






### CERTIFICATE OF ANALYSIS

Client	: MOTT MACDONALD HONG KONG LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 13
Contact	: THOMAS CHAN	Contact	: Richard Fung	Work Order	: HK2024008
Address	: 3/F INTERNATIONAL TRADE TOWER, 348 KWUN TONG ROAD, KWUN TONG, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: thomas.chan@mottmac.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2828 5933	Telephone	: +852 2610 1044	Date Samples Received	: 29-Jun-2020
Facsimile	: +852 2828 1823	Facsimile	: +852 2610 2021	Issue Date	: 09-Jul-2020
Project	: SOIL TESTING AT HONG KONG AIRPORT			No. of samples received	: 6
Order number	: ---	Quote	: HKE/1861c/2018_V2	No. of samples analysed	: 6
C-O-C number	: H030963	number			
Site	: CONTRACT NO. C3503 TERMINAL 2 FOUNDATION AND SUBSTRUCTURE WORKS				

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

Signatories	Position	Authorised results for
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 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 29-Jun-2020 to 08-Jul-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: HK2024008**

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.



### Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH5-500MMBTS	BH5-500MMBTS (Duplicate)	BH5-1500MMBTS	---	---
				29-Jun-2020	29-Jun-2020	29-Jun-2020	----	----
Compound	CAS Number	LOR	Unit	HK2024008-004	HK2024008-005	HK2024008-006	-----	-----
<b>EA/ED: Physical and Aggregate Properties</b>								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	8.2	8.3	8.4	---	---
<b>EG: Metals and Major Cations</b>								
EG020: Lead	7439-92-1	1	mg/kg	8	8	7	---	---
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
EP076HK: Naphthalene	91-20-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Acenaphthylene	208-96-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Acenaphthene	83-32-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Fluorene	86-73-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Phenanthrene	85-01-8	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Anthracene	120-12-7	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Fluoranthene	206-44-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Pyrene	129-00-0	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Benz(a)anthracene	56-55-3	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
EP076HK: Chrysene	218-01-9	0.500	mg/kg	<0.500	<0.500	<0.500	---	---
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	---	---
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>								
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	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>								
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	---	---



Sub-Matrix: SOIL				Client sample ID	BH5-500MMBTS	BH5-500MMBTS (Duplicate)	BH5-1500MMBTS	---	---
Client sampling date / time				29-Jun-2020	29-Jun-2020	29-Jun-2020	----	----	
Compound	CAS Number	LOR	Unit	HK2024008-004	HK2024008-005	HK2024008-006	-----	-----	
<b>EP-074 SR-A: Monocyclic Aromatic Hydrocarbons (MAH) - Continued</b>									
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	<1.0	---	---	
	106-42-3								
EP074_SR: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	---	---	
EP074_SR: Xylenes (Total)	----	2.0	mg/kg	<2.0	<2.0	<2.0	---	---	
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	<0.2	---	---	
<b>EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates</b>									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	102	97.5	103	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	104	98.2	104	---	---	
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	96.0	99.7	101	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	102	103	104	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	105	105	---	---	
<b>EP-074_SR-S: VOC Surrogates</b>									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	96.0	99.7	101	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	103	104	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	105	105	---	---	



Sub-Matrix: WATER				Client sample ID	Trip Blank	Equipment Blank	Field Blank	---	---
				Client sampling date / time	29-Jun-2020	29-Jun-2020	29-Jun-2020	---	---
Compound	CAS Number	LOR	Unit	HK2024008-001	HK2024008-002	HK2024008-003	---	---	---
<b>EG: Metals and Major Cations - Filtered</b>									
EG020: Lead	7439-92-1	1	µg/L	---	<1	<1	---	---	---
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
EP076HK: Naphthalene	91-20-3	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Acenaphthylene	208-96-8	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Acenaphthene	83-32-9	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Fluorene	86-73-7	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Phenanthrene	85-01-8	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Anthracene	120-12-7	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Fluoranthene	206-44-0	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Pyrene	129-00-0	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Benz(a)anthracene	56-55-3	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Chrysene	218-01-9	1.0	µg/L	---	<1.0	<1.0	---	---	---
EP076HK: Benzo(b)fluoranthene	205-99-2	1.0	µg/L	---	<1.0	<1.0	---	---	---
EP076HK: Benzo(k)fluoranthene	207-08-9	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Benzo(a)pyrene	50-32-8	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Indeno(1,2,3.cd)pyrene	193-39-5	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Dibenz(a,h)anthracene	53-70-3	2.0	µg/L	---	<2.0	<2.0	---	---	---
EP076HK: Benzo(g,h,i)perylene	191-24-2	2.0	µg/L	---	<2.0	<2.0	---	---	---
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	<20	<20	---	---	---
EP071HK_SR: C9 - C16 Fraction	----	500	µg/L	---	<500	<500	---	---	---
EP071HK_SR: C17 - C35 Fraction	----	500	µg/L	---	<b>2800</b>	<500	---	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>									
EP074_SR: Benzene	71-43-2	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Toluene	108-88-3	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Ethylbenzene	100-41-4	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	10	µg/L	<10	<10	<10	---	---	---
EP074_SR: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	<5.0	<5.0	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	<20	<20	---	---	---



Sub-Matrix: WATER				Client sample ID	Trip Blank	Equipment Blank	Field Blank	---	---
				Client sampling date / time	29-Jun-2020	29-Jun-2020	29-Jun-2020	---	---
Compound	CAS Number	LOR	Unit	HK2024008-001	HK2024008-002	HK2024008-003	---	---	
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	<0.5	<0.5	---	---	
<b>EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates</b>									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	---	52.0	57.0	---	---	
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	---	91.4	108	---	---	
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	105	106	104	---	---	
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	102	103	102	---	---	
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	104	103	---	---	
<b>EP-074_SR-S: VOC Surrogates</b>									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	105	106	104	---	---	
EP074_SR: Toluene-D8	2037-26-5	0.1	%	102	103	102	---	---	
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	104	104	103	---	---	



**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 (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3115104)</b>								
HK2023994-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	10.8	10.6	1.35
HK2024005-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	9.1	9.1	0.00
<b>EG: Metals and Major Cations (QC Lot: 3109627)</b>								
HK2024008-005	BH5-500MMBTS (Duplicate)	EG020: Lead	7439-92-1	1	mg/kg	8	8	0.00
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107195)</b>								
HK2023535-001	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
		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		
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097063)</b>								
HK2023240-001	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097064)</b>								
HK2023240-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3110256)</b>								
HK2024063-007	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



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3110256) - Continued</b>								
HK2024063-007	Anonymous	EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.00
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3110256)</b>								
HK2024063-007	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	0.00
Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 3109624)</b>								
HK2024008-003	Field Blank	EG020: Lead	7439-92-1	1	µg/L	<1	<1	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
<b>EG: Metals and Major Cations (QC Lot: 3109627)</b>											
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	108	----	90.0	110	----	----
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107195)</b>											
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	91.6	----	54.0	138	----	----
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	94.0	----	56.0	145	----	----
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	90.0	----	54.0	139	----	----
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	94.3	----	54.0	140	----	----
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	93.8	----	51.0	139	----	----
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	95.4	----	54.0	145	----	----
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	95.4	----	55.0	142	----	----
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	93.1	----	52.0	141	----	----
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	93.3	----	48.0	142	----	----
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	91.0	----	49.0	146	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	91.6	----	46.0	130	----	----





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
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107195) - Continued</b>											
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	87.4	----	42.0	139	----	----
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	86.8	----	26.0	140	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	69.2	----	25.0	126	----	----
EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	66.3	----	27.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	61.6	----	15.0	138	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097063)</b>											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	87.2	----	79.0	102	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	75.0	----	59.0	101	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097064)</b>											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	89.4	----	80.0	123	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3110256)</b>											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	108	----	76.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	79.0	121	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	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: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	97.3	----	83.0	121	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	103	----	84.0	120	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3110256)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	109	----	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
<b>EG: Metals and Major Cations - Filtered (QC Lot: 3109624)</b>											
EG020: Lead	7439-92-1	1	µg/L	<1	50 µg/L	110	----	85.0	113	----	----
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107249)</b>											
EP076HK: Naphthalene	91-20-3	0.1	µg/L	<0.1	0.5 µg/L	90.1	----	66.0	135	----	----
EP076HK: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	0.5 µg/L	85.0	----	60.0	136	----	----



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
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107249) - Continued</b>											
EP076HK: Acenaphthene	83-32-9	0.1	µg/L	<0.1	0.5 µg/L	90.1	----	63.0	132	----	----
EP076HK: Fluorene	86-73-7	0.1	µg/L	<0.1	0.5 µg/L	89.8	----	64.0	135	----	----
EP076HK: Phenanthrene	85-01-8	0.1	µg/L	<0.1	0.5 µg/L	91.8	----	61.0	132	----	----
EP076HK: Anthracene	120-12-7	0.1	µg/L	<0.1	0.5 µg/L	88.8	----	61.0	121	----	----
EP076HK: Fluoranthene	206-44-0	0.1	µg/L	<0.1	0.5 µg/L	87.8	----	65.0	135	----	----
EP076HK: Pyrene	129-00-0	0.1	µg/L	<0.1	0.5 µg/L	86.1	----	61.0	136	----	----
EP076HK: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	0.5 µg/L	80.3	----	64.0	124	----	----
EP076HK: Chrysene	218-01-9	0.1	µg/L	<0.1	0.5 µg/L	89.3	----	49.0	140	----	----
EP076HK: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	0.5 µg/L	82.7	----	53.0	135	----	----
EP076HK: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	0.5 µg/L	87.6	----	66.0	128	----	----
EP076HK: Benzo(a)pyrene	50-32-8	0.1	µg/L	<0.1	0.5 µg/L	76.8	----	45.0	126	----	----
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	0.5 µg/L	77.5	----	45.0	129	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	0.5 µg/L	78.0	----	47.0	130	----	----
EP076HK: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	0.5 µg/L	84.6	----	42.0	140	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3115268)</b>											
EP071HK_SR: C9 - C16 Fraction	----	0.5	mg/L	<0.5	0.21 mg/L	101	----	71.0	121	----	----
EP071HK_SR: C17 - C35 Fraction	----	0.5	mg/L	<0.5	0.45 mg/L	93.7	----	68.0	103	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3115975)</b>											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	106	----	77.0	120	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3115976)</b>											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	87.1	----	76.0	127	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	85.8	----	77.0	125	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	93.6	----	79.0	126	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	90.6	----	79.0	121	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	89.9	----	77.0	126	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	90.4	----	79.0	122	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3115976)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	90.0	----	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
<b>EG: Metals and Major Cations (QC Lot: 3109627)</b>										
HK2024008-004	BH5-500MMBTS	EG020: Lead	7439-92-1	5 mg/kg	108	----	75.0	125	----	----
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3107195)</b>										
HK2023535-002	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	88.3	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	91.4	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	87.0	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	89.6	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	90.0	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	94.7	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	93.5	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	95.2	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	90.4	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	89.0	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	89.6	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	93.2	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	94.0	----	50.0	130	----	----
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	84.0	----	50.0	130	----	----
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	73.6	----	50.0	130	----	----
		EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	83.2	----	50.0	130	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097063)</b>										
HK2023240-002	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	89.0	----	50.0	130	----	----
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	88.9	----	50.0	130	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3097064)</b>										
HK2023240-002	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	97.6	----	50.0	130	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3110256)</b>										
HK2024005-005	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	100	----	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	112	----	50.0	130	----	----



Matrix: SOIL				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3110256) - Continued</b>										
HK2024005-005	Anonymous	EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	110	----	50.0	130	----	----
			106-42-3							
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	110	----	50.0	130	----	----
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	110	----	50.0	130	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3110256)</b>										
HK2024005-005	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	102	----	50.0	130	----	----

Matrix: WATER				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 3109624)</b>										
HK2024008-002	Equipment Blank	EG020: Lead	7439-92-1	50 µg/L	112	----	75.0	125	----	----

**Surrogate Control Limits**

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



### CERTIFICATE OF ANALYSIS





Client	: MOTT MACDONALD HONG KONG LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 15
Contact	: THOMAS CHAN	Contact	: Richard Fung	Work Order	: HK2027733
Address	: 3/F INTERNATIONAL TRADE TOWER, 348 KWUN TONG ROAD, KWUN TONG, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: thomas.chan@mottmac.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2828 5933	Telephone	: +852 2610 1044	Date Samples Received	: 24-Jul-2020
Facsimile	: +852 2828 1823	Facsimile	: +852 2610 2021	Issue Date	: 04-Aug-2020
Project	: SOIL TESTING AT HONG KONG AIRPORT			No. of samples received	: 6
Order number	: ---	Quote	: HKE/1861c/2018_V2	No. of samples analysed	: 6
		number			
C-O-C number	: H030965				
Site	: CONTRACT NO. C3503 TERMINAL 2 FOUNDATION AND SUBSTRUCTURE WORKS				



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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
 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 24-Jul-2020 to 04-Aug-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: HK2027733**

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.





## Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				BH6-NLTS1	BH6-S1	BH6-S4	BH6-S5	BH6-S6
				24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020
Compound	CAS Number	LOR	Unit	HK2027733-002	HK2027733-003	HK2027733-004	HK2027733-005	HK2027733-006
<b>EA/ED: Physical and Aggregate Properties</b>								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	11.2	10.6	11.1	10.8	4.8
<b>EG: Metals and Major Cations</b>								
EG020: Lead	7439-92-1	1	mg/kg	62	76	209	71	104
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
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
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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>								
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
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>								
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



Sub-Matrix: SOIL				BH6-NLTS1	BH6-S1	BH6-S4	BH6-S5	BH6-S6
Client sample ID				24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020
Client sampling date / time				24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020	24-Jul-2020
Compound	CAS Number	LOR	Unit	HK2027733-002	HK2027733-003	HK2027733-004	HK2027733-005	HK2027733-006
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) - Continued</b>								
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: 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
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>								
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2
<b>EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates</b>								
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	98.8	96.0	95.6	95.3	92.5
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	100	95.5	96.1	97.5	100
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>								
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.5	91.7	94.2	93.8	92.6
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	98.7	98.1	96.8	95.6	95.6
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.5	95.1	96.4	94.8	94.4
<b>EP-074_SR-S: VOC Surrogates</b>								
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.5	91.7	94.2	93.8	92.6
EP074_SR: Toluene-D8	2037-26-5	0.1	%	98.7	98.1	96.8	95.6	95.6
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	95.5	95.1	96.4	94.8	94.4



Sub-Matrix: WATER				Client sample ID	Trip Blank	---	---	---	---
				Client sampling date / time	24-Jul-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2027733-001	---	---	---	---	---
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	---	---	---	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>									
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: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	---	---	---	---	---
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	---	---	---	---	---
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.8	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.5	---	---	---	---	---
<b>EP-074_SR-S: VOC Surrogates</b>									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	90.8	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	101	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	93.5	---	---	---	---	---



### Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3162752)</b>								
HK2027646-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	20.2	20.0	1.10
HK2027733-006	BH6-S6	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	4.8	4.9	0.00
<b>EG: Metals and Major Cations (QC Lot: 3162948)</b>								
HK2027733-002	BH6-NLTS1	EG020: Lead	7439-92-1	1	mg/kg	62	61	0.00
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3151538)</b>								
HK2027136-001	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	0.576 mg/kg	562	2.51
		EP076HK: Pyrene	129-00-0	50	µg/kg	0.575 mg/kg	552	4.03
		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
		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		
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526)</b>								
HK2027733-004	BH6-S4	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



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526) - Continued</b>								
HK2027733-004	BH6-S4	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
		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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159803)</b>								
HK2027649-001	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159804)</b>								
HK2027649-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3151540)</b>								
HK2027136-001	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: 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
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3160527)</b>								
HK2027733-004	BH6-S4	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: 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
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3151540)</b>								
HK2027136-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.5	<0.5	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-I: Methyl-tert-butyl Ether (QC Lot: 3160527)								
HK2027733-004	BH6-S4	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	
EG: Metals and Major Cations (QC Lot: 3162948)												
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	99.4	----	90.0	110	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3151538)												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	93.0	----	54.0	138	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	95.3	----	56.0	145	----	----	
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	90.8	----	54.0	139	----	----	
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	90.6	----	54.0	140	----	----	
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	95.6	----	51.0	139	----	----	
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	97.2	----	54.0	145	----	----	
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	94.5	----	55.0	142	----	----	
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	92.9	----	52.0	141	----	----	
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	89.3	----	48.0	142	----	----	
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	91.2	----	49.0	146	----	----	
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	93.5	----	46.0	130	----	----	
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	84.3	----	42.0	139	----	----	
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	86.5	----	26.0	140	----	----	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	80.7	----	25.0	126	----	----	
EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	77.6	----	27.0	130	----	----	
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	81.2	----	15.0	138	----	----	
EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526)												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	109	----	54.0	138	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	107	----	56.0	145	----	----	
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	104	----	54.0	139	----	----	
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	105	----	54.0	140	----	----	



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
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526) - Continued</b>													
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	111	----	51.0	139	----	----		
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	109	----	54.0	145	----	----		
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	109	----	55.0	142	----	----		
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	108	----	52.0	141	----	----		
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	101	----	48.0	142	----	----		
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	108	----	49.0	146	----	----		
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	99.6	----	46.0	130	----	----		
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	101	----	42.0	139	----	----		
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	94.4	----	26.0	140	----	----		
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	80.6	----	25.0	126	----	----		
EP076HK: Dibenz(a,h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	87.3	----	27.0	130	----	----		
EP076HK: Benzo(g,h,i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	96.9	----	15.0	138	----	----		
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159803)</b>													
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	95.0	----	79.0	102	----	----		
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	86.9	----	59.0	101	----	----		
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159804)</b>													
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	105	----	77.0	124	----	----		
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3151540)</b>													
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	106	----	80.0	123	----	----		
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	83.0	126	----	----		
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	111	----	80.0	125	----	----		
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	104	----	82.0	124	----	----		
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	102	----	79.0	128	----	----		
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	103	----	82.0	124	----	----		
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3160527)</b>													
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	98.3	----	80.0	123	----	----		
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	106	----	83.0	126	----	----		
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	108	----	80.0	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
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3160527) - Continued</b>											
EP074_SR: meta- & para-Xylene	108-38-3	0.4	mg/kg	<0.4	0.5 mg/kg	110	----	82.0	124	----	----
	106-42-3										
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	110	----	79.0	128	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	110	----	82.0	124	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3151540)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	105	----	78.0	126	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3160527)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	90.9	----	78.0	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3154099)</b>											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	101	----	77.0	120	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3154940)</b>											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	91.6	----	76.0	125	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	91.2	----	78.0	126	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	92.7	----	81.0	120	----	----
EP074_SR: meta- & para-Xylene	108-38-3	1	µg/L	<1	4 µg/L	97.8	----	77.0	125	----	----
	106-42-3										
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	92.7	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	96.1	----	79.0	123	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3154940)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	100	----	78.0	128	----	----





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

Matrix: SOIL

					<b>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</b>					
<b>Laboratory sample ID</b>	<b>Client sample ID</b>	<b>Method: Compound</b>	<b>CAS Number</b>	<b>Spike Concentration</b>	<b>Spike Recovery (%)</b>		<b>Recovery Limits (%)</b>		<b>RPD (%)</b>	
					<b>MS</b>	<b>MSD</b>	<b>Low</b>	<b>High</b>	<b>Value</b>	<b>Control Limit</b>
<b>EG: Metals and Major Cations (QC Lot: 3162948)</b>										
HK2027683-001	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	98.2	----	75.0	125	----	----
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3151538)</b>										
HK2027136-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	102	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	97.6	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	96.0	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	96.7	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	72.5	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	102	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	55.3	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	54.8	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	73.4	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	64.8	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	81.3	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	76.7	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	78.3	----	50.0	130	----	----
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	79.6	----	50.0	130	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	77.9	----	50.0	130	----	----		
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	72.3	----	50.0	130	----	----		
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526)</b>										
HK2027733-005	BH6-S5	EP076HK: Naphthalene	91-20-3	250 µg/kg	98.2	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	97.7	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	95.0	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	96.3	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	97.0	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	96.5	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	101	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	99.0	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	96.6	----	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	
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3160526) - Continued</b>											
HK2027733-005	BH6-S5	EP076HK: Chrysene	218-01-9	250 µg/kg	99.2	----	50.0	130	----	----	
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	103	----	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	100	----	50.0	130	----	----	
		EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	250 µg/kg	97.0	----	50.0	130	----	----	
		EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	94.8	----	50.0	130	----	----	
		EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	94.4	----	50.0	130	----	----	
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159803)</b>											
HK2027649-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	90.6	----	50.0	130	----	----	
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	75.4	----	50.0	130	----	----	
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3159804)</b>											
HK2027649-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	101	----	50.0	130	----	----	
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3151540)</b>											
HK2027136-001	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	103	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	100	----	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: ortho-Xylene	95-47-6	0.25 mg/kg	108	----	50.0	130	----	----	
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	106	----	50.0	130	----	----	
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3160527)</b>											
HK2027733-005	BH6-S5	EP074_SR: Benzene	71-43-2	0.25 mg/kg	87.6	----	50.0	130	----	----	
		EP074_SR: Toluene	108-88-3	0.25 mg/kg	87.8	----	50.0	130	----	----	
		EP074_SR: Ethylbenzene	100-41-4	0.25 mg/kg	102	----	50.0	130	----	----	
		EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	101	----	50.0	130	----	----	
			106-42-3								
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	101	----	50.0	130	----	----	
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	101	----	50.0	130	----	----	
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3151540)</b>											



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-I: Methyl-tert-butyl Ether (QC Lot: 3151540) - Continued										
HK2027136-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	113	----	50.0	130	----	----
EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3160527)										
HK2027733-005	BH6-S5	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	82.0	----	50.0	130	----	----

**Surrogate Control Limits**

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

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-080_SRS: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	86	118
Toluene-D8	2037-26-5	88	110
4-Bromofluorobenzene	460-00-4	86	115
EP-074_SR-S: VOC Surrogates			
Dibromofluoromethane	1868-53-7	86	118



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






### CERTIFICATE OF ANALYSIS

Client	: MOTT MACDONALD HONG KONG LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 12
Contact	: THOMAS CHAN	Contact	: Richard Fung	Work Order	: HK2031443
Address	: 3/F INTERNATIONAL TRADE TOWER, 348 KWUN TONG ROAD, KWUN TONG, KOWLOON, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: thomas.chan@mottmac.com	E-mail	: richard.fung@alsglobal.com	Date Samples Received	: 20-Aug-2020
Telephone	: +852 2828 5933	Telephone	: +852 2610 1044	Issue Date	: 31-Aug-2020
Facsimile	: +852 2828 1823	Facsimile	: +852 2610 2021	No. of samples received	: 3
Project	: SOIL TESTING AT HONG KONG AIRPORT			No. of samples analysed	: 3
Order number	: ---	Quote number	: HKE/1861c/2018_V2		
C-O-C number	: H030966				
Site	: CONTRACT NO. C3503 TERMINAL 2 FOUNDATION AND SUBSTRUCTURE WORKS				

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

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

Signatories	Position	Authorised results for
 Anh Ngoc Huynh .	Senior Chemist	Organics_ENV
 Chan Siu Ming , Vico	Manager - Inorganics	Inorganics
 Wong Wing , Kenneth	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 20-Aug-2020 to 31-Aug-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: HK2031443**

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.



### Analytical Results

Sub-Matrix: SOIL				Client sample ID	BH5-1000B2NDS	BH5-UNDERS500	---	---	---
				Client sampling date / time	20-Aug-2020	20-Aug-2020	---	---	---
Compound	CAS Number	LOR	Unit	HK2031443-002	HK2031443-003	-----	-----	-----	-----
<b>EA/ED: Physical and Aggregate Properties</b>									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	18.9	17.6	---	---	---	---
<b>EG: Metals and Major Cations</b>									
EG020: Lead	7439-92-1	1	mg/kg	4	7	---	---	---	---
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
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	---	---	---	---
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	---	---	---	---
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>									
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	---	---	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>									
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	---	---	---	---



Sub-Matrix: SOIL				Client sample ID	BH5-1000B2NDS	BH5-UNDERS500	---	---	---
				Client sampling date / time	20-Aug-2020	20-Aug-2020	---	---	---
Compound	CAS Number	LOR	Unit	HK2031443-002	HK2031443-003	---	---	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) - Continued</b>									
EP074_SR: meta- & para-Xylene	108-38-3	1.0	mg/kg	<1.0	<1.0	---	---	---	---
	106-42-3								
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	---	---	---	---
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	<0.2	---	---	---	---
<b>EP-076S: Polycyclic Aromatics Hydrocarbons (PAHs) Surrogates</b>									
EP076HK: 2-Fluorobiphenyl	321-60-8	0.1	%	95.2	100.0	---	---	---	---
EP076HK: 4-Terphenyl-d14	1718-51-0	0.1	%	90.5	97.7	---	---	---	---
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.2	91.7	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	104	107	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	95.4	---	---	---	---
<b>EP-074_SR-S: VOC Surrogates</b>									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	92.2	91.7	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	104	107	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	95.4	---	---	---	---





Sub-Matrix: WATER				Client sample ID	Trip Blank	---	---	---	---
				Client sampling date / time	20-Aug-2020	---	---	---	---
Compound	CAS Number	LOR	Unit	HK2031443-001	---	---	---	---	---
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH)</b>									
EP070HK_SR: C6 - C8 Fraction	----	20	µg/L	<20	---	---	---	---	---
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH)</b>									
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: ortho-Xylene	95-47-6	5.0	µg/L	<5.0	---	---	---	---	---
EP074_SR: Xylenes (Total)	----	20	µg/L	<20	---	---	---	---	---
<b>EP-074_SR-I: Methyl-tert-butyl Ether</b>									
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	---	---	---	---	---
<b>EP-080_SRS: TPH(Volatile)/BTEX Surrogate</b>									
EP070HK_SR: Dibromofluoromethane	1868-53-7	0.1	%	107	---	---	---	---	---
EP070HK_SR: Toluene-D8	2037-26-5	0.1	%	106	---	---	---	---	---
EP070HK_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	---	---	---	---	---
<b>EP-074_SR-S: VOC Surrogates</b>									
EP074_SR: Dibromofluoromethane	1868-53-7	0.1	%	107	---	---	---	---	---
EP074_SR: Toluene-D8	2037-26-5	0.1	%	106	---	---	---	---	---
EP074_SR: 4-Bromofluorobenzene	460-00-4	0.1	%	91.6	---	---	---	---	---



### 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 (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3217901)</b>								
HK2031199-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	22.6	22.3	1.60
HK2031596-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	31.6	32.2	1.82
<b>EG: Metals and Major Cations (QC Lot: 3212907)</b>								
HK2031404-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	51	44	15.8
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3210491)</b>								
HK2031185-001	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
		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		
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215762)</b>								
HK2031199-001	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215763)</b>								
HK2031199-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	<5	0.00
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3204956)</b>								
HK2031051-001	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



Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3204956) - Continued</b>								
HK2031051-001	Anonymous	EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.5	<0.5	0.00
		EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<1.0	<1.0	0.00
		EP074_SR: Xylenes (Total)	----	1	mg/kg	<2.0	<2.0	0.00
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3204956)</b>								
HK2031051-001	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	
<b>EG: Metals and Major Cations (QC Lot: 3212907)</b>												
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	106	----	90.0	110	----	----	
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3210491)</b>												
EP076HK: Naphthalene	91-20-3	50	µg/kg	<50	25 µg/kg	116	----	54.0	138	----	----	
EP076HK: Acenaphthylene	208-96-8	50	µg/kg	<50	25 µg/kg	122	----	56.0	145	----	----	
EP076HK: Acenaphthene	83-32-9	50	µg/kg	<50	25 µg/kg	111	----	54.0	139	----	----	
EP076HK: Fluorene	86-73-7	50	µg/kg	<50	25 µg/kg	114	----	54.0	140	----	----	
EP076HK: Phenanthrene	85-01-8	50	µg/kg	<50	25 µg/kg	113	----	51.0	139	----	----	
EP076HK: Anthracene	120-12-7	50	µg/kg	<50	25 µg/kg	117	----	54.0	145	----	----	
EP076HK: Fluoranthene	206-44-0	50	µg/kg	<50	25 µg/kg	118	----	55.0	142	----	----	
EP076HK: Pyrene	129-00-0	50	µg/kg	<50	25 µg/kg	116	----	52.0	141	----	----	
EP076HK: Benz(a)anthracene	56-55-3	50	µg/kg	<50	25 µg/kg	120	----	48.0	142	----	----	
EP076HK: Chrysene	218-01-9	50	µg/kg	<50	25 µg/kg	113	----	49.0	146	----	----	
EP076HK: Benzo(b)fluoranthene	205-99-2	50	µg/kg	<50	25 µg/kg	101	----	46.0	130	----	----	
EP076HK: Benzo(k)fluoranthene	207-08-9	50	µg/kg	<50	25 µg/kg	91.6	----	42.0	139	----	----	
EP076HK: Benzo(a)pyrene	50-32-8	50	µg/kg	<50	25 µg/kg	82.5	----	26.0	140	----	----	
EP076HK: Indeno(1.2.3.cd)pyrene	193-39-5	50	µg/kg	<50	25 µg/kg	53.6	----	25.0	126	----	----	
EP076HK: Dibenz(a.h)anthracene	53-70-3	50	µg/kg	<50	25 µg/kg	54.9	----	27.0	130	----	----	
EP076HK: Benzo(g.h.i)perylene	191-24-2	50	µg/kg	<50	25 µg/kg	49.8	----	15.0	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215762)</b>											
EP071HK_SR: C9 - C16 Fraction	----	200	mg/kg	<200	31.5 mg/kg	95.5	----	79.0	102	----	----
EP071HK_SR: C17 - C35 Fraction	----	500	mg/kg	<500	67.5 mg/kg	73.9	----	59.0	101	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215763)</b>											
EP070HK_SR: C6 - C8 Fraction	----	5	mg/kg	<5	4.5 mg/kg	105	----	77.0	124	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3204956)</b>											
EP074_SR: Benzene	71-43-2	0.1	mg/kg	<0.1	0.25 mg/kg	111	----	80.0	123	----	----
EP074_SR: Toluene	108-88-3	0.2	mg/kg	<0.2	0.25 mg/kg	109	----	83.0	126	----	----
EP074_SR: Ethylbenzene	100-41-4	0.2	mg/kg	<0.2	0.25 mg/kg	95.6	----	80.0	125	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	0.4	mg/kg	<0.4	0.5 mg/kg	96.5	----	82.0	124	----	----
EP074_SR: ortho-Xylene	95-47-6	0.2	mg/kg	<0.2	0.25 mg/kg	92.2	----	79.0	128	----	----
EP074_SR: Xylenes (Total)	----	1	mg/kg	<1.0	0.75 mg/kg	95.1	----	82.0	124	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3204956)</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.2	mg/kg	<0.2	0.25 mg/kg	91.2	----	78.0	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
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3202565)</b>											
EP070HK_SR: C6 - C8 Fraction	----	0.02	mg/L	<0.02	0.03 mg/L	91.3	----	77.0	120	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3213245)</b>											
EP074_SR: Benzene	71-43-2	0.5	µg/L	<0.5	2 µg/L	107	----	76.0	125	----	----
EP074_SR: Toluene	108-88-3	0.5	µg/L	<0.5	2 µg/L	99.8	----	78.0	126	----	----
EP074_SR: Ethylbenzene	100-41-4	0.5	µg/L	<0.5	2 µg/L	95.3	----	81.0	120	----	----
EP074_SR: meta- & para-Xylene	108-38-3 106-42-3	1	µg/L	<1	4 µg/L	83.4	----	77.0	125	----	----
EP074_SR: ortho-Xylene	95-47-6	0.5	µg/L	<0.5	2 µg/L	92.2	----	77.0	125	----	----
EP074_SR: Xylenes (Total)	----	2	µg/L	<2	6 µg/L	86.4	----	79.0	123	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3213245)</b>											



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
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3213245) - Continued</b>											
EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.5	µg/L	<0.5	2 µg/L	83.7	----	78.0	128	----	----



**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
<b>EG: Metals and Major Cations (QC Lot: 3212907)</b>										
HK2031397-001	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75.0	125	----	----
<b>EP-076HK: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 3210491)</b>										
HK2031187-001	Anonymous	EP076HK: Naphthalene	91-20-3	250 µg/kg	96.8	----	50.0	130	----	----
		EP076HK: Acenaphthylene	208-96-8	250 µg/kg	101	----	50.0	130	----	----
		EP076HK: Acenaphthene	83-32-9	250 µg/kg	93.1	----	50.0	130	----	----
		EP076HK: Fluorene	86-73-7	250 µg/kg	94.4	----	50.0	130	----	----
		EP076HK: Phenanthrene	85-01-8	250 µg/kg	92.6	----	50.0	130	----	----
		EP076HK: Anthracene	120-12-7	250 µg/kg	95.2	----	50.0	130	----	----
		EP076HK: Fluoranthene	206-44-0	250 µg/kg	95.2	----	50.0	130	----	----
		EP076HK: Pyrene	129-00-0	250 µg/kg	93.6	----	50.0	130	----	----
		EP076HK: Benz(a)anthracene	56-55-3	250 µg/kg	93.2	----	50.0	130	----	----
		EP076HK: Chrysene	218-01-9	250 µg/kg	90.2	----	50.0	130	----	----
		EP076HK: Benzo(b)fluoranthene	205-99-2	250 µg/kg	82.2	----	50.0	130	----	----
		EP076HK: Benzo(k)fluoranthene	207-08-9	250 µg/kg	72.1	----	50.0	130	----	----
		EP076HK: Benzo(a)pyrene	50-32-8	250 µg/kg	67.2	----	50.0	130	----	----
		EP076HK: Indeno(1,2,3.cd)pyrene	193-39-5	250 µg/kg	51.9	----	50.0	130	----	----
EP076HK: Dibenz(a,h)anthracene	53-70-3	250 µg/kg	51.6	----	50.0	130	----	----		
EP076HK: Benzo(g,h,i)perylene	191-24-2	250 µg/kg	51.7	----	50.0	130	----	----		
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215762)</b>										
HK2031397-001	Anonymous	EP071HK_SR: C9 - C16 Fraction	----	31.5 mg/kg	86.9	----	50.0	130	----	----
		EP071HK_SR: C17 - C35 Fraction	----	67.5 mg/kg	67.3	----	50.0	130	----	----
<b>EP-071HK_SR: Total Petroleum Hydrocarbons (TPH) (QC Lot: 3215763)</b>										
HK2031397-001	Anonymous	EP070HK_SR: C6 - C8 Fraction	----	4.5 mg/kg	108	----	50.0	130	----	----
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3204956)</b>										
HK2031059-001	Anonymous	EP074_SR: Benzene	71-43-2	0.25 mg/kg	118	----	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	114	----	50.0	130	----	----



Matrix: SOIL				<i>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</i>						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
<b>EP-074_SR-A: Monocyclic Aromatic Hydrocarbons (MAH) (QC Lot: 3204956) - Continued</b>										
HK2031059-001	Anonymous	EP074_SR: meta- & para-Xylene	108-38-3	0.5 mg/kg	102	----	50.0	130	----	----
			106-42-3							
		EP074_SR: ortho-Xylene	95-47-6	0.25 mg/kg	112	----	50.0	130	----	----
		EP074_SR: Xylenes (Total)	----	0.75 mg/kg	105	----	50.0	130	----	----
<b>EP-074_SR-I: Methyl-tert-butyl Ether (QC Lot: 3204956)</b>										
HK2031059-001	Anonymous	EP074_SR: Methyl tert-Butyl Ether (MTBE)	1634-04-4	0.25 mg/kg	118	----	50.0	130	----	----

**Surrogate Control Limits**

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



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