Ranges (PCRs)														
C6 - C8 Fraction	µg/l	20	1,150,000	5,230	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	µg/l	500	9,980,000	2,800	BDL	BDL	BDL	BDL	BDL	BDL	700	BDL	BDL	BDL
C17 - C35 Fraction	µg/l	500	178,000	2,800	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
VOCs^(a)														
Various	µg/l	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SVOCs^(b)														
Various	µg/l	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Other Inorganic Compounds														
Free Cyanide	µg/l	10	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

(a) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether, Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)

(b) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(b)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Naphthalene, Phenanthrene, and Pyrene

(c) RBRGs Groundwater and Solubility Limits for Industrial Land Use were used for comparisons of results in this Project.

(d) A duplicate sample was taken from this location; the higher of the two results is reported in this table.

NA – no respective testing results / RBRGs/ Soil Saturation Limits available for these chemicals.

LOR – Limit of Reporting indicates the detection limits of the analytical results.

BDL – Below Detection Limit indicates the concentration is lower than the limit of reporting.

Various- Various RBRGs and Solubility Limits for individual compound.

Sampling Location					AEBH13	AEBH14	AEBH15	AEBH16	AEBH17	AEBH18 ^(d)	AEBH19	AEBH20	AEBH21
Sampling Date					11 Dec 2020	11 Dec 2020	11 Dec 2020	11 Dec 2020	11 Dec 2020	18 Jun 2020	11 Dec 2020	11 Dec 2020	11 Dec 2020
Parameters	Unit	LOR	RBRGs ^(c)	Solubility Limit									
Metals													
Mercury	µg/l	0.05	6,790	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Petroleum Carbon Ranges (PCRs)													
C6 - C8 Fraction	µg/l	20	1,150,000	5,230	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C9 - C16 Fraction	µg/l	500	9,980,000	2,800	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
C17 - C35 Fraction	µg/l	500	178,000	2,800	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
VOCs^(a)													
Various	µg/l	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
SVOCs^(b)													
Various	µg/l	Various	Various	Various	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Other Inorganic Compounds													
Free Cyanide	µg/l	10	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Notes:

(a) VOCs: Acetone, Benzene, Bromodichloromethane, 2-Butanone, Chloroform, Ethylbenzene, Methyl tert-Butyl Ether, Methylene Chloride, Styrene, Tetrachloroethene, Toluene, Trichloroethene and Xylenes (Total)

(b) SVOCs: Acenaphthene, Acenaphthylene, Anthracene, Benzo(b)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Fluorene, Hexachlorobenzene, Naphthalene, Phenanthrene, and Pyrene

(c) RBRGs Groundwater and Solubility Limits for Industrial Land Use were used for comparisons of results in this Project.

(d) A duplicate sample was taken from this location; the higher of the two results is reported in this table.

NA – no respective testing results / RBRGs/ Soil Saturation Limits available for these chemicals.

LOR – Limit of Reporting indicates the detection limits of the analytical results.

BDL – Below Detection Limit indicates the concentration is lower than the limit of reporting.

Various- Various RBRGs and Solubility Limits for individual compound.

Annex E3 Summary of the Relative Percentage Differences for the Laboratory Analytical Results of Soil Duplicates

Sampling Locations			AEBH5-0.5M	AEBH5-0.5M DUP	Relative Percentage Difference ^(a) (RPD)	AEBH18-1.5M	AEBH18-1.5M DUP	Relative Percentage Difference ^(a) (RPD)
Parameters	Unit	LOR						
Metals								
Antimony	mg/kg	1	BDL	BDL	-	BDL	BDL	-
Arsenic	mg/kg	1	3	4	28.6%	2	2	0.0%
Barium	mg/kg	1	38.3	74	63.6%	11.4	12.1	6.0%
Cadmium	mg/kg	0.2	BDL	BDL	-	BDL	BDL	-
Cobalt	mg/kg	1	4.6	4.5	2.2%	1.8	2.1	15.2%
Copper	mg/kg	1	6	13	73.7%	4	6	40.0%
Lead	mg/kg	1	88	83	5.8%	82	90	9.3%
Manganese	mg/kg	1	997	759	27.1%	210	262	22.0%
Mercury	mg/kg	0.05	BDL	BDL	-	BDL	BDL	-
Molybdenum	mg/kg	1	1	2	-(b)	BDL	1	-
Nickel	mg/kg	1	7	8	13.3%	2	2	0.0%
Tin	mg/kg	1	4.1	5.4	27.4%	6.2	6.8	9.2%
Zinc	mg/kg	1	35	35	0.0%	25	25	0.0%
Chromium (III)	mg/kg	1	14.9	20	29.2%	5.1	5.9	14.5%
Chromium (VI)	mg/kg	1	BDL	BDL	-	BDL	BDL	-
PCRs								
C6 - C8 Fraction	mg/kg	5	BDL	BDL	-	BDL	BDL	-
C9 - C16 Fraction	mg/kg	200	BDL	BDL	-	BDL	BDL	-
C17 - C35 Fraction	mg/kg	200	BDL	BDL	-	BDL	BDL	-
VOCs								
Various	mg/kg	Various	BDL	BDL	-	BDL	BDL	-
SVOCs								
Various	mg/kg	Various	BDL	BDL	-	BDL	BDL	-
Other Inorganic Compounds								
Free Cyanide	mg/kg	1	BDL	BDL	-	BDL	BDL	-

Notes:

(a) RPD's formula: $|A - B| / ((A + B) / 2)$ where A represents the original soil sample and B represents the duplicate soil sample.

(b) In accordance with the USEPA guideline, RPDs were only calculated for the duplicate sample results that were higher than two times of the method detection limits

BDL – Below Detection Limit indicates the concentration is lower than the limit of reporting.

Various- Various RBRGs and C_{sat} for individual compound.

ANNEX F LABORATORY TESTING REPORTS AND CHAIN OF CUSTODY



CERTIFICATE OF ANALYSIS





Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 17
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2020797
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 03-Jun-2020
Order number	: 4501279159	Quote number	: HKE/1635/2020_V5	Issue Date	: 12-Jun-2020
C-O-C number	: 127898			No. of samples received	: 2
Site	:			No. of samples analysed	: 2



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

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 03-Jun-2020 to 12-Jun-2020.

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: HK2020797

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL				Client sample ID	AEBH4 0.5M	---	---	---	---
Client sampling date / time				03-Jun-2020 14:00	---	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2020797-001	---	---	---	---	---
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	12.4	---	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters									
EK025MD: Free Cyanide	---	1	mg/kg	<1	---	---	---	---	---
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	3	---	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	41.1	---	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	5.5	---	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	10	---	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	176	---	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	335	---	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	1	---	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	4	---	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	8.4	---	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	54	---	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	13.3	---	---	---	---	---
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				Client sample ID	AEBH4 0.5M	---	---	---	---
				Client sampling date / time	03-Jun-2020 14:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2020797-001	---	---	---	---	---
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)	----	1.5	mg/kg	<1.5	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	---	---	---	---	---



Sub-Matrix: SOIL				Client sample ID	AEBH4 0.5M	---	---	---	---
				Client sampling date / time	03-Jun-2020 14:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2020797-001	---	---	---	---	---
EP-074_SR-E: Halogenated Aliophatics - Continued									
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	%	105	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	112	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.8	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	105	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.8	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	105	---	---	---	---	---



Sub-Matrix: WATER				Client sample ID	Trip Blank	---	---	---	---
Client sampling date / time				03-Jun-2020 15:00	---	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2020797-002	---	---	---	---	---
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	%	103	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	102	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3065344)								
HK2020639-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	77.0	77.7	0.890
HK2020793-006	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	15.7	15.7	0.00
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)								
HK2021088-001	Anonymous	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3059893)								
HK2020641-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.09	0.07	16.0
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	20.7	21.5	4.08
		EG020: Cobalt	7440-48-4	0.5	mg/kg	0.6	<0.5	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	87.9	79.6	9.86
		EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	<0.5	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	1	<1	0.00
		EG020: Copper	7440-50-8	1	mg/kg	4	4	0.00
		EG020: Lead	7439-92-1	1	mg/kg	5	4	0.00
		EG020: Molybdenum	7439-98-7	1	mg/kg	1	<1	0.00
EG020: Nickel	7440-02-0	1	mg/kg	3	2	0.00		
EG020: Zinc	7440-66-6	1	mg/kg	24	22	10.4		
EG: Metals and Major Cations (QC Lot: 3062648)								
HK2020762-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)								
HK2020540-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00		



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued								
HK2020540-001	Anonymous	EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)								
HK2020540-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058557)								
HK2020697-015	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	392	406	3.45
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058559)								
HK2020697-015	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3058558)								
HK2020697-015	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3058558)								
HK2020697-015	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	<2	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	<2	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3058558)								
HK2020697-015	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3058558) - Continued								
HK2020697-015	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3058558)								
HK2020697-015	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3058558)								
HK2020697-015	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	0.00

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

Matrix: SOIL				Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)											
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	96.0	----	90.0	114	----	----
EG: Metals and Major Cations (QC Lot: 3059893)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	90.4	----	85.0	110	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.3	----	85.0	106	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	87.0	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	89.6	----	88.0	108	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	96.7	----	85.0	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	100.0	----	88.0	113	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	94.2	----	90.0	110	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	95.4	----	85.0	111	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	94.5	----	85.0	109	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	90.3	----	85.0	110	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	98.5	----	86.0	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	88.9	----	86.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	100	----	87.0	115	----	----
EG: Metals and Major Cations (QC Lot: 3062648)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	93.8	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)											



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	119	----	54.0	138	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	118	----	56.0	145	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	117	----	54.0	139	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	116	----	54.0	140	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	121	----	51.0	139	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	120	----	54.0	145	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	120	----	55.0	142	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	118	----	52.0	141	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	107	----	48.0	142	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	118	----	49.0	146	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	103	----	46.0	130	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	125	----	42.0	139	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	107	----	26.0	140	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	78.2	----	25.0	126	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	92.3	----	27.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	88.6	----	15.0	138	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	123	----	38.0	131	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	118	----	49.0	145	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	103	----	20.0	199	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058557)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	92.6	----	73.0	114	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	77.9	----	71.0	115	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058559)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	96.5	----	80.0	123	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3058558)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	95.0	----	76.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	79.0	121	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	101	----	80.0	124	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3058558) - Continued											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	111	----	83.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	104	----	81.0	120	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	83.0	121	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	108	----	84.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3058558)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	98.9	----	71.0	125	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	95.2	----	78.0	118	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3058558)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	101	----	78.0	122	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	99.5	----	86.0	119	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	104	----	79.0	123	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3058558)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	106	----	78.0	118	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	96.1	----	66.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3058558)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	68.0	125	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3060403)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	96.8	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	98.1	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	94.1	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	91.2	----	79.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	94.6	----	76.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	91.7	----	77.0	126	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3060403) - Continued											
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	91.4	----	79.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3060403)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	110	----	76.0	123	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	92.2	----	71.0	122	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3060403)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	110	----	69.0	134	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	98.7	----	80.0	126	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	94.8	----	81.0	128	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3060403)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	97.5	----	73.0	127	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	86.9	----	69.0	113	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3060403)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	94.9	----	66.0	133	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)										
HK2021088-001	Anonymous	EK025MD: Free Cyanide	----	10 mg/kg	95.8	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3059893)										
HK2020639-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	95.6	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	99.9	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	87.8	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	96.1	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	98.9	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	97.8	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	94.7	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	93.4	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	99.2	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	96.9	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	99.0	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	94.7	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	90.5	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3062648)										
HK2020761-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	91.2	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)										
HK2020549-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	101	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	103	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	97.6	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	97.8	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	98.3	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	97.1	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	101	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	98.5	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	90.1	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued											
HK2020549-001	Anonymous	EP076HK: Chrysene	218-01-9	250 µg/kg	96.8	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	89.0	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	97.9	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	89.3	----	50.0	130	----	----	
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	70.1	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	78.9	----	50.0	130	----	----	
		EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	73.6	----	50.0	130	----	----	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)											
HK2020549-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	108	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	93.9	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	109	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058557)											
HK2020697-016	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	# Not Determined	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	# Not Determined	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3058559)											
HK2020697-016	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	# Not Determined	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3058558)											
HK2020697-013	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	117	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	113	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	108	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	116	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	113	----	50.0	130	----	----	
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	97.3	----	50.0	130	----	----	
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	110	----	50.0	130	----	----	
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3058558)											



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3058558) - Continued										
HK2020697-013	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	73.8	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	117	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3058558)										
HK2020697-013	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	96.2	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	102	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	95.3	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3058558)										
HK2020697-013	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	109	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	91.1	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3058558)										
HK2020697-013	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	116	----	50.0	130	----	----

Surrogate Control Limits

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

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



CERTIFICATE OF ANALYSIS





Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 17
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2021088
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 04-Jun-2020
Order number	: 4501279159	Quote number	: HKE/1635/2020_V5	Issue Date	: 15-Jun-2020
C-O-C number	: 127899			No. of samples received	: 3
Site	:			No. of samples analysed	: 3



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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 04-Jun-2020 to 15-Jun-2020.

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: HK2021088

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL				Client sample ID	AEBH4 3.6M	AEBH4 6.0M	---	---	---
Client sampling date / time				04-Jun-2020 13:20	04-Jun-2020 15:00	---	---	---	
Compound	CAS Number	LOR	Unit	HK2021088-001	HK2021088-002	-----	-----	-----	
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	9.9	13.8	---	---	---	
ED/EK: Inorganic Nonmetallic Parameters									
EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	---	---	---	
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	---	---	---	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	<1	---	---	---	
EG020: Barium	7440-39-3	1.0	mg/kg	27.0	7.4	---	---	---	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	---	---	---	
EG020: Cobalt	7440-48-4	1.0	mg/kg	5.3	31.9	---	---	---	
EG020: Copper	7440-50-8	1	mg/kg	2	56	---	---	---	
EG020: Lead	7439-92-1	1	mg/kg	63	50	---	---	---	
EG020: Manganese	7439-96-5	1.0	mg/kg	231	234	---	---	---	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	---	---	---	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	---	---	---	
EG020: Nickel	7440-02-0	1	mg/kg	2	5	---	---	---	
EG020: Tin	7440-31-5	1.0	mg/kg	3.2	5.6	---	---	---	
EG020: Zinc	7440-66-6	1	mg/kg	20	21	---	---	---	
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	3.5	2.0	---	---	---	
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<1.0	---	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	---	---	---	



Sub-Matrix: SOIL				Client sample ID	AEBH4 3.6M	AEBH4 6.0M	---	---	---
				Client sampling date / time	04-Jun-2020 13:20	04-Jun-2020 15:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2021088-001	HK2021088-002	---	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<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	---	---	---	
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	---	---	---	
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	---	---	---	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	---	---	---	
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	---	---	---	
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	---	---	---	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	---	---	---	
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	---	---	---	
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Xylenes (Total)	----	1.5	mg/kg	<1.5	<1.5	---	---	---	
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	---	---	---	
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	---	---	---	
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	---	---	---	



Sub-Matrix: SOIL				Client sample ID	AEBH4 3.6M	AEBH4 6.0M	---	---	---
				Client sampling date / time	04-Jun-2020 13:20	04-Jun-2020 15:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2021088-001	HK2021088-002	---	---	---	
EP-074_SR-E: Halogenated Aliomatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	---	---	---	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	---	---	---	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<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	---	---	---	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	103	103	---	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	114	114	---	---	---	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.4	93.8	---	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	104	---	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	106	108	---	---	---	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.4	93.8	---	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	104	---	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	106	108	---	---	---	



Sub-Matrix: WATER				Client sample ID	Trip Blank	---	---	---	---
				Client sampling date / time	04-Jun-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2021088-003	---	---	---	---	---
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	%	105	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	106	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3065345)								
HK2020815-005	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.4	18.7	1.16
HK2021029-005	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.6	7.5	0.00
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)								
HK2021088-001	AEBH4 3.6M	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3062647)								
HK2020945-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.06	0.06	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	41.1	43.6	5.90
		EG020: Cobalt	7440-48-4	0.5	mg/kg	11.0	11.7	6.32
		EG020: Manganese	7439-96-5	0.5	mg/kg	532	524	1.67
		EG020: Tin	7440-31-5	0.5	mg/kg	2.2	2.3	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	12	11	0.00
		EG020: Copper	7440-50-8	1	mg/kg	15	15	0.00
		EG020: Lead	7439-92-1	1	mg/kg	33	32	0.00
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	0.00
		EG020: Nickel	7440-02-0	1	mg/kg	22	22	0.00
EG020: Zinc	7440-66-6	1	mg/kg	96	94	1.93		
EG: Metals and Major Cations (QC Lot: 3062649)								
HK2021088-002	AEBH4 6.0M	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)								
HK2020540-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued								
HK2020540-001	Anonymous	EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)								
HK2020540-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)								
HK2021067-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)								
HK2021067-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202) - Continued								
HK2021067-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

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

Matrix: SOIL				Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)											
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	96.0	----	90.0	114	----	----
EG: Metals and Major Cations (QC Lot: 3062647)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	92.7	----	85.0	110	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	97.4	----	85.0	106	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	90.3	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	98.6	----	88.0	108	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	97.6	----	85.0	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	105	----	88.0	113	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	99.2	----	90.0	110	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	95.1	----	85.0	111	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	100	----	85.0	109	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	96.6	----	85.0	110	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	102	----	86.0	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	92.2	----	86.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	102	----	87.0	115	----	----
EG: Metals and Major Cations (QC Lot: 3062649)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	89.1	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)											



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	119	----	54.0	138	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	118	----	56.0	145	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	117	----	54.0	139	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	116	----	54.0	140	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	121	----	51.0	139	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	120	----	54.0	145	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	120	----	55.0	142	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	118	----	52.0	141	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	107	----	48.0	142	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	118	----	49.0	146	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	103	----	46.0	130	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	125	----	42.0	139	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	107	----	26.0	140	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	78.2	----	25.0	126	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	92.3	----	27.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	88.6	----	15.0	138	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	123	----	38.0	131	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	118	----	49.0	145	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	103	----	20.0	199	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	97.5	----	73.0	114	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	78.8	----	71.0	115	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	113	----	80.0	123	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	90.8	----	76.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	90.4	----	79.0	121	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	93.7	----	80.0	124	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202) - Continued											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	91.2	----	83.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	90.8	----	81.0	120	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	92.8	----	83.0	121	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	91.7	----	84.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	109	----	71.0	125	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	110	----	78.0	118	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	105	----	78.0	122	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	95.2	----	86.0	119	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	92.1	----	79.0	123	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	98.2	----	78.0	118	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	92.3	----	66.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	68.0	125	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063093)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	102	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	109	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	106	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	107	----	79.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	112	----	76.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	111	----	77.0	126	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063093) - Continued											
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	108	----	79.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063093)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	98.5	----	76.0	123	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	106	----	71.0	122	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063093)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	99.5	----	69.0	134	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	109	----	80.0	126	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	128	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063093)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	104	----	73.0	127	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	96.1	----	69.0	113	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063093)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	107	----	66.0	133	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)										
HK2021088-001	AEBH4 3.6M	EK025MD: Free Cyanide	----	10 mg/kg	95.8	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3062647)										
HK2020738-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	100	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	94.8	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	100	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	90.2	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	78.4	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	106	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	91.8	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	98.0	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3062649)										
HK2021088-001	AEBH4 3.6M	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	85.5	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424)										
HK2020549-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	101	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	103	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	97.6	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	97.8	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3057424) - Continued											
HK2020549-001	Anonymous	EP076HK: Phenanthrene	85-01-8	250 µg/kg	98.3	----	50.0	130	----	----	
		EP076HK: Anthracene	120-12-7	250 µg/kg	97.1	----	50.0	130	----	----	
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	101	----	50.0	130	----	----	
		EP076HK: Pyrene	129-00-0	250 µg/kg	98.5	----	50.0	130	----	----	
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	90.1	----	50.0	130	----	----	
		EP076HK: Chrysene	218-01-9	250 µg/kg	96.8	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	89.0	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	97.9	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	89.3	----	50.0	130	----	----	
		EP076HK: Indeno(1,2,3.cd)pyrene	193-39-5	250 µg/kg	70.1	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	78.9	----	50.0	130	----	----	
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	73.6	----	50.0	130	----	----			
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3057424)											
HK2020549-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	108	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	93.9	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	109	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)											
HK2021071-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	86.8	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	89.3	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)											
HK2021071-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	99.4	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)											
HK2021060-001	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	102	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	110	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	113	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	108	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	110	----	50.0	130	----	----	
EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	110	----	50.0	130	----	----			



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202) - Continued										
HK2021060-001	Anonymous	EP074_SR: Xylenes (Total)	----	0.75 mg/kg	109	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	90.2	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	107	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	88.3	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	110	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	107	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	105	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	89.2	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	105	----	50.0	130	----	----

Surrogate Control Limits

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



Sub-Matrix: SOIL		Recovery Limits (%)	
<i>Compound</i>	<i>CAS Number</i>	<i>Low</i>	<i>High</i>
EP-074_SR-S: VOC Surrogates - Continued			

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



CERTIFICATE OF ANALYSIS






Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 17
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2021743
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 09-Jun-2020
Order number	: 4501279159	Quote number	: HKE/1635/2020_V5	Issue Date	: 18-Jun-2020
C-O-C number	: 127900			No. of samples received	: 4
Site	:			No. of samples analysed	: 4



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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	Manager - Metals	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 09-Jun-2020 to 18-Jun-2020.

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: HK2021743

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				AEBH18 0.5M	AEBH18 1.5M	AEBH18 1.5M-DUP	---	---
				09-Jun-2020 15:20	09-Jun-2020 16:20	09-Jun-2020 16:20	----	----
Compound	CAS Number	LOR	Unit	HK2021743-001	HK2021743-002	HK2021743-003	-----	-----
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.3	9.9	11.7	---	---
ED/EK: Inorganic Nonmetallic Parameters								
EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	<1	---	---
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	<1	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	2	2	2	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	29.2	11.4	12.1	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	11.3	1.8	2.1	---	---
EG020: Copper	7440-50-8	1	mg/kg	122	4	6	---	---
EG020: Lead	7439-92-1	1	mg/kg	78	82	90	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	698	210	262	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	<0.05	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	1	<1	1	---	---
EG020: Nickel	7440-02-0	1	mg/kg	10	2	2	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	5.1	6.2	6.8	---	---
EG020: Zinc	7440-66-6	1	mg/kg	301	25	25	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	23.5	5.1	5.9	---	---
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	---	---



Sub-Matrix: SOIL				Client sample ID		AEBH18 0.5M	AEBH18 1.5M	AEBH18 1.5M-DUP	---	---	
Client sampling date / time				09-Jun-2020 15:20		09-Jun-2020 16:20		09-Jun-2020 16:20		----	----
Compound	CAS Number	LOR	Unit	HK2021743-001	HK2021743-002	HK2021743-003	---	---	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued											
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	---	---	---	---	
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)	----	1.5	mg/kg	<1.5	<1.5	<1.5	---	---	---	---	
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											



Sub-Matrix: SOIL				Client sample ID	AEBH18 0.5M	AEBH18 1.5M	AEBH18 1.5M-DUP	---	---
Client sampling date / time				09-Jun-2020 15:20	09-Jun-2020 16:20	09-Jun-2020 16:20	----	----	
Compound	CAS Number	LOR	Unit	HK2021743-001	HK2021743-002	HK2021743-003	-----	-----	
EP-074 SR-E: Halogenated Aliphatics - Continued									
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	---	---	
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	%	97.0	86.0	99.6	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	109	97.4	115	---	---	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.7	91.9	92.8	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	101	100	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	106	106	105	---	---	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.7	91.9	92.8	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	101	100	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	106	106	105	---	---	



Sub-Matrix: WATER				Client sample ID	Trip Blank	---	---	---	---
				Client sampling date / time	09-Jun-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2021743-004	---	---	---	---	---
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	%	101	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	103	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3072564)								
HK2021536-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.5	7.5	0.00
HK2021695-005	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	19.4	19.5	0.669
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)								
HK2021088-001	Anonymous	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3069895)								
HK2021695-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	21.4	21.2	0.541
		EG020: Cobalt	7440-48-4	0.5	mg/kg	4.5	4.4	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	206	227	9.70
		EG020: Tin	7440-31-5	0.5	mg/kg	2.2	2.0	7.62
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	114	106	7.49
		EG020: Copper	7440-50-8	1	mg/kg	32	37	13.6
		EG020: Lead	7439-92-1	1	mg/kg	84	78	8.38
		EG020: Molybdenum	7439-98-7	1	mg/kg	2	3	0.00
EG020: Nickel	7440-02-0	1	mg/kg	2	2	0.00		
EG020: Zinc	7440-66-6	1	mg/kg	45	43	2.71		
EG: Metals and Major Cations (QC Lot: 3075431)								
HK2021743-002	AEBH18 1.5M	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627)								
HK2021322-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00		



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627) - Continued								
HK2021322-001	Anonymous	EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3065627)								
HK2021322-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)								
HK2021067-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)								
HK2021067-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202) - Continued								
HK2021067-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)								
HK2021067-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

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

Matrix: SOIL				Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)											
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	96.0	----	90.0	114	----	----
EG: Metals and Major Cations (QC Lot: 3069895)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	90.6	----	85.0	110	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	96.0	----	85.0	106	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	91.8	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	99.9	----	88.0	108	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	94.3	----	85.0	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	103	----	88.0	113	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	----	90.0	110	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	93.7	----	85.0	111	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	103	----	85.0	109	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	93.6	----	85.0	110	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	98.3	----	86.0	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	93.2	----	86.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	99.7	----	87.0	115	----	----
EG: Metals and Major Cations (QC Lot: 3075431)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	94.9	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627)											



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627) - Continued											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	92.4	----	54.0	138	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	91.5	----	56.0	145	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	87.5	----	54.0	139	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	88.0	----	54.0	140	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	93.4	----	51.0	139	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	91.7	----	54.0	145	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	92.6	----	55.0	142	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	91.2	----	52.0	141	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	83.7	----	48.0	142	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	89.8	----	49.0	146	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	86.0	----	46.0	130	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	93.1	----	42.0	139	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	86.2	----	26.0	140	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	80.4	----	25.0	126	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	83.4	----	27.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	86.1	----	15.0	138	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3065627)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	95.7	----	38.0	131	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	87.5	----	49.0	145	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	86.3	----	20.0	199	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	97.5	----	73.0	114	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	78.8	----	71.0	115	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	113	----	80.0	123	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	90.8	----	76.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	90.4	----	79.0	121	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	93.7	----	80.0	124	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202) - Continued											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	91.2	----	83.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	90.8	----	81.0	120	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	92.8	----	83.0	121	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	91.7	----	84.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	109	----	71.0	125	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	110	----	78.0	118	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	105	----	78.0	122	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	95.2	----	86.0	119	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	92.1	----	79.0	123	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	98.2	----	78.0	118	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	92.3	----	66.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	103	----	68.0	125	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063093)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	102	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	109	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	106	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	107	----	79.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	112	----	76.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	111	----	77.0	126	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
		Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
								LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063093) - Continued													
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	108	----	79.0	122	----	----		
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063093)													
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	98.5	----	76.0	123	----	----		
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	106	----	71.0	122	----	----		
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063093)													
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	99.5	----	69.0	134	----	----		
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	109	----	80.0	126	----	----		
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	111	----	81.0	128	----	----		
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063093)													
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	104	----	73.0	127	----	----		
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	96.1	----	69.0	113	----	----		
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063093)													
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	107	----	66.0	133	----	----		



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3070669)										
HK2021088-001	Anonymous	EK025MD: Free Cyanide	----	10 mg/kg	95.8	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3069895)										
HK2021695-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	96.2	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	78.0	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	83.5	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	87.9	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	88.5	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	94.0	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	92.5	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	93.3	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3075431)										
HK2021743-001	AEBH18 0.5M	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	90.6	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627)										
HK2021324-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	97.2	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	96.3	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	93.2	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	91.6	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3065627) - Continued											
HK2021324-001	Anonymous	EP076HK: Phenanthrene	85-01-8	250 µg/kg	95.3	----	50.0	130	----	----	
		EP076HK: Anthracene	120-12-7	250 µg/kg	93.0	----	50.0	130	----	----	
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	94.8	----	50.0	130	----	----	
		EP076HK: Pyrene	129-00-0	250 µg/kg	94.0	----	50.0	130	----	----	
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	85.5	----	50.0	130	----	----	
		EP076HK: Chrysene	218-01-9	250 µg/kg	92.4	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	86.3	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	96.4	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	89.0	----	50.0	130	----	----	
		EP076HK: Indeno(1,2,3.cd)pyrene	193-39-5	250 µg/kg	83.1	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	86.4	----	50.0	130	----	----	
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	90.7	----	50.0	130	----	----			
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3065627)											
HK2021324-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	101	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	85.9	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	92.5	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063199)											
HK2021071-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	86.8	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	89.3	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3063203)											
HK2021071-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	99.4	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202)											
HK2021060-001	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	102	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	110	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	113	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	108	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	110	----	50.0	130	----	----	
EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	110	----	50.0	130	----	----			



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3063202) - Continued										
HK2021060-001	Anonymous	EP074_SR: Xylenes (Total)	----	0.75 mg/kg	109	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	90.2	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	107	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	88.3	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	110	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	107	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	105	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	89.2	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3063202)										
HK2021060-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	105	----	50.0	130	----	----

Surrogate Control Limits

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



Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			

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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 17
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2022498
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 15-Jun-2020
Order number	: 4501279159	Quote number	: HKE/1635/2020_V5	Issue Date	: 24-Jun-2020
C-O-C number	: H038093			No. of samples received	: 3
Site	:			No. of samples analysed	: 3

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 15-Jun-2020 to 24-Jun-2020.

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: HK2022498

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., if any) is provided by client.

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

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

Client sample ID

AEBH10-0.5M

Client sampling date / time

15-Jun-2020 10:00

Compound	CAS Number	LOR	Unit	HK2022498-001	---	---	---	---
----------	------------	-----	------	---------------	-----	-----	-----	-----

EA/ED: Physical and Aggregate Properties

EA055: Moisture Content (dried @ 103°C)	---	0.1	%	9.9	---	---	---	---
---	-----	-----	---	-----	-----	-----	-----	-----

ED/EK: Inorganic Nonmetallic Parameters

EK025MD: Free Cyanide	---	1	mg/kg	<1	---	---	---	---
-----------------------	-----	---	-------	----	-----	-----	-----	-----

EG: Metals and Major Cations

EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	1	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	16.9	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	1.6	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	2	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	72	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	410	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	3	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	2.0	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	27	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	6.5	---	---	---	---
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				Client sample ID	AEBH10-0.5M	---	---	---	---
				Client sampling date / time	15-Jun-2020 10:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2022498-001	---	---	---	---	---
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)	----	1.5	mg/kg	<1.5	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	---	---	---	---	---



Sub-Matrix: SOIL				Client sample ID	AEBH10-0.5M	---	---	---	---
				Client sampling date / time	15-Jun-2020 10:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2022498-001	---	---	---	---	---
EP-074_SR-E: Halogenated Aliomatics - Continued									
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	%	86.4	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	93.0	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.4	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	102	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	94.4	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	---	---	---	---	---



Sub-Matrix: WATER				Client sample ID	Equipment Blank	Trip Blank	---	---	---
Client sampling date / time				15-Jun-2020 15:00	15-Jun-2020 15:00	---	---	---	
Compound	CAS Number	LOR	Unit	HK2022498-002	HK2022498-003	---	---	---	
EG: Metals and Major Cations - Filtered									
EG020: Antimony	7440-36-0	1	µg/L	<1	---	---	---	---	
EG020: Arsenic	7440-38-2	10	µg/L	<10	---	---	---	---	
EG020: Barium	7440-39-3	1	µg/L	<1	---	---	---	---	
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	---	---	---	---	
EG020: Cobalt	7440-48-4	1	µg/L	<1	---	---	---	---	
EG020: Copper	7440-50-8	1	µg/L	<1	---	---	---	---	
EG020: Lead	7439-92-1	1	µg/L	<1	---	---	---	---	
EG020: Manganese	7439-96-5	1	µg/L	<1	---	---	---	---	
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	---	---	---	---	
EG020: Molybdenum	7439-98-7	1	µg/L	<1	---	---	---	---	
EG020: Nickel	7440-02-0	1	µg/L	<1	---	---	---	---	
EG020: Tin	7440-31-5	1	µg/L	<1	---	---	---	---	
EG020: Zinc	7440-66-6	10	µg/L	80	---	---	---	---	
EG049: Trivalent Chromium	16065-83-1	20	µg/L	<20	---	---	---	---	
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	---	---	---	---	
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	---	---	---	



Sub-Matrix: WATER				Client sample ID	Equipment Blank	Trip Blank	---	---	---
				Client sampling date / time	15-Jun-2020 15:00	15-Jun-2020 15:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2022498-002	HK2022498-003	---	---	---	
EP-074_SR-E: Halogenated Aliphatics - Continued									
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	%	---	92.7	---	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	---	102	---	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	---	101	---	---	---	



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3083743)								
HK2022273-005	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	37.1	37.2	0.293
HK2022321-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	12.7	12.8	0.00
EG: Metals and Major Cations (QC Lot: 3083387)								
HK2022645-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	18.9	18.9	0.00
		EG020: Cobalt	7440-48-4	0.5	mg/kg	3.1	2.9	6.07
		EG020: Manganese	7439-96-5	0.5	mg/kg	1650	1380	17.6
		EG020: Tin	7440-31-5	0.5	mg/kg	1.0	0.9	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	423	455	7.32
		EG020: Copper	7440-50-8	1	mg/kg	26	29	10.3
		EG020: Lead	7439-92-1	1	mg/kg	1530	1350	12.6
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	0.00
		EG020: Nickel	7440-02-0	1	mg/kg	<1	<1	0.00
EG020: Zinc	7440-66-6	1	mg/kg	49	52	5.78		
EG: Metals and Major Cations (QC Lot: 3090752)								
HK2022926-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895)								
HK2022033-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	<50	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<50	<50	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	<50	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<50	<50	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<150	<150	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<150	<150	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<150	<150	0.00
		EP076HK: Chrysene	218-01-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<150	<150	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895) - Continued								
HK2022033-001	Anonymous	EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<150	<150	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<150	<150	0.00
		EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<150	<150	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3075895)								
HK2022033-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	<1000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	<50	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070023)								
HK2021750-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070025)								
HK2021750-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3070595)								
HK2021645-015	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	<0.1	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	<0.4	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<1.0	<1.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3070595)								
HK2021645-015	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	<2	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	<2	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3070595)								
HK2021645-015	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00
		EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3070595)								



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3070595) - Continued								
HK2021645-015	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3070595)								
HK2021645-015	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	0.00

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

Matrix: SOIL				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3094463)												
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	93.8	----	90.0	114	----	----	
EG: Metals and Major Cations (QC Lot: 3083387)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	97.1	----	85.0	110	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	98.6	----	85.0	106	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	95.3	----	85.0	111	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	96.7	----	88.0	108	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	96.8	----	85.0	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	109	----	88.0	113	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	102	----	90.0	110	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	94.1	----	85.0	111	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	99.8	----	85.0	109	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	95.8	----	85.0	110	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	99.5	----	86.0	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	94.4	----	86.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	102	----	87.0	115	----	----	
EG: Metals and Major Cations (QC Lot: 3090752)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	92.7	----	85.0	115	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895)												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	120	----	54.0	138	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	117	----	56.0	145	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895) - Continued											
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	115	----	54.0	139	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	117	----	54.0	140	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	120	----	51.0	139	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	120	----	54.0	145	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	119	----	55.0	142	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	117	----	52.0	141	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	110	----	48.0	142	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	115	----	49.0	146	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	104	----	46.0	130	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	117	----	42.0	139	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	103	----	26.0	140	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	73.1	----	25.0	126	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	75.7	----	27.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	75.4	----	15.0	138	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3075895)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	123	----	38.0	131	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	114	----	49.0	145	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	117	----	20.0	199	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070023)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	104	----	73.0	114	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	89.2	----	71.0	115	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070025)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	94.4	----	80.0	123	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3070595)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	110	----	76.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	112	----	79.0	121	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	112	----	80.0	124	----	----
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	106	----	83.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	81.0	120	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3070595) - Continued											
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	109	----	83.0	121	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	107	----	84.0	120	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3070595)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	110	----	71.0	125	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	96.4	----	78.0	118	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3070595)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	109	----	78.0	122	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	111	----	86.0	119	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	108	----	79.0	123	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3070595)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	107	----	78.0	118	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	96.8	----	66.0	123	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3070595)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	111	----	68.0	125	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 3080491)											
EG020: Antimony	7440-36-0	1	µg/L	<1	50 µg/L	96.7	----	89.0	110	----	----
EG020: Arsenic	7440-38-2	1	µg/L	<1	50 µg/L	97.0	----	85.0	112	----	----
EG020: Barium	7440-39-3	1	µg/L	<1	50 µg/L	86.9	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	5 µg/L	95.6	----	85.0	111	----	----
EG020: Cobalt	7440-48-4	1	µg/L	<1	50 µg/L	96.5	----	85.0	113	----	----
EG020: Copper	7440-50-8	1	µg/L	<1	50 µg/L	93.2	----	85.0	113	----	----
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	93.1	----	85.0	113	----	----
EG020: Manganese	7439-96-5	1	µg/L	<1	50 µg/L	89.2	----	85.0	114	----	----
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	93.1	----	85.0	115	----	----
EG020: Molybdenum	7439-98-7	1	µg/L	<1	50 µg/L	103	----	89.0	110	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 3080491) - Continued											
EG020: Nickel	7440-02-0	1	µg/L	<1	50 µg/L	94.2	----	85.0	113	----	----
EG020: Tin	7440-31-5	1	µg/L	<1	50 µg/L	100	----	88.0	110	----	----
EG020: Zinc	7440-66-6	10	µg/L	<10	50 µg/L	98.3	----	85.0	113	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3099962)											
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	100 µg/L	100	----	80.0	106	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3089985)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	91.6	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	97.4	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	92.1	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	92.6	----	79.0	121	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	99.6	----	76.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	95.7	----	77.0	126	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	93.6	----	79.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3089985)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	98.0	----	76.0	123	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	89.6	----	71.0	122	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3089985)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	112	----	69.0	134	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	126	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	96.9	----	81.0	128	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3089985)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	105	----	73.0	127	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	93.2	----	69.0	113	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3089985)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	83.8	----	66.0	133	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3094463)										
HK2022498-001	AEBH10-0.5M	EK025MD: Free Cyanide	----	10 mg/kg	86.4	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3083387)										
HK2022498-001	AEBH10-0.5M	EG020: Antimony	7440-36-0	5 mg/kg	96.6	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	93.9	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	88.3	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	93.7	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	90.6	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	97.3	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	79.0	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	94.4	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	91.4	----	75.0	125	----	----
EG020: Tin	7440-31-5	5 mg/kg	94.3	----	75.0	125	----	----		
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3090752)										
HK2022498-001	AEBH10-0.5M	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	91.1	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895)										
HK2022033-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	102	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	92.6	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	90.2	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	91.2	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	93.7	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	91.8	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3075895) - Continued											
HK2022033-001	Anonymous	EP076HK: Fluoranthene	206-44-0	250 µg/kg	95.1	----	50.0	130	----	----	
		EP076HK: Pyrene	129-00-0	250 µg/kg	94.1	----	50.0	130	----	----	
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	87.0	----	50.0	130	----	----	
		EP076HK: Chrysene	218-01-9	250 µg/kg	93.1	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	85.3	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	97.9	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	85.8	----	50.0	130	----	----	
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	59.4	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	61.8	----	50.0	130	----	----	
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	61.5	----	50.0	130	----	----			
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3075895)											
HK2022033-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	80.5	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	79.5	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	125	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070023)											
HK2021750-002	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	91.5	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	80.6	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3070025)											
HK2021750-002	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	97.2	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3070595)											
HK2021645-016	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	110	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	115	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	105	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	105	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	106	----	50.0	130	----	----	
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	99.8	----	50.0	130	----	----	
EP074_SR: Xylenes (Total)	----	0.75 mg/kg	103	----	50.0	130	----	----			
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3070595)											



Matrix: SOIL

				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
<i>Laboratory sample ID</i>	<i>Client sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3070595) - Continued										
HK2021645-016	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	82.7	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	118	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3070595)										
HK2021645-016	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	86.4	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	95.4	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	95.1	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3070595)										
HK2021645-016	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	116	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	88.8	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3070595)										
HK2021645-016	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	117	----	50.0	130	----	----

Matrix: WATER

				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
<i>Laboratory sample ID</i>	<i>Client sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
EG: Metals and Major Cations - Filtered (QC Lot: 3080491)										
HK2022498-002	Equipment Blank	EG020: Antimony	7440-36-0	50 µg/L	98.0	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	50 µg/L	94.8	----	75.0	125	----	----
		EG020: Barium	7440-39-3	50 µg/L	89.3	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	5 µg/L	94.5	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	50 µg/L	92.5	----	75.0	125	----	----
		EG020: Copper	7440-50-8	50 µg/L	90.8	----	75.0	125	----	----
		EG020: Lead	7439-92-1	50 µg/L	95.7	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	50 µg/L	90.0	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	2 µg/L	90.3	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	50 µg/L	101	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	50 µg/L	91.4	----	75.0	125	----	----
		EG020: Tin	7440-31-5	50 µg/L	97.2	----	75.0	125	----	----



Matrix: WATER				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
<i>Laboratory sample ID</i>	<i>Client sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
EG: Metals and Major Cations - Filtered (QC Lot: 3080491) - Continued										
HK2022498-002	Equipment Blank	EG020: Zinc	7440-66-6	50 µg/L	83.7	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3099962)										
HK2022498-002	Equipment Blank	EG050: Hexavalent Chromium	18540-29-9	100 µg/L	100	----	75.0	125	----	----

Surrogate Control Limits

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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2022912
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Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 18-Jun-2020
Order number	: 4501279159	Quote number	: HKE/1635/2020_V5	Issue Date	: 30-Jun-2020
C-O-C number	: ---			No. of samples received	: 6
Site	:			No. of samples analysed	: 6

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

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 18-Jun-2020 to 29-Jun-2020.

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: HK2022912

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., if any) is provided by client.

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

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



Analytical Results

Sub-Matrix: WATER

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	AEBH4	AEBH10	AEBH18	AEBH18-DUP	FIELD BLANK
				18-Jun-2020 10:10	18-Jun-2020 10:39	18-Jun-2020 10:56	18-Jun-2020 10:56	18-Jun-2020 11:15
				HK2022912-001	HK2022912-002	HK2022912-003	HK2022912-004	HK2022912-005
ED/EK: Inorganic Nonmetallic Parameters								
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
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	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
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: Benz(a)anthracene	56-55-3	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
EP076HK: Benzo(k)fluoranthene	207-08-9	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Benzo(a)pyrene	50-32-8	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Dibenz(a,h)anthracene	53-70-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Benzo(g,h,i)perylene	191-24-2	2.0	µg/L	<2.0	<2.0	<2.0	<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	<2.0	<2.0	<2.0
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	20.0	µg/L	<20.0	<20.0	<20.0	<20.0	<20.0
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	<500	<500	<500	<500	<500
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	<500	<500	<500	<500	<500
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)								



Sub-Matrix: WATER				Client sample ID	AEBH4	AEBH10	AEBH18	AEBH18-DUP	FIELD BLANK
				Client sampling date / time	18-Jun-2020 10:10	18-Jun-2020 10:39	18-Jun-2020 10:56	18-Jun-2020 10:56	18-Jun-2020 11:15
Compound	CAS Number	LOR	Unit	HK2022912-001	HK2022912-002	HK2022912-003	HK2022912-004	HK2022912-005	HK2022912-005
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) - Continued									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	<10	<10	<10	<10	<10
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	<20	<20	<20	<20
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	<500	<500	<500	<500
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	<50	<50	<50	<50
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	<50	<50	<50	<50	<50
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	50.7	50.6	56.2	50.9	61.5	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	86.9	103	98.1	94.2	105	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	96.6	95.2	96.4	106	104	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	102	102	102	102	103	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	103	104	103	105	101	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	96.6	95.2	96.4	106	104	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	102	102	102	103	



Sub-Matrix: WATER				Client sample ID	AEBH4	AEBH10	AEBH18	AEBH18-DUP	FIELD BLANK
				Client sampling date / time	18-Jun-2020 10:10	18-Jun-2020 10:39	18-Jun-2020 10:56	18-Jun-2020 10:56	18-Jun-2020 11:15
Compound	CAS Number	LOR	Unit		HK2022912-001	HK2022912-002	HK2022912-003	HK2022912-004	HK2022912-005
EP-074 SR-S: VOC Surroates - Continued									
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		103	104	103	105	101



Sub-Matrix: WATER				Client sample ID	TRIP BLANK	---	---	---	---
Client sampling date / time				18-Jun-2020 11:15	---	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2022912-006	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	---	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	---	---	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	5.0	µg/L	<5.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	104	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	90.8	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	105	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3095959)								
HK2022912-002	AEBH10	EK025A: Free Cyanide	----	0.01	mg/L	<0.01	<0.01	0.00
EG: Metals and Major Cations - Filtered (QC Lot: 3090065)								
HK2022912-002	AEBH10	EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.00

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3095959)											
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	0.05 mg/L	102	----	88.9	112	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3090065)											
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	90.6	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3090889)											
EP076HK: Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	112	----	66.0	135	----	----
EP076HK: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	100	----	60.0	136	----	----
EP076HK: Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	110	----	63.0	132	----	----
EP076HK: Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	106	----	64.0	135	----	----
EP076HK: Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	118	----	61.0	132	----	----
EP076HK: Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	110	----	61.0	121	----	----
EP076HK: Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	107	----	65.0	135	----	----
EP076HK: Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	107	----	61.0	136	----	----
EP076HK: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	0.5 µg/L	89.8	----	64.0	124	----	----
EP076HK: Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	112	----	49.0	140	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	98.2	----	53.0	135	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	0.5 µg/L	114	----	66.0	128	----	----
EP076HK: Benzo(a)pyrene	50-32-8	0.1	µg/L	<0.1	0.5 µg/L	102	----	45.0	126	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	0.5 µg/L	91.9	----	45.0	129	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	0.5 µg/L	106	----	47.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	0.5 µg/L	111	----	42.0	140	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3090889)											
EP076HK: Phenol	108-95-2	5	µg/L	<5.0	0.5 µg/L	102	----	46.0	140	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	122	----	60.0	135	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	<10.0	0.5 µg/L	78.0	----	55.0	169	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3076261)											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	95.0	----	59.0	136	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3090891)											
EP071HK_SR: C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	93.6	----	71.0	121	----	----
EP071HK_SR: C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	86.9	----	68.0	103	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3089985)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	91.6	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	97.4	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	92.1	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	92.6	----	79.0	121	----	----
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	99.6	----	76.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	95.7	----	77.0	126	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	93.6	----	79.0	122	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3089985)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	98.0	----	76.0	123	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	89.6	----	71.0	122	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3089985)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	112	----	69.0	134	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	105	----	80.0	126	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	96.9	----	81.0	128	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3089985)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	105	----	73.0	127	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	93.2	----	69.0	113	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3089985)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	83.8	----	66.0	133	----	----



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

Matrix: WATER

					<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>					
<i>Laboratory sample ID</i>	<i>Client sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3095959)										
HK2022912-001	AEBH4	EK025A: Free Cyanide	----	0.1 mg/L	93.0	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3090065)										
HK2022912-001	AEBH4	EG020: Mercury	7439-97-6	2 µg/L	78.5	----	75.0	125	----	----

Surrogate Control Limits

Sub-Matrix: WATER

<i>Compound</i>	<i>CAS Number</i>	<i>Recovery Limits (%)</i>	
		<i>Low</i>	<i>High</i>
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



CERTIFICATE OF ANALYSIS





Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 20
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2044848
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 20-Nov-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 01-Dec-2020
C-O-C number	: H041101			No. of samples received	: 8
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 8



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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Chan Ka Yu , Karen	Manager - Organics	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 20-Nov-2020 to 01-Dec-2020.

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: HK2044848

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

				Sample ID	AEBH21-0.40m	AEBH20-0.50m	AEBH19-0.50m	AEBH17-0.50m	AEBH15-0.50m
				Sampling date / time	20-Nov-2020 10:40	20-Nov-2020 11:00	20-Nov-2020 13:45	20-Nov-2020 13:50	20-Nov-2020 14:20
Compound	CAS Number	LOR	Unit	HK2044848-001	HK2044848-002	HK2044848-003	HK2044848-004	HK2044848-005	HK2044848-005
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.8	27.2	7.1	6.4	10.1	
ED/EK: Inorganic Nonmetallic Parameters									
EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	<1	<1	<1	
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	<1	2	<1	<1	<1	
EG020: Arsenic	7440-38-2	1	mg/kg	2	17	2	2	3	
EG020: Barium	7440-39-3	1.0	mg/kg	40.9	438	25.2	20.4	114	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.5	<0.2	<0.2	0.3	
EG020: Cobalt	7440-48-4	1.0	mg/kg	7.4	52.7	4.2	2.5	6.3	
EG020: Copper	7440-50-8	1	mg/kg	9	52	4	4	7	
EG020: Lead	7439-92-1	1	mg/kg	84	24	150	68	169	
EG020: Manganese	7439-96-5	1.0	mg/kg	503	385	158	295	364	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.20	<0.05	<0.05	<0.05	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	2	9	4	2	
EG020: Nickel	7440-02-0	1	mg/kg	44	81	3	5	10	
EG020: Tin	7440-31-5	1.0	mg/kg	3.4	3.7	4.7	3.8	4.5	
EG020: Zinc	7440-66-6	1	mg/kg	78	308	65	37	52	
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	121	21.6	6.9	15.8	12.2	
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<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	<0.500	
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<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	<0.500	
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<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	<0.500	
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<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	<0.500	
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<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	<0.500	



Sub-Matrix: SOIL				Sample ID	AEBH21-0.40m	AEBH20-0.50m	AEBH19-0.50m	AEBH17-0.50m	AEBH15-0.50m
				Sampling date / time	20-Nov-2020 10:40	20-Nov-2020 11:00	20-Nov-2020 13:45	20-Nov-2020 13:50	20-Nov-2020 14:20
Compound	CAS Number	LOR	Unit	HK2044848-001	HK2044848-002	HK2044848-003	HK2044848-004	HK2044848-005	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	<0.200	<0.200	
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	<5.00	<5.00	<5.00	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	<5	
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	<200	
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	<500	<500	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<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	<0.5	
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	<50	<50	
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5	
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	



Sub-Matrix: SOIL				Sample ID	AEBH21-0.40m	AEBH20-0.50m	AEBH19-0.50m	AEBH17-0.50m	AEBH15-0.50m
				Sampling date / time	20-Nov-2020 10:40	20-Nov-2020 11:00	20-Nov-2020 13:45	20-Nov-2020 13:50	20-Nov-2020 14:20
Compound	CAS Number	LOR	Unit	HK2044848-001	HK2044848-002	HK2044848-003	HK2044848-004	HK2044848-005	
EP-074_SR-E: Halogenated Aliophatics - Continued									
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	95.3	84.6	89.7	105	96.6	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	84.0	81.6	84.6	89.4	67.0	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.6	90.1	94.5	90.8	90.5	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	103	101	101	100	100	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.4	91.0	92.6	90.3	89.9	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.6	90.1	94.5	90.8	90.5	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	103	101	101	100	100	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	92.4	91.0	92.6	90.3	89.9	



Sub-Matrix: SOIL				Sample ID	AEBH16-0.50m	AEBH12-0.50m	---	---	---
				Sampling date / time	20-Nov-2020 15:15	20-Nov-2020 16:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2044848-006	HK2044848-008	---	---	---	---
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	12.1	7.3	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters									
EK025MD: Free Cyanide	---	1	mg/kg	<1	<1	---	---	---	---
EG: Metals and Major Cations									
EG020: Antimony	7440-36-0	1	mg/kg	2	<1	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	5	2	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	288	20.4	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	0.2	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	12.2	1.9	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	12	2	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	38	81	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	166	301	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	0.08	<0.05	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	1	<1	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	21	3	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	3.9	4.0	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	67	32	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	15.6	14.0	---	---	---	---
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<1.0	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)									
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	---	---	---	---
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	---	---	---	---



Sub-Matrix: SOIL				Sample ID	AEBH16-0.50m	AEBH12-0.50m	---	---	---
				Sampling date / time	20-Nov-2020 15:15	20-Nov-2020 16:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2044848-006	HK2044848-008	---	---	---	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	---	---	---	
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<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	---	---	---	
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	---	---	---	
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	---	---	---	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	---	---	---	
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	---	---	---	
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	---	---	---	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	---	---	---	
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1.0	mg/kg	<1.0	<1.0	---	---	---	
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	---	---	---	
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	---	---	---	
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	---	---	---	
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	---	---	---	
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	---	---	---	
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	---	---	---	



Sub-Matrix: SOIL				Sample ID	AEBH16-0.50m	AEBH12-0.50m	---	---	---
				Sampling date / time	20-Nov-2020 15:15	20-Nov-2020 16:00	---	---	---
Compound	CAS Number	LOR	Unit	HK2044848-006	HK2044848-008	---	---	---	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	---	---	---	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<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	---	---	---	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	91.1	92.8	---	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	51.0	83.3	---	---	---	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.2	90.4	---	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	100	---	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	91.5	---	---	---	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.2	90.4	---	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	100	---	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	91.5	---	---	---	



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	20-Nov-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2044848-007	---	---	---	---	---
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	%	93.6	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	103	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.4	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3380606)								
HK2044848-001	AEBH21-0.40m	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.8	7.6	1.93
HK2045035-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	19.0	19.2	1.34
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)								
HK2044848-002	AEBH20-0.50m	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3378274)								
HK2044848-002	AEBH20-0.50m	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EG: Metals and Major Cations (QC Lot: 3378303)								
HK2044840-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	0.5	0.5	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	35.0	34.2	2.35
		EG020: Cobalt	7440-48-4	0.5	mg/kg	1.6	1.6	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	36.1	33.6	7.18
		EG020: Tin	7440-31-5	0.5	mg/kg	1.2	1.2	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	94	110	16.1
		EG020: Copper	7440-50-8	1	mg/kg	20	23	12.6
		EG020: Lead	7439-92-1	1	mg/kg	25	26	0.00
		EG020: Molybdenum	7439-98-7	1	mg/kg	<1	<1	0.00
EG020: Nickel	7440-02-0	1	mg/kg	8	7	0.00		
EG020: Zinc	7440-66-6	1	mg/kg	28	26	7.10		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982)								
HK2044770-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	<50	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<50	<50	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	<50	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<50	<50	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<150	<150	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<150	<150	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<150	<150	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982) - Continued								
HK2044770-001	Anonymous	EP076HK: Chrysene	218-01-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<150	<150	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<150	<150	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<150	<150	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3378982)								
HK2044770-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	<1000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	<50	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3378984)								
HK2044848-001	AEBH21-0.40m	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)								
HK2044848-001	AEBH21-0.40m	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)								
HK2044848-001	AEBH21-0.40m	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)								
HK2044848-001	AEBH21-0.40m	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)								
HK2044848-001	AEBH21-0.40m	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204) - Continued								
HK2044848-001	AEBH21-0.40m	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)								
HK2044848-001	AEBH21-0.40m	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)								
HK2044848-001	AEBH21-0.40m	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

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

Matrix: SOIL				Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)											
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	90.0	----	90.0	114	----	----
EG: Metals and Major Cations (QC Lot: 3378274)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	113	----	85.0	115	----	----
EG: Metals and Major Cations (QC Lot: 3378303)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	91.2	----	85.0	110	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.8	----	85.0	106	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	88.5	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	97.5	----	88.0	108	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	100	----	85.0	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	104	----	88.0	113	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	98.1	----	90.0	110	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	96.6	----	85.0	111	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	107	----	85.0	109	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	94.6	----	85.0	110	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	101	----	86.0	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	93.4	----	86.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	105	----	87.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982)											



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982) - Continued											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	72.2	----	68.0	140	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	74.9	----	70.0	139	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	74.0	----	65.0	138	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	71.9	----	67.0	139	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	72.4	----	70.0	143	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	75.5	----	69.0	142	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	81.7	----	70.0	140	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	83.3	----	69.0	137	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	73.9	----	64.0	135	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	88.9	----	68.0	139	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	73.5	----	59.0	133	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	93.9	----	57.0	141	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	84.3	----	54.0	131	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	75.0	----	40.0	121	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	82.1	----	40.0	125	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	78.4	----	36.0	134	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3378982)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	78.0	----	73.0	142	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	72.5	----	70.0	143	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	64.9	----	51.0	148	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3378984)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	85.1	----	83.0	105	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	83.6	----	65.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	107	----	81.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	98.9	----	79.0	122	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	79.0	123	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	80.0	121	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204) - Continued											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	108	----	80.0	120	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	104	----	79.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	111	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	109	----	80.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	91.0	----	73.0	122	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	107	----	76.0	125	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	88.3	----	72.0	123	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	102	----	79.0	122	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	107	----	79.0	122	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	103	----	79.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	96.9	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	95.3	----	74.0	127	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383566)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	96.3	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	103	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	108	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	105	----	72.0	124	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	96.7	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	120	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383566) - Continued											
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	106	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383566)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	107	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	107	----	79.0	123	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383566)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	105	----	70.0	124	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	99.7	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	100	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383566)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	99.0	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	88.0	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383566)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	93.6	----	70.0	130	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)										
HK2044848-001	AEBH21-0.40m	EK025MD: Free Cyanide	----	10 mg/kg	78.2	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3378274)										
HK2044848-001	AEBH21-0.40m	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	109	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3378303)										
HK2044840-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	92.4	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	89.8	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	100	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	90.2	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	93.4	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	94.4	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982)										
HK2044770-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	77.3	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	76.8	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3378982) - Continued										
HK2044770-001	Anonymous	EP076HK: Acenaphthene	83-32-9	250 µg/kg	81.1	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	80.2	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	72.3	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	77.4	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	86.5	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	83.8	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	82.3	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	91.4	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	79.3	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	88.9	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	85.3	----	50.0	130	----	----
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	98.5	----	50.0	130	----	----
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	104	----	50.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	99.6	----	50.0	130	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3378982)										
HK2044770-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	66.6	----	50.0	130	----	----
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	77.0	----	50.0	130	----	----
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	79.5	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3378984)										
HK2044848-002	AEBH20-0.50m	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	81.0	----	50.0	130	----	----
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	69.2	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)										
HK2044848-002	AEBH20-0.50m	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	104	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)										
HK2044848-003	AEBH19-0.50m	EP074_SR: Benzene	71-43-2	0.25 mg/kg	104	----	50.0	130	----	----
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	110	----	50.0	130	----	----
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	110	----	50.0	130	----	----
		EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	111	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204) - Continued										
HK2044848-003	AEBH19-0.50m	EP074_SR: Styrene	100-42-5	0.25 mg/kg	108	----	50.0	130	----	----
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	102	----	50.0	130	----	----
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	108	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)										
HK2044848-003	AEBH19-0.50m	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	108	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	90.0	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)										
HK2044848-003	AEBH19-0.50m	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	93.8	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	105	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	106	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)										
HK2044848-003	AEBH19-0.50m	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	107	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	91.1	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)										
HK2044848-003	AEBH19-0.50m	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	92.7	----	50.0	130	----	----

Surrogate Control Limits

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



Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-074_SR-S: VOC Surrogates - Continued			
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

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



CERTIFICATE OF ANALYSIS






Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 17
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2045044
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 23-Nov-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 02-Dec-2020
C-O-C number	: H041102			No. of samples received	: 2
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 2



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

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Ka Yu , Karen	Manager - Organics	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 23-Nov-2020 to 02-Dec-2020.

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: HK2045044

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

				Sample ID				
				AEBH20-1.50m	---	---	---	---
				Sampling date / time	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045044-001	---	---	---	---
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.3	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters								
EK025MD: Free Cyanide	---	1	mg/kg	<1	---	---	---	---
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	1	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	11.8	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	1.9	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	6	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	64	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	209	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	2	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	3.1	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	33	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	5.8	---	---	---	---
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	AEBH20-1.50m	---	---	---	---
				Sampling date / time	23-Nov-2020 11:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045044-001	---	---	---	---	---
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									
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	---	---	---	---	---



Sub-Matrix: SOIL				Sample ID	AEBH20-1.50m	---	---	---	---
				Sampling date / time	23-Nov-2020 11:00	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045044-001	---	---	---	---	---
EP-074_SR-E: Halogenated Aliomatics - Continued									
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	%	91.5	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	86.5	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.4	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.0	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	93.4	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.0	---	---	---	---	---



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	23-Nov-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045044-002	---	---	---	---	---
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	%	92.0	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.4	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3385488)								
HK2045044-001	AEBH20-1.50m	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.3	10.7	3.58
HK2045238-009	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.7	19.4	3.81
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)								
HK2044848-002	Anonymous	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3380577)								
HK2044823-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	0.09	0.08	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	0.3	0.3	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	20.7	21.0	1.62
		EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	<0.5	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	99.3	101	1.90
		EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	<0.5	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	7	8	0.00
		EG020: Copper	7440-50-8	1	mg/kg	26	28	8.36
		EG020: Lead	7439-92-1	1	mg/kg	<1	<1	0.00
		EG020: Molybdenum	7439-98-7	1	mg/kg	1	1	0.00
		EG020: Nickel	7440-02-0	1	mg/kg	16	16	0.00
EG020: Zinc	7440-66-6	1	mg/kg	220	199	10.2		
EG: Metals and Major Cations (QC Lot: 3388429)								
HK2045579-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962)								
HK2045055-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	<50	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	<50	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<50	<50	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	<50	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<50	<50	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<150	<150	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<150	<150	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<150	<150	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962) - Continued								
HK2045055-001	Anonymous	EP076HK: Chrysene	218-01-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<150	<150	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<150	<150	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<150	<150	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<150	<150	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3380962)								
HK2045055-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	<1000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	<50	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3380963)								
HK2045044-001	AEBH20-1.50m	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)								
HK2044848-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)								
HK2044848-001	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)								
HK2044848-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)								
HK2044848-001	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204) - Continued								
HK2044848-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)								
HK2044848-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)								
HK2044848-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

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

Matrix: SOIL				Method Blank (MB) Report								Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)					
						LCS	DCS	Low	High	Value	Control Limit				
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)															
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	90.0	----	90.0	114	----	----				
EG: Metals and Major Cations (QC Lot: 3380577)															
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	91.3	----	85.0	110	----	----				
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	95.2	----	85.0	106	----	----				
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	90.1	----	85.0	111	----	----				
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	98.8	----	88.0	108	----	----				
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	101	----	85.0	110	----	----				
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	107	----	88.0	113	----	----				
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	102	----	90.0	110	----	----				
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	97.7	----	85.0	111	----	----				
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	108	----	85.0	109	----	----				
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	100	----	85.0	110	----	----				
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	102	----	86.0	111	----	----				
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	91.6	----	86.0	109	----	----				
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	113	----	87.0	115	----	----				
EG: Metals and Major Cations (QC Lot: 3388429)															
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	112	----	85.0	115	----	----				
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962)															



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962) - Continued											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	74.5	----	68.0	140	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	76.3	----	70.0	139	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	75.4	----	65.0	138	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	74.1	----	67.0	139	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	72.5	----	70.0	143	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	75.8	----	69.0	142	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	83.3	----	70.0	140	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	82.8	----	69.0	137	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	78.1	----	64.0	135	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	89.3	----	68.0	139	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	77.1	----	59.0	133	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	88.8	----	57.0	141	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	83.5	----	54.0	131	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	67.5	----	40.0	121	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	74.5	----	40.0	125	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	71.2	----	36.0	134	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3380962)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	78.0	----	73.0	142	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	72.5	----	70.0	143	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	68.9	----	51.0	148	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3380963)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	87.5	----	83.0	105	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	82.4	----	65.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	107	----	81.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	98.9	----	79.0	122	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	79.0	123	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	80.0	121	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204) - Continued											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	108	----	80.0	120	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	104	----	79.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	111	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	109	----	80.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	91.0	----	73.0	122	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	107	----	76.0	125	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	88.3	----	72.0	123	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	102	----	79.0	122	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	107	----	79.0	122	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	103	----	79.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	96.9	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	95.3	----	74.0	127	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383567)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	106	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	106	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	105	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	105	----	72.0	124	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	103	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	109	----	78.0	120	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383567) - Continued											
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	106	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383567)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.9	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	102	----	79.0	123	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383567)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	91.5	----	70.0	124	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	101	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	106	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383567)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	112	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	101	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383567)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	101	----	70.0	130	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3381602)										
HK2044848-001	Anonymous	EK025MD: Free Cyanide	----	10 mg/kg	78.2	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3380577)										
HK2044770-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	91.7	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	96.2	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	84.6	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	102	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	90.4	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	88.4	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	106	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	88.3	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	94.4	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	84.8	----	75.0	125	----	----
EG020: Tin	7440-31-5	5 mg/kg	93.8	----	75.0	125	----	----		
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3388429)										
HK2045044-001	AEBH20-1.50m	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	111	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962)										
HK2045055-002	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	84.5	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	79.1	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	82.2	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	84.3	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	72.4	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	85.4	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	73.5	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3380962) - Continued											
HK2045055-002	Anonymous	EP076HK: Pyrene	129-00-0	250 µg/kg	72.3	----	50.0	130	----	----	
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	87.4	----	50.0	130	----	----	
		EP076HK: Chrysene	218-01-9	250 µg/kg	85.1	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	83.7	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	91.9	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	93.5	----	50.0	130	----	----	
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	90.5	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	85.0	----	50.0	130	----	----	
		EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	88.5	----	50.0	130	----	----	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3380962)											
HK2045055-002	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	63.7	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	79.7	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	88.2	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3380963)											
HK2045044-001	AEBH20-1.50m	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	111	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	87.9	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3383203)											
HK2044848-002	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	104	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3383204)											
HK2044848-003	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	104	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	110	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	110	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	111	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	108	----	50.0	130	----	----	
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	102	----	50.0	130	----	----	
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	108	----	50.0	130	----	----	
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204)											
HK2044848-003	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	108	----	50.0	130	----	----	



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3383204) - Continued										
HK2044848-003	Anonymous	EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	90.0	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3383204)										
HK2044848-003	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	93.8	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	105	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	106	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3383204)										
HK2044848-003	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	107	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	91.1	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3383204)										
HK2044848-003	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	92.7	----	50.0	130	----	----

Surrogate Control Limits

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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High



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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2045579
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 26-Nov-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 07-Dec-2020
C-O-C number	: H041103			No. of samples received	: 2
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 2

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

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 26-Nov-2020 to 07-Dec-2020.

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: HK2045579

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

				Sample ID				
				AEBH 17-1.50m	---	---	---	---
				Sampling date / time				
				26-Nov-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045579-001	---	---	---	---
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.4	---	---	---	---
ED/EK: Inorganic Nonmetallic Parameters								
EK025MD: Free Cyanide	---	1	mg/kg	<1	---	---	---	---
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	3	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	15.6	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	29.9	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	111	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	79	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	408	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	3	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	32	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	8.5	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	61	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	18.0	---	---	---	---
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	AEBH 17-1.50m	---	---	---	---
				Sampling date / time	26-Nov-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045579-001	---	---	---	---	---
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									
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	---	---	---	---	---



Sub-Matrix: SOIL				Sample ID	AEBH 17-1.50m	---	---	---	---
				Sampling date / time	26-Nov-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045579-001	---	---	---	---	---
EP-074_SR-E: Halogenated Aliophatics - Continued									
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	%	92.6	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	86.4	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	100	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.6	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	100	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.6	---	---	---	---	---



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	26-Nov-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2045579-002	---	---	---	---	---
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	%	102	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	103	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.4	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3388331)								
HK2045235-007	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.9	12.0	0.00
EG: Metals and Major Cations (QC Lot: 3388429)								
HK2045579-001	AEBH 17-1.50m	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EG: Metals and Major Cations (QC Lot: 3390162)								
HK2045727-001	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	4.9	5.4	8.92
		EG020: Cobalt	7440-48-4	0.5	mg/kg	0.7	0.6	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	25.1	28.1	11.2
		EG020: Tin	7440-31-5	0.5	mg/kg	1.7	1.8	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	333	309	7.57
		EG020: Copper	7440-50-8	1	mg/kg	10	11	0.00
		EG020: Lead	7439-92-1	1	mg/kg	127	119	6.15
		EG020: Molybdenum	7439-98-7	1	mg/kg	1	1	0.00
		EG020: Nickel	7440-02-0	1	mg/kg	2	2	0.00
EG020: Zinc	7440-66-6	1	mg/kg	46	49	6.01		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835)								
HK2045579-001	AEBH 17-1.50m	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835) - Continued								
HK2045579-001	AEBH 17-1.50m	EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3388835)								
HK2045579-001	AEBH 17-1.50m	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3388836)								
HK2045579-001	AEBH 17-1.50m	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3394400)								
HK2045579-001	AEBH 17-1.50m	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394399)								
HK2045235-001	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	<0.1	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	<0.2	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	<0.4	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<1.0	<1.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3394399)								
HK2045235-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	<2	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	<2	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3394399)								
HK2045235-001	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00
		EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3394399)								
HK2045235-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3394399) - Continued								
HK2045235-001	Anonymous	EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3394399)								
HK2045235-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	0.00

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

Matrix: SOIL				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3392823)												
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	90.0	----	90.0	114	----	----	
EG: Metals and Major Cations (QC Lot: 3388429)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	112	----	85.0	115	----	----	
EG: Metals and Major Cations (QC Lot: 3390162)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	88.4	----	85.0	110	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	97.2	----	85.0	106	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	88.5	----	85.0	111	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	98.9	----	88.0	108	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	100	----	85.0	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	107	----	88.0	113	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	102	----	90.0	110	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	95.9	----	85.0	111	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	94.6	----	85.0	109	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	97.4	----	85.0	110	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	99.4	----	86.0	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	89.7	----	86.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	110	----	87.0	115	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835)												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	75.8	----	68.0	140	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	79.7	----	70.0	139	----	----	
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	77.4	----	65.0	138	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835) - Continued											
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	71.5	----	67.0	139	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	75.5	----	70.0	143	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	83.4	----	69.0	142	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	87.4	----	70.0	140	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	87.5	----	69.0	137	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	78.2	----	64.0	135	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	93.2	----	68.0	139	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	65.8	----	59.0	133	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	67.9	----	57.0	141	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	55.9	----	54.0	131	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	52.0	----	40.0	121	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	57.2	----	40.0	125	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	52.6	----	36.0	134	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3388835)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	77.0	----	73.0	142	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	77.8	----	70.0	143	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	74.1	----	51.0	148	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3388836)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	83.3	----	83.0	105	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	82.0	----	65.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3394400)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	98.0	----	81.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394399)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	79.0	122	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	91.5	----	79.0	123	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	92.6	----	80.0	121	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	101	----	80.0	120	----	----
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	111	----	79.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	97.4	----	77.0	125	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394399) - Continued											
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	99.7	----	80.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3394399)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	106	----	73.0	122	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	110	----	76.0	125	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3394399)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	109	----	72.0	123	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	107	----	79.0	122	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	99.9	----	79.0	122	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3394399)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	111	----	79.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	104	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3394399)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	74.0	127	----	----

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394812)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	93.6	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	91.2	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	95.0	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	93.4	----	72.0	124	----	----
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	92.4	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	92.5	----	78.0	120	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	93.1	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3394812)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	97.6	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	95.3	----	79.0	123	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3394812)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	97.1	----	70.0	124	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	89.3	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	95.3	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3394812)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	94.5	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.8	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3394812)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	106	----	70.0	130	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3392823)										
HK2045579-001	AEBH 17-1.50m	EK025MD: Free Cyanide	----	10 mg/kg	85.2	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3388429)										
HK2045044-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	111	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3390162)										
HK2045579-001	AEBH 17-1.50m	EG020: Antimony	7440-36-0	5 mg/kg	89.3	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	95.3	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	80.6	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	97.8	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	86.5	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	93.5	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	88.0	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835)										
HK2045557-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	102	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	108	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	99.4	----	50.0	130	----	----



Matrix: SOIL

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

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3388835) - Continued										
HK2045557-001	Anonymous	EP076HK: Fluorene	86-73-7	250 µg/kg	96.5	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	97.0	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	107	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	87.8	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	# Not Determined	----	50.0	130	----	----
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	82.5	----	50.0	130	----	----
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	118	----	50.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	114	----	50.0	130	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3388835)										
HK2045557-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	89.6	----	50.0	130	----	----
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	91.0	----	50.0	130	----	----
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	83.4	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3388836)										
HK2045579-001	AEBH 17-1.50m	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	118	----	50.0	130	----	----
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	72.4	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3394400)										
HK2045579-001	AEBH 17-1.50m	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	101	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394399)										
HK2045235-003	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	99.0	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3394399) - Continued											
HK2045235-003	Anonymous	EP074_SR: Toluene	108-88-3	0.25 mg/kg	112	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	95.4	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	110	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	113	----	50.0	130	----	----	
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	107	----	50.0	130	----	----	
	EP074_SR: Xylenes (Total)	----		0.75 mg/kg	109	----	50.0	130	----	----	
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3394399)											
HK2045235-003	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	101	----	50.0	130	----	----	
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	109	----	50.0	130	----	----	
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3394399)											
HK2045235-003	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	104	----	50.0	130	----	----	
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	112	----	50.0	130	----	----	
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	98.0	----	50.0	130	----	----	
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3394399)											
HK2045235-003	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	112	----	50.0	130	----	----	
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	98.7	----	50.0	130	----	----	
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3394399)											
HK2045235-003	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	113	----	50.0	130	----	----	

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120



Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-080_SRS: TPH(Volatile)/BTEX Surrogate - Continued			
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	460-00-4	74	121

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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 21
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2046424
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 02-Dec-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 11-Dec-2020
C-O-C number	: H041105			No. of samples received	: 8
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 8

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 02-Dec-2020 to 11-Dec-2020.

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: HK2046424

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., if any) is provided by client.

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

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

Sample ID

Sampling date / time

				AEBH5 0.50M	AEBH5 0.50M duplicate	AEBH8 0.50M	AEBH3 0.50M	AEBH9 0.50M
				02-Dec-2020 09:40	02-Dec-2020 09:41	02-Dec-2020 10:20	02-Dec-2020 11:30	02-Dec-2020 13:10
Compound	CAS Number	LOR	Unit	HK2046424-001	HK2046424-002	HK2046424-003	HK2046424-004	HK2046424-005
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.6	6.6	4.2	5.9	1.8
ED/EK: Inorganic Nonmetallic Parameters								
EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	<1	<1	<1
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	<1	<1	<1
EG020: Arsenic	7440-38-2	1	mg/kg	3	4	1	2	2
EG020: Barium	7440-39-3	1.0	mg/kg	38.3	74.0	13.2	48.1	41.9
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
EG020: Cobalt	7440-48-4	1.0	mg/kg	4.6	4.5	1.6	3.3	5.7
EG020: Copper	7440-50-8	1	mg/kg	6	13	2	4	4
EG020: Lead	7439-92-1	1	mg/kg	88	83	78	72	85
EG020: Manganese	7439-96-5	1.0	mg/kg	997	759	314	802	279
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05
EG020: Molybdenum	7439-98-7	1	mg/kg	1	2	<1	1	<1
EG020: Nickel	7440-02-0	1	mg/kg	7	8	4	6	7
EG020: Tin	7440-31-5	1.0	mg/kg	4.1	5.4	1.8	4.3	3.7
EG020: Zinc	7440-66-6	1	mg/kg	35	35	29	39	46
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	14.9	20.0	9.7	18.5	22.2
EG3060: Hexavalent Chromium	18540-29-9	1.0	mg/kg	<1.0	<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	<0.500
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<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	<0.500
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<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	<0.500
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<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	<0.500
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500



Sub-Matrix: SOIL				Sample ID	AEBH5 0.50M	AEBH5 0.50M duplicate	AEBH8 0.50M	AEBH3 0.50M	AEBH9 0.50M
Sampling date / time					02-Dec-2020 09:40	02-Dec-2020 09:41	02-Dec-2020 10:20	02-Dec-2020 11:30	02-Dec-2020 13:10
Compound	CAS Number	LOR	Unit	HK2046424-001	HK2046424-002	HK2046424-003	HK2046424-004	HK2046424-005	HK2046424-005
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	<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	<0.500	<0.500
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP076HK: Benzo(k)fluoranthene	207-08-9	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP076HK: Benzo(a)pyrene	50-32-8	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.500	mg/kg	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
EP076HK: Hexachlorobenzene (HCB)	118-74-1	0.200	mg/kg	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	5.00	mg/kg	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	<5	<5	<5	<5
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	<200	<200	<200	<200
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	<500	<500	<500	<500
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP074_SR: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP074_SR: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<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	<1.0	<1.0
EP074_SR: Styrene	100-42-5	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	50	mg/kg	<50	<50	<50	<50	<50	<50
EP074_SR: 2-Butanone (MEK)	78-93-3	5	mg/kg	<5	<5	<5	<5	<5	<5
EP-074_SR-E: Halogenated Aliphatics									



Sub-Matrix: SOIL				Sample ID	AEBH5 0.50M	AEBH5 0.50M duplicate	AEBH8 0.50M	AEBH3 0.50M	AEBH9 0.50M
Sampling date / time				02-Dec-2020 09:40	02-Dec-2020 09:41	02-Dec-2020 10:20	02-Dec-2020 11:30	02-Dec-2020 13:10	
Compound	CAS Number	LOR	Unit	HK2046424-001	HK2046424-002	HK2046424-003	HK2046424-004	HK2046424-005	
EP-074 SR-E: Halogenated Aliphatics - Continued									
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	<0.04	<0.04	<0.04	
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	
EP-074_SR-I: Methyl-tert-butyl Ether									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	104	102	108	103	108	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	91.0	86.5	84.0	89.3	87.1	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.9	91.0	92.5	95.7	92.3	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	100	100	101	101	101	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	94.6	93.2	93.7	94.9	93.7	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	91.9	91.0	92.5	95.7	92.3	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	100	100	101	101	101	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	94.6	93.2	93.7	94.9	93.7	



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank	---	---
				Sampling date / time	02-Dec-2020 15:30	02-Dec-2020 15:30	02-Dec-2020 15:30	----	----
Compound	CAS Number	LOR	Unit	HK2046424-006	HK2046424-007	HK2046424-008	-----	-----	-----
ED/EK: Inorganic Nonmetallic Parameters									
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	---	---	---	---	---
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	---	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Fluorene	86-73-7	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Anthracene	120-12-7	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Pyrene	129-00-0	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Benz(a)anthracene	56-55-3	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Chrysene	218-01-9	1.0	µg/L	<1.0	---	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	---	---	---	---	---
EP076HK: Benzo(k)fluoranthene	207-08-9	2.0	µg/L	<2.0	---	---	---	---	---



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank	---	---
				Sampling date / time	02-Dec-2020 15:30	02-Dec-2020 15:30	02-Dec-2020 15:30	----	----
Compound	CAS Number	LOR	Unit	HK2046424-006	HK2046424-007	HK2046424-008	-----	-----	-----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued									
EP076HK: Benzo(a)pyrene	50-32-8	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Indeno(1,2,3-cd)pyrene	193-39-5	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	2.0	µg/L	<2.0	---	---	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate									
EP076HK: Phenol	108-95-2	2.0	µg/L	<2.0	---	---	---	---	---
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	---	---	---	---	---
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	20.0	µg/L	<20.0	---	---	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	---	---	---	---	---
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	<500	---	---	---	---	---
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	<500	---	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	---	<10	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	---	<20	---	---	---
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	---	<500	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	---	<50	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	---	<50	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	---	<5.0	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	---	<5.0	---	---	---



Sub-Matrix: WATER				Sample ID	Field Blank	Equipment Blank	Trip Blank	---	---
				Sampling date / time	02-Dec-2020 15:30	02-Dec-2020 15:30	02-Dec-2020 15:30	----	----
Compound	CAS Number	LOR	Unit	HK2046424-006	HK2046424-007	HK2046424-008	-----	-----	
EP-074_SR-G: Trihalomethanes (THM) - Continued									
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<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	---	---	
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	59.5	---	---	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	107	---	---	---	---	
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	99.9	---	---	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	103	---	---	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.4	---	---	---	---	
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	99.9	---	100	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	103	---	103	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.4	---	91.9	---	---	



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method/Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3405130)								
HK2046424-001	AEBH5 0.50M	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	7.6	7.7	1.88
HK2046426-006	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.8	21.0	1.17
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3406145)								
HK2046424-001	AEBH5 0.50M	EK025MD: Free Cyanide	----	1	mg/kg	<1	<1	0.00
EG: Metals and Major Cations (QC Lot: 3399316)								
HK2046424-001	AEBH5 0.50M	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	38.3	37.0	3.48
		EG020: Cobalt	7440-48-4	0.5	mg/kg	4.6	4.5	2.82
		EG020: Manganese	7439-96-5	0.5	mg/kg	997	982	1.50
		EG020: Tin	7440-31-5	0.5	mg/kg	4.1	4.0	3.46
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	3	2	0.00
		EG020: Copper	7440-50-8	1	mg/kg	6	6	0.00
		EG020: Lead	7439-92-1	1	mg/kg	88	75	15.8
		EG020: Molybdenum	7439-98-7	1	mg/kg	1	1	0.00
		EG020: Nickel	7440-02-0	1	mg/kg	7	6	18.0
EG020: Zinc	7440-66-6	1	mg/kg	35	33	4.74		
EG: Metals and Major Cations (QC Lot: 3399322)								
HK2045760-002	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155)								
HK2046424-001	AEBH5 0.50M	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155) - Continued								
HK2046424-001	AEBH5 0.50M	EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3399155)								
HK2046424-001	AEBH5 0.50M	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<5.00 mg/kg	<5000	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<0.200 mg/kg	<200	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<0.50 mg/kg	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399156)								
HK2046424-001	AEBH5 0.50M	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399157)								
HK2046424-001	AEBH5 0.50M	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3399158)								
HK2046424-001	AEBH5 0.50M	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3399158)								
HK2046424-001	AEBH5 0.50M	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3399158)								
HK2046424-001	AEBH5 0.50M	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3399158) - Continued								
HK2046424-001	AEBH5 0.50M	EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3399158)								
HK2046424-001	AEBH5 0.50M	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3399158)								
HK2046424-001	AEBH5 0.50M	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 3399387)								
HK2046424-007	Equipment Blank	EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	0.00
		EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.00
		EG020: Antimony	7440-36-0	1	µg/L	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	µg/L	<10	<10	0.00
		EG020: Barium	7440-39-3	1	µg/L	<1	<1	0.00
		EG020: Cobalt	7440-48-4	1	µg/L	<1	<1	0.00
		EG020: Copper	7440-50-8	1	µg/L	<1	<1	0.00
		EG020: Lead	7439-92-1	1	µg/L	<1	<1	0.00
		EG020: Manganese	7439-96-5	1	µg/L	<1	<1	0.00
		EG020: Molybdenum	7439-98-7	1	µg/L	<1	<1	0.00
		EG020: Nickel	7440-02-0	1	µg/L	<1	<1	0.00
		EG020: Tin	7440-31-5	1	µg/L	<1	<1	0.00
EG020: Zinc	7440-66-6	10	µg/L	<10	<10	0.00		
EG: Metals and Major Cations - Filtered (QC Lot: 3415772)								
HK2046424-007	Equipment Blank	EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	<20	0.00

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

Matrix: SOIL				Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3406145)											
EK025MD: Free Cyanide	----	1	mg/kg	<1	10 mg/kg	95.0	----	90.0	114	----	----
EG: Metals and Major Cations (QC Lot: 3399316)											
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	95.9	----	85.0	110	----	----
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	100	----	85.0	106	----	----
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	99.4	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	97.2	----	88.0	108	----	----
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	99.8	----	85.0	110	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	104	----	88.0	113	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	96.1	----	90.0	110	----	----
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	99.5	----	85.0	111	----	----
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	95.8	----	85.0	109	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	100	----	85.0	110	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	99.0	----	86.0	111	----	----
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	98.3	----	86.0	109	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	105	----	87.0	115	----	----
EG: Metals and Major Cations (QC Lot: 3399322)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	101	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155)											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	91.2	----	68.0	140	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	92.1	----	70.0	139	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	92.6	----	65.0	138	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	91.2	----	67.0	139	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	84.5	----	70.0	143	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	91.7	----	69.0	142	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	96.9	----	70.0	140	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	96.6	----	69.0	137	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	90.5	----	64.0	135	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	103	----	68.0	139	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	89.6	----	59.0	133	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	97.7	----	57.0	141	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155) - Continued											
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	90.6	----	54.0	131	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	117	----	40.0	121	----	----
EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	120	----	40.0	125	----	----
EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	117	----	36.0	134	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3399155)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	77.2	----	73.0	142	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	94.9	----	70.0	143	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	82.3	----	51.0	148	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399156)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	87.7	----	83.0	105	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	82.0	----	65.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399157)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	108	----	81.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3399158)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	90.1	----	79.0	122	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	94.4	----	79.0	123	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	89.9	----	80.0	121	----	----
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	95.6	----	80.0	120	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	94.6	----	79.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	93.4	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	94.8	----	80.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3399158)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	87.0	----	73.0	122	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	90.3	----	76.0	125	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3399158)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	90.0	----	72.0	123	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	94.2	----	79.0	122	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	91.9	----	79.0	122	----	----



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3399158)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	91.2	----	79.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	95.8	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3399158)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	90.6	----	74.0	127	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3407622)											
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	0.05 mg/L	105	----	88.9	112	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3399387)											
EG020: Antimony	7440-36-0	1	µg/L	<1	50 µg/L	95.7	----	89.0	110	----	----
EG020: Arsenic	7440-38-2	1	µg/L	<1	50 µg/L	97.6	----	85.0	112	----	----
EG020: Barium	7440-39-3	1	µg/L	<1	50 µg/L	104	----	85.0	111	----	----
EG020: Cadmium	7440-43-9	0.2	µg/L	<0.2	5 µg/L	97.2	----	85.0	111	----	----
EG020: Cobalt	7440-48-4	1	µg/L	<1	50 µg/L	95.5	----	85.0	113	----	----
EG020: Copper	7440-50-8	1	µg/L	<1	50 µg/L	98.3	----	85.0	113	----	----
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	100	----	85.0	113	----	----
EG020: Manganese	7439-96-5	1	µg/L	<1	50 µg/L	90.4	----	85.0	114	----	----
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	95.7	----	85.0	115	----	----
EG020: Molybdenum	7439-98-7	1	µg/L	<1	50 µg/L	96.8	----	89.0	110	----	----
EG020: Nickel	7440-02-0	1	µg/L	<1	50 µg/L	95.9	----	85.0	113	----	----
EG020: Tin	7440-31-5	1	µg/L	<1	50 µg/L	96.0	----	88.0	110	----	----
EG020: Zinc	7440-66-6	10	µg/L	<10	50 µg/L	104	----	85.0	113	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3415772)											
EG050: Hexavalent Chromium	18540-29-9	20	µg/L	<20	100 µg/L	101	----	80.0	106	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3400237)											
EP076HK: Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	92.8	----	60.0	115	----	----
EP076HK: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	95.2	----	50.0	120	----	----
EP076HK: Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	102	----	58.0	112	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
		Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
								LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3400237) - Continued													
EP076HK: Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	90.8	----	57.0	111	----	----		
EP076HK: Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	91.0	----	54.0	116	----	----		
EP076HK: Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	88.3	----	50.0	119	----	----		
EP076HK: Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	102	----	54.0	130	----	----		
EP076HK: Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	101	----	53.0	130	----	----		
EP076HK: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	0.5 µg/L	89.0	----	50.0	130	----	----		
EP076HK: Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	100	----	55.0	130	----	----		
EP076HK: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	88.8	----	50.0	130	----	----		
EP076HK: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	0.5 µg/L	95.6	----	50.0	130	----	----		
EP076HK: Benzo(a)pyrene	50-32-8	0.1	µg/L	<0.1	0.5 µg/L	87.2	----	50.0	126	----	----		
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	0.5 µg/L	89.8	----	50.0	104	----	----		
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	0.5 µg/L	91.3	----	50.0	103	----	----		
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	0.5 µg/L	75.9	----	50.0	111	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3400237)													
EP076HK: Phenol	108-95-2	5	µg/L	<5.0	0.5 µg/L	77.5	----	50.0	120	----	----		
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	98.8	----	61.0	126	----	----		
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	10	µg/L	<10.0	0.5 µg/L	95.4	----	50.0	130	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3400241)													
EP071HK_SR: C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	89.3	----	65.0	116	----	----		
EP071HK_SR: C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	81.5	----	58.0	115	----	----		
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3402792)													
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	96.6	----	74.0	117	----	----		
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3402791)													
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	103	----	80.0	119	----	----		
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	101	----	79.0	120	----	----		
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	105	----	79.0	122	----	----		
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	98.8	----	72.0	124	----	----		
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	102	----	74.0	121	----	----		
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	108	----	78.0	120	----	----		



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
		Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
								LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3402791) - Continued													
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	102	----	77.0	121	----	----		
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3402791)													
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	108	----	73.0	126	----	----		
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	94.4	----	79.0	123	----	----		
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3402791)													
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	96.2	----	70.0	124	----	----		
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	100	----	81.0	121	----	----		
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	98.9	----	76.0	120	----	----		
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3402791)													
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	95.0	----	81.0	121	----	----		
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.1	----	74.0	127	----	----		
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3402791)													
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	95.1	----	70.0	130	----	----		



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
<i>Laboratory sample ID</i>	<i>Sample ID</i>	<i>Method: Compound</i>	<i>CAS Number</i>	<i>Spike Concentration</i>	<i>Spike Recovery (%)</i>		<i>Recovery Limits (%)</i>		<i>RPD (%)</i>	
					<i>MS</i>	<i>MSD</i>	<i>Low</i>	<i>High</i>	<i>Value</i>	<i>Control Limit</i>
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3406145)										
HK2046424-001	AEBH5 0.50M	EK025MD: Free Cyanide	----	10 mg/kg	93.2	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3399316)										
HK2046420-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	95.0	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	99.6	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	91.9	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	94.4	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Mercury	7439-97-6	0.1 mg/kg	88.3	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	95.0	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	86.5	----	75.0	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	97.5	----	75.0	125	----	----
EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75.0	125	----	----		
EG: Metals and Major Cations (QC Lot: 3399322)										
HK2045760-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	104	----	75.0	125	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155)										
HK2046424-003	AEBH8 0.50M	EP076HK: Naphthalene	91-20-3	250 µg/kg	96.2	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	100	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	104	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	93.8	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)		
					MS	MSD	Low	High	Value	Control Limit	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3399155) - Continued											
HK2046424-003	AEBH8 0.50M	EP076HK: Phenanthrene	85-01-8	250 µg/kg	99.0	----	50.0	130	----	----	
		EP076HK: Anthracene	120-12-7	250 µg/kg	102	----	50.0	130	----	----	
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	98.1	----	50.0	130	----	----	
		EP076HK: Pyrene	129-00-0	250 µg/kg	94.0	----	50.0	130	----	----	
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	104	----	50.0	130	----	----	
		EP076HK: Chrysene	218-01-9	250 µg/kg	115	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	104	----	50.0	130	----	----	
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	112	----	50.0	130	----	----	
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	104	----	50.0	130	----	----	
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	125	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	120	----	50.0	130	----	----	
		EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	119	----	50.0	130	----	----	
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3399155)											
HK2046424-003	AEBH8 0.50M	EP076HK: Phenol	108-95-2	250 µg/kg	88.7	----	50.0	130	----	----	
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	90.0	----	50.0	130	----	----	
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	114	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399156)											
HK2046424-002	AEBH5 0.50M duplicate	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	92.0	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	73.2	----	50.0	130	----	----	
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3399157)											
HK2046424-002	AEBH5 0.50M duplicate	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	106	----	50.0	130	----	----	
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3399158)											
HK2046424-003	AEBH8 0.50M	EP074_SR: Benzene	71-43-2	0.25 mg/kg	107	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	111	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	108	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	110	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	105	----	50.0	130	----	----	
EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	99.7	----	50.0	130	----	----			



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3399158) - Continued										
HK2046424-003	AEBH8 0.50M	EP074_SR: Xylenes (Total)	----	0.75 mg/kg	106	----	50.0	130	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3399158)										
HK2046424-003	AEBH8 0.50M	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	110	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	93.2	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3399158)										
HK2046424-003	AEBH8 0.50M	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	100	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	101	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	102	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3399158)										
HK2046424-003	AEBH8 0.50M	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	107	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	87.2	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3399158)										
HK2046424-003	AEBH8 0.50M	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	99.1	----	50.0	130	----	----

Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3407622)										
HK2046424-006	Field Blank	EK025A: Free Cyanide	----	0.1 mg/L	103	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3399387)										
HK2046424-006	Field Blank	EG020: Antimony	7440-36-0	50 µg/L	101	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	50 µg/L	101	----	75.0	125	----	----
		EG020: Barium	7440-39-3	50 µg/L	106	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	5 µg/L	103	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	50 µg/L	95.6	----	75.0	125	----	----
		EG020: Copper	7440-50-8	50 µg/L	99.2	----	75.0	125	----	----
		EG020: Lead	7439-92-1	50 µg/L	96.7	----	75.0	125	----	----
EG020: Manganese	7439-96-5	50 µg/L	95.6	----	75.0	125	----	----		



Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 3399387) - Continued										
HK2046424-006	Field Blank	EG020: Mercury	7439-97-6	2 µg/L	95.4	----	75.0	125	----	----
		EG020: Molybdenum	7439-98-7	50 µg/L	95.9	----	75.0	125	----	----
		EG020: Nickel	7440-02-0	50 µg/L	95.6	----	75.0	125	----	----
		EG020: Tin	7440-31-5	50 µg/L	96.8	----	75.0	125	----	----
		EG020: Zinc	7440-66-6	50 µg/L	103	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3415772)										
HK2046424-006	Field Blank	EG050: Hexavalent Chromium	18540-29-9	100 µg/L	101	----	75.0	125	----	----

Surrogate Control Limits

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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates			
2-Fluorobiphenyl	321-60-8	50	130
4-Terphenyl-d14	1718-51-0	50	130



Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 16
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2047173
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 07-Dec-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 18-Dec-2020
C-O-C number	: H041106			No. of samples received	: 2
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 2

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

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



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 07-Dec-2020 to 18-Dec-2020.

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: HK2047173

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., if any) is provided by client.

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

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

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

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 3060A.



Analytical Results

Sub-Matrix: SOIL

Sample ID

AEBH 3

3.00m

Sampling date / time

07-Dec-2020 11:30

Compound	CAS Number	LOR	Unit	HK2047173-001	-----	-----	-----	-----
----------	------------	-----	------	---------------	-------	-------	-------	-------

EA/ED: Physical and Aggregate Properties

EA055: Moisture Content (dried @ 103°C)	----	0.1	%	22.3	---	---	---	---
---	------	-----	---	------	-----	-----	-----	-----

ED/EK: Inorganic Nonmetallic Parameters

EK025MD: Free Cyanide	----	1	mg/kg	<1	---	---	---	---
-----------------------	------	---	-------	----	-----	-----	-----	-----

EG: Metals and Major Cations

EG020: Antimony	7440-36-0	1	mg/kg	<1	---	---	---	---
EG020: Arsenic	7440-38-2	1	mg/kg	<1	---	---	---	---
EG020: Barium	7440-39-3	1.0	mg/kg	22.5	---	---	---	---
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	---	---	---	---
EG020: Cobalt	7440-48-4	1.0	mg/kg	17.3	---	---	---	---
EG020: Copper	7440-50-8	1	mg/kg	43	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	104	---	---	---	---
EG020: Manganese	7439-96-5	1.0	mg/kg	321	---	---	---	---
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	---	---	---	---
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	---	---	---	---
EG020: Nickel	7440-02-0	1	mg/kg	9	---	---	---	---
EG020: Tin	7440-31-5	1.0	mg/kg	3.6	---	---	---	---
EG020: Zinc	7440-66-6	1	mg/kg	20	---	---	---	---
EG049: Trivalent Chromium	16065-83-1	1.0	mg/kg	14.9	---	---	---	---
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	---	---	---	---



Sub-Matrix: SOIL			Sample ID	AEBH 3	---	---	---	---
				3.00m	---	---	---	---
			Sampling date / time	07-Dec-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2047173-001	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) - Continued								
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	---	---	---	---
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	0.500	mg/kg	<0.500	---	---	---	---
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	AEBH 3	---	---	---	---
					3.00m	---	---	---	---
				Sampling date / time	07-Dec-2020 11:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2047173-001	---	---	---	---	---
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	%	107	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	122	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.0	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.8	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	95.0	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.8	---	---	---	---	---



Sub-Matrix: WATER				Sample ID	Trip Blank	---	---	---	---
				Sampling date / time	07-Dec-2020 15:30	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2047173-002	---	---	---	---	---
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	%	102	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.2	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 3413024)								
HK2047173-001	AEBH 3 3.00m	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	22.3	21.7	2.62
EG: Metals and Major Cations (QC Lot: 3407597)								
HK2046875-002	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<1.0	<1.0	0.00
EG: Metals and Major Cations (QC Lot: 3410114)								
HK2046875-002	Anonymous	EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	<0.05	0.00
		EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.00
		EG020: Barium	7440-39-3	0.5	mg/kg	25.2	27.1	7.50
		EG020: Cobalt	7440-48-4	0.5	mg/kg	<1.0	<1.0	0.00
		EG020: Manganese	7439-96-5	0.5	mg/kg	36.3	34.7	4.44
		EG020: Tin	7440-31-5	0.5	mg/kg	<1.0	<1.0	0.00
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.00
		EG020: Arsenic	7440-38-2	1	mg/kg	120	138	13.5
		EG020: Copper	7440-50-8	1	mg/kg	6	6	0.00
		EG020: Lead	7439-92-1	1	mg/kg	45	52	16.1
		EG020: Molybdenum	7439-98-7	1	mg/kg	10	12	14.2
		EG020: Nickel	7440-02-0	1	mg/kg	1	1	0.00
EG020: Zinc	7440-66-6	1	mg/kg	10	12	17.3		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661)								
HK2046584-001	Anonymous	EP076HK: Naphthalene	91-20-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Acenaphthene	83-32-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluorene	86-73-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Phenanthrene	85-01-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Anthracene	120-12-7	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Fluoranthene	206-44-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Pyrene	129-00-0	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Chrysene	218-01-9	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<0.500 mg/kg	<500	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661) - Continued								
HK2046584-001	Anonymous	EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<0.500 mg/kg	<500	0.00
		EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<0.500 mg/kg	<500	0.00
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3407661)								
HK2046584-001	Anonymous	EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<500	<500	0.00
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	<50	0.00
		EP076HK: Phenol	108-95-2	500	µg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407662)								
HK2046584-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	<200	0.00
		EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	<500	0.00
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407742)								
HK2046584-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3407743)								
HK2046584-001	Anonymous	EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.2	<0.2	0.00
		EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	106-42-3	----	1	mg/kg	<2.0	<2.0
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3407743)								
HK2046584-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<50	<50	0.00
		EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<5	<5	0.00
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3407743)								
HK2046584-001	Anonymous	EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	<0.04	0.00
		EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	<0.1	0.00
		EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	<0.5	0.00
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3407743)								
HK2046584-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	<0.04	0.00



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3407743) - Continued								
HK2046584-001	Anonymous	EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	<0.1	0.00
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3407743)								
HK2046584-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	0.00

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

Matrix: SOIL				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)		
						LCS	DCS	Low	High	Value	Control Limit	
EG: Metals and Major Cations (QC Lot: 3407597)												
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	2.5 mg/kg	102	----	85.0	115	----	----	
EG: Metals and Major Cations (QC Lot: 3410114)												
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	95.5	----	85.0	110	----	----	
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	100	----	85.0	106	----	----	
EG020: Barium	7440-39-3	0.5	mg/kg	<0.5	5 mg/kg	100	----	85.0	111	----	----	
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	88.0	108	----	----	
EG020: Cobalt	7440-48-4	0.5	mg/kg	<0.5	5 mg/kg	100	----	85.0	110	----	----	
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	109	----	88.0	113	----	----	
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	110	----	90.0	110	----	----	
EG020: Manganese	7439-96-5	0.5	mg/kg	<0.5	5 mg/kg	94.8	----	85.0	111	----	----	
EG020: Mercury	7439-97-6	0.05	mg/kg	<0.05	0.1 mg/kg	103	----	85.0	109	----	----	
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	109	----	85.0	110	----	----	
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	103	----	86.0	111	----	----	
EG020: Tin	7440-31-5	0.5	mg/kg	<0.5	5 mg/kg	94.8	----	86.0	109	----	----	
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	109	----	87.0	115	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661)												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	92.1	----	68.0	140	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	94.2	----	70.0	139	----	----	
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	96.9	----	65.0	138	----	----	
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	92.9	----	67.0	139	----	----	
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	87.7	----	70.0	143	----	----	



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
Method: Compound	CAS Number					LCS	DCS	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661) - Continued											
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	83.8	----	69.0	142	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	98.6	----	70.0	140	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	99.8	----	69.0	137	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	95.0	----	64.0	135	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	104	----	68.0	139	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	90.6	----	59.0	133	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	92.2	----	57.0	141	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	88.2	----	54.0	131	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	79.2	----	40.0	121	----	----
EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	83.7	----	40.0	125	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	72.3	----	36.0	134	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3407661)											
EP076HK: Phenol	108-95-2	500	µg/kg	<500	25 µg/kg	73.6	----	73.0	142	----	----
EP076HK: Hexachlorobenzene (HCB)	118-74-1	50	µg/kg	<50	25 µg/kg	96.4	----	70.0	143	----	----
EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	1000	µg/kg	<1000	25 µg/kg	89.5	----	51.0	148	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407662)											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	94.3	----	83.0	105	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	73.8	----	65.0	120	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407742)											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	94.6	----	81.0	118	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3407743)											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	109	----	79.0	122	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	79.0	123	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	80.0	121	----	----
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	111	----	80.0	120	----	----
	106-42-3										
EP074_SR: Styrene	100-42-5	0.2	mg/kg	<0.2	0.25 mg/kg	107	----	79.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	109	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	110	----	80.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3407743)											



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3407743) - Continued											
EP074_SR: 2-Propanone (Acetone)	67-64-1	2	mg/kg	<2	2.5 mg/kg	104	----	73.0	122	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	2	mg/kg	<2	2.5 mg/kg	104	----	76.0	125	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3407743)											
EP074_SR: Methylene chloride	75-09-2	0.5	mg/kg	<0.5	0.25 mg/kg	104	----	72.0	123	----	----
EP074_SR: Trichloroethene	79-01-6	0.1	mg/kg	<0.1	0.25 mg/kg	109	----	79.0	122	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.04	mg/kg	<0.04	0.25 mg/kg	104	----	79.0	122	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3407743)											
EP074_SR: Chloroform	67-66-3	0.04	mg/kg	<0.04	0.25 mg/kg	105	----	79.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.1	mg/kg	<0.1	0.25 mg/kg	111	----	77.0	124	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3407743)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	112	----	74.0	127	----	----
Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3408553)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	91.6	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	90.8	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	89.1	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	93.7	----	72.0	124	----	----
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	90.8	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	91.9	----	78.0	120	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	93.1	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3408553)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	109	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	91.6	----	79.0	123	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3408553)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	90.2	----	70.0	124	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
		LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
Method: Compound	CAS Number										
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3408553) - Continued											
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	93.6	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	94.6	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3408553)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	92.1	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.5	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3408553)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	89.2	----	70.0	130	----	----



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

Matrix: SOIL

					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3420062)										
HK2047173-001	AEBH 3 3.00m	EK025MD: Free Cyanide	----	10 mg/kg	83.4	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3407597)										
HK2046875-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	2.5 mg/kg	95.5	----	75.0	125	----	----
EG: Metals and Major Cations (QC Lot: 3410114)										
HK2046875-001	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	100	----	75.0	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Cadmium	7440-43-9	0.25 mg/kg	106	----	75.0	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	98.5	----	75.0	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	99.2	----	75.0	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
		EG020: Manganese	7439-96-5	5 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	5 mg/kg	104	----	75.0	125	----	----
EG020: Nickel	7440-02-0	5 mg/kg	96.2	----	75.0	125	----	----		
EG020: Tin	7440-31-5	5 mg/kg	98.7	----	75.0	125	----	----		
EG020: Zinc	7440-66-6	5 mg/kg	94.5	----	75.0	125	----	----		
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661)										
HK2046875-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	87.2	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	85.0	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	92.0	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	88.8	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	85.5	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3407661) - Continued										
HK2046875-001	Anonymous	EP076HK: Anthracene	120-12-7	250 µg/kg	85.6	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	100	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	100	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	92.6	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	99.9	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	87.0	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	89.8	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	85.3	----	50.0	130	----	----
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	75.4	----	50.0	130	----	----
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	78.1	----	50.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	72.6	----	50.0	130	----	----		
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3407661)										
HK2046875-001	Anonymous	EP076HK: Phenol	108-95-2	250 µg/kg	76.9	----	50.0	130	----	----
		EP076HK: Hexachlorobenzene (HCB)	118-74-1	250 µg/kg	85.9	----	50.0	130	----	----
		EP076HK: Bis(2-ethylhexyl)phthalate	117-81-7	250 µg/kg	113	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407662)										
HK2046584-002	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	107	----	50.0	130	----	----
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	72.9	----	50.0	130	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3407742)										
HK2046584-002	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	109	----	50.0	130	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3407743)										
HK2046875-001	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	112	----	50.0	130	----	----
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	113	----	50.0	130	----	----
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	106	----	50.0	130	----	----
		EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.5 mg/kg	106	----	50.0	130	----	----
		EP074_SR: Styrene	100-42-5	0.25 mg/kg	113	----	50.0	130	----	----
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	103	----	50.0	130	----	----
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----



Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3407743)										
HK2046875-001	Anonymous	EP074_SR: 2-Propanone (Acetone)	67-64-1	2.5 mg/kg	113	----	50.0	130	----	----
		EP074_SR: 2-Butanone (MEK)	78-93-3	2.5 mg/kg	104	----	50.0	130	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3407743)										
HK2046875-001	Anonymous	EP074_SR: Methylene chloride	75-09-2	0.25 mg/kg	102	----	50.0	130	----	----
		EP074_SR: Trichloroethene	79-01-6	0.25 mg/kg	113	----	50.0	130	----	----
		EP074_SR: Tetrachloroethene	127-18-4	0.25 mg/kg	115	----	50.0	130	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3407743)										
HK2046875-001	Anonymous	EP074_SR: Chloroform	67-66-3	0.25 mg/kg	108	----	50.0	130	----	----
		EP074_SR: Bromodichloromethane	75-27-4	0.25 mg/kg	96.1	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3407743)										
HK2046875-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	107	----	50.0	130	----	----

Surrogate Control Limits

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



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






CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 10
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2048037
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 11-Dec-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 22-Dec-2020
C-O-C number	: H041107			No. of samples received	: 11
Site	: WEST COAL YARD AT CPPS			No. of samples analysed	: 11

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

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

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV
 Lin Wai Yu , Iris	Assistant Manager - Inorganics	Inorganics



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 11-Dec-2020 to 22-Dec-2020.

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: HK2048037

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., if any) is provided by client.

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

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



Analytical Results

Sub-Matrix: WATER

				Sample ID	AEBH21	AEBH20	AEBH19	AEBH17	AEBH15
				Sampling date / time	11-Dec-2020 10:00	11-Dec-2020 10:09	11-Dec-2020 10:20	11-Dec-2020 10:30	11-Dec-2020 10:40
Compound	CAS Number	LOR	Unit		HK2048037-001	HK2048037-002	HK2048037-003	HK2048037-004	HK2048037-005
ED/EK: Inorganic Nonmetallic Parameters									
EK025A: Free Cyanide	----	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
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		<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
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		<20	<20	<20	<20	<20
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L		<500	<500	<500	<500	<500
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L		<500	<500	<500	<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	<5.0	<5.0
EP074_SR: Toluene	108-88-3	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
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		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L		<20	<20	<20	<20	<20



Sub-Matrix: WATER				Sample ID	AEBH21	AEBH20	AEBH19	AEBH17	AEBH15
				Sampling date / time	11-Dec-2020 10:00	11-Dec-2020 10:09	11-Dec-2020 10:20	11-Dec-2020 10:30	11-Dec-2020 10:40
Compound	CAS Number	LOR	Unit		HK2048037-001	HK2048037-002	HK2048037-003	HK2048037-004	HK2048037-005
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L		<500	<500	<500	<500	<500
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	<50
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L		<50	<50	<50	<50	<50
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	%		94.2	98.7	94.7	62.5	77.1
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%		91.6	103	95.3	81.6	88.5
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%		91.7	96.0	98.3	94.7	93.3
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%		104	104	105	104	104
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		91.2	90.6	93.1	91.1	92.3
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%		91.7	96.0	98.3	94.7	93.3
EP074_SR: Toluene-D8	2037-26-5	0.1	%		104	104	105	104	104
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		91.2	90.6	93.1	91.1	92.3



Sub-Matrix: WATER				Sample ID	AEBH16	AEBH14	AEBH13	AEBH12	AEBH9
				Sampling date / time	11-Dec-2020 10:50	11-Dec-2020 11:00	11-Dec-2020 11:10	11-Dec-2020 11:20	11-Dec-2020 11:45
Compound	CAS Number	LOR	Unit		HK2048037-006	HK2048037-007	HK2048037-008	HK2048037-009	HK2048037-010
ED/EK: Inorganic Nonmetallic Parameters									
EK025A: Free Cyanide	----	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
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		<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
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		<20	<20	<20	<20	<20
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L		<500	<500	<500	<500	700
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L		<500	<500	<500	<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	<5.0	<5.0
EP074_SR: Toluene	108-88-3	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
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		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L		<20	<20	<20	<20	<20
EP-074_SR-B: Oxygenated Compounds									



Sub-Matrix: WATER				Sample ID	AEBH16	AEBH14	AEBH13	AEBH12	AEBH9
				Sampling date / time	11-Dec-2020 10:50	11-Dec-2020 11:00	11-Dec-2020 11:10	11-Dec-2020 11:20	11-Dec-2020 11:45
Compound	CAS Number	LOR	Unit		HK2048037-006	HK2048037-007	HK2048037-008	HK2048037-009	HK2048037-010
EP-074_SR-B: Oxvaenated Compounds - Continued									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L		<500	<500	<500	<500	<500
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	<50
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L		<50	<50	<50	<50	<50
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	%		83.2	85.6	67.7	78.6	116
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%		89.1	94.7	90.0	87.0	115
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%		96.6	92.1	93.3	92.6	102
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%		105	105	105	104	105
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		90.7	92.4	90.0	90.7	90.8
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%		96.6	92.1	93.3	92.6	102
EP074_SR: Toluene-D8	2037-26-5	0.1	%		105	105	105	104	105
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		90.7	92.4	90.0	90.7	90.8



Sub-Matrix: WATER				Sample ID	Trip blank	---	---	---	---
				Sampling date / time	11-Dec-2020 11:50	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2048037-011	---	---	---	---	---
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	%	90.5	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.9	---	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3421508)								
HK2048037-010	AEBH9	EK025A: Free Cyanide	----	0.01	mg/L	<0.01	<0.01	0.00
EG: Metals and Major Cations - Filtered (QC Lot: 3418899)								
HK2047751-005	Anonymous	EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.00

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3421508)											
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	0.05 mg/L	102	----	88.9	112	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3418899)											
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	101	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3418871)											
EP076HK: Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	113	----	60.0	115	----	----
EP076HK: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	105	----	50.0	120	----	----
EP076HK: Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	110	----	58.0	112	----	----
EP076HK: Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	106	----	57.0	111	----	----
EP076HK: Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	113	----	54.0	116	----	----
EP076HK: Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	116	----	50.0	119	----	----
EP076HK: Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	109	----	54.0	130	----	----
EP076HK: Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	110	----	53.0	130	----	----
EP076HK: Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	112	----	55.0	130	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	106	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3418871)											
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	117	----	61.0	126	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3418872)											
EP071HK_SR: C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	83.2	----	65.0	116	----	----
EP071HK_SR: C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	90.6	----	58.0	115	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3422285)											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	104	----	74.0	117	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3422284)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	107	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	109	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	107	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	108	----	72.0	124	----	----
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	107	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	110	----	78.0	120	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	108	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3422284)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	90.8	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	106	----	79.0	123	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3422284)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	107	----	70.0	124	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	109	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	110	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3422284)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	110	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	108	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3422284)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	106	----	70.0	130	----	----



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

Matrix: WATER					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3421508)										
HK2048037-010	AEBH9	EK025A: Free Cyanide	----	0.05 mg/L	104	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3418899)										
HK2047751-004	Anonymous	EG020: Mercury	7439-97-6	2 µg/L	92.4	----	75.0	125	----	----

Surrogate Control Limits

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




CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 9
Contact	: CONNIE CHAN	Contact	: Richard Fung	Work Order	: HK2049240
Address	: G/F, SHEQD, GBG MANAGEMENT BUILDING, BLACK POINT POWER STATION, LUNG KWU TANG, TUEN MUN, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Connie.chan@clp.com.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ---	Telephone	: +852 2610 1044		
Facsimile	: ---	Facsimile	: +852 2610 2021		
Project	: SOIL AND GROUNDWATER SAMPLES FROM WEST COAL YARD AT CPPS			Date Samples Received	: 18-Dec-2020
Order number	: 4501307059	Quote number	: HKE/2627/2020	Issue Date	: 30-Dec-2020
C-O-C number	: H041108			No. of samples received	: 7
Site	: WEST COAL YARD AT CPPS			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.

<i>Signatories</i>	<i>Position</i>	<i>Authorised results for</i>
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Leung Chak Cheong , Mike	Senior Chemist	Metals_ENV



General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 18-Dec-2020 to 28-Dec-2020.

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: HK2049240

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.

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

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



Analytical Results

Sub-Matrix: WATER

				Sample ID	AEBH3	AEBH5	AEBH6	AEBH7	AEBH8
				Sampling date / time	18-Dec-2020 14:30	18-Dec-2020 14:40	18-Dec-2020 14:50	18-Dec-2020 14:55	18-Dec-2020 15:00
Compound	CAS Number	LOR	Unit		HK2049240-001	HK2049240-002	HK2049240-003	HK2049240-004	HK2049240-005
ED/EK: Inorganic Nonmetallic Parameters									
EK025A: Free Cyanide	----	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
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		<2.0	<2.0	<2.0	<2.0	<2.0
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
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		<20	<20	<20	<20	<20
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L		<500	<500	<500	<500	<500
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L		<500	<500	<500	<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	<5.0	<5.0
EP074_SR: Toluene	108-88-3	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
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		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L		<5.0	<5.0	<5.0	<5.0	<5.0
EP074_SR: Xylenes (Total)	----	20	µg/L		<20	<20	<20	<20	<20



Sub-Matrix: WATER				Sample ID	AEBH3	AEBH5	AEBH6	AEBH7	AEBH8
				Sampling date / time	18-Dec-2020 14:30	18-Dec-2020 14:40	18-Dec-2020 14:50	18-Dec-2020 14:55	18-Dec-2020 15:00
Compound	CAS Number	LOR	Unit		HK2049240-001	HK2049240-002	HK2049240-003	HK2049240-004	HK2049240-005
EP-074_SR-B: Oxygenated Compounds									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L		<500	<500	<500	<500	<500
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L		<50	<50	<50	<50	<50
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L		<50	<50	<50	<50	<50
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	%		93.5	117	81.5	99.6	84.3
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%		98.3	117	94.7	98.3	93.2
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%		105	101	95.2	106	104
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%		105	102	105	105	104
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		92.8	91.8	91.0	92.9	90.8
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%		105	101	95.2	106	104
EP074_SR: Toluene-D8	2037-26-5	0.1	%		105	102	105	105	104
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%		92.8	91.8	91.0	92.9	90.8



Sub-Matrix: WATER			Sample ID	AEBH11	Trip Blank	---	---	---
			Sampling date / time	18-Dec-2020 15:15	18-Dec-2020 15:25	---	---	---
Compound	CAS Number	LOR	Unit	HK2049240-006	HK2049240-007	---	---	---
ED/EK: Inorganic Nonmetallic Parameters								
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	---	---	---	---
EG: Metals and Major Cations - Filtered								
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	---	---	---	---
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)								
EP076HK: Naphthalene	91-20-3	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Fluorene	86-73-7	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Anthracene	120-12-7	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Pyrene	129-00-0	2.0	µg/L	<2.0	---	---	---	---
EP076HK: Chrysene	218-01-9	1.0	µg/L	<1.0	---	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<1.0	---	---	---	---
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate								
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4.0	µg/L	<4.0	---	---	---	---
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)								
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	---	---	---	---
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	<500	---	---	---	---
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	<500	---	---	---	---
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)								
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	<10	---	---	---
EP074_SR: Styrene	100-42-5	5.0	µg/L	<5.0	<5.0	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	---	---	---
EP-074_SR-B: Oxygenated Compounds								



Sub-Matrix: WATER				Sample ID	AEBH11	Trip Blank	---	---	---
				Sampling date / time	18-Dec-2020 15:15	18-Dec-2020 15:25	---	---	---
Compound	CAS Number	LOR	Unit	HK2049240-006	HK2049240-007	---	---	---	---
EP-074_SR-B: Oxvaenated Compounds - Continued									
EP074_SR: 2-Propanone (Acetone)	67-64-1	500	µg/L	<500	<500	---	---	---	---
EP074_SR: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	---	---	---	---
EP-074_SR-E: Halogenated Aliphatics									
EP074_SR: Methylene chloride	75-09-2	50	µg/L	<50	<50	---	---	---	---
EP074_SR: Trichloroethene	79-01-6	5.0	µg/L	<5.0	<5.0	---	---	---	---
EP074_SR: Tetrachloroethene	127-18-4	5.0	µg/L	<5.0	<5.0	---	---	---	---
EP-074_SR-G: Trihalomethanes (THM)									
EP074_SR: Chloroform	67-66-3	5.0	µg/L	<5.0	<5.0	---	---	---	---
EP074_SR: Bromodichloromethane	75-27-4	5.0	µg/L	<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	---	---	---	---
EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	92.4	---	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	91.8	---	---	---	---	---
EP-080_SRS: TPH(Volatile)/BTEX Surrogate									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	98.7	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	104	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.8	---	---	---	---	---
EP-074_SR-S: VOC Surrogates									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	98.7	92.0	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	101	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	90.8	92.6	---	---	---	---



Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3435754)								
HK2049240-001	AEBH3	EK025A: Free Cyanide	----	0.01	mg/L	<0.01	<0.01	0.00
EG: Metals and Major Cations - Filtered (QC Lot: 3433312)								
HK2049240-002	AEBH5	EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	<0.5	0.00

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3435754)											
EK025A: Free Cyanide	----	0.01	mg/L	<0.01	0.05 mg/L	104	----	88.9	112	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3433312)											
EG020: Mercury	7439-97-6	0.5	µg/L	<0.5	2 µg/L	93.1	----	85.0	115	----	----
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3436615)											
EP076HK: Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	110	----	60.0	115	----	----
EP076HK: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	112	----	50.0	120	----	----
EP076HK: Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	107	----	58.0	112	----	----
EP076HK: Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	104	----	57.0	111	----	----
EP076HK: Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	111	----	54.0	116	----	----
EP076HK: Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	117	----	50.0	119	----	----
EP076HK: Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	108	----	54.0	130	----	----
EP076HK: Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	108	----	53.0	130	----	----
EP076HK: Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	114	----	55.0	130	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	109	----	50.0	130	----	----
EP-076HK: Phenol, Hexachlorobenzene and Bis(2-ethylhexyl) Phthalate (QC Lot: 3436615)											
EP076HK: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4.0	0.5 µg/L	112	----	61.0	126	----	----
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3436616)											
EP071HK_SR: C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	65.8	----	65.0	116	----	----
EP071HK_SR: C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	81.6	----	58.0	115	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3440655)											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	94.5	----	74.0	117	----	----
EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3440656)											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	89.8	----	80.0	119	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	92.6	----	79.0	120	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	93.4	----	79.0	122	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	91.1	----	72.0	124	----	----
EP074_SR: Styrene	100-42-5	0.5	µg/L	<0.5	2 µg/L	92.5	----	74.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	90.3	----	78.0	120	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	90.8	----	77.0	121	----	----
EP-074_SR-B: Oxygenated Compounds (QC Lot: 3440656)											
EP074_SR: 2-Propanone (Acetone)	67-64-1	5	µg/L	<5	20 µg/L	109	----	73.0	126	----	----
EP074_SR: 2-Butanone (MEK)	78-93-3	5	µg/L	<5	20 µg/L	89.5	----	79.0	123	----	----
EP-074_SR-E: Halogenated Aliphatics (QC Lot: 3440656)											
EP074_SR: Methylene chloride	75-09-2	5	µg/L	<5	2 µg/L	89.2	----	70.0	124	----	----
EP074_SR: Trichloroethene	79-01-6	0.5	µg/L	<0.5	2 µg/L	88.6	----	81.0	121	----	----
EP074_SR: Tetrachloroethene	127-18-4	0.5	µg/L	<0.5	2 µg/L	88.4	----	76.0	120	----	----
EP-074_SR-G: Trihalomethanes (THM) (QC Lot: 3440656)											
EP074_SR: Chloroform	67-66-3	0.5	µg/L	<0.5	2 µg/L	93.1	----	81.0	121	----	----
EP074_SR: Bromodichloromethane	75-27-4	0.5	µg/L	<0.5	2 µg/L	91.2	----	74.0	127	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3440656)											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	92.9	----	70.0	130	----	----



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

Matrix: WATER					Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 3435754)										
HK2049240-001	AEBH3	EK025A: Free Cyanide	----	0.1 mg/L	89.0	----	75.0	125	----	----
EG: Metals and Major Cations - Filtered (QC Lot: 3433312)										
HK2049240-001	AEBH3	EG020: Mercury	7439-97-6	2 µg/L	81.0	----	75.0	125	----	----

Surrogate Control Limits

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.

Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
*Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
Tel: 26784157 Fax: _____
*Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
*Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
*Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
*Contact: _____
*Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
*Client Contact: Name: _____ Email: _____
Tel: _____
*Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501279159
*ALS Quotation No.: HKE/1635/2020_V5
*Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
Site Name/No. (if any): _____

Environmental Division
Hong Kong
Work Order Reference
HK2020797



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
*Sample(s) delivered by: Client # ALS others: _____

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	03 Jun, 2020 17:45	Submission Form Received Date & Time:	03 Jun, 2020 17:45
Package:	Esky (1) / Plastic Bag () / Foam box () / Others () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	2 x 250ml soil jars, 2 x 40ml amber vials		
Tray No:	SJ126, V1	Sorting Date & Time & Login Staff Name:	03 Jun, 2020 18:15 <i>Ketan</i>



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 E +852 2610 2021

QUOTATION OF ANALYSIS – ENVIRONMENTAL		Quotation No.: HKE/1635/2020_V5	
ANGLE Code (Office use Only): CLP POWER HONG KONG LTD		HK2020CLPPOW0009_V5	
Company Name:	MS.CONNIE CHAN	Date:	22-May-2020
Contact:	Connie.chan@clp.com.hk	Mobile Phone Number:	5272 7536
Email Address:	--	Quote Validity:	31-Dec-2020
Phone Number:	CLP POWER HONG KONG LTD	From:	Ivan Leung
Client Code (Office Use Only):	OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP		
Client Reference/Project Name:			

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,

Ivan Leung
Manager – Customer Services
ALS Laboratory Group
Environmental Division – Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₂ -C ₄)	Maroon	Two x 40 ml amber vials (HC)
Semi-volatile Organics, PCR (C ₅ -C ₈)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 19
 Tentative schedules: Three in May 2020. The others will be conducted in Oct and Nov. 2020
 4 soil sample and 1 groundwater sample per borehole.
Item 1: RBRC: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16		USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

** NR = Not required

*** QC groundwater sample shall be conducted Hg testing.



Item 1: RBRC: Land Contamination

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(a,h)anthracene			0.5	NR*	2	
Fluoranthene			0.5	2	2	
Fluorene			0.2	2	2	
Hexachlorobenzene			0.5	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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E& 1 ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Ground water sample:						
Total testing cost for Field Blank (full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.



Breakdown summary for first round in May 2020:

4 soil sample and 1 groundwater sample per borehole.

QA/QC:

1 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 9 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 3

	Quantity	Unit price HK\$	Total cost HK\$
Soil	12		
Groundwater	3		
QA/QC			
Duplicate in soil	1		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	9		
Total testing cost			

Groundwater sampling

Service	Unit Price (HK\$)	No.	Total Cost (HK\$)
Provision of technician to purge one (1) volume of ground water in each well and sampling service with insitu pH, Temp, Conductivity and NAPL measurement for 3 groundwater samples per trip (CLP Service No.: 3157326)		2	
Provision of sample pick up service per trip (CLP Service No.: 3157528)		1	
Provision for the delivery of sampling equipment (CLP Service No.: 3157528)		4	

ESTIMATED TESTING COST AND GROUNDWATER SAMPLING IN MAY 2020:



Service No.	Short Text	Quantity	Gross Price	Net Value
3157529	RBRG - VOCs in soil	23		12+1+9
3157530	RBRG - SVOCs in soil	14		12+1+1
3157533	RBRG - TPH in soil	14		12+1+1
3157534	RBRG - Cyanide - free in soil	14		12+1+1
3157536	RBRG - Heavy Metals in Soil 15 elements	15		12+1+1
3157537	RBRG - VOCs in groundwater	4		3+1
3157538	RBRG - SVOCs in groundwater	4		3+1
3157540	RBRG - TPH in groundwater	4		3+1
3157541	RBRG - Heavy Metals in groundwater - Hg	4		3+1
3157560	Inorganic Analysis - Cyanide	2		2
3157526	Ground water sampling per service	2		2
3157528	Sample pickup and delivery services	5		5

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%
3 Working days TAT express services	original prices +100%

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.

Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
*Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
Tel: 26784157 Fax: _____
*Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
*Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
*Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
*Contact: _____
*Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
*Client Contact: Name: _____ Email: _____
Tel: _____
*Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501279159
*ALS Quotation No.: HKE/1635/2020_V5
*Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
Site Name/No. (if any): _____

Environmental Division
Hong Kong
Work Order Reference
HK2021088



Telephone : +852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
*Sample(s) delivered by: Client # ALS others: _____

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/ Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	04 Jun, 2020 17:25	Submission Form Received Date & Time:	04 Jun, 2020 17:25
Package:	Esky (1) / Plastic Bag () / Foam box () / Others _____ () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	4 x 250ml soil jars, 2 x 40ml amber vials		
Tray No:	SJ126, V1	Sorting Date & Time & Login Staff Name:	04 Jun, 2020 18:30 <i>Kefin</i>

CHAIN OF CUSTODY DOCUMENTATION

127899



ALS Laboratory Group

CLIENT: CLP SAMPLER: DAISY WANG

ADDRESS / OFFICE: MOBILE: 972 484 2442

PROJECT MANAGER (PM): Connie Chou of CLP Anthony Ho of ERM PHONE: -

PROJECT ID: Soil and Groundwater Sampling of CLP West Coal yard EMAIL REPORT TO: Connie Chou

SITE: CLP West Coal yard P.O. NO.: EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date): QUOTE NO.: ANALYSIS REQUIRED including SUITES (note - suite codes must be listed to attract suite prices)

ALS ID	SAMPLE INFORMATION (note: S = Soil, W=Water)			CONTAINER INFORMATION			Total bottles	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	SAMPLE ID	MATRIX	DATE	Time	Type / Code			
1.	AEBH4 3.0M	S	4.6.2020	13:20	Soil	2	✓	Metals
2.	AEBH4 6.0M	S	4.6.2020	15:00	Soil	2	✓	VOCs
3.	Trip Blank	W	4.6.2020		Water	2	✓	SVOCs
								PCRS
								free Cyanide

RELINQUISHED BY: RECEIVED BY: METHOD OF SHIPMENT

Name: DAISY WANG Date: 4 JUN 2020 Name: [Signature] Date: 4 JUN 2020 Con' Note No:

Of: ERM Time: 15:20 Of: ALS (HK) Time: 17:30 Transport Co:

Name: LI WAN FEI Date: Name: Date: Transport Co:

Of: ENTRAFOR Time: Of: Time: Transport Co:

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved;

V = VOA Vial HCl Preserved; VS = VOA Vial Sulphuric Preserved; SG = Sulphuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulphuric Preserved Plastic; F = Formaldehyde Preserved Glass;

Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



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

QUOTATION OF ANALYSIS - ENVIRONMENTAL

Quotation No.:
HKE/1635/2020_V5

HK2020CLPP0W0009_V5

ANGLE Code (Office use Only):

Company Name:	CLP POWER HONG KONG LTD
Contact:	MS. CONNIE CHAN
Email Address:	Connie.chan@clp.com.hk
Phone Number:	..
Client Code (Office Use Only):	CLP POWER HONG KONG LTD
Client Reference/Project Name:	OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP
Date:	22-May-2020
Mobile Phone Number:	5272 7536
Quote Validity:	31-Dec-2020
From:	Ivan Leung

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,

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples / QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCRC(-C ₄)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₁ -C ₁₀)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 19
Tentative schedules: Three in May 2020. The others will be conducted in Oct and Nov. 2020
4 soil sample and 1 groundwater sample per borehole.

Item 1: RBRC: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	1	NR*	1	
Manganese			1	NR*	1	
Molybdenum			1	NR*	1	
Nickel			1	NR*	1	
Tin			1	NR*	10	
Zinc			1	NR*	0.5	
Mercury			0.05	NR*	20	
Chromium III ¹	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			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16		USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

¹Chromium III = Total Chromium - Chromium VI

*NR = Not required

** QC groundwater sample shall be conducted Hg testing



Item 1: RBRC: Land Contamination

Analyte Description

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E & I ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

*NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.



Breakdown summary for first round in May 2020:

4 soil sample and 1 groundwater sample per borehole.

QA/QC:

1 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 9 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 3

	Quantity	Unit price HK\$	Total cost HK\$
Soil	12		
Groundwater	3		
QA/QC			
Duplicate in soil	1		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	9		
Total testing cost			

Groundwater sampling

Service	Unit Price (HK\$)	No.	Total Cost (HK\$)
Provision of technician to purge one (1) volume of ground water in each well and sampling service with insitu pH, Temp, Conductivity and NAPL measurement for 3 groundwater samples per trip (CLP Service No.: 3157526)		2	
Provision of sample pick up service per trip (CLP Service No.: 3157528)		1	
Provision for the delivery of sampling equipment (CLP Service No.: 3157528)		4	

ESTIMATED TESTING COST AND GROUNDWATER SAMPLING IN May 2020:



Service no.	Short Text	Quantity	Gross Price	Net Value
3157529	RBRG - VOCs in soil	23		12+ +1+9
3157530	RBRG - SVOCs in soil	14		12+ +1
3157533	RBRG - TPH in soil	14		12+ +1
3157534	RBRG - Cyanide - free in soil	15		12+ +1+1
3157536	RBRG - Heavy Metals in Soil 15 elements	4		3+1
3157537	RBRG - VOCs in groundwater	4		3+1
3157538	RBRG - SVOCs in groundwater	4		3+1
3157540	RBRG - TPH in groundwater	4		3+1
3157541	RBRG - Heavy Metals in groundwater - 14g	4		3+1
3157560	Inorganic Analysis - Cyanide	2		2
3157526	Ground water sampling per service	5		5
3157528	Sample pickup and delivery services			

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%
3 Working days TAT express services	original prices +100%

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
*Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
Tel: 26784157 Fax: _____
*Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
*Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
*Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
*Contact: _____
*Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
*Client Contact: Name: _____ Email: _____
Tel: _____
*Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501279159
*ALS Quotation No.: HKE/1635/2020_V5
*Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
Site Name/No. (if any): _____

Environmental Division
Hong Kong
Work Order Reference
HK2021743



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
*Sample(s) delivered by: Client # ALS others: _____

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	09 Jun, 2020 17:40	Submission Form Received Date & Time:	09 Jun, 2020 17:40
Package:	Esky (1) / Plastic Bag () / Foam box () / Others () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	6 x 250ml soil jars, 2 x 40ml amber vials		
Tray No:	SJ128, V1	Sorting Date & Time & Login Staff Name:	09 Jun, 2020 18:50 <i>Ketsu</i>



ALS Laboratory Group

CHAIN OF CUSTODY DOCUMENTATION

127900

CLIENT: **CLP**

ADDRESS / OFFICE: **Anthony Ho**

PROJECT MANAGER (PM): **Connie Chan of CLP, Anthony Ho of ERM**

PROJECT ID: **Soil and Groundwater sampling at CLP West Coal yard**

SITE: **CLP West Coal yard** P.O. NO.:

RESULTS REQUIRED (Date): QUOTE NO.:

EMAIL REPORT TO: **Connie Chan**

EMAIL INVOICE TO: (if different to report)

ALS ID	SAMPLE INFORMATION (note: S = Soil, W=Water)			CONTAINER INFORMATION		Total bottles	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected". Extra volume for QC or trace LORs etc.
	SAMPLE ID	MATRIX	DATE	Time	Type / Code		
1.	AEBH18 0.5M	S	9.6.2020	15:20	Soil	2	
2.	AEBH18 1.5M	S	9.6.2020	16:20	Soil	2	
3.	AEBH18 1.5M-DUP	S	9.6.2020	16:20	Soil	2	
4.	Trip Blank	W	9.6.2020		Water	2	

RELINQUISHED BY: **Anthony Ho** Date: **9.6.2020**

Of: **ERM** Time: **16:30**

Name: **L-I WAN FG1** Date:

Of: **INTRAFOR** Time:

RECEIVED BY: **GAYEN ALS (HK)** Date: **9.6.2020**

Name: **ALS (HK)** Time: **17:40**

Con' Note No:

Transport Co:

METHOD OF SHIPMENT:

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



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

QUOTATION OF ANALYSIS – ENVIRONMENTAL		Quotation No.: HKE/1635/2020_V5	
ANGLE Code (Office use Only):		HK2020CLPPOW0009_V5	
Company Name:	CLP POWER HONG KONG LTD	Date:	22-May-2020
Contact:	MS.CONNIE CHAN	Mobile Phone Number:	5272 7536
Email Address:	Connie.chan@cp.com.hk	Quote Validity:	31-Dec-2020
Phone Number:	--	From:	Ivan Leung
Client Code (Office Use Only):	CLP POWER HONG KONG LTD	OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP	
Client Reference /Project Name:			

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,

Agreed and Accepted by:

Ivan Leung
Manager – Customer Services
ALS Laboratory Group
Environmental Division – Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples /QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium / Cyanide	<i>Blue</i>	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₁₀)	<i>Maroon</i>	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₉ -C ₁₇)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 19
 Tentative schedules: Three in May 2020. The others will be conducted in Oct and Nov. 2020
 4 soil sample and 1 groundwater sample per borehole.

Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16		USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

**NR = Not required

*** QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(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	
Free Cyanide		APHA 4500CN:B,C,E&I ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

**NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.



Breakdown summary for first round in May 2020:

4 soil sample and 1 groundwater sample per borehole.

QA/QC:

1 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 9 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 3

	Quantity	Unit price HK\$	Total cost HK\$
Soil	12		
Groundwater	3		
QA/QC			
Duplicate in soil	1		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	9		
Total testing cost			

Groundwater sampling

Service	Unit Price (HK\$)	No.	Total Cost (HK\$)
Provision of technician to purge one (1) volume of ground water in each well and sampling service with insitu pH, Temp, Conductivity and NAPL measurement for 3 groundwater samples per trip (CLP Service No.: 3157526)		2	
Provision of sample pick up service per trip (CLP Service No.: 3157528)		1	
Provision for the delivery of sampling equipment (CLP Service No.: 3157528)		4	

ESTIMATED TESTING COST AND GROUNDWATER SAMPLING IN MAY 2020:



Service no.	Short Text	Quantity	Gross Price	Net Value
3157529	RRBG - VOCs in soil	23		12+1+1+9
3157530	RRBG - SVOCs in soil	14		12+1+1
3157533	RRBG - TPH in soil	14		12+1+1
3157534	RRBG - Cyanide - free in soil	14		12+1+1
3157536	RRBG - Heavy Metals in Soil 15 elements	15		12+1+1+1
3157537	RRBG - VOCs in groundwater	4		3+1
3157538	RRBG - SVOCs in groundwater	4		3+1
3157540	RRBG - TPH in groundwater	4		3+1
3157541	RRBG - Heavy Metals in groundwater - Hg	4		3+1
3157560	Inorganic Analysis - Cyanide	2		2
3157526	Ground water sampling per service	2		2
3157528	Sample pickup and delivery services	5		5

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%
3 Working days TAT express services	original prices +100%

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.

Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
*Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
Tel: 26784157 Fax: _____
*Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
*Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
*Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
*Contact: _____
*Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
*Client Contact: Name: _____ Email: _____
Tel: _____
*Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501279159
*ALS Quotation No.: HKE/1635/2020_V5
*Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
Site Name/No. (if any): _____

Environmental Division
Hong Kong
Work Order Reference
HK2022498



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
*Sample(s) delivered by: Client # ALS others: _____

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	15 Jun, 2020 17:00	Submission Form Received Date & Time:	15 Jun, 2020 17:00
Package:	Esky (1) / Plastic Bag () / Foam box () / Others _____ () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	2 x (250ml soil jars, 40ml amber vials), 1 x (180ml R/G, 180ml Blue)		
Tray No:	R102, V1, B22, SJ133	Sorting Date & Time & Login Staff Name:	15 Jun, 2020 17:20 <i>Ketsw</i>



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 E +852 2610 2021

QUOTATION OF ANALYSIS - ENVIRONMENTAL		Quotation No.: HKE/1635/2020_V5	
ANGLE Code (Office use Only):		HK2020CLPPOW0009_V5	
Company Name:	CLP POWER HONG KONG LTD	Date:	22-May-2020
Contact:	MS.CONNIE CHAN	Mobile Phone Number:	5272 7536
Email Address:	Connie.chan@cp.com.hk	Quote Validity:	31-Dec-2020
Phone Number:	--	From:	Ivan Leung
Client Code (Office Use Only):	CLP POWER HONG KONG LTD		
Client Reference/Project Name:	OA no. 460006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP		

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,

Agreed and Accepted by:

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples / QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium / Cyanide	<i>Blue</i>	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₈)	<i>Maroon</i>	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₉ -C ₁₁)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 19
Tentative schedules: Three in May 2020. The others will be conducted in Oct and Nov. 2020
4 soil sample and 1 groundwater sample per borehole.

Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16		USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

[†] Chromium III = Total Chromium - Chromium VI

*NR = Not required

** QC groundwater sample shall be conducted Hg testing.

Quote: HKE/1635/2020_V5 22-May-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP Page 3 of 9



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	In-house Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:8.C.E.& ISO17380 APHA 4500CN:8&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

*NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

Quote: HKE/1635/2020_V5 22-May-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP Page 4 of 9



Breakdown summary for first round in May 2020:

4 soil sample and 1 groundwater sample per borehole.

QA/QC:

1 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 9 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 3

	Quantity	Unit price HK\$	Total cost HK\$
Soil	12		
Groundwater	3		
QA/QC			
Duplicate in soil	1		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	9		
Total testing cost			

Groundwater sampling

Service	Unit Price (HK\$)	No.	Total Cost (HK\$)
Provision of technician to purge one (1) volume of ground water in each well and sampling service with insitu pH, Temp, Conductivity and NAPL measurement for 3 groundwater samples per trip (CLP Service No.: 3157526)		2	
Provision of sample pick up service per trip (CLP Service No.: 3157528)		1	
Provision for the delivery of sampling equipment (CLP Service No.: 3157528)		4	

ESTIMATED TESTING COST AND GROUNDWATER SAMPLING IN MAY 2020:



Service no.	Short Text	Quantity	Gross Price	Net Value
3157529	RRBG - VOCs in soil	23		12+1+1+9
3157530	RRBG - SVOCs in soil	14		12+1+1
3157533	RRBG - TPH in soil	14		12+1+1
3157534	RRBG - Cyanide - free in soil	14		12+1+1
3157536	RRBG - Heavy Metals in Soil 15 elements	15		12+1+1+1
3157537	RRBG - VOCs in groundwater	4		3+1
3157538	RRBG - SVOCs in groundwater	4		3+1
3157540	RRBG - TPH in groundwater	4		3+1
3157541	RRBG - Heavy Metals in groundwater - Hg	4		3+1
3157560	Inorganic Analysis - Cyanide	8		3+1+1
3157526	Ground water sampling per service	2		2
3157528	Sample pickup and delivery services	5		5

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%
3 Working days TAT express services	original prices +100%

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.

Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501279159
 *ALS Quotation No.: HKE/1635/2020_V5
Soil and groundwater samples from West Coal Yard at CPPS
 *Project Name/No: _____
 Site Name/No. (if any): _____

Environmental Division
 Hong Kong
 Work Order Reference
HK2022912



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: ALS
 *Sample(s) delivered by: Client # ALS others: ALS

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	<u>18 JUN 2020 12:50</u>	Submission Form Received Date & Time:	
Package:	<u>Esky (/) / Plastic Bag () / Foam box () / Others () / NA</u>		
Condition:	<u>Ambient / Chilled / Frozen</u>	Ice Brick / Ice:	<u>Yes</u> / No
Sample Container Type:	<u>5x(1L Orange amber glass, 180ml blue and R/G, 2 x 40ml maroon), 2x40ml maroon</u>		
Tray No:	<u>O2, V1, R105, B23</u>	Sorting Date & Time & Login Staff Name:	<u>18 JUN 2020 Dorothy Ko</u>

CHAIN OF CUSTODY DOCUMENTATION

H 038099



ALS Laboratory Group

CLIENT: CLP
 ADDRESS/OFFICE:
 PROJECT MANAGER (PM): Connie Chan of CLP Anthony Ho of ERM
 PROJECT ID: Soil and Groundwater sampling at CLP West Coalfield
 SITE: CLP West Coalfield
 SAMP: CLP West Coalfield
 QUOTE NO.:

SAMPLER: Anthony Ho Daisy Wong
 MOBILE: 668 89053
 PHONE:
 EMAIL REPORT TO: Connie Chan
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date):
 FOR LABORATORY USE ONLY:
 COOLER SEAL (dipole appropriate)
 Intact: Yes No N/A
 SAMPLE TEMPERATURE
 CHILLED: Yes No

ANALYSIS REQUIRED INCLUDING SUITES (note - suite codes must be listed to attract suite prices)
 Notes: e.g. Highly contaminated samples
 e.g. "High PAHs expected"
 Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE INFORMATION (note: S = Soil, W=Water)		CONTAINER INFORMATION	
	SAMPLE ID	DATE	Type / Code	Total bottles
1	AEBH4	18.6.20 10:10	Water	5
2	AERH10	18.6.20 10:39	Water	5
3	AEBH18	18.6.20 10:56	Water	5
4	AEBH18-DUP	18.6.20 10:56	Water	5
5	Field Blank	18.6.20 11:15	Water	5
6	Trip Blank	18.6.20 11:15	Water	2

ANALYSIS	RESULTS
Metal (Mercury)	✓
VOCs	✓
SVOCs	✓
PCRS	✓
Free cyanide	✓

RELINQUISHED BY:
 Name: Anthony Ho
 Of: ERM
 Name: LI WAN POI
 Of: SUTRAPOR

RECEIVED BY:
 Name:
 Of:
 Name:
 Of:

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

Method of Shipment:
 Date:
 Time:
 Date:
 Time:

ALS Laboratory Group

WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY

SAMPLING / ON SITE TESTING LOG SHEET



Client: CLP Power Ltd
 Location: CPPS
 Sampling Date: 18-6-2020
 Weather: Sunny / Cloudy / Drizzle / Pouring
 Sampling Staff: Luke Ming Ho
 Sample delivered to lab by: _____

Co-ordinator: Wina Chiu
 Arrival Time: 12:50

On Site Measurements: Equipment Used: YSI Pro 600 (17B102764)

Borehole name	Measurement Time	Detected Below Existing Ground Level (m, bgl)			In-situ Measurement			
		Non-Aqueous Phase Liquid (cm)	Groundwater (cm)	Non-Aqueous Phase Liquid Thickness (cm)	pH value	Temperature (°C)	Conductivity (µ S/cm)	Others / Remarks
AEBH4	10=10	/	4.55	/	7.74	27.2	23747	
					7.59	27.3	23745	
					7.56	27.2	23711	
AEBH10	10=39	/	5.12	/	8.03	27.0	13919	
					7.97	27.3	13944	
					7.92	27.3	13983	
AEBH18	10=56	/	4.78	/	7.78	26.3	17087	
					7.72	26.3	16923	
					7.68	26.2	16902	

Sample ID for reporting should be same as 報告上的樣辦名稱應該 as above 如上 as Sample Submission Form 如樣辦提交申請表 as attachment 如附件 or To be confirmed 再行確定

Client Name in BLOCK Letter 客戶姓名: Anthony Ho

Confirmed & Signed by client 客戶確認簽名: [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



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples / QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₈)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₉ -C ₁₅),		One x 1 L amber glass (none)

QUOTATION OF ANALYSIS-ENVIRONMENTAL

Quotation No.:
 HKE/1635/2020_V5

ANGLE Code (Office use Only):

HK2020CLPPOW0009_V5

Company Name:	CLP POWER HONG KONG LTD		
Contact:	MS.CONNIE CHAN	Date:	22-May-2020
Email Address:	Connie.chan@clp.com.hk	Mobile Phone Number:	5272 7536
Phone Number:	--	Quote Validity:	31-Dec-2020
Client Code (Office Use Only):	CLP POWER HONG KONG LTD	From:	Ivan Leung
Client Reference/Project Name:	OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP		

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,

Agreed and Accepted by:

Ivan Leung
 Manager - Customer Services
 ALS Laboratory Group
 Environmental Division - Hong Kong

 Name of Signatory:
 Company Chop and Authority Signature
 Date:



Analytical Services & Charges:

No. of boreholes: 19
 Tentative schedules: Three in May 2020. The others will be conducted in Oct and Nov. 2020
 4 soil sample and 1 groundwater sample per borehole.

Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	In-house Method Reference	Reporting Limit			Unit Cost per Sample (HK\$)			
			Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)				
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)			1.5	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				

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

[^] Chromium III = Total Chromium - Chromium VI

*NR = Not required

** QC groundwater sample shall be conducted Hg testing.

Quote: HKE/1635/2020_V5 22-May-2020

Client Ref /Project: OA no: 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	In-house Method Reference	Reporting Limit			Unit Cost per Sample (HK\$)
			Soil (mg/kg)	Ground Water (µg/L)	Blanks (µg/L)	
Semivolatile Organic Compounds						
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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E& ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

*NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

Quote: HKE/1635/2020_V5 22-May-2020

Client Ref /Project: OA no: 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP



Breakdown summary for first round in May 2020:

4 soil sample and 1 groundwater sample per borehole.

QA/QC:

1 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 9 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 3

	Quantity	Unit price HK\$	Total cost HK\$
Soil	12		
Groundwater	3		
QA/QC			
Duplicate in soil	1		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	9		
Total testing cost			

Groundwater sampling

Service	Unit Price (HK\$)	No.	Total Cost (HK\$)
Provision of technician to purge one (1) volume of ground water in each well and sampling service with insitu pH, Temp, Conductivity and NAPL measurement for 3 groundwater samples per trip (CLP Service No.: 3157526)		2	
Provision of sample pick up service per trip (CLP Service No.: 3157528)		1	
Provision for the delivery of sampling equipment (CLP Service No.: 3157528)		4	

ESTIMATED TESTING COST AND GOUNDWATE SAMPLING IN May 2020:



Service no.	Short Text	Quantity	Gross Price	Net Value	
3157529	RBRG - VOCs in soil	23			12+1+1+9
3157530	RBRG - SVOCs in soil	14			12+1+1
3157533	RBRG - TPH in soil	14			12+1+1
3157534	RBRG - Cyanide - free in soil	1			12+1+1
3157536	RBRG - Heavy Metals in Soil 15 elements	15			12+1+1+1
3157537	RBRG - VOCs in groundwater	4			3+1
3157538	RBRG - SVOCs in groundwater	4			3+1
3157540	RBRG - TPH in groundwater	4			3+1
3157541	RBRG - Heavy Metals in groundwater - Hg	4			3+1
3157560	Inorganic Analysis - Cyanide	3			3+1+1
3157526	Ground water sampling per service	2			2
3157528	Sample pickup and delivery services	5			5

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%
3 Working days TAT express services	original prices +100%

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2044848



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Wai

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	20 Nov, 2020 17:55	Submission Form Received Date & Time:	20 Nov, 2020 17:55
Package:	Esky (1) / Plastic Bag () / Foam box () / Others _____ () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	7 x 250ml soil jars, 2 x 40ml amber vials		
Tray No:	SJ258, V1	Sorting Date & Time & Login Staff Name:	20 Nov, 2020 18:15 <i>Kebw</i>

CHAIN OF CUSTODY DOCUMENTATION

H 041101



ALS Laboratory Group

CLIENT: CLP
 ADDRESS / OFFICE:
 PROJECT MANAGER (PM): Connie Chau at CLP, Anthony Ho at ERM
 PROJECT ID: Soil and Groundwater Sampling at CLP West Coalyned
 SITE: CLP West Coalyned P.O. NO.:

SAMPLER: Anthony Ho
 MOBILE: 6687 9053
 PHONE:
 EMAIL REPORT TO: Connie Chau
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date):
 QUOTE NO.:
 FOR LABORATORY USE ONLY
 COOLER SEAL (circle appropriate):
 Intact: Yes No
 SAMPLE TEMPERATURE:
 CHILLED: Yes No

ANALYSIS REQUIRED INCLUDING SUITES (note - suite codes must be listed to attract suite prices)
 Notes: e.g. Highly contaminated samples
 e.g. "High PAHs expected"
 Extra volume for QC or trace LORs etc.

ALS ID	SAMPLE INFORMATION (note: S = Soil, W = Water)			CONTAINER INFORMATION	
	SAMPLE ID	MATRIX	DATE	Time	Type / Code
1	AEBH21-0.40m	S	20.11	10:40	Soil
2	AEBH20-0.50m	S	20.11	11:00	Soil
3	AEBH19-0.50m	S	20.11	13:45	Soil
4	AEBH17-0.50m	S	20.11	13:50	Soil
5	AEBH15-0.50m	S	20.11	14:20	Soil
6	AEBH16-0.50m	S	20.11	15:15	Soil
7	Trip Blank	W	20.11		Water
8	AEBH12-0.50m	S	20.11	16:00	Soil

Metals	VOCs	SVOCs	PCBs	free cyanide
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓

RELINQUISHED BY:
 Name: Anthony Ho
 Of: ERM
 Name: Ho King Lam Taylor
 Of: Gannon Construction Limited

RECEIVED BY:
 Name: Ai Man Hong
 Of: ACS
 Name: Kelvin Lam
 Of: ALS HK

Date: 20.11.2020
 Time: 16:00
 Date: 20.11.2020
 Time: 16:00

Date: 20.11.2020
 Time: 16:30
 Date: 20.11.2020
 Time: 17:15

Con' Note No:
 Transport Co:

METHOD OF SHIPMENT

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

ALS Laboratory Group

WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY

COC Page 1 of 1



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

QUOTATION OF ANALYSIS-ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only):

HK2020CLPPOW00028

Company Name:

CLP POWER HONG KONG LTD

Contact:

MS. CONNIE CHAN

Email Address:

Connie.chan@clp.com.hk

Phone Number:

5272 7536

Client Code (Office Use Only):

CLP POWER HONG KONG LTD

Client Reference/Project Name:

OA no. 460006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP

Date:

16-Oct-2020

Mobile Phone Number:

5272 7536

Quote Validity:

31-Dec-2020

From:

Ivan Leung

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,

Ivan Leung
Manager – Customer Services
ALS Laboratory Group
Environmental Division – Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCRC(C ₁)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₂₋₆)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
Tentative schedules: Nov. 2020
3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	1	NR*	1	
Manganese			1	NR*	1	
Molybdenum			1	NR*	1	
Nickel			1	NR*	1	
Tin			1	NR*	10	
Zinc			0.05	NR*	0.5	
Mercury			1	NR*	20	
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			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16	EP071HK_SR*	USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

*NR = Not required

** QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(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	
Free Cyanide		APHA 4500CN;B,C,E&I ISO17380 APHA 4500CN;B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample:						
Total testing cost for Equipment Blank (heavy metals) sample:						
Total testing cost for Trip Blank (VOC) sample:						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

*NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

Client Contact Name (1): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No.: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2045044



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Huang

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	<u>23 NOV 2020 17:40</u>	Submission Form Received Date & Time:	<u>23 NOV 2020 17:40</u>
Package:	Esky (<input type="checkbox"/>) / Plastic Bag (<input type="checkbox"/>) / Foam box (<input type="checkbox"/>) / Others _____ (<input type="checkbox"/>) / NA	Condition:	Ambient / <input checked="" type="checkbox"/> Chilled / Frozen Ice Brick / Ice: <u>Yes / No</u>
Sample Container Type:	<u>1 x 250 ml soil jar, 2 x 40 ml amber vials</u>		
Tray No:	<u>SJ259, v2</u>	Sorting Date & Time & Login Staff Name:	<u>23 NOV 2020 18:10 Katar</u>



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

QUOTATION OF ANALYSIS-ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only):

HK2020CLPPOW00028

Company Name:

CLP POWER HONG KONG LTD

Contact:

MS CONNIE CHAN

Email Address:

Connie.chan@clp.com.hk

Phone Number:

5272 7536

Client Code (Office Use Only):

31-Dec-2020

Client Reference/Project Name:

CLP POWER HONG KONG LTD
OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CLP

Date:

16-Oct-2020

Mobile Phone Number:

5272 7536

Quote Validity:

31-Dec-2020

From:

Ivan Leung

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,

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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- 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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₄)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₆ -C ₈)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
Tentative schedules: Nov. 2020
3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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*			1	NR*	20	
Chromium VI			1	NR*	20	
Volatile Organic Compounds (VOCs)						
Acetone			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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16			200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

**NR = Not required

***QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	
Free Cyanide			1	0.01 mg/L	0.01 mg/L	
	EP076HK*	USEPA 8270				
	EK025MD*	APHA 4500CN:B,C,E& I/ISO17380				
	EA025A*	APHA 4500CN:B&N				
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample:						
Total testing cost for Equipment Blank (heavy metals) sample:						
Total testing cost for Trip Blank (VOC) sample:						
*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.						
**NR = Not required						

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.



Breakdown summary:

3 soil sample and 1 groundwater sample per borehole.

QA/QC:

4 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 23 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 16

	Quantity	Unit price HK\$	Total cost HK\$
Soil	48		
Groundwater	16		
QA/QC			
Duplicate in soil	3		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	23		
Total testing cost			

Service no.	Short Text	Quantity	Gross Price	Net Value
3157529	RRBG - VOCs in soil	51		48+3
3157530	RRBG - SVOCs in soil	51		48+3
3157533	RRBG - TPH in soil	51		48+3
3157534	RRBG - Cyanide - free in soil	51		48+3
3157536	RRBG - Heavy Metals in Soil 15 elements	53		48+3+1+1
3157537	RRBG - VOCs in groundwater	41		16+1+1+23
3157538	RRBG - SVOCs in groundwater	18		16+1+1
3157540	RRBG - TPH in groundwater	18		16+1+1
3157541	RRBG - Heavy Metals in groundwater - Hg	17		16+1
3157560	Inorganic Analysis - Cyanide	18		16+1+1



Table 4.1 Proposed Sampling and Analysis Plan

Sampling Location ID	Proposed Coordinates	Soil		Proposed Testing Parameters	Sampling Arrangement	Groundwater
		Sampling Arrangement - Depth (in m) at AEBH10, AEBH17, and AEBH19 to AEBH21	Proposed Testing Parameters			
AEBH10	E: 825447.10 N: 825448.52	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide	1.5m to 1.7m	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide
AEBH17	E: 825447.52 N: 825448.52	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide	1.5m to 1.7m	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide
AEBH19	E: 825447.52 N: 825448.52	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide	1.5m to 1.7m	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide
AEBH21	E: 825447.52 N: 825448.52	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide	1.5m to 1.7m	1.5m to 1.7m	Major SVOCs, VOCs, SVOCs, free Cyanide

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%
3 Working days TAT express services	original prices +100%

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

Additional Charge

Additional Charge	Unit Price (HK\$)
Minimum charge per report	
Amendment of report OR invoice requested by the client	
Cancellation of Sampling Service on that schedule day per trip	

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2045579



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Hung

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	26 Nov, 2020 17:10	Submission Form Received Date & Time:	26 Nov, 2020 17:10
Package:	Esky (<u>1</u>) / Plastic Bag () / Foam box () / Others () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	1 x 250ml soil jar, 2 x 40ml amber vials		
Tray No:	V1, SJ263	Sorting Date & Time & Login Staff Name:	26 Nov, 2020 17:35 <i>Keter</i>



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

QUOTATION OF ANALYSIS-ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only):

HK2020CLPPOW00028

Company Name:

CLP POWER HONG KONG LTD

Contact:

MS.CONNIE CHAN

Email Address:

Connie.chan@clp.com.hk

Phone Number:

16-Oct-2020

Client Code (Office Use Only):

CLP POWER HONG KONG LTD

Client Reference/Project Name:

OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP

Date:

16-Oct-2020

Mobile Phone Number:

5272 7536

Quote Validity:

31-Dec-2020

From:

Ivan Leung

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,

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₄)	Maroon	Two x 40 ml amber/vials (HCl)
Semi-volatile Organics, PCR (C ₆ -C ₅)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
Tentative schedules: Nov. 2020
3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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	EP074_SR*	USEPA 8260	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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16	EP071HK_SR*	USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

^ Chromium III = Total Chromium - Chromium VI

*NR = Not required

** QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	0.5	1	1	
Dibenz(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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN;B,C,E& ISO17380 APHA 4500CN;B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

*NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No.: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2046424



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Hung

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/ Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	02 Dec, 2020 18:00	Submission Form Received Date & Time:	02 Dec, 2020 18:00
Package:	Esky (1) / Plastic Bag () / Foam box () / Others _____ () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	5 x 250ml soil jars, 2 x (180ml R/G, 180ml Blue), 1 x 1L Orange, 4 x 40ml amber vials		
Tray No:	SJ263, R227, O2, V1, B49	Sorting Date & Time & Login Staff Name:	02 Dec, 2020 18:15 <i>Ketser</i>

CHAIN OF CUSTODY DOCUMENTATION

H 041105



ALS Laboratory Group

CLIENT: CUP
 ADDRESS / OFFICE: Connie Chan at CUP Anthony Ho at BAMA
 PROJECT MANAGER (PM): Connie Chan at CUP Anthony Ho at BAMA
 PROJECT ID: Soil and groundwater sampling at CUP west coal yard
 P.O. No.:
 SITE: CUP west coal yard

SAMPLER: Anthony Ho at BAMA
 MOBILE: 6687 9053
 PHONE:
 EMAIL REPORT TO: Connie Chan
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date):
 FOR LABORATORY USE ONLY
 COOLER SEAL (circle appropriate) Intact Yes No
 SAMPLE TEMPERATURE
 CHILLED: Yes No

QUOTE NO.:
 COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE INFORMATION (note: S = Soil, W = Water)			CONTAINER INFORMATION			
ALS ID	SAMPLE ID	MATRIX	DATE	Time	Type / Code	Total bottles
1	AEBH 5 050M	S	2-12	09:40	Soil	1
2	AEBH 5 050m duplicate	S	2-12	09:41	Soil	1
3	AEBH 8 050M	S		10:20	Soil	1
4	AEBH 3 050M	S		11:30	Soil	1
5	AEBH 9 050M	S		13:10	Soil	1
6	Field Blank	W		15:30		5
7	Equipment Blank	W		15:30		2
8	Trp Blank	W		15:30		2

ANALYSIS REQUIRED INCLUDING SUITES (note - suite codes must be listed to attract suite prices)						
Metals	✓					
VOCs	✓					
SVOCs	✓					
PCBs	✓					
Free cyanide	✓					

RELINQUISHED BY:
 Name: Anthony Ho
 Of: ERM
 Name: Taylor Ho
 Of: Gannon

RECEIVED BY:
 Name:
 Of:
 Name: AA
 Of:

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

DATE: 2/12
 TIME: 16:00
 DATE: 2-12-2020
 TIME: 16:00

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

ALS Laboratory Group

WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY

COC Page 1 of 1



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

QUOTATION OF ANALYSIS – ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only):

HK2020CLPPOW00028

Company Name:

CLP POWER HONG KONG LTD

Contact:

MS.CONNIE CHAN

Email Address:

Connie.chan@cp.com.hk

Phone Number:

16-Oct-2020

Client Code (Office Use Only):

5272 7536

Client Reference/Project Name:

OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP

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,

Ivan Leung
Manager – Customer Services
ALS Laboratory Group
Environmental Division – Hong Kong

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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 approved 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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₈)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₉ -C ₁₀)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
Tentative schedules: Nov. 2020
3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			1	NR*	1	1
Antimony			1	NR*	1	1
Arsenic			1	NR*	10	1
Barium			1	NR*	1	1
Cadmium			0.2	NR*	0.2	1
Cobalt			1	NR*	1	1
Copper			1	NR*	1	1
Manganese			1	NR*	1	1
Molybdenum			1	NR*	1	1
Nickel			1	NR*	1	1
Tin			1	NR*	1	1
Zinc			1	NR*	10	1
Mercury			0.05	0.5	0.5	1
Chromium III*	EG049*	By Calculation	1	NR*	20	1
Chromium VI	EG3060* In soil EG050* in water	USEPA3060 APHA 3500 Cr: D	1	NR*	20	1
Volatile Organic Compounds (VOCs)						
Acetone			50	500	500	1
Benzene			0.2	5	5	1
Bromodichloromethane			0.1	5	5	1
2-Bitanone			5	50	50	1
Chloroform			0.04	5	5	1
Ethylbenzene			0.5	5	5	1
Methyl tert-Butyl Ether			0.5	5	5	1
Methylene Chloride			0.5	50	50	1
Styrene			0.5	5	5	1
Tetrachloroethene			0.04	5	5	1
Toluene			0.5	5	5	1
Trichloroethene			0.1	5	5	1
Xylenes (sum of meta & para, ortho)			1.5	20	20	1
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	1
C9 - C16	EP071HK-SR*	USEPA 8015/8260	200	500	500	1
C17 - C35			500	500	500	1

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

** NR = Not required

*** QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			0.5	2	2	1
Acenaphthylene			0.5	2	2	1
Anthracene			0.5	2	2	1
Benzo(a)anthracene			0.5	NR*	2	1
Benzo(a)pyrene			0.5	NR*	2	1
Benzo(b)fluoranthene			0.5	1	1	1
Benzo(k)fluoranthene			0.5	NR*	2	1
Benzo(g,h,i)perylene			0.5	NR*	2	1
Bis(2-Ethylhexyl)phthalate			5	NR*	20	1
Chrysene	EP076HK*	USEPA 8270	0.5	1	1	1
Dibenz(a,h)anthracene			0.5	NR*	2	1
Fluoranthene			0.5	2	2	1
Fluorene			0.5	2	2	1
Hexachlorobenzene			0.2	4	4	1
Indeno(1,2,3-cd)pyrene			0.5	NR*	2	1
Naphthalene			0.5	2	2	1
Phenanthrene			0.5	2	2	1
Phenol			0.5	NR*	2	1
Pyrene			0.5	2	2	1
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E& ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	1
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

** NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No.: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2047173



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Hung

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/ Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	07 Dec, 2020 17:45	Submission Form Received Date & Time:	07 Dec, 2020 17:45
Package:	Esky (1) / Plastic Bag () / Foam box () / Others () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	1 x 250ml soil jar, 2 x 40ml amber vials		
Tray No:	SJ269, V1	Sorting Date & Time & Login Staff Name:	07 Dec, 2020 18:00 <i>Ketsu</i>

CHAIN OF CUSTODY DOCUMENTATION

H 041106



ALS Laboratory Group

CLIENT: CUP
 ADDRESS / OFFICE:
 PROJECT MANAGER (PM): Connie Chan at CUP Anthony Ho at ERM
 PROJECT ID: Salmon Groundwater monitoring at CUP west coal yard
 P.O. NO.:
 SITE: CUP west coal yard

SAMPLER: Anthony Ho at ERM
 MOBILE: 6687 9053
 PHONE:
 EMAIL REPORT TO: Connie Chan
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date):
 QUOTE NO.:

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

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

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

ALS ID	SAMPLE INFORMATION (note: S = Soil, W=Water)			CONTAINER INFORMATION		
	SAMPLE ID	MATRIX	DATE	Type / Code	Time	Total bottles
1.	AEH 3 300M AEH 3 300M	S	7/12 10:00	Soil		1
2.	Top Blank	W	15:30			2

Metals	VOCs	SVOCs	PCBs	Free cyanide
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

RELINQUISHED BY:
 Name: Anthony Ho Date: 15:30 7/12
 Of: ERM Time: 0:30
 Name: Taylor Ho Date: 7/12
 Of: Gannan Time: 15:30

RECEIVED BY:
 Name: Date: 7/12
 Of: Time:
 Name: Date:
 Of: Time:

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

ALS Laboratory Group

WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY



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

QUOTATION OF ANALYSIS - ENVIRONMENTAL		Quotation No.: HKE/2627/2020	
ANGLE Code (Office use Only):		HK2020CLPPOW00028	
Company Name:	CLP POWER HONG KONG LTD	Date:	16-Oct-2020
Contact:	MS.CONNIE CHAN	Mobile Phone Number:	5272 7536
Email Address:	Connie.chan@clp.com.hk	Quote Validity:	31-Dec-2020
Phone Number:	-	From:	Ivan Leung
Client Code (Office Use Only):	CLP POWER HONG KONG LTD	OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP	
Client Reference/Project Name:			

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,

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Agreed and Accepted by:

Name of Signatory:
Company Chop and Authority Signature
Date:



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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 approved 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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples /QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	Blue	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PC/PC(C ₆ C ₁₀)	Maroon	Two x 40 ml amber vials (HCl)
Semi-volatile Organics, PCR (C ₆ -C ₁₀)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
Tentative schedules: Nov. 2020
3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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	EP074_SR*	USEPA 8260	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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16	EP071_HK_SR*	USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

* NR = Not required

** QC groundwater sample shall be conducted Hg testing.

Quote: HKE/2627/2020 16-Oct-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP Page 3 of 9



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E& ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

Quote: HKE/2627/2020 16-Oct-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP Page 4 of 9

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

*Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.*

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No.: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2048037



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Hung

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/ Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	11 Dec, 2020 17:00	Submission Form Received Date & Time:	11 Dec, 2020 17:00
Package:	Esky (1) / Plastic Bag () / Foam box () / Others () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	10 x (180ml R/G, 1L Orange, 180ml Blue), 22 x 40ml amber vials		
Tray No:	<u>R234</u> R233 , O1, V1, B50	Sorting Date & Time & Login Staff Name:	11 Dec, 2020 17:30 <u>Ketun</u>



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 E +852 2610 2021

QUOTATION OF ANALYSIS - ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only): **HK2020CLPP0W00028**

Company Name: **CLP POWER HONG KONG LTD**

Contact: **MS CONNIE CHAN**

Email Address: **Connie.chan@clp.com.hk**

Phone Number: **5272 7536**

Client Code (Office Use Only): **31-Dec-2020**

Client Reference / Project Name: **CLP POWER HONG KONG LTD**

IA no. 460006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP

Date: **16-Oct-2020**

Mobile Phone Number: **5272 7536**

Quote Validity: **31-Dec-2020**

From: **Ivan Leung**

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,

Ivan Leung
Manager - Customer Services
ALS Laboratory Group
Environmental Division - Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:

Agreed and Accepted by:

Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples/QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium /Cyanide	<i>Blue</i>	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(Cs-Cc)	<i>Maroon</i>	Two x 40 ml amber vials (HCl)
Semivolatile Organics, PCR (Cp-Csp)		One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
 Tentative schedules: Nov. 2020
 3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	1	NR*	1	
Manganese			1	NR*	1	
Molybdenum			1	NR*	1	
Nickel			1	NR*	1	
Tin			1	NR*	10	
Zinc			1	NR*	0.5	
Mercury			0.05	NR*	20	
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			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	EP074_SR*	USEPA 8260	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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16	EP071_HK_SR*	USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* Chromium III = Total Chromium - Chromium VI

**NR = Not required

**QC groundwater sample shall be conducted Hg testing.



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN:B,C,E& ISO17380 APHA 4500CN:B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

**NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
 Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com



SAMPLE SUBMISSION FORM (Environmental Test)

*Note: * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.
 # Items will be subject to additional charge and needed further confirmation & arrangement.*

Reporting information for Final Report

*Company Name: CLP Power Hong Kong Ltd
 *Client Contact: Name: Chan Lai Shan Email: connie.chan@clp.com.hk
 Tel: 26784157 Fax: _____
 *Report address to: SHEQ Department, G/F, GBG Management Building, Black Point Power Station, Tuen Wan
 *Report to be received: Soft Copy Only Hard Copy Only Soft Copy and Hard Copy

Soft copy report delivery (if different from above)

*Client Contact Name (1st): _____ Email: _____
 *Client Contact Name (2nd): _____ Email: _____

Postal information (if different from above)

*Company Name: _____
 *Contact: _____
 *Address: _____

Billing information for Invoice (if different from reporting information for final report)

*Company Name: _____
 *Client Contact: Name: _____ Email: _____
 Tel: _____
 *Invoice address & postal to: _____

*Purchase Order/ Client Order No: 4501307059
 *ALS Quotation No.: HKE/2627/2020
 *Project Name/No: Soil and groundwater samples from West Coal Yard at CPPS
 Site Name/No. (if any): West Coal Yard at CPPS

Environmental Division
 Hong Kong
 Work Order Reference
HK2049240



Telephone : + 852 2610 1044

Sampling and delivery

Sampling by: Client # ALS others: _____
 *Sample(s) delivered by: Client # ALS others: Hugo

*Expected TAT (Working days): Regular (7-10) #Express (5) #Double Express (3) #Other (____)

Other remark: _____

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached Yes, _____ pages No)

Lab ID (Lab use only)	*Sample Description/ID	*Sample Type (Water/Soil/ Air/Other)	*Sampling Date/Time	*Test(s) Required

SAMPLE RECEIPT INFO: (Laboratory Use Only)

Sample Received Date & Time:	18 Dec, 2020 17:50	Submission Form Received Date & Time:	18 Dec, 2020 17:50
Package:	Esky (1) / Plastic Bag () / Foam box () / Others _____ () / NA		
Condition:	Chilled	Ice Brick / Ice:	Yes
Sample Container Type:	6 x (180ml R/G, 1L Orange, 180ml Blue), 14 x 40ml amber vials		
Tray No:	R240, O1, V1, B52	Sorting Date & Time & Login Staff Name:	18 Dec, 2020 18:15 <i>Kofew</i>

CHAIN OF CUSTODY DOCUMENTATION

H 041108



ALS Laboratory Group

CLIENT: CLP
 ADDRESS/OFFICE:
 PROJECT MANAGER (PM): Carnie Chan of CLP, Anthony Ho of ERM
 PROJECT ID: Soil and Groundwater Sampling at CLP West Coalfield
 P.O. No.:
 SITE: CLP West Coalfield
 EMAIL REPORT TO: Carnie Chan
 EMAIL INVOICE TO: (if different to report)

RESULTS REQUIRED (Date): QUOTE NO.:
 ANALYSIS REQUIRED INCLUDING SUITES (note - suite codes must be listed to attract suite prices)

ALS ID	SAMPLE INFORMATION (note: S = Soil, W = Water)			CONTAINER INFORMATION		Total bottles	Notes: e.g. Highly contaminated samples e.g. "High PAHs expected" Extra volume for QC or trace LORs etc.
	MATRIX	DATE	Time	Type / Code			
1	AEBH3	W	18.12	14:30	Water	5	
2	AEBH5	W	18.12	14:40	Water	5	
3	AEBH6	W	18.12	14:50	Water	5	
4	AEBH7	W	18.12	14:55	Water	5	
5	AEBH8	W	18.12	15:00	Water	5	
6	AEBH11	W	18.12	15:15	Water	5	
7	Frip Blank	W	18.12	15:25	Water	2	

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

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

RELIQUISHED BY: Name: Anthony Ho Date: 18.12.2020
 Of: ERM Time: 15:30
 Name: Angela Ho Date: 18.12.2020
 Of: Carnie Chan Time: 15:30

RECEIVED BY: Name: Hugo Ng Date: 18/12/2020
 Of: ALS Time: 15:35
 Name: Date: Transport Co.:
 Of: Time:

METHOD OF SHIPMENT: Con' Note No.:
 Transport Co.:

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

ALS Laboratory Group

WHITE - LAB COPY
 YELLOW - CUSTOMER COPY
 PINK - BOOK COPY

COC Page ___ of ___



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N.T., Hong Kong
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QUOTATION OF ANALYSIS – ENVIRONMENTAL

Quotation No.: HKE/2627/2020

ANGLE Code (Office use Only):

HK2020CLPPOW00028

Company Name:

CLP POWER HONG KONG LTD

Contact:

MS.CONNIE CHAN

Email Address:

Connie.chan@clp.com.hk

Phone Number:

--

Client Code (Office Use Only):

CLP POWER HONG KONG LTD

Client Reference/Project Name:

OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP

Date:

16-Oct-2020

Mobile Phone Number:

5272 7536

Quote Validity:

31-Dec-2020

From:

Ivan Leung

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,

Agreed and Accepted by:

Ivan Leung
Manager – Customer Services
ALS Laboratory Group
Environmental Division – Hong Kong

Name of Signatory:
Company Chop and Authority Signature
Date:



Turnaround Times

Our standard laboratory turnaround time (TAT) will be **10 working days**.

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.

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 bottles arrangement.**

Soil Samples

Test Parameter	Label Colour	Container Type (Preservation)
INORGANICS/ORGANICS		
All testing		One x 250ml glass (none)

Groundwater Samples / QC samples

Test Parameter	Label Colour	Container Type (Preservation)
METALS		
Hexavalent Chromium / Cyanide	<i>Blue</i>	One x 180 ml plastic (NaOH)
Heavy Metals (Total / Lab Filtered)		One x 180 ml plastic (none)
ORGANICS		
VOCs/BTEX/PCR(C ₆ -C ₈)		Two x 40 ml amber vials
Semi-volatile Organics, PCR (C ₉ -C ₁₀).	<i>Maroon</i>	One x 1 L amber glass (none)



Analytical Services & Charges:

No. of boreholes: 16
 Tentative schedules: Nov. 2020
 3 soil sample and 1 groundwater sample per borehole.
Item 1: RBRG: Land Contamination (TAT: 7 working days)

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Metals						
Lead			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	EG020*	USEPA 6020A	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			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	EP074_SR*	USEPA 8260	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)			1.5	20	20	
Petroleum Carbon Ranges (PCR)						
C6 - C8			5	20	20	
C9 - C16	EP071HK_SR*	USEPA 8015/8260	200	500	500	
C17 - C35			500	500	500	

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

^ Chromium III = Total Chromium - Chromium VI

* NR = Not required

** QC groundwater sample shall be conducted Hg testing.

Quote: HKE/2627/2020 16-Oct-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP
 Page 3 of 9



Item 1: RBRG: Land Contamination

Analyte Description	ALS Method Code	Method Reference	Soil (mg/kg)	Reporting Limit Ground Water (µg/L)	Blanks (µg/L)	Unit Cost per Sample (HK\$)
Semivolatile Organic Compounds						
Acenaphthene			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	EP076HK*	USEPA 8270	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	
Free Cyanide	EK025MD* EA025A*	APHA 4500CN.B.C.E& I ISO17380 APHA 4500CN.B&N	1	0.01 mg/L	0.01 mg/L	
Total testing cost for EACH Soil sample:						
Total testing cost for EACH Groundwater sample:						
Total testing cost for Field Blank (Full list) sample						
Total testing cost for Equipment Blank (heavy metals) sample						
Total testing cost for Trip Blank (VOC) sample						

*The laboratory is HOKLAS accredited for the in-house method as quoted. The relevant method references are as listed.

* NR = Not required

Remarks: QA/QC samples (trip blank, equipment blank, field blank and duplicate) are included in the quoted price.

Quote: HKE/2627/2020 16-Oct-2020

Client Ref /Project: OA no. 4600006550 Lab analysis for soil and groundwater samples from West Coal Yard at CPP
 Page 4 of 9



Breakdown summary:

3 soil sample and 1 groundwater sample per borehole.

QA/QC:

4 duplicate sample for full suite analysis, 1 field blank for full suite analysis, 1 equipment blank for heavy metal analysis, 23 trip blanks for VOC analysis

Laboratory testing

No. of boreholes: 16

Soil	Quantity	Unit price HK\$	Total cost HK\$
Groundwater	48		
QA/QC	16		
Duplicate in soil	3		
Duplicate in groundwater	1		
Field Blank	1		
Equipment Blank	1		
Trip blank	23		
Total testing cost			

Service no.	Short Text	Quantity	Gross Price	Net Value
3157529	RBRG - VOCs in soil	51		48+3
3157530	RBRG - SVOCs in soil	51		48+3
3157533	RBRG - TPH in soil	51		48+3
3157534	RBRG - Cyanide - free in soil	51		48+3
3157536	RBRG - Heavy Metals in Soil 15 elements	53		16+1+1+23
3157537	RBRG - VOCs in groundwater	41		16+1+1
3157538	RBRG - SVOCs in groundwater	18		16+1+1
3157540	RBRG - TPH in groundwater	18		16+1+1
3157541	RBRG - Heavy Metals in groundwater - Hg	17		16+1+1
3157560	Inorganic Analysis - Cyanide	18		16+1+1



Table 4.1 Proposed Sampling and Analysis Plan

Sampling Location ID	Proposed Coordinates	Sampling Arrangement - Depths (m bgl) in	Soil	Proposed Testing Parameters	Groundwater	Proposed Testing Parameters
ZEBR01	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR02	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR03	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR04	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR05	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR06	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR07	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR08	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR09	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR10	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR11	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR12	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR13	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR14	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR15	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR16	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR17	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR18	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR19	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR20	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.
ZEBR21	E: 820238.45 N: 820248.52	0.3m to 1.5m depth	For AEBH10, AEBH11, and AEBH19	SVOCs, TPH, VOCs, etc.	0.3m to 1.5m depth	SVOCs, TPH, VOCs, etc.

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%
3 Working days TAT express services	original prices +100%

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

Additional Charge

Additional charge will be applied for below items:	Unit Price (HK\$)
Minimum charge per report	
Amendment of report OR invoice requested by the client	
Cancellation of Sampling Service on that schedule day per trip	

ERM has over 160 offices across the following countries and territories worldwide

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