

Airport Management Services Limited

SkyCity Nine Eagles Golf Course EM&A
Final Baseline Monitoring Report

3 November 2006

Report no: 01332R0101



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Final Baseline Monitoring Report

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Report no: 01332R0101

Date: 3 November 2006

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1 Summary

The purpose of this Project is to construct and operate a 9-hole Golf Course at the east side of the North Commercial District (NCD) on the Airport Island as an interim arrangement prior to the area's future development as a business park. The proposed interim golf facility, known as "SkyCity Nine Eagles Golf Course" is intended to serve airport passengers, overseas visitors and airport workers until at least August 2013.

This is the Baseline Report, which determines marine water quality Action/Limit Levels (A/L Levels) based on water quality monitoring data from the Airport Authority (AA) and presents the baseline soil sampling results. The purpose of the baseline of marine water monitoring is to determine ambient conditions prior to the construction works for the Project, in order to determine the level of impact of the Project on the surrounding marine environment during the construction phase. The baseline soil sampling and testing is to determine the soil conditions before the operation of the Golf Course in order to evaluate any contamination in the soil due to the operation the Golf Course.

The construction work commenced in March 2006 for a period of about nine months. According to the EM&A Manual, impact monitoring of marine water during the Construction Period is required for suspended solids, dissolved oxygen and turbidity.

Baseline water quality has made use of data from the non-statutory marine water quality monitoring carried out by AA. Data collected by the AA in December 2005 and February 2006 has been used as baseline data. This dataset comprises data from AA's control stations C1 and C2 and stations 1 to 10.

A/L Levels have been calculated for all parameters in accordance with the EM&A Manual and the *Environmental Monitoring and Audit (EM&A) Guidelines for Development Projects in Hong Kong*. The Action/Event Plan has also been confirmed.

In addition, baseline soil sampling and testing was carried out in May and September 2006 to determine the baseline conditions of the soil of the Golf Course prior to the operation. The baseline soil sampling results indicate that the soil in the Golf Course is free of pesticides and is clean. The baseline soil sampling results will be compared with mid-operation sampling and post-operation sampling results to evaluate any soil contamination caused by the operation of the Golf Course.

2 Background Information

2.1 SkyCity Golf Course

The purpose of this Project is to construct and operate a 9-hole Golf Course at the east side of the North Commercial District (NCD) on the Airport Island as an interim arrangement prior to the area's future development as a business park. The proposed interim golf facility, known as "SkyCity Nine Eagles Golf Course" is intended to serve airport passengers, overseas visitors and airport workers until at least August 2013.

In addition to the 9-hole Golf Course itself, associated infrastructure facilities such as an irrigation system, a sub-surface drainage system, artificial lakes, a connection to the existing sewerage system, a maintenance area, a car park and a clubhouse will be constructed and temporarily operated at the site. Figure 2-1 shows the location of the Project.

The project is being managed by Airport Management Services Limited (AMS) who have employed a Works Contractor to carry out the construction and also an Operator to oversee operation of the facility. Hyder Consulting was employed as the Environmental Team (ET) for the Baseline Period, the Construction Period and the first three months of operation.

2.2 Baseline Report

This is the Baseline Report, which determines marine water quality Action/Limit Levels (A/L Levels) based on water quality monitoring data from the Airport Authority (AA) and presents the baseline soil sampling results.

The purpose of the baseline marine water monitoring is to determine ambient conditions prior to the construction works for the Project, and thereby to determine the level of any impact of the Project on the surrounding marine environment during the construction phase.

Baseline soil sampling and testing was carried out to determine the baseline soil conditions in order to evaluate the contamination on soil due to the operation of the Golf Course.

2.3 Construction Programme

The construction work commenced in March 2006 for a period of about nine months. The latest construction work programme is shown in Appendix 1.

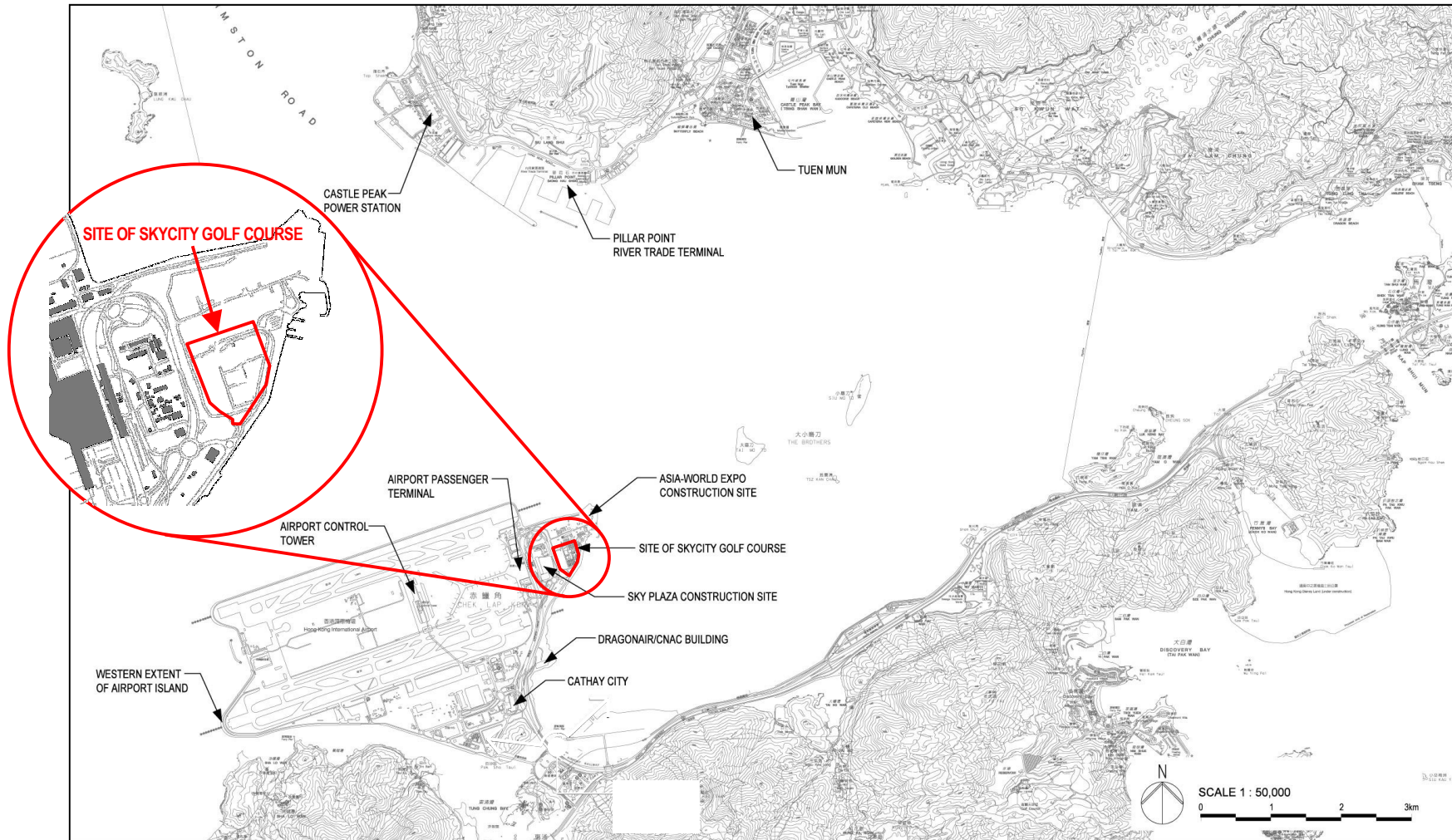


Figure 2-1 Location of SkyCity Golf Course on the Airport Island

3 Monitoring Methodology

3.1 Marine Water

3.1.1 Water Quality Parameters

The EM&A Manual allows this baseline report to make use of monitoring data from the AA's non-statutory bi-monthly monitoring programme. A/L Levels for the following parameters are required :

- suspended solids
- dissolved oxygen
- turbidity

Other information, such as dissolved oxygen saturation, salinity and sea temperature is recorded for reference.

AA have provided the raw data that was collected in December 2005 and February 2006 (see Appendix 2) prior to the commencement of works. The available data is considered to be sufficient to determine the A/L Levels.

3.1.2 AA's Sampling Procedures

AA's measurements were conducted on the dates shown in Appendix 2. Measurements were carried out on small amplitude tides within a tidal window spanning a period from 1.75 hours before low water to 1.75 hours after low water as the anticipated impacts, if any, were concluded to be potentially greatest at this time.

Where water depths were relatively shallow, samples were taken at 1m below the surface and at the mid-depth. Where water was deeper, a third reading 1m above the seabed was also taken. Duplicate samples were taken and are as reported in Appendix 2.

For suspended solids, samples were collected from the mid-depth only.

Water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 17. A HOKLAS-accredited laboratory was used for analysis of samples.

3.1.3 Monitoring Locations

Locations of the non-statutory water quality monitoring carried out by AA are shown in Figure 3-2, from which it can be seen that AA's water quality monitoring stations are predominantly located to the south of the Project Site in the Airport Channel, between the Airport Island and Tung Chung Bay.

Figure 3-3 shows the locations of the monitoring stations that will be used for impact monitoring during the Construction Period.

The locations for impact monitoring during the Construction Period are to the east of the Project Site, whereas AA's monitoring stations are predominantly to the south.

Given the relatively limited dataset from AA's monitoring, however, it is considered appropriate to use the data from all of AA's monitoring stations (including the control stations) to determine A/L Levels.

3.2 Soil Sampling

Soil samples were taken at locations designated S1 to S12 as shown in Figure 3-4, which were proposed in the approved *Soil Sampling and Monitoring Plan*, submitted previously. Soil samples from S1, S5, S6 and S9 were taken on 19 May 2006 and soil samples from the remaining locations were collected on 29 September 2006.

Soil samples were taken prior to placement of the impermeable liner for the artificial lakes, prior to the laying of hard surfacing for the maintenance and car park areas, and after the sub-soil drainage system was constructed. Notwithstanding, all baseline sampling has been completed prior to the operation of the Golf Course.

For the maintenance and car park areas (locations S1 and S4), sampling was carried out at three depths, namely 0.5m, 1m and 1.5m, by means of trial pit. Given the future use of these areas, the parameter to be analysed at these locations is total petroleum hydrocarbons (TPH). Within the golf course area (locations S2, S3, S7, S8, S10, S11 and S12) samples were taken from within the 200-300mm deep sand layer that lies above the sub-base but below the turfgrass. To maintain consistency within the area occupied by the artificial lakes (locations S5, S6 and S9), samples were also be taken at 200-300mm below the final lake bed level. The parameter to be analysed at these locations is total pesticides.

Samples from locations S1 and S4 were analysed in a HOKLAS laboratory to determine the existing (pre-operation) concentrations of TPH. Samples from all other locations were analysed in a laboratory to determine the existing (pre-operation) concentrations of total pesticides.

In general, TPH consists of four hydrocarbon fractions, namely C6-C9, C10-C14, C15-C28 and C29-C36, all of which are analyzed. Each fraction consists petroleum molecules with the number of carbon atoms in the range as indicated. Petrol is one of the common light petroleum hydrocarbons and falls within the C6-C9 fraction. Diesel is one of the common heavy petroleum hydrocarbons and falls within C15-C28 fraction. The detection limits for C6-C9, C10-C14, C15-C28 and C29-C35 range from 2mg/kg to 100mg/kg.

Total pesticides consist of organochlorine pesticides, organophosphorus pesticides and triazine pesticides all of which were analyzed. The detection limits of these pesticides range from 0.05mg/kg to 0.2mg/kg.

Details of the detection limits of TPH and total pesticides are given in Appendix 3.

All soil samples taken were placed in a sample container provided by the HOKLAS laboratory. Sufficient sample size was collected for the laboratory analysis. Samples were marked with the name of the site, sampling identification number and sampling depth with appropriate chain-of-custody form. Following sampling, samples were stored in a cool box at a temperature of between 0°C and 4°C and transported to the laboratory within the sample retention time advised by the laboratory.

In order to avoid cross contamination, all sampling equipment was thoroughly decontaminated or cleaned prior to sampling, by washing with non-phosphate detergent and rinsing with distilled water.

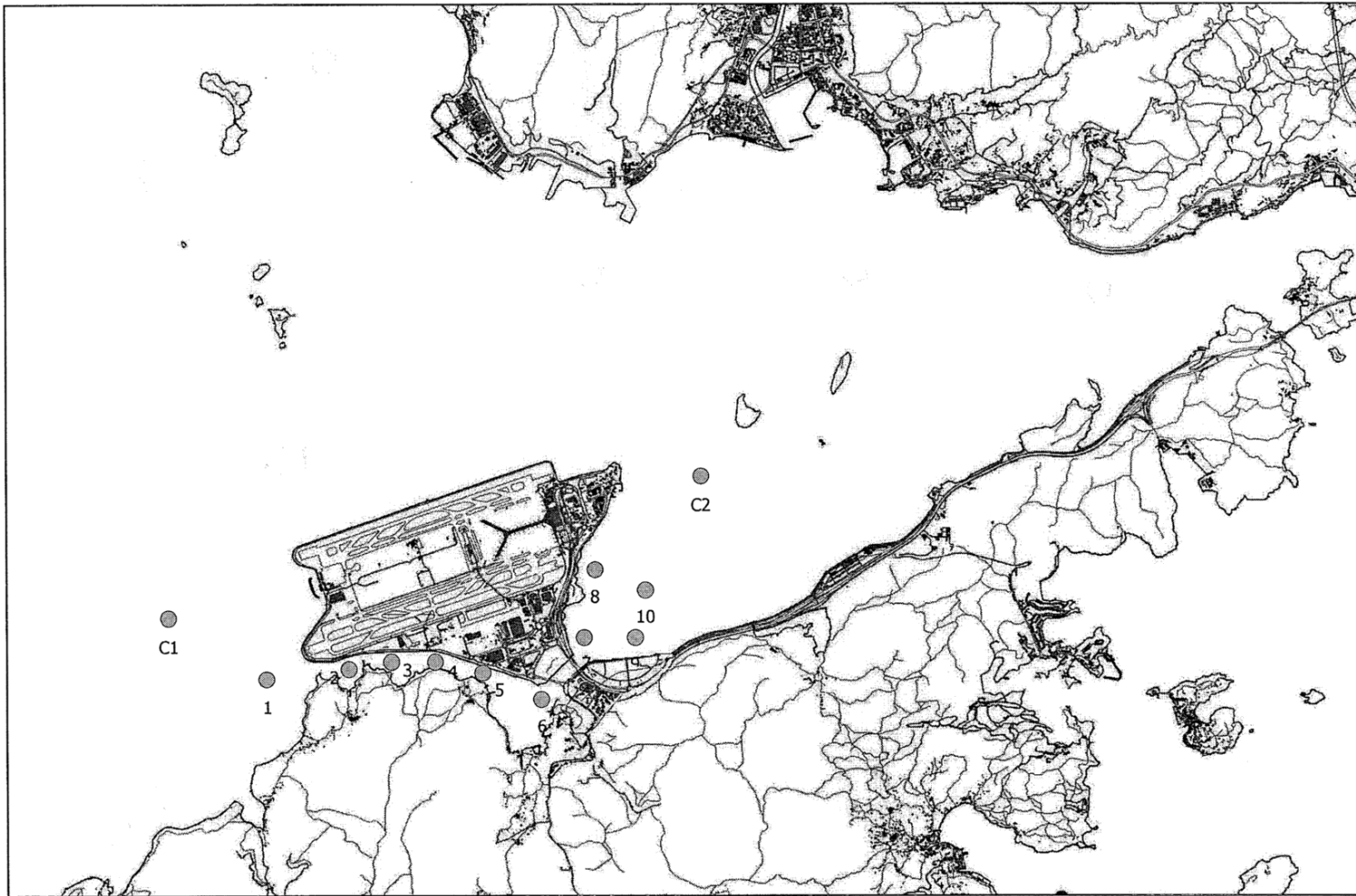


Figure 3-2 Location of AA's Monitoring Stations

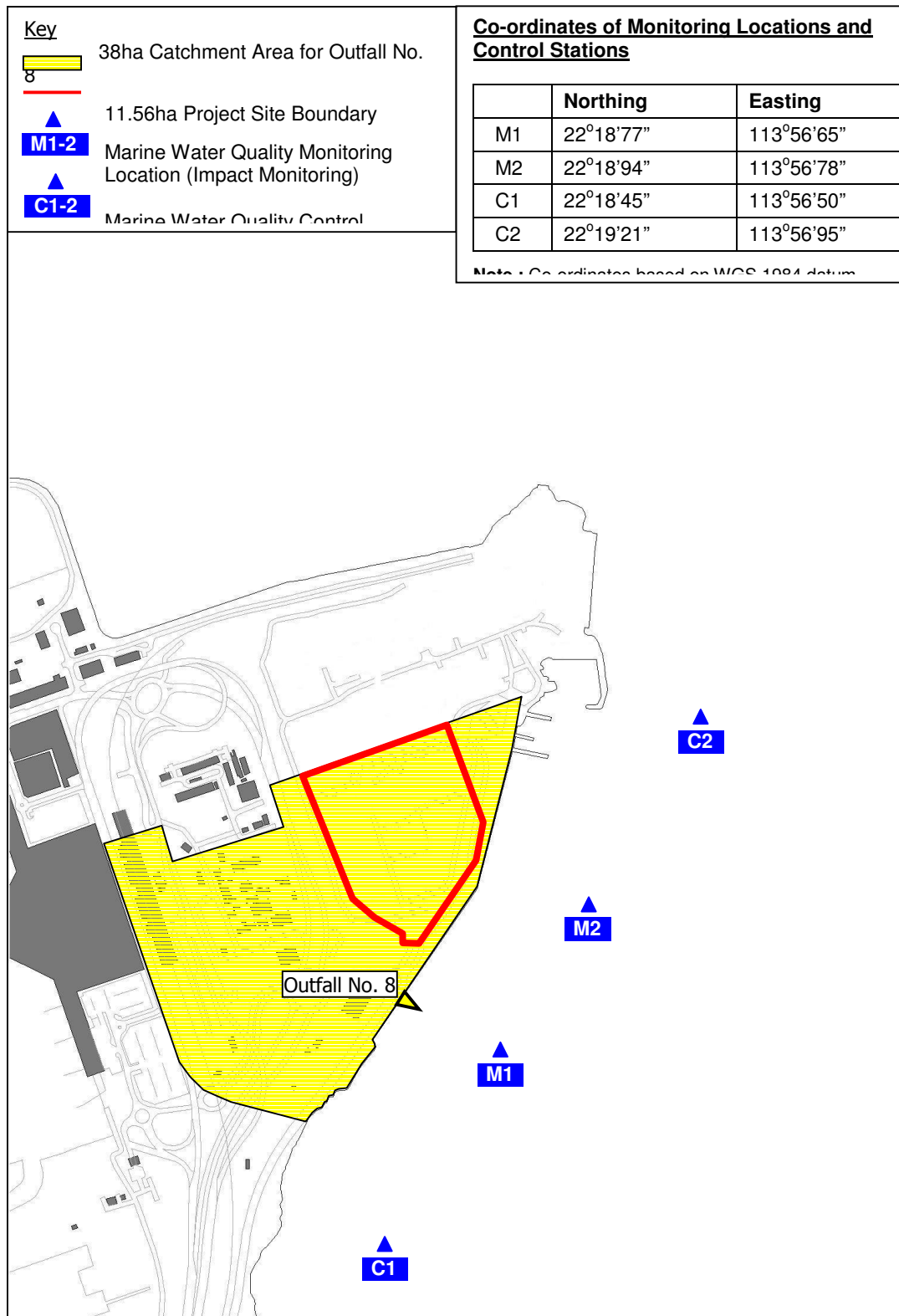


Figure 3-3 Location of Impact Monitoring Stations for This Project

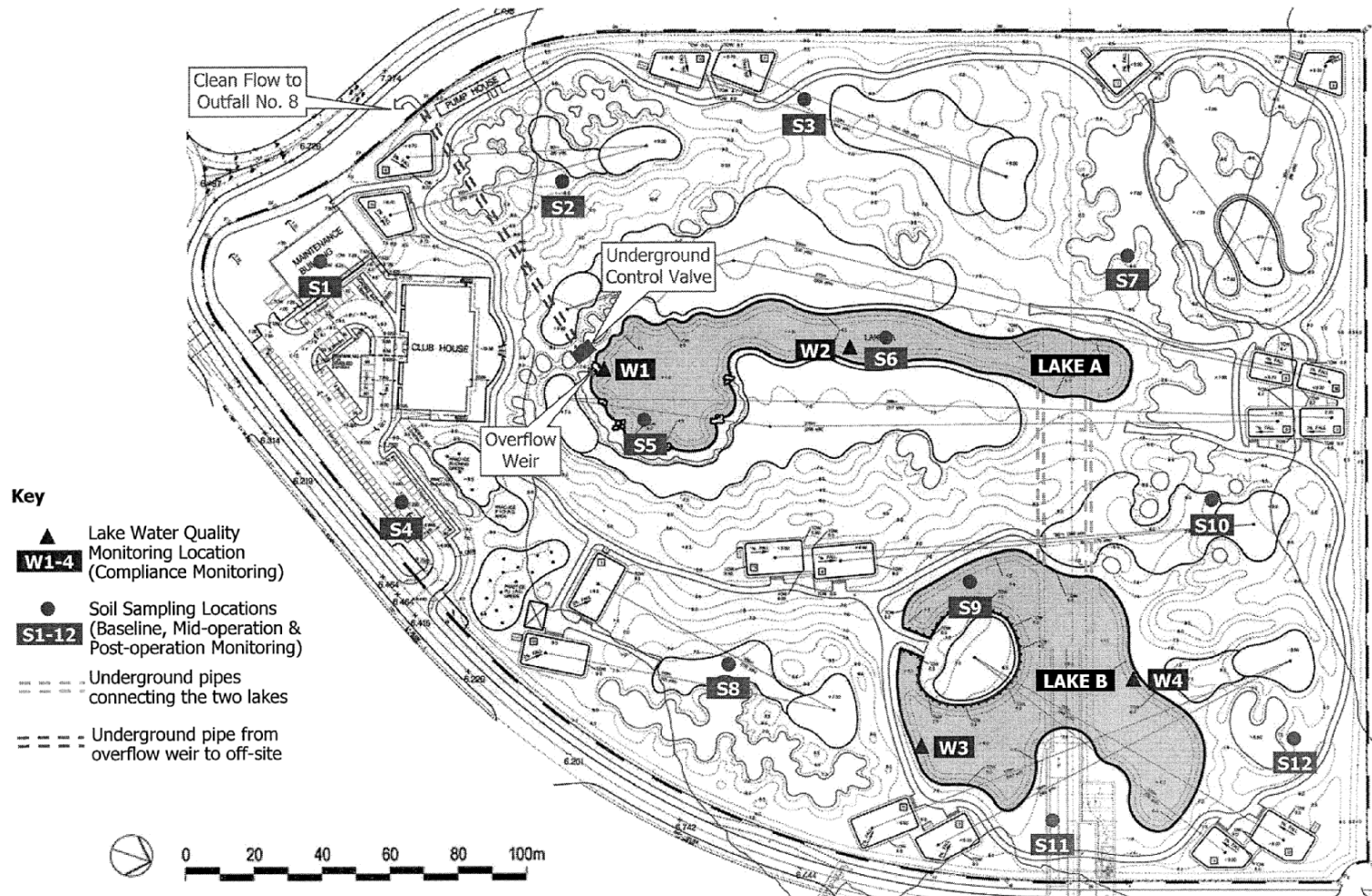


Figure 3-4 Location of Baseline Soil Sampling

4 Monitoring Results and Influencing Factors

4.1 Marine Water Monitoring

4.1.1 Monitoring Results

The monitoring results (from AA) for all relevant parameters are provided in Appendix 2, together with the mean, minimum and maximum readings. Table 4-1, below, summarises the mean, maximum and minimum readings for each parameter at each station :

Station		Temperature (°C)	Salinity (mg/ℓ)	DO Concentration (mg/ℓ)	DO Saturation (%age)	Turbidity (NTU)	Suspended Solids (mg/ℓ)
C1	Mean	17.5	32.2	7.8	99.6	6.4	6.5
	Minimum	17.4	31.5	7.3	92.7	5.4	6.0
	Maximum	17.6	32.8	8.3	106.5	7.2	7.0
C2	Mean	17.5	32.0	8.1	103.8	8.3	8.5
	Minimum	17.1	30.5	7.1	90.5	6.2	7.0
	Maximum	17.9	33.3	9.2	118.2	10.6	10.0
2	Mean	17.6	31.8	7.5	96.6	7.0	8.5
	Minimum	17.6	30.7	7.2	91.3	6.8	8.0
	Maximum	17.6	32.8	8.0	102.5	7.3	9.0
4	Mean	17.6	31.9	7.5	96.6	7.0	7.0
	Minimum	17.5	31.1	7.1	90.6	5.7	6.0
	Maximum	17.6	32.7	8.0	103.4	8.4	8.0
6	Mean	17.8	31.8	7.6	97.5	5.0	6.0
	Minimum	17.7	30.6	7.0	88.7	3.7	5.0
	Maximum	17.8	32.8	8.2	106.7	6.4	7.0
7	Mean	18.0	31.8	7.8	100.0	4.9	5.5
	Minimum	17.8	30.6	7.1	90.3	2.9	4.0
	Maximum	18.1	32.9	8.6	111.2	6.9	7.0
10	Mean	18.0	31.5	7.7	99.6	5.3	5.5
	Minimum	17.9	30.0	7.0	89.3	3.1	4.0
	Maximum	18.0	32.9	8.4	109.7	7.7	7.0

Table 4-1 Summary of Baseline Marine Water Monitoring Data

Given the quantity of baseline data and also the location and number of the impact monitoring stations compared to baseline monitoring stations, it is not proposed to determine A/L Levels on a per station basis, but instead to identify A/L Levels that would be applied to all impact monitoring stations.

4.1.2 Influencing Factors

The weather conditions were good and no major construction activities for SkyCity Golf Course were observed in the vicinity of the monitoring stations during the baseline sampling period.

4.1.3 Action and Limit Levels

The two approaches for determining A/L Levels are provided in Section 3.7 (and Table 3.1) of Appendix D2 to the *Environmental Monitoring and Audit (EM&A) Guidelines for Development Projects in Hong Kong* (EPD, February 1998).

Approach One calculates A/L Levels using percentiles of baseline data, whereas Approach Two uses results of statistical analyses of the differences between the monitoring stations (M1 and M2) and the upstream control stations (C1 or C2, depending on the tide).

The A/L Levels for the impact monitoring stations (M1 and M2) have been determined using both Approach One and Approach Two and are shown in Table 4-2 :

Parameter	Action Level	Limit Level
Dissolved Oxygen	5 th percentile of baseline data = 7.0 mg/l, or 80% of the upstream control station	4.0 mg/l, or 70% of the upstream control station
Turbidity	95 th percentile of baseline data = 9.6 NTU, or 120% of the upstream control station	99 th percentile of baseline data = 10.5 NTU, or 130% of the upstream control station
Suspended Solids	95 th percentile of baseline data = 9.4 mg/l, or 120% of the upstream control station	99 th percentile of baseline data = 9.9 mg/l, or 130% of the upstream control station

Table 4-2 Calculated Action and Limit Levels for Water Monitoring Stations

The actual Action Level of Limit Level used during impact monitoring would depend on the water quality conditions at the time of monitoring, and would be clearly stated in the EM&A report.

It should be noted that for dissolved oxygen, non-compliance occurs when monitoring results are lower than A/L Levels. For all other parameters, non-compliance occurs when monitoring results are greater than A/L Levels.

Other parameters that are recorded during each monitoring event, such as dissolved oxygen saturation, sea temperature and salinity, should be used for reference only and are not subject to A/L Levels.

In case of exceedance of A/L Levels, the Event/Action Plan specified in the EM&A Manual shall be followed. For reference, this Event/Action Plan is shown in Table 4-3 :

Event	Action	
	ET	Works Contractor
Exceedance of Action Level	<ol style="list-style-type: none"> 1. Identify the source(s) of impact. If not from the Project then provide justification and document this 2. If exceedance is caused by the Project then inform Contractor 3. Check monitoring data and Contractor's working methods 4. Discuss possible mitigation measures with Contractor 5. Repeat measurement on next day of exceedance 	<ol style="list-style-type: none"> 1. Confirm notification of the exceedance in writing 2. Rectify any unacceptable practice 3. Check all plant and equipment 4. Amend working methods if appropriate 5. Discuss possible mitigation measures with ET 6. Implement the agreed mitigation measures
Exceedance of Limit Level	<ol style="list-style-type: none"> 1. Identify the source(s) of impact. If not from the Project then provide justification and document this in the EM&A Report 2. If exceedance is caused by the Project then inform Contractor 3. Check monitoring data and Contractor's working methods 4. Agree mitigation measures with Contractor 5. Ensure mitigation measures are implemented immediately 6. Increase the monitoring frequency to daily until no further exceedance of Limit Level 	<ol style="list-style-type: none"> 1. Confirm notification of the exceedance in writing 2. Rectify any unacceptable practice 3. Check all plant and equipment 4. Amend working methods if appropriate 5. Agree possible mitigation measures with ET 6. Implement the agreed mitigation measures immediately

Table 4-3 Event Action Plan for Marine Water Quality Monitoring

4.2 Soil Sampling

The detailed analytical results of the baseline soil samples are given in Appendix 3. Table 4-4 and Table 4-5 summarise the analytical results.

Sample	Depth (m)	TPH (mg/kg)
S1	0.5	ND
	1.0	ND
	1.5	251
S4	0.5	ND
	1.0	ND
	1.5	ND

Note:
ND – Not detected.

Table 4-4 Summary of Analytical Results for Baseline Soil Sampling of TPH

Sample	Depth (m)	Total Pesticides (mg/kg)
S2	0.2	ND
S3	0.2	ND
S5	0.2	ND
S6	0.2	ND
S7	0.2	ND
S8	0.2	ND
S9	0.2	ND
S10	0.2	ND
S11	0.2	ND
S12	0.2	ND

Note:
ND – Not detected.

Table 4-5 Summary of Analytical Results for Baseline Soil Sampling of Total Pesticides

A very low level of TPH was detected at the 1.5m depth at location S1. As the soil sample was collected by means of trial pit within the construction site, the soil samples might have been potentially contaminated by the construction activities undertaken at the site. Nevertheless, analytical results show that the soil can be considered clean as the concentration of TPH is well below the Dutch B level of 1,000mg/kg.

The analytical results show that there are no pesticides in the soil under the golf course.

The above baseline soil sampling results will be compared with mid-operation sampling and post-operation sampling results to evaluate any soil contamination caused by the operation of the Golf Course.

5 Conclusions

The construction work commenced in March 2006 for a period of about nine months.

According to the EM&A Manual, impact marine water monitoring during the Construction Period is required for suspended solids, dissolved oxygen and turbidity. To identify the existing conditions, prior to the commencement of construction, a baseline was determined.

Baseline water quality has made use of data from the non-statutory marine water quality monitoring carried out by AA. Data collected by the AA in December 2005 and February 2006 has been used as baseline data. This dataset comprises data from AA's control stations C1 and C2 and stations 1 to 10.

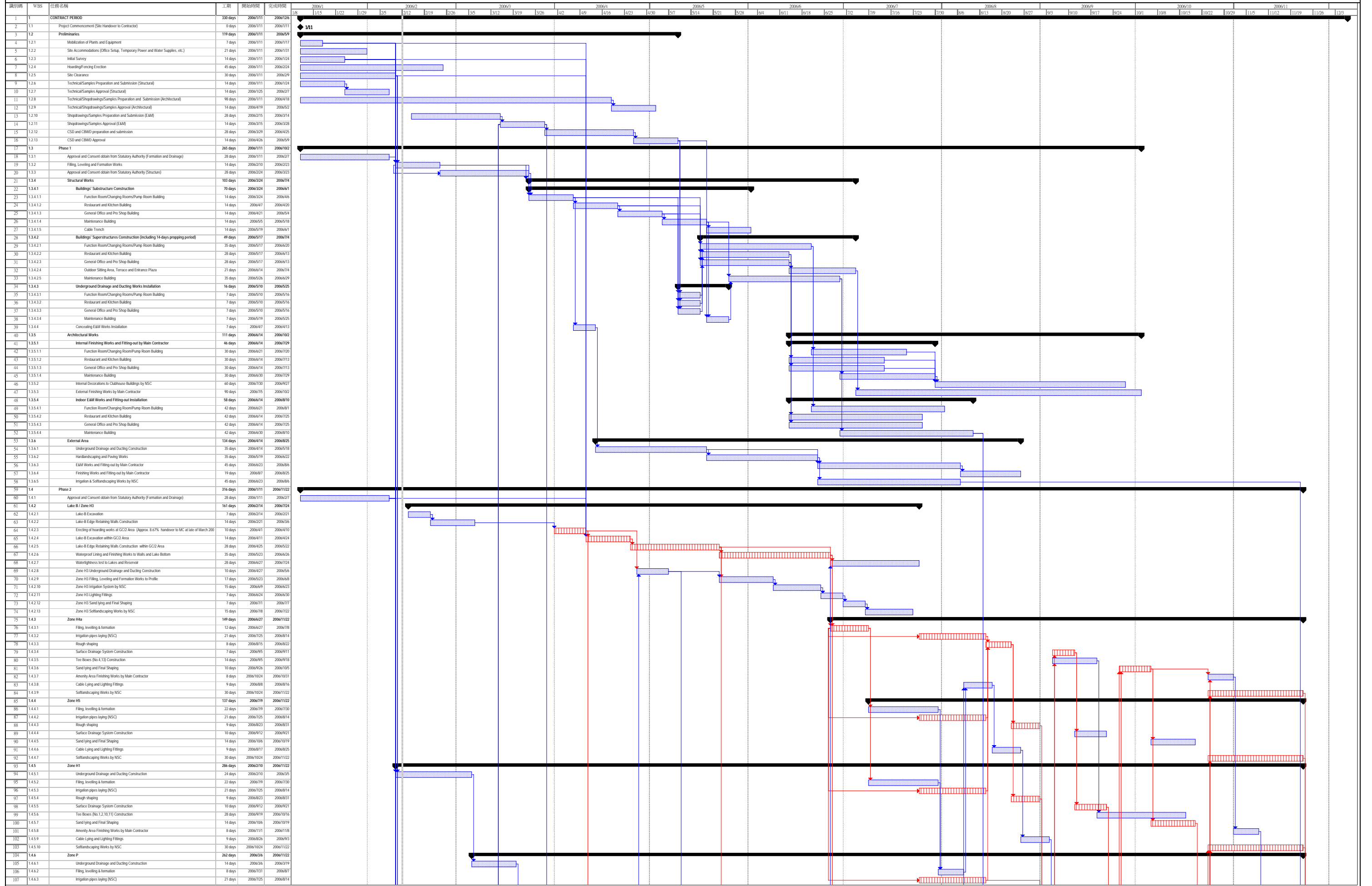
A/L Levels have been calculated for all parameters in accordance with the EM&A Manual and the *Environmental Monitoring and Audit (EM&A) Guidelines for Development Projects in Hong Kong*. The Action/Event Plan has also been confirmed.

In addition, baseline soil sampling and testing was carried out in May and September 2006 to determine the baseline conditions of the soil of the Golf Course prior to the operation. The baseline soil sampling results indicate that the soil in the Golf Course is free of pesticides and clean. The baseline soil sampling results will be compared with mid-operation sampling and post-operation sampling results to evaluate any soil contamination caused by the operation of the Golf Course.

Appendix 1

Construction Programme

PROJECT: SKYCIITY GOLF COURSE
LOT NO.825, REP. OF CHEK LAP KOK LOT NO. 1 AND THE EXTENSION THERETO,
CHEK LAP KOK, HONG KONG



Title: Master Programme Revision 1
Revision Date: 10 Feb 2006

■ 任務 ■ 變更任務 ■ 進度 里程碑 ◆ 摘要 上層型任務 上層型變更任務 上層型里程碑 ◇ 上層型進度 分割 外部任務 專家摘要 摘要詳組

Appendix 2

AA's Water Quality Monitoring Data

Date	Time	Station	Sample Depth (m)	Water Depth (m)	Sea Temp (°C)	Salinity (ppt)	DO Conc (mg/ℓ)	DO Sat (%age)	Turbidity (NTU)	SS (mg/ℓ)
29-Dec-2005	14:07	C1	3.5	6.9	17.4	32.8	8.2	105.2	6.0	6.0
29-Dec-2005	14:07	C1	3.5	6.9	17.4	32.8	8.3	106.5	5.4	-
29-Dec-2005	12:23	C2	5.9	11.7	17.1	33.3	9.0	115.5	10.3	10.0
29-Dec-2005	12:23	C2	5.9	11.7	17.2	33.3	9.2	118.2	10.6	-
29-Dec-2005	13:51	2	1.1	2.1	17.6	32.8	7.7	99.6	6.8	8.0
29-Dec-2005	13:51	2	1.1	2.1	17.6	32.7	8.0	102.5	6.9	-
29-Dec-2005	13:38	4	2.0	4.0	17.6	32.7	7.9	101.2	8.4	8.0
29-Dec-2005	13:38	4	2.0	4.0	17.6	32.6	8.0	103.4	8.0	-
29-Dec-2005	13:19	6	1.9	3.7	17.8	32.8	8.1	104.7	3.7	5.0
29-Dec-2005	13:19	6	1.9	3.7	17.8	32.8	8.2	106.7	3.8	-
29-Dec-2005	14:48	7	1.7	3.3	18.1	32.9	8.3	108.1	3.2	4.0
29-Dec-2005	14:48	7	1.7	3.3	18.1	32.8	8.6	111.2	2.9	-
29-Dec-2005	12:51	10	1.5	2.9	17.9	32.9	8.3	108.2	3.1	4.0
29-Dec-2005	12:51	10	1.5	2.9	17.9	32.9	8.4	109.7	3.1	-
21-Feb-2006	08:36	C1	3.5	7.0	17.6	31.5	7.3	92.7	7.0	7.0
21-Feb-2006	08:36	C1	3.5	7.0	17.6	31.8	7.4	94.0	7.2	-
21-Feb-2006	07:00	C2	5.4	10.7	17.9	30.5	7.1	90.5	6.2	7.0
21-Feb-2006	07:00	C2	5.4	10.7	17.9	30.8	7.1	91.0	6.3	-
21-Feb-2006	08:18	2	1.2	2.3	17.6	30.7	7.2	91.3	7.0	9.0
21-Feb-2006	08:18	2	1.2	2.3	17.6	30.9	7.3	93.0	7.3	-
21-Feb-2006	08:06	4	2.3	4.5	17.5	31.1	7.1	90.6	5.7	6.0
21-Feb-2006	08:06	4	2.3	4.5	17.5	31.2	7.2	91.0	5.8	-
21-Feb-2006	07:49	6	1.8	3.6	17.7	30.6	7.0	88.7	6.4	7.0

Date	Time	Station	Sample Depth (m)	Water Depth (m)	Sea Temp (°C)	Salinity (ppt)	DO Conc (mg/ℓ)	DO Sat (%age)	Turbidity (NTU)	SS (mg/ℓ)
21-Feb-2006	07:49	6	1.8	3.6	17.7	30.9	7.0	89.7	6.2	-
21-Feb-2006	07:36	7	1.4	2.7	17.8	30.6	7.1	90.5	6.7	7.0
21-Feb-2006	07:36	7	1.4	2.7	17.8	30.7	7.1	90.3	6.9	-
21-Feb-2006	07:26	10	1.3	2.6	18.0	30.0	7.0	89.3	7.7	7.0
21-Feb-2006	07:26	10	1.3	2.6	18.0	30.3	7.1	91.2	7.5	-

Note : “-“ indicates no data is available

Mean	17.7	31.8	7.7	99.1	6.3	6.8
Minimum	17.1	30.0	7.0	88.7	2.9	4.0
Maximum	18.1	33.3	9.2	118.2	10.6	10.0

Table A2-1 AA's Water Quality Monitoring Data

Appendix 3

Baseline Soil Sampling Results



CERTIFICATE OF ANALYSIS

<i>Client</i>	: HYDER CONSULTING LTD	<i>Laboratory</i>	: ALS Technichem (HK) Pty Ltd	<i>Page</i>	: 1 of 11
<i>Contact</i>	: MR ADI LEE	<i>Contact</i>	: Alice Wong / Ivan Leung	<i>Work Order</i>	: HK0604322
<i>Address</i>	: 47/F, HOPEWELL CENTRE, 183 QUEEN'S ROAD EAST, WANCHAI, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T. Hong Kong		
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<i>Project</i>	: EA01332	<i>Quote number</i>	: ----	<i>Date received</i>	: 29 Sep 2006
<i>Order number</i>	: ----			<i>Date of issue</i>	: 16 Oct 2006
<i>C-O-C number</i>	: 122693			<i>No. of samples</i>	- Received : 10
<i>Site</i>	: ----				Analysed : 10

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0604322 supersedes any previous reports with this reference. The completion date of analysis is 6 Oct 2006. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK0604322 : **Samples were collected by ALS Technichem (HK) staff on 29 September,2006.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

ALS Laboratory Group

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Tel: +852 2610 1044 Fax: +852 2610 2021 <http://www.alsenviro.com/>
A Campbell Brothers Limited Company



Analytical Results

				Client Sample ID :	S4-0.5M	S4-1.0M	S4-1.5M	S2	S3
				Laboratory Sample ID :	HK0604322-001	HK0604322-002	HK0604322-003	HK0604322-004	HK0604322-005
				Sample Date / Time :	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]
Submatrix: SOIL									
Method: Analysis Description	CAS number	LOR	Units						
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	4.5	9.6	4.1	8.5	2.6	
EP-071/080: Total Petroleum Hydrocarbons (TPH Volatile) / BTEX									
EP080: C6 - C9 Fraction	----	2	mg/kg	<2	<2	<2	----	----	
EP-071: Total Petroleum Hydrocarbons (TPH)									
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	----	----	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	----	----	
EP-080S: TPH(Volatile)/BTEX Surrogate									
								Surrogate control limits listed at end of this report.	
EP080: Dibromofluoromethane	1868-53-7	0.1	%	94.4	100	94.2	----	----	
EP080: Toluene-D8	2037-26-5	0.1	%	94.0	96.9	94.7	----	----	
EP080: 4-Bromofluorobenzene	460-00-4	0.1	%	91.1	87.0	85.8	----	----	
EP-067A: Organochlorine Pesticides (OC)									
EP067: alpha-BHC	319-84-6	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: beta- & gamma-BHC	319-85-7 58-89-9	0.10	mg/kg	----	----	----	<0.10	<0.10	
EP067: delta-BHC	319-86-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Heptachlor	76-44-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Aldrin	309-00-2	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Endosulfan 1	959-98-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Dieldrin	60-57-1	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: 4.4'-DDE	72-55-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Endrin	72-20-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Endosulfan 2	33213-65-9	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: 4.4'-DDD	72-54-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Endrin aldehyde	7421-93-4	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: 4.4'-DDT	50-29-3	0.2	mg/kg	----	----	----	<0.2	<0.2	
EP067: Endrin ketone	53494-70-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Methoxychlor	72-43-5	0.2	mg/kg	----	----	----	<0.2	<0.2	
EP067: Cypermethrins(total)	52315-07-8	0.2	mg/kg	----	----	----	<0.2	<0.2	
EP-067B: Organophosphate Pesticides (OP)									
EP067: Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	<0.2	
EP067: Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	<0.05	
EP067: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	<0.05	



Analytical Results

				Client Sample ID :	S4-0.5M	S4-1.0M	S4-1.5M	S2	S3
				Laboratory Sample ID :	HK0604322-001	HK0604322-002	HK0604322-003	HK0604322-004	HK0604322-005
				Sample Date / Time :	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]
Submatrix: SOIL									
Method: Analysis Description	CAS number	LOR	Units						
EP-067B: Organophosphate Pesticides (OP)									
EP067: Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	----	<0.2	<0.2
EP067: Malathion	121-75-5	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Fenthion	55-38-9	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Parathion	56-38-2	0.2	mg/kg	----	----	----	----	<0.2	<0.2
EP067: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Chlorfenvinphos (E)	470-90-6	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Chlorfenvinphos (Z)	470-90-8	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Fenamiphos	22224-92-6	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Prothiofos	34643-46-4	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Ethion	563-12-2	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Carbophenothion	786-19-6	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Azinphos Methyl	86-50-0	0.2	mg/kg	----	----	----	----	<0.2	<0.2
EP-067C: Triazine Pesticides									
EP067: Simazine	122-34-9	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP067: Atrazine	1912-24-9	0.05	mg/kg	----	----	----	----	<0.05	<0.05
EP-067S: Pesticide Surrogate								Surrogate control limits listed at end of this report.	
EP067: Tetrachlorometaxylene	877-09-8	0.1	%	----	----	----	----	50.6	51.0
EP067: Dibutylchlorendate	1770-80-5	0.1	%	----	----	----	----	66.2	66.1



Analytical Results

				Client Sample ID :	S7	S8	S10	S11	S12
				Laboratory Sample ID :	HK0604322-006	HK0604322-007	HK0604322-008	HK0604322-009	HK0604322-010
				Sample Date / Time :	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]
Submatrix: SOIL									
Method: Analysis Description	CAS number	LOR	Units						
EA/ED: Physical and Aggregate Properties									
EA055: Moisture Content (dried @ 103°C)	----	0.1	%		4.6	11.1	3.8	11.2	4.6
EP-067A: Organochlorine Pesticides (OC)									
EP067: alpha-BHC	319-84-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: beta- & gamma-BHC	319-85-7 58-89-9	0.10	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10
EP067: delta-BHC	319-86-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Heptachlor	76-44-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Aldrin	309-00-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Endosulfan 1	959-98-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Dieldrin	60-57-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: 4.4'-DDE	72-55-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Endrin	72-20-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Endosulfan 2	33213-65-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: 4.4'-DDD	72-54-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: 4.4'-DDT	50-29-3	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP067: Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP067: Cypermethrins(total)	52315-07-8	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP-067B: Organophosphate Pesticides (OP)									
EP067: Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP067: Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP067: Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
EP067: Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Chlorfenvinphos (E)	470-90-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Chlorfenvinphos (Z)	470-90-8	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05



Analytical Results

				Client Sample ID :	S7	S8	S10	S11	S12
				Laboratory Sample ID :	HK0604322-006	HK0604322-007	HK0604322-008	HK0604322-009	HK0604322-010
				Sample Date / Time :	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]	[29 Sep 2006]
Method: Analysis Description	CAS number	LOR	Units						
EP-067B: Organophosphate Pesticides (OP)									
EP067: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Azinphos Methyl	86-50-0	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
EP-067C: Triazine Pesticides									
EP067: Simazine	122-34-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP067: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
EP-067S: Pesticide Surrogate								Surrogate control limits listed at end of this report.	
EP067: Tetrachlorometaxylene	877-09-8	0.1	%	55.2	50.3	50.8	50.3	50.5	50.5
EP067: Dibutylchloredate	1770-80-5	0.1	%	82.2	68.1	80.4	76.7	82.0	82.0



Quality Control - Laboratory Duplicate (DUP) Results

Matrix Type: SOIL

Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	LOR	Units	Duplicate (DUP) Results		
						Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 284261)								
HK0604233-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	22.2	21.8	1.5
HK0604322-004	S2	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	8.5	9.0	6.0
EP-071/080: Total Petroleum Hydrocarbons (TPH Volatile) / BT (QC Lot: 284533)								
HK0604322-001	S4-0.5M	EP080: C6 - C9 Fraction	----	2	mg/kg	<2	<2	0.0
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 284534)								
HK0604322-001	S4-0.5M	EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0
		EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0
EP-067A: Organochlorine Pesticides (OC) (QC Lot: 283853)								
HK0604190-001	Anonymous	EP067: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: beta- & gamma-BHC	319-85-7	0.10	mg/kg	<0.10	<0.10	0.0
		58-89-9						
		EP067: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Endosulfan 1	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Endosulfan 2	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0
		EP067: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0
		EP067: Cypermethrins(total)	52315-07-8	0.2	mg/kg	<0.2	<0.2	0.0
EP-067B: Organophosphate Pesticides (OP) (QC Lot: 283853)								
HK0604190-001	Anonymous	EP067: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0
		EP067: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0
		EP067: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0
		EP067: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Chlorfenvinphos (E)	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0



Matrix Type: SOIL

Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	LOR	Units	Duplicate (DUP) Results		
						Original Result	Duplicate Result	RPD (%)
EP-067B: Organophosphate Pesticides (OP) (QC Lot: 283853) - continued								
HK0604190-001	Anonymous	EP067: Chlorfenvinphos (Z)	470-90-8	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0
EP-067C: Triazine Pesticides (QC Lot: 283853)								
HK0604190-001	Anonymous	EP067: Simazine	122-34-9	0.05	mg/kg	<0.05	<0.05	0.0
		EP067: Atrazine	1912-24-9	0.05	mg/kg	<0.05	<0.05	0.0



Quality Control - Method Blank (MB), Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results

Matrix Type: SOIL

Method: Analysis Description		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results							
		CAS number	LOR	Units	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
							SCS	DCS	Low	High	Value	Control Limit
EP-071/080: Total Petroleum Hydrocarbons (TPH Volatile) / BT (QCLot: 284533)												
EP080: C6 - C9 Fraction	----	2	mg/kg	<2	4 mg/kg	89.8	----	72	103	----	----	
EP-071: Total Petroleum Hydrocarbons (TPH) (QCLot: 284534)												
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	201 mg/kg	94.2	----	52	141	----	----	
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	881 mg/kg	88.7	----	39	139	----	----	
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	589 mg/kg	81.2	----	45	136	----	----	
EP-067A: Organochlorine Pesticides (OC) (QCLot: 283853)												
EP067: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.25 mg/kg	93.5	----	53	144	----	----	
EP067: beta- & gamma-BHC	319-85-7 58-89-9	0.10	mg/kg	<0.10	0.50 mg/kg	95.1	----	39	152	----	----	
EP067: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.25 mg/kg	90.4	----	42	148	----	----	
EP067: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.25 mg/kg	83.4	----	32	167	----	----	
EP067: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.25 mg/kg	94.2	----	39	156	----	----	
EP067: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.25 mg/kg	99.5	----	42	157	----	----	
EP067: Endosulfan 1	959-98-8	0.05	mg/kg	<0.05	0.25 mg/kg	90.6	----	45	149	----	----	
EP067: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.25 mg/kg	90.2	----	43	157	----	----	
EP067: 4,4'-DDE	72-55-9	0.05	mg/kg	<0.05	0.25 mg/kg	96.5	----	52	147	----	----	
EP067: Endrin	72-20-8	0.05	mg/kg	<0.05	0.25 mg/kg	122	----	42	161	----	----	
EP067: Endosulfan 2	33213-65-9	0.05	mg/kg	<0.05	0.25 mg/kg	91.0	----	55	146	----	----	
EP067: 4,4'-DDD	72-54-8	0.05	mg/kg	<0.05	0.25 mg/kg	89.2	----	61	143	----	----	
EP067: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.25 mg/kg	77.2	----	15	144	----	----	
EP067: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.25 mg/kg	94.2	----	27	164	----	----	
EP067: 4,4'-DDT	50-29-3	0.2	mg/kg	<0.2	0.25 mg/kg	76.6	----	26	158	----	----	
EP067: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.25 mg/kg	87.2	----	7	170	----	----	
EP067: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.25 mg/kg	74.3	----	22	147	----	----	
EP067: Cypermethrins(total)	52315-07-8	0.2	mg/kg	<0.2	0.25 mg/kg	92.8	----	47	133	----	----	
EP-067B: Organophosphate Pesticides (OP) (QCLot: 283853)												
EP067: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.25 mg/kg	98.7	----	33	160	----	----	
EP067: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.25 mg/kg	46.0	----	0	193	----	----	
EP067: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.25 mg/kg	69.8	----	15	158	----	----	
EP067: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.25 mg/kg	108	----	58	146	----	----	
EP067: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.25 mg/kg	104	----	48	148	----	----	
EP067: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.25 mg/kg	98.6	----	35	129	----	----	
EP067: Malathion	121-75-5	0.05	mg/kg	<0.05	0.25 mg/kg	87.6	----	45	148	----	----	
EP067: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.25 mg/kg	101	----	45	150	----	----	
EP067: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.25 mg/kg	105	----	58	147	----	----	
EP067: Parathion	56-38-2	0.2	mg/kg	<0.2	0.25 mg/kg	73.3	----	44	129	----	----	
EP067: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.25 mg/kg	90.4	----	56	152	----	----	



Matrix Type: SOIL		Method Blank (MB) Results			Single Control Spike (SCS) and Duplicate Control Spike (DCS) Results						
		LOR	Units	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						SCS	DCS	Low	High	Value	Control Limit
Method: Analysis Description	CAS number										
EP-067B: Organophosphate Pesticides (OP) (QCLot: 283853) - continued											
EP067: Chlorfenvinphos (E)	470-90-6	0.05	mg/kg	<0.05	0.025 mg/kg	98.9	----	47	132	----	----
EP067: Chlorfenvinphos (Z)	470-90-8	0.05	mg/kg	<0.05	0.25 mg/kg	73.6	----	48	127	----	----
EP067: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.25 mg/kg	104	----	63	153	----	----
EP067: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.25 mg/kg	74.4	----	39	130	----	----
EP067: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.25 mg/kg	101	----	63	142	----	----
EP067: Ethion	563-12-2	0.05	mg/kg	<0.05	0.25 mg/kg	81.3	----	60	141	----	----
EP067: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.25 mg/kg	68.2	----	57	136	----	----
EP067: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.25 mg/kg	35.2	----	0	165	----	----
EP-067C: Triazine Pesticides (QCLot: 283853)											
EP067: Simazine	122-34-9	0.05	mg/kg	<0.05	0.25 mg/kg	77.6	----	31	152	----	----
EP067: Atrazine	1912-24-9	0.05	mg/kg	<0.05	0.25 mg/kg	102	----	50	148	----	----



Quality Control - Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

Matrix Type: SOIL

				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results						
Laboratory Sample ID	Client Sample ID	Method: Analysis Description	CAS number	Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
				Concentration	MS	MSD	Low	High	Value	Control Limit
EP-071/080: Total Petroleum Hydrocarbons (TPH Volatile) / BT (QCLot: 284533)										
HK0604322-002	S4-1.0M	EP080: C6 - C9 Fraction	----	4 mg/kg	98.5	----	50	130	----	----
EP-071: Total Petroleum Hydrocarbons (TPH) (QCLot: 284534)										
HK0604322-002	S4-1.0M	EP071: C10 - C14 Fraction	----	201 mg/kg	93.8	----	50	130	----	----
		EP071: C15 - C28 Fraction	----	881 mg/kg	88.4	----	50	130	----	----
		EP071: C29 - C36 Fraction	----	589 mg/kg	80.2	----	50	130	----	----



Surrogate Control Limits

Submatrix Type: SOIL

<i>Method: Analysis Description</i>	<i>Units</i>	<i>Lower Limit</i>	<i>Upper Limit</i>
EP-080S: TPH(Volatile)/BTEX Surrogate			
EP080: Dibromofluoromethane	%	80	120
EP080: Toluene-D8	%	81	117
EP080: 4-Bromofluorobenzene	%	74	121
EP-067S: Pesticide Surrogate			
EP067: Tetrachlorometaxylene	%	50	130
EP067: Dibutylchlorendate	%	50	130